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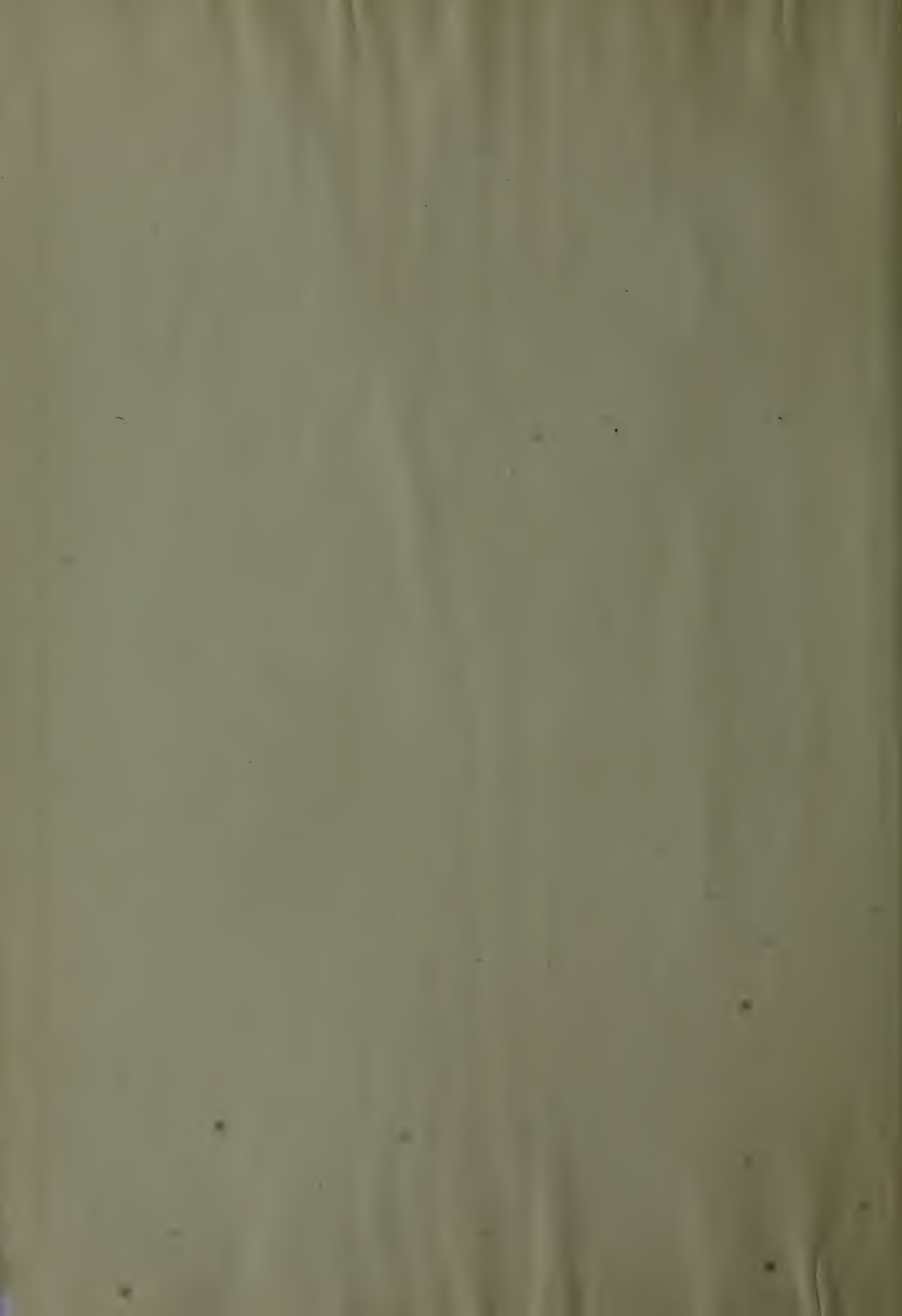
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May 1918

The New

50 Cents

Country Life



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Country Home
Behind The
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TO READER
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MURAD

THE TURKISH CIGARETTE

COMPARE THEM WITH
ANY 25 CENT CIGARETTE

Everywhere-Why?



Anargyros

*Makers of the Murad Turkish Cigarette
in the World
Egyptian*

EIGHTEEN
CENTS

NEWS of the BREEDS and the BREEDERS



ALL in March there was mailed to each stockholder in both the National Duroc-Jersey Record Association and the American Duroc-Jersey Swine Breeders' Association a report of the joint committee

selected to discuss the matter of consolidating the two organizations. This report expressed the committee's unanimous approval of the plan, and offered each member an opportunity to urge a special meeting for the purpose of bringing about the change. It is to be hoped that prompt and effective action will be called for and taken. The proposed step is in every way an improvement, representing both cooperation and the conservation of effort and money, and promising extended benefits for all concerned.

The communication also contained detailed information regarding the Duroc-Jersey Futurities for 1918, in which all breeders should be interested and about which they should be well informed.

THE New York State Council of Farms and Markets held an important and significant hearing late in January, to consider the proposed reorganization of the veterinary service of the State Department of Agriculture. Mr. A. L. Brockway of Syracuse, a member of the executive committee of the Holstein-Friesian Association of America and spokesman for the breeding interests, at the meeting, urged extension and reorganization on a sufficient scale to stamp out preventable diseases of live stock in the state. A resolution calling for steps to this end, and a second urging the enactment of a law making the pasteurization of creamery and cheese factory by-products compulsory, were passed. Both were taken under advisement by the Council, which at this writing had not announced its decision.

THE Advanced Registry statistics of the Ayrshire Breeders' Association for the quarter ending March 20th show in a striking manner the reason for the growing popularity of the Ayrshire. Since January 1st, ninety yearly records have been completed in the several classes. The average for the ninety animals (all ages) is 9,959 pounds milk, 401.61 pounds fat, average test 4.03 per cent. This is an average increase of 410 pounds of milk and 17.09 pounds of fat over the previous quarter in which the average for 104 animals was 9,549 pounds of milk, 384.52 pounds of fat. The best record completed in this quarter is that of McAllister's Betty, third entry, owned by Percival Roberts, Jr., Peshurst Farm, Narberth, Pa. It stands as 19,189 pounds of milk, 785.80 pounds of fat, 4.10 per cent. test.

An additional characteristic of Ayrshire records made recently, as in the past, is their uniformity from month to month, which, of course, contributes to large and economical production.

IN THE death of Jean Armour 3rd, the Ayrshire breed loses one of its greatest animals, one which many breeders expected would some day hold a world's record for all breeds. She was owned by W. P. Schanck, of Avon, N. Y., and was a daughter of the famous cow Jean Armour whose death was reported in December and who, when eleven years old, won the honor of being the first Ayrshire cow to produce 20,000 pounds of milk in a year. Jean Armour 3rd early

showed signs of having inherited her mother's ability as a producer. As a two-year-old she produced on official test 14,987 pounds milk, 599.91 pounds fat; as a senior three-year-old she came back with a World's Record of 21,938 pounds milk, 859.35 pounds fat.

DOLLY Craigengelt 2nd 34124, owned by H. C. Perry of Westerly, R. I., is now the Ayrshire champion of Rhode Island, having completed a yearly Advanced Registry record of 17,562 pounds milk, 686.11 pounds fat, average test 3.91 per cent. Under the circumstances this record is exceptional. In August, Dolly was a sick cow and dropped off in her milk flow until she was producing but six pounds per day. However, she came back strong and soon enough to complete the very creditable record above mentioned. This is the first A. R. Record completed by Mr. Perry, but if his first effort is any indica-



Great Scot's Brightness, the little Jersey heifer who won First Prize Junior Yearling and Junior Champion female in 1917 at the Dairy Cattle Congress, Waterloo, Ia., National Dairy Show, Columbus, O., Louisiana State Fair, Shreveport, La., and National Farm Live Stock Show, New Orleans; she was also adjudged the best Jersey female exhibited by her breeder at the 1917 National Dairy Show. Bred and owned by Mr. E. C. Lasater, Falfurrias, Tex.

tion, interesting reports may be expected from him in the years to come. Dolly was sired by King of Avon 11917, and is thus a granddaughter of Howie's Dairy King, who ranks as one of the ten leading A. R. sires of the breed; she was bred by Dudley Wells of Wethersfield, Conn.

VERONA DE KOL BEETS, for whom Mr. J. T. Shanahan of Aurora, N. Y., paid Mr. Oliver Cabana, Jr., \$10,000 in June, 1917, has lived up to her owner's expectations and is now the twenty-fourth purebred Holstein to have produced more than forty pounds of butter in seven days. This record was recently made at the age of four years, two months. As a junior three-year-old she made 32.59 pounds; although being but three days more than three years old at the time, she was very nearly within the junior two-year-old class, for which the figures would have been a world's record.

The list of 40-pound Holstein cows—that is, cows that have produced 40 pounds of butter or more, in seven days—is growing daily. In addition to the twenty-fourth individual in the group, already mentioned, the following are also reported as officially enrolled:

No. 23. Fairview Korndyke Mata, bred by E. H. Dollar, owned by Oliver Cabana, Jr. (both of New York); sired by Pontiac Korndyke, out of Princess Matador; record 46.71 pounds at the age of six years and six months.

No. 26. Niva Kalmuck, owned by Dr. B. B.

Davis, of Nebraska; sired by Kalmuck Skylark Johanna, out of Niva De Kol 3d; record 41.15 pounds of butter.

No. 27. Rag Apple Korndyke Pontiac; bred by E. H. Dollar, owned by Oliver Cabana, Jr.; sired by Rag Apple Korndyke 8th, out of Fairview Pontiac Darkness 2d; record 41.94 pounds at three years, nine months of age. This makes her world's champion senior three-year-old.

No. 28. Bess Burke Ormsby, bred and owned by E. C. Schroeder of Minnesota; sired by Sir Pietertje Ormsby Mercedes, out of Spring Brook Bess Burke; record 42.31 pounds at the age of five years, two months. As a two-year-old she made a seven-day record of 21.39 pounds of butter.

CORA of Gerar 48309, owned by Shorewood Farm, Crystal Bay, Minn., and recently winner of third place in the Guernsey Roll of Honor Class EE, has apparently been trying to prove

her fitness for the leading rôle in that thrilling motion picture drama entitled "In Spite of All." To explain: after making a creditable record in Class G, she started out to make another, freshening in November, 1916, in the comparatively mild environment of Maryland. Shortly before Christmas, and in the midst of a severe cold spell, she was shipped to Minnesota. Congested traffic delayed her some forty-eight hours; moreover trouble with the steam heating system in the car subjected her to alternating extremes of cold and heat, suggesting Turkish bath operations. However, these little excitements, and even the severe weather in her new home, where barn remodeling was under way, she calmly overlooked. The following summer, continued building operations exposed her to disturbance, heat, and flies; in rapid succession she was shipped to and shown at the Minnesota State Fair, the Waterloo (Iowa) Dairy Cattle Congress, and the National Dairy Show at Columbus, O., winning a fifth, two

fourths, and a second. On her return from the circuit she found her former quarters destroyed by fire, and was forced to complete her year's test in a temporary shed together with the other not-on-test members of the herd. Nevertheless, despite these disturbing and exciting events, she maintained her milk flow up to within eleven days of the end of her year, completing a record of 11,127.8 pounds of milk, 530.15 pounds of fat; and dropped a thrifty heifer calf on December 21, 1917. It is such ability as this combined with a determination to "carry on" whatever may befall, that characterizes the leaders—and that produces other leaders to succeed them.

THOUSANDS of dairy cows are being slaughtered because of the extraordinary cost of feed and the high prices paid for beef. This is causing a shortage in milk producers that will be felt for years to come. Is there not a wiser and a more profitable alternative offered in the form of breeding the scrub cow to a good pure-bred bull and delaying selling her until she has produced a grade calf that is very likely to grow into a profitable animal? Certainly the desirability of such a course is suggested by the experience of Mr. J. P. Nelson of Minnesota, who owns a grade Guernsey that recently made 11,100 pounds of milk and 568.5 pounds of fat in a year's test. Her total feed cost for the year was \$72.25,

(Continued on page 22-b)



JERSEYS

HOOD FARM JERSEY AUCTION SALE

Hood Farm, Lowell, Mass., Saturday, June 1, 1918

This Sale is a Special Offering of the Progeny of
 "The Wonder Cow," SOPHIE 19TH OF HOOD FARM, 189748

¶ THREE sons of this greatest of all dairy cows will be catalogued, led into the sale ring and the successful bidder may select any one of the three, the other two will remain at Hood Farm.

¶ ABOUT fifty granddaughters of the World's Champion Sophie 19th of Hood Farm will be sold, cows in milk, bred heifers and heifer calves, including the World's Jersey Champion Junior 4 year old Sophie's Adora (see photo below); Sophie's Agnes, 14,149.7 lbs. milk, 1,043.6 lbs. butter, from indications now will break the World's Jersey record held by her famous granddam Sophie 19th of Hood Farm (see above); Sophie's Blanche as a 3 year old 9,475.2 lbs. milk, 672 lbs. butter (now on test, milking over 25 quarts daily); Sophie's Jewel, 12,022.7 lbs. milk, 884 lbs. butter, and 16 other daughters of Pogis, 99th of Hood Farm (son of Sophie 19th of Hood Farm), he is at 8 years of age, sire of 37 register of merit cows and 3 producing sons.



SOPHIE'S ADORA 299594

World's Champion Jersey Junior 4 year old, 15,852 lbs. milk, 1,110 lbs. butter, to be sold in this sale with many of her half brothers and half sisters

¶ BULL offering will include bulls ready for service and bull calves, rich in the blood which has produced Sophie 19th of Hood Farm, Hood Farm Pogis 9th, sire of 79 R. O. M. daughters and 24 producing sons; Hood Farm Torono, sire of 73 R. O. M. daughters and 22 producing sons, sire of more Gold Medal winners than any bull of the breed.



SOPHIE 19TH OF HOOD FARM 189748

¶ WORLD'S Champion Jersey Cow yearly authenticated test, 17,557 lbs. 7 oz. milk, 1,248 lbs. butter.

World's Champion Long Distance Dairy Cow.

Seven years' authenticated tests 91,869 lbs. milk, 6,600.8 lbs. butter. Sophie is still living and making another good test.

Granddam of 45 register of merit cows, they include the World's Jersey Champion Junior, 4 year old, Sophie's Adora, 15,852 lbs. milk, 1,110 lbs. butter, she will be sold in this sale; Sophie's Bertha, World's Champion Jersey Junior, 3 year old, 14,954.2 lbs. milk, 1,036.9 lbs. butter, sold in our May, 1916, auction sale for the record price of \$5,000; Sophie's Agnes, 14,149.7 lbs. milk, 1,043.6 lbs. butter, in 121 days this year she has given 6,367.6 lbs. milk, 465 lbs. butter; from indications she will break the World's Jersey Record. She will be sold in this sale.

SONS AND DAUGHTERS OF

¶ POGIS 99th of Hood Farm, sire of 37 R. O. M. daughters and 3 producing sons at 8 years of age, he is the youngest bull on record to sire 2 breed champions and 3 cows, making each over 1000 lbs. butter. The three leading sires of the Jersey breed.

¶ THESE animals we offer are tops and rich in the blood that produces champion fat producers, this sale offers the opportunity to buy the best.

THE SALE CATALOGUE TELLS THE STORY. SENT ONLY ON REQUEST

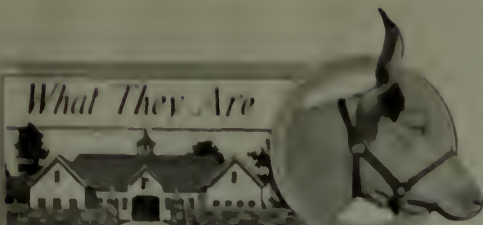
Sale under cover, rain or shine

Remember the day, Saturday, June 1, 1918

HOOD FARM

Dairy Department

LOWELL, MASS.



What They Are

AYRSHIRES

Shorthorns Aberdeen-Angus
Ponies and Sheep



Where to Buy Them

Ayrshires at Auction

April 23, 1918, beginning 11 A. M.
AT
HENDERSON AYRSHIRE FARM
HUDSON, OHIO

45 head will be offered consisting of 25 cows—18 bred heifers and two bulls

These AYRSHIRES have been selected from the three noted herds owned by the South Farm, Willoughby, Ohio, Aldebaran Farm, Racine, Wisconsin, and the Henderson Ayrshire Farm, Hudson, Ohio.

Special care has been exercised in selecting animals of both excellent breeding and the finest type.

This sale includes the two year old twin heifers out of Henderson's Dairy Gem, World's Champion two year old, 17,974 lbs. milk, 738 lbs. fat. These heifers are bred to Imp. Chapelhill Fearnought.

Write for catalogue to D. M. Henderson, Hudson, Ohio

THE ARISTOCRATS OF CATTLEDOM
THEY MILK WELL (THEY PAY WELL)
"THE BONNIE AYRSHIRE COW"
FOR LITERATURE
Write
Ayrshire Breeders' Association
32 Park Street BRANDON, VERMONT

Hill Terrace Farms

AYRSHIRE
CATTLE and
Berkshire Hogs



We have several young bulls for sale, one exceptionally good one by Rena's Champion and out of an imported heifer bred by James Wallace.

We are also offering a few Berkshire pigs of good blood lines

For full particulars address

HILL TERRACE FARMS, Morristown, N. J.

Ridgewood Farm

Win. Frazier Harrison, breeders of
Registered Percheron Horses & Ayrshire Cattle
BREEDING STOCK FOR SALE

Berkshire Swine Personal Inspection Invited Barred Rock Poultry
ARTHUR H. WALKER, Mgr. Oreland, Montg. Co., Pa.
Telephone, Ogontz 575

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For the destruction of RATS, MICE, and MOLES, by a special virus which conveys a contagious disease peculiar to these animals. Harmless to human beings, domestic animals, poultry or game. Not a poison. 50 cts. to \$1.50. INTRODUCED BY US TEN YEARS AGO. If your dealer cannot supply you, order from us.

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Laboratoire des Vaccins Pasteur pour l'Etranger and Institut Pasteur, Paris Biological Products

American Hampshire Sheep Association

Hampshires are the best mutton sheep in the world. A Hampshire ram sold at the National Wool Growers' Auction Sale, 1917, for the highest price ever paid for a mutton sheep in America. Write the secretary for information. We have a dandy little booklet for you.

Robert Blaastock, President, Donerail, Ky.
Comfort A. Tyler, Secretary, 36 Woodland Ave., Detroit, Mich.

THESE PONIES WON

At the Devon Horse Show; Greater New York Horse Show, New York City, and many others of National interest. They were bred and reared at Belle Meade Farm where there are 300 excellent ponies now waiting for good masters. A little child can drive or ride them.

Write for particulars and illustrated catalogue

BELLE MEADE FARM

Belle Meade, Va.



Pinehurst Shropshires

BEST BREEDING FLOCK IN AMERICA
FOUNDATION STOCK FOR SALE

Send for illustrated catalogue to
H. L. WARDWELL, Box A, Springfield Center, N.Y.

BUNN'S PONIES

At the 1917 Fairs and Shows Won
183 First Prizes—10 Championships

If wanting a pony why not buy some from this farm. Hackney, Welsh and Shetland ponies for sale at very reasonable prices.

Also breed Hampshire Swine. Stock for sale

CHAS. E. BUNN

Peoria, Ill.



They'll Help Win the War!

You know the dangers of neglecting painful lameness, bruises and swellings.

Put Sloan's Liniment on the job and let it relieve those poor dumb faithful beasts from suffering. Just apply a little without rubbing, for it penetrates and keeps the animals efficient.

Buy a \$1.00 bottle to-day. Six times as much as you get in a quarter size bottle. Bear in mind, Sloan's Liniment has been the World's Standard Liniment for thirty-six years.



Sloan's Liniment
The World's
KILLS PAIN

Superior Sanitary Churn



The barrel of this churn is finely glazed stoneware and the cover is clear annealed glass. The whole churn is strictly sanitary. Very easy to operate. Made in six sizes both hand and power.

Write for prices and circulars.

J. S. BIESECKER

Creamery, Dairy & Dairy Barn Equipment
59 Murray St., New York

550 Shorthorns Sold at Auction in 1917

for \$1,000 or more per head. Only 26 exceeded \$2,500 and but three passed the \$5,000 mark. It is the uniformity of prices that indicates the stability of the trade.

The Shorthorn is the breed for you
Address Department E

AMERICAN SHORTHORN BREEDERS' ASSOCIATION
13 Dexter Park Ave. Chicago, Ill.

Flintstone Farm

Breeders of

Milking Short-horn Cattle
Berkshire Swine
Belgian Draft Horses

Animals should be purchased only when the benefit from them promises to be greater than their cost. Most certainly is this true of animals whose influence will be seen through several generations.

The good that can result from an animal produced by our great herds is incalculable.

Dalton
Massachusetts

SELDOM SEE

a big knee like this, but your horse may have a bunch or bruise on his ankle, hock, stifle, knee or throat.



ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will clean it off without laying up the horse. No blister, no hair gone. Concentrated—only a few drops required at an application. \$2.50 per bottle delivered. Describe your case for special instructions, and Book 8 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; allays Pain and Inflammation. Price \$1.25 a bottle at druggists or delivered. Liberal trial bottle postpaid for 10c.
W. F. YOUNG, P. D. F., 41 Temple St., Springfield, Mass.



When Breed Meets Breed

The World's greatest live stock show, the International Live Stock Exposition, held annually at Chicago, has given the following honors over all breeds to Aberdeen-Angus Cattle:

Grand Championship over all breeds
10 out of 16 times for single steer.

Grand Championship over all breeds
13 out of 16 times for Fat Carlot.

Grand Championship over all breeds
15 out of 16 times for Fat Carcass.

Write for list of sales where bred-in-the-purple breeding stock may be bought at public auction. Freeliterature and list of members upon application.

American Aberdeen-Angus Breeders Association
U. S. Yards, C. L. Chicago

OUR INTERNATIONAL PLAYGROUND

If you are putting the maximum amount of work in your own business and in all those win-the-war movements you are interested in, you must take a vacation. Spend it this year in—

THE PACIFIC NORTHWEST

Oregon—Washington—British Columbia

Here are more forms of recreation than in any other resort region of America—in an unrivalled, cool, sunny climate; where you may breathe the pure, invigorating mountain and sea air of—

The World's Greatest Out-of-Doors



Write the Pacific Northwest Tourist Association, office of the Executive Secretary, Herbert Cuthbert, 1017-1018 L. C. Smith Building, Seattle, Washington.

(Continued from page 17)

and her receipts for butter fat exceeded this by \$198.30. Her dam was a typical scrub cow carrying a little Red Polled blood; she made 4,000 pounds of milk and 200 pounds of fat in a year's private test; she was sold for beef. Her sire was a registered bull of Yeksa breeding and known ability. Does any one miss the point?

THE name Pogis in Jersey breed history is connected with some of the most noted producers as well as the most prepotent or reproductive cows and bulls. It represents the name of a strain that "breeds on" to a most remarkable degree, and proves that great success in cattle breeding in nearly every case comes from the handling of a family that had as its foundation a most worthy and extremely prepotent individual.

The Pogis family now includes a number of other families; that is to say, when the names in one family become preponderant, the descendants of other famous families are selected for the foundation of new families. From the Pogis family we have the Tormentor family, the most outstanding member of which is Sophie 19th of Hood Farm, the champion cow of the Jersey breed, and of all breeds for long distance production. She has a cumulative record of 6,600 pounds of butter for seven lactation periods of one year each. Sophie, a descendant of the Tormentors, which are in turn descendants of the family of Pogis, is now busy forming a family of her own; viz.: one of her sons, Pogis 99th of Hood Farm, is the sire of thirty-three Register of Merit daughters. Two of these daughters are champions of the breed at three and four years of age, and they have both exceeded the three- and four-year-old performances of their granddam, Sophie 19th. Sophie 19th, on the other hand, is a daughter of Hood Farm Pogis 9th, the "ace" of pure-bred Jersey sires. Pogis 9th is the sire of 130 daughters,



The famous Jersey bull Pogis 99th of Hood Farm, sire of thirty-three daughters in the R. O. M.

78 of which have qualified for the Register of Merit. He was first prize and junior champion at the St. Louis Exposition, and won many other championships in the show ring. All of the animals of the Pogis family trace back to the old foundation bull, Stoke Pogis, and all are direct line-bred descendants of this bull of remote ancestry. Having fallen into the hands of careful breeders, the descendants of Sophie 19th will naturally perpetuate and improve upon the work of the foundation animals.

The space is too limited here to attempt a complete history of what the Pogis blood has contributed in its entirety, but let it be said that no other family, by way of ancestral pride, can point to a longer string of phenomenal producers, nor to a strain that more continually reproduces an improved line of progeny.

Mention of other descendants of the Pogis family, such as Pogis Irene 2d, the cow that was first placed on test at fifteen years, and made an average of 530 pounds of fat in the following four years' records, only leads to an extension of Pogis blood on another line. Pogis Irene 2d was the dam of Jacoba Irene, the foundation cow of a family bearing her name, and a cow that has an official record of 952 pounds of fat in one year.

The prospective cattle owner or breeder should follow the counsel of a well-known Jersey cattle expert, who once said: "Success or fame depend upon clear, keen knowledge and application of judgment in selecting the foundation of a herd." It is not only a question of selecting the offspring of producers, but of selecting animals whose ancestry for numerous generations back show the ability to reproduce their kind while themselves making good records of production. The cattle industry needs more men, who for pleasure or profit, will strive to produce better animals as a contribution to the nation's wealth of good dairy cows.

A NEW creamery has recently been completed at Flintstone Farm, Dalton, Mass., and is now in operation. It consists of a two-and-a-half story building completely equipped with pre-heaters, clarifier, separator, milk and cream pasteurizers, cooler, brine tanks, and refrigerator, capable of caring for upward of 3,000 pounds of milk daily. There is also a power driven combined churn and worker that can handle 400 pounds of butter at a time.

THE Purebred Live Stock Sales Co. of Brattleboro, Vermont, Inc., holds a consignment auction sale of registered Jersey cattle at Brattleboro on May 28th. This is the first of a series of consignment sales planned to be held annually or semi-annually by this company, the dates for which will be announced in advance.

Among the stock offered on May 28th are consignments from such well-known breeders as Messrs. Edmund Butler, Mt. Kisco, N. Y.; Mark W.

Potter, Charlemont, Mass.; C. I. Hudson, East Norwich, N. Y., and George T. Chaltee, Rutland, Vt.

IF YOU are interested, directly or indirectly, in beef production, mark on your calendar the following Aberdeen-Angus sale dates:
 May 2nd, Hartnell & Lang, Stacyville, Ia.
 May 16th, Dr. J. I. Huggins, Dandridge, Tenn.
 May 21st, J. M. Tudor & Son, Iowa City, Ia.
 May 22nd, W. H. Cooper, Hedrick, Ia.
 May 23rd, Pat Donohoe, Holbrook, Ia.
 May 24th, Carl Rosenfeld, Kelley, Ia.
 May 28th, B. C. Dove, Waverly, Ia.
 June 4th, Chas. Escher, Jr., Omaha, Neb.
 June 5th, Escher & Ryan, Omaha, Neb.
 June 11th, Armstrong & Schwarm, Chicago.
 June 12th, Simon E. Lantz, Chicago.
 June 13th, J. Garrett Tolan, Springfield, Ill.

MR. E. A. STANFORD, manager of the Glimmerglen Farms, Cooperstown, N. Y., announces that their entire herd of "bred in the purple" Ayrshires will be disposed of by auction at Cooperstown, on Wednesday, May 28th. More than seventy head will be offered, including some choice specimens of the breed. The farm, which contains 1,400 acres, will hereafter be devoted to raising Shropshire and Cheviot sheep and Tamworth hogs. In the Ayrshire herd is represented the blood of Braw Rising Star, one of the best known sires of Scotland; one of his sons was herd sire at the Hill Top Farms. Other noted blood lines closely represented are those of Lessnesock Good Gift, and Benchan Peter Pan, both sires of many high producers, whose daughters and granddaughters have always brought record prices when offered at auction. The herd is strong also in the blood of Noxemall, Finlayston, and Earl's Choice of Spring Hill, the three highest Advanced Registry sires.

Altogether the Glimmerglen herd contains many worthy representatives of the best families, and the females are bred to Anchenbrain White Beauty Champion 18175, the herd sire. A better opportunity to buy into the best Ayrshire blood lines is seldom presented at auction.

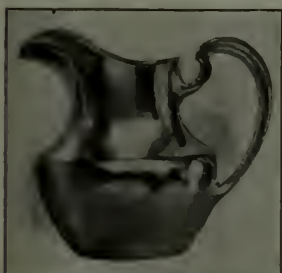
Mr. H. F. Holecomb of Springfield, Mass., has in charge the cataloguing and management of the sale.

ON MAY 16th, the day following the Annual Meeting of the American Guernsey Cattle Club at The Auditorium Hotel, Chicago (May 15th), there will be a high class combination sale at Arcady Farm, Lake Forest, Ill., twenty-eight miles from Chicago, which has been arranged by a committee consisting of F. Lathrop Ames, North Easton, Mass., Wilbur W. Marsh, Waterloo, Ia., and Charles L. Hill, Rosendale, Wis.




A group of Langwater Guernseys at pasture

In this sale every animal more than six months of age will be tuberculin tested by a veterinarian whose tests will be approved by the Commissioner of Animal Industry of his state, and every female offered, which has ever freshened, is guaranteed to have dropped a living calf at her last freshening.




The sterling silver pitcher to be awarded at the Guernsey sale at Lake Forest, Ill., May 16th

The guarantees of the sellers relative to the health of the animals, their breeding and producing powers, will leave nothing to be desired. Each consignment has been examined by a committee of Guernsey experts appointed by the above Committee, and no animals except of the highest



Everything in Locks and Builders' hardware that you will require to equip any structure from a cottage to a skyscraper, "Hints to Home Builders" sent on request.

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The American Hardware Corporation, Successor
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The Home of Corbin Quality The largest factory in the world devoted exclusively to the manufacture of builders hardware

You are invited to correspond with our Readers' Service Department for information regarding the purchasing, breeding, feeding, and care of high class dairy cattle

RED GUM "AMERICA'S FINEST CABINET WOOD" in San Francisco



AN ENDURING HARDWOOD, YET SOFT AS SATIN TO THE TOUCH. ITS NATURAL TONE, A RICH, WARM BROWN. "A JOY TO THE EYE."

EUROPE HAS USING AMERICAN RED GUM FOR FINE CABINETRY. HORN YEARS BEFORE AMERICA'S PRIDE APOKE TO ITS OWN.

Living-Room in Red Gum Residence of John C. Piser, Esq. Mr. Edward G. Bolles, Archt., San Francisco, Cal.

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With Knowledge? Write for Booklet



Sophie 19th of Hood Farm

Each complements the other

A world-famous cow with a record of wonderful achievements.

A world-famous cream separator. Has won highest honors at every great exhibition and in all important dairy shows for nearly 40 years.

Of course, the De Laval is used on the celebrated Hood Farm, at Lowell, Mass., home of Sophie 19th and many other world-famous Jerseys, just as it is on every other dairy farm where the owner recognizes that quality of equipment is necessary to quality of product.

Whether you have a large dairy herd or milk only a few cows, you should ask for the De Laval Cream Separator catalog.

It will be gladly sent to you on request.



The New De Laval Cream Separator

THE DE LAVAL SEPARATOR CO.

165 Broadway, NEW YORK

29 E. Madison Street, CHICAGO

More than 2,325,000 De Laval's in Daily Use Throughout the World

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Animals have been consigned from the greatest herds in the land and the animals selected to represent these herds are among the choicest. A sterling silver Warwick vase will be presented to the consignor who secures the best average price for two animals, also a sterling silver pitcher to the consignor who secures the best average on two animals of his own breeding.



Sterling silver Warwick vase which goes to some lucky consignor at the same sale

As the American Guernsey Cattle Club is expected to adopt a new scale of points, which it is hoped will be ready at this time, it is the purpose of the committee to have a show in connection with the sale and to have the new scale used and demonstrated by well known experts.

Mr. Leander F. Herrick of Worcester, Mass., catalogues and manages the sale.

THE PERCHERON REVIEW, a forty-page booklet of standard magazine size and most attractive makeup, is now being distributed by the Percheron Society of America. Any person interested in this breed, or in draft horse breeding in general, should promptly make application to the Secretary (Mr. Wayne Dinsmore, Chicago, Ill.) for a copy, since it contains much that is interesting and more that is invaluable as reference material.

THE Suffolk stallion Attleboro—a very smooth and pleasing animal—was recently sold by Mr. Samuel Insul of Hawthorn Farm, Illinois, to the Dunhams, well known breeders of Wayne, in the same state. It is believed that the horse was purchased for a Pennsylvania client.

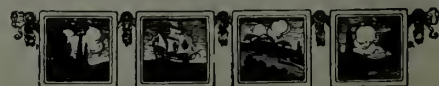
EARLY in the year Mr. E. B. Oglebay of Waddington Farm, Elm Grove, W. Va., was unfortunate enough to lose by fire nine full blood Suffolk horses. The main barn was totally destroyed together with a large stock of alfalfa hay, corn, oats, and farm implements. The total loss was probably \$50,000.

THE SHORTHORN IN AMERICA, published by the American Shorthorn Breeders' Association, has celebrated its third birthday, and its April number is now being distributed. As an educational force and through its close coöperation with the agricultural and live stock press, this magazine has accomplished wonderful results for Shorthorn unity and progress and furnishes an object lesson for other breed associations.

PUREBRED Holstein cows are certainly doing their level best to respond to Mr. Hoover's injunction to increase production. Records are being broken so rapidly that a cow no sooner gets used to her championship laurels than another one snatches them away.

Miss Valley Mead De Kol Walker has just added to the dairy fame of California by breaking the record for butterfat production in the junior three-year-old class, by producing 24.01 pounds of butter in seven consecutive days, in the division covering tests begun not less than 240 days from freshening. She freshened at the age of three years, five months, twenty-seven days, and began her test eight months thereafter. By yielding more than twenty-four pounds of butter in a week after having been milked for eight months, she has established a new world's record, displacing Finderne Holingen Fayne, whose record, begun 356 days after freshening, was 339.1 pounds of milk and 22.57 pounds of butter.

Miss Valley Mead De Kol Walker is owned by A. W. Morris & Sons, Woodland, Cal. Her sire is Prince Gelsche Walker and her dam is De Kol of Valley Mead 2d.



Farm Buildings, G. N. Brewster, Brookville, L. I.

"Modern Farm Building" By Alfred Hopkins

Gives in careful detail the construction of the garage, farm barn, horse stable, cow stable, sheep fold, kennel, ice house, dairy, chicken houses, piggeries, etc. Many plans and interesting illustrations.

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WHEREVER there is a fairly large expanse of lawn to be cut, rolled and kept in condition, the Ideal Tractor Lawn Mower will prove a decided economy.

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In fact, at a very nominal expense, the Ideal will keep your grass cut, rolled and in the pink of condition. This labor saving feature is of decided importance in these times of labor scarcity. Best of all, the use of the Ideal not only means an actual saving for you in dollars and cents, but is also real patriotic conservation of labor.

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With an Ideal Tractor Lawn Mower it is possible to work very close up to the walks, shrubbery and flower beds. It is so easily handled that it can be run practically any place where a hand mower can be operated.

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The Ideal is the *only* power mower on the market using the simple tractor principle. The advantages of this type of construction were described in the Country Life of March on page 124 and April on page 93.

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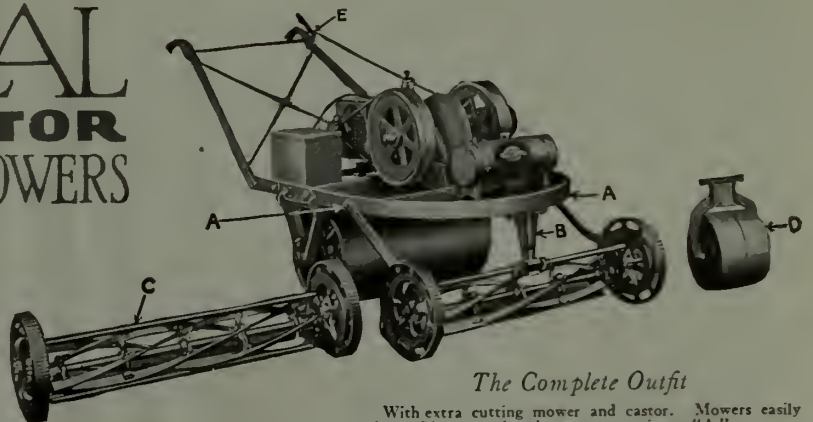
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THE TALK OF THE OFFICE



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And go to 't with delight."—*Antony and Cleopatra.*

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CONTENTS - MAY, 1918

Subject Index

Aid for Farmers, 70
Aitken Paintings, 57
Ante-bellum South, 90
Antiques, 72
Art, 24, 57
Automobile, 96

Bird Dogs, 122
Birds, 106
Birds and Nests, 63
Breeders, 17
Building in War Time, 53

Canned Food, 100
Care of Dogs, 88
Cattle, 17
Chickens, 102
Country Homes, 49, 68
Country Women in War, 44, 66

Dairy Cattle, 17
Deer, 45
Delano House, 68
Delftware, 72
Dogs, 122
Duvent Paintings, 24

Eggs, 64
Essays, 56, 102
Estate Management, 49, 66

Forage Plants, 60
France, 24
Furniture for Terraces, 40

Garden Sculpture, 57
Gasolene, 96



The Spirit of May

Subject Index

German Atrocities, 24
Hunting Dogs, 122
News of Breeders, 17
Okra, 78
Outdoor Furniture, 40

Paintings, 24, 57
Peanut Flour, 70
Plantation System, 90
Potato Seed, 80-b
Poultry, 64, 84
Poultry Conveniences, 84

Rationing English Horses, 70
Removing Stumps, 80-b
Road Maps, 70
Rosemary, 49

Sales, 22-b, 22-c
Sculpture, 57
Starvation, 54
Sugar for Canning, 70
Sun Sprouted Potatoes, 80-b

Terrace Furniture, 40
Vegetables, 78, 80-b

War in France, 24
War Time Estate Work, 49
War Work for Women, 44, 66
White-tailed Deer, 45
World Starvation, 54
Wrens, 106

Article Titles and Authors

Cover Design - - - - -	J. Paul Verrees	
The Glory That Was France	Stephane Lauranne	24
Furnishing the Terrace	Agnes Roxe Fairman	40
To the Woman in the Country - - - - -		44
My Friend the Deer - - - - -	Archibald Rutledge	45
Rosemary—an Estate to Withstand a Siege	Roland R. Conklin	49
Building and the War - - - - -	Henry H. Saylor	53
World Starvation—Is it Possible?	F. F. Rockwell	54
From a Country Window - - - - -		56
“Then Shall the Earth Bring Forth Her Increase”; Our Rural Militarism; Somewhere in France		
Garden Sculptures by Captain Robert I. Aitken -		57
Forage Plants that Feed and Fertilize	Adolph Kruhm	60
Bird Nesting Days Are Here - - - - -		62
Making Eggs While the Sun Shines	W. G. Krum	64
A Course in Estate Management for Women in War Time—I - - - - -	Elma Loines	66
A House in an Apple Orchard - - - - -		68
Here and There - - - - -		70
Old Delftware - - - - -	Walter A. Dyer	72
Okra—A Healthful and Delicious Vegetable	P. B. Ruggles	78
Removing Tree Stumps - - - - -	S. Leonard Bastin	80-b
Sun Sprouted Potato Seed - - - - -	P. B. Ruggles	80-b
Poultry Keeping Conveniences - - - - -		84
Care of the Dog's Mouth and Teeth - - - - -		88
The Vanished Plantation System	Eyre Damer	90
American Motorists and the Gasolene Situation	Alexander Johnston	96
The Wise Use of Home Canned Food - - - - -		100
Chickens and a Child - - - - -	Susan M. Weed	102
The House Wren - - - - -	Eugene Swope	106
In Stubble and Heather - - - - -		122
News of the Breeds and the Breeders - - - - -		17

HENRY H. SAYLOR, EDITOR

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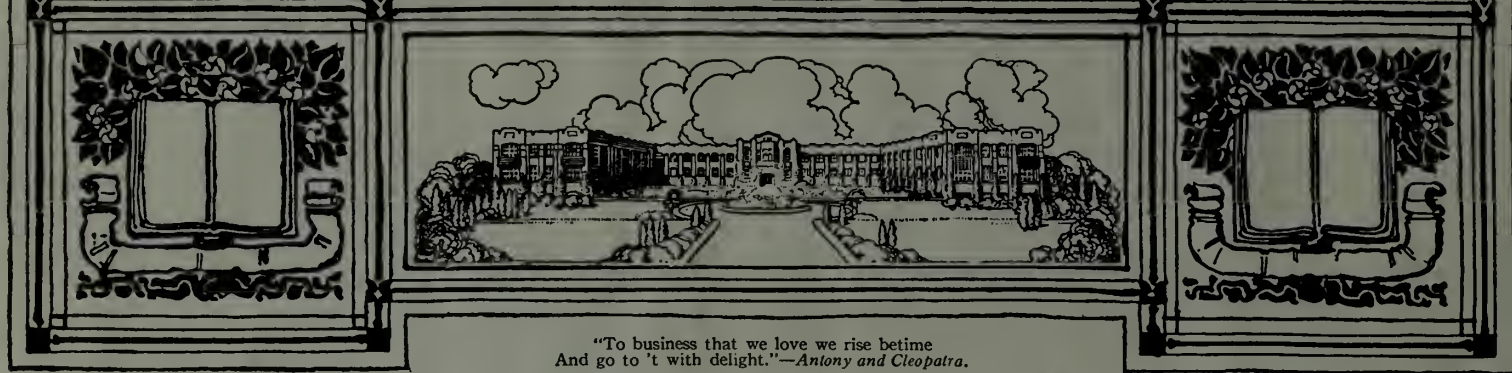
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THE TALK OF THE OFFICE



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Deer, 45
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Delftware, 72
Dogs, 122
Duvent Paintings, 24

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Essays, 56, 102
Estate Management, 49, 66

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France, 24
Furniture for Terraces, 40

Garden Sculpture, 57
Gasolene, 96



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Subject Index

German Atrocities, 24
Hunting Dogs, 122
News of Breeders, 17

Okra, 78
Outdoor Furniture, 40

Paintings, 24, 57
Peanut Flour, 70
Plantation System, 90
Potato Seed, 80-b
Poultry, 64, 84
Poultry Conveniences, 84

Rationing English Horses, 70
Removing Stumps, 80-b
Road Maps, 70
Rosemary, 49

Sales, 22-b, 22-c
Sculpture, 57
Starvation, 54
Sugar for Canning, 70
Sun Sprouted Potatoes, 80-b

Terrace Furniture, 40

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To the Woman in the Country	- - - - -	44
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From a Country Window	- - - - -	56
“Then Shall the Earth Bring Forth Her Increase”; Our Rural Militarism; Somewhere in France		
Garden Sculptures by Captain Robert I. Aitken -		57
Forage Plants that Feed and Fertilize	<i>Adolph Kruhm</i>	60
Bird Nesting Days Are Here	- - - - -	62
Making Eggs While the Sun Shines	<i>W. G. Krum</i>	64
A Course in Estate Management for Women in War Time—I	- - - - - <i>Elma Loines</i>	66
A House in an Apple Orchard	- - - - -	68
Here and There	- - - - -	70
Old Delftware	- - - - - <i>Walter A. Dyer</i>	72
Okra—A Healthful and Delicious Vegetable	<i>P. B. Ruggles</i>	78
Removing Tree Stumps	- <i>S. Leonard Bastin</i>	80-b
Sun Sprouted Potato Seed	- <i>P. B. Ruggles</i>	80-b
Poultry Keeping Conveniences	- - - - -	84
Care of the Dog's Mouth and Teeth	- - - - -	88
The Vanished Plantation System	<i>Eyre Damer</i>	90
American Motorists and the Gasolene Situation	<i>Alexander Johnston</i>	96
The Wise Use of Home Canned Food	- - - - -	100
Chickens and a Child	- <i>Susan M. Weed</i>	102
The House Wren	- - - - - <i>Eugene Swope</i>	106
In Stubble and Heather	- - - - -	122
News of the Breeds and the Breeders	- - - - -	17

HENRY H. SAYLOR, EDITOR

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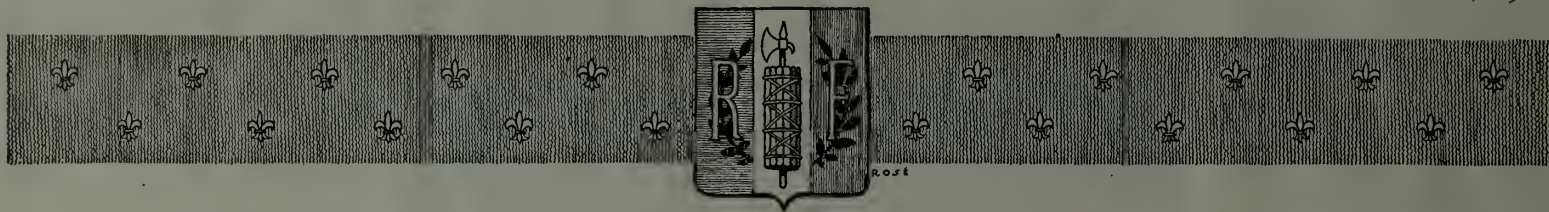
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The New Country Life

VOL. XXXIV. No. 1.

MAY, 1918



The Glory That Was France

By Stephane Lauzanne

Editor of "Le Matin," Paris, and French High Commissioner to the United States



ON THE 15th of June, 1907, forty-four nations of the civilized world—among them Germany—assembled at The Hague, forming one of the most famous leagues of nations of which we have any knowledge. And these forty-four nations solemnly placed their signatures at the end of a treaty entitled "Laws and Customs of War on Land." This treaty contained some sixty articles, of which Article 56 read as follows:

"The property of municipalities, of institutions dedicated to religion, charity, and education, to the arts and sciences, even when state property, shall be treated as private property. All seizure of, destruction, or wilful damage to institutions of this character, historical monuments, works of art and science, is forbidden and should be made the subject of legal proceedings. . . ."

Four names, which history shall record and which nothing shall ever blot out, will suffice to show how this article has been observed:

Rheims and her Cathedral, Louvain and her Library, Arras and her Town Hall, Ypres and her Tower. Germany has gutted the Cathedral of Rheims, burned the Library of Louvain, demolished the Town Hall of Arras, reduced to cinders the Tower of Ypres. Germany has done these things without military reasons, through spite, through wilfulness, for the very need of destroying everything that is beautiful, everything that is noble, everything that is glorious. Germany has done this knowingly, deliberately. She has not struck each time in a moment of rage; she has frequently repeated the crime indefinitely. The martyrdom of the Cathedral of Soissons was prolonged more than thirty months. The martyrdom of Rheims Cathedral has lasted nearly four years. Day after day, shells strike that marvelous basilica, destroying each time a

new *chef d'œuvre* shattering a remaining piece of stained glass, breaking to bits the statuary, the cornices, the sculptures not already mutilated.

Of all crimes these are the most atrocious and the most detestable, because reparation can never be made. Other human beings will come to replace those that are dead, other workshops will take the place of factories that are gone, other bridges will be thrown across streams in place of bridges blown up; but nothing will ever replace the Cathedral of Rheims, the Town Hall of Arras, the Library of Louvain. These are the loss of civilization itself, something of the world's beauty and achievement. It is a reduction of the treasure store that belongs to mankind.

Such destruction "is forbidden and should be made the subject of legal proceedings," declared forty-four civilized nations, who in 1907, signed The Hague agreement. Where, to-day, is the nation, outside of the Allies, that has protested against this violation of a treaty? Where is the neutral who has raised his voice? Where is the legal proceeding and when is it to begin? A future league of nations—is it to be built upon the same pattern? Will it permit one thus to scoff at its agreements and will it allow one thus to renounce his signature?

There is one thing that would be even worse than all the horrors suffered, and that is that this tragic lesson should go for naught; that the treachery and sacrilege should remain unpunished, that the barbarians should be allowed to sit side by side with civilized mankind without having made amends, without having expiated their crimes and redeemed themselves.

Woe to the blind who do not wish to see, woe to the deaf who do not wish to hear, woe to the world if, having been shaken to its very foundations, it can find, to rebuild again the ruins of civilization, nothing more than fine words written upon little scraps of paper!

The Crime

Interior of Rheims Cathedral

On September 13, 1914, the French reëntered Rheims and the Germans evacuated the town. The Cathedral was absolutely intact; the Germans, before retiring, had gathered there their wounded.

On September 17th, in the morning, before the wounded had been taken out, to the amazement of everyone a shell burst upon the Cathedral, destroying one of the magnificent historic towers. A second shell followed immediately, then a third.

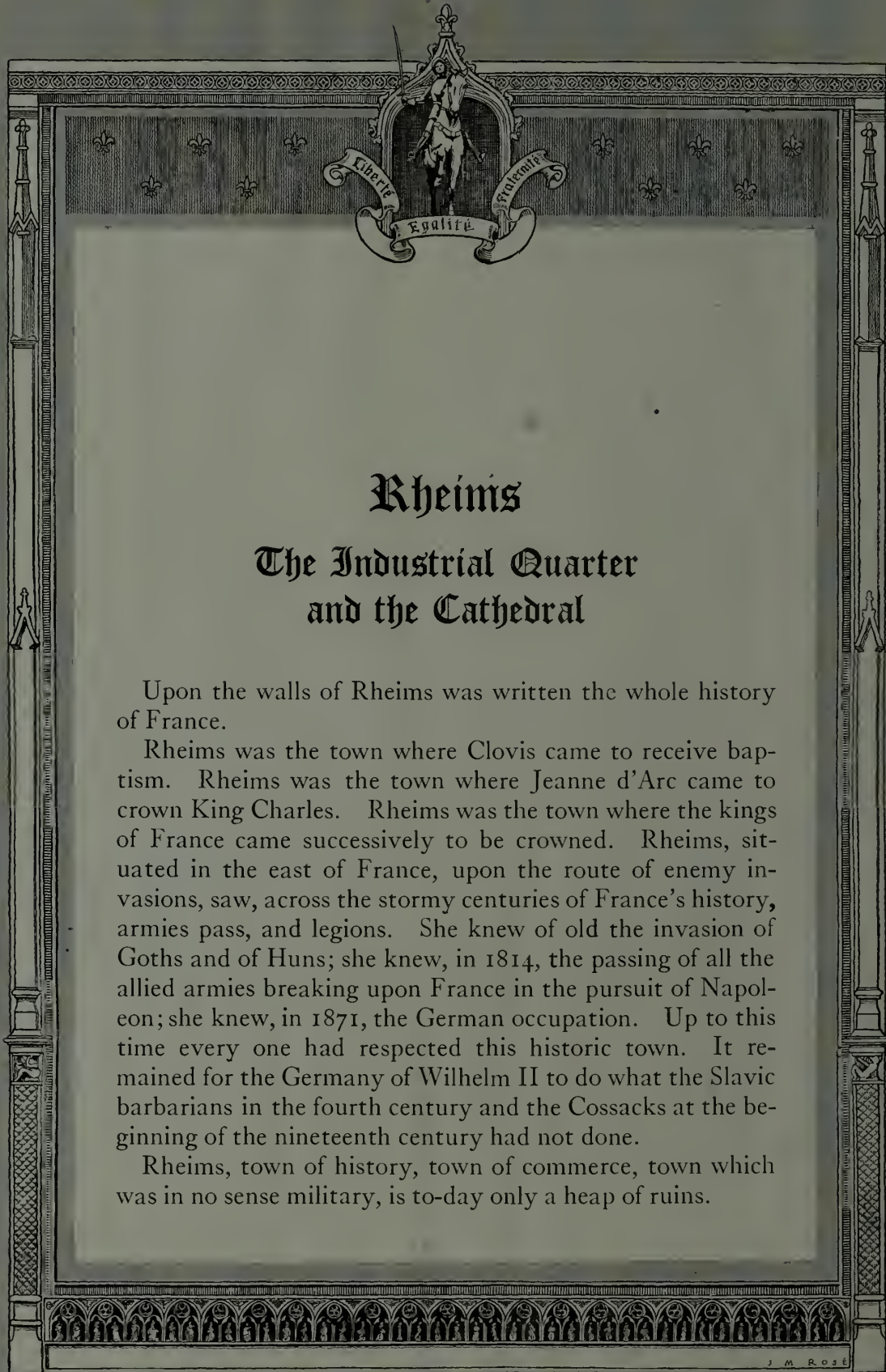
A cry of horror rose from the breasts of the witnesses of this sacrilege. The cry of horror has been repeated since then by the whole civilized world. It is known to-day, by irrefutable German documents, that the order to fire came from the commanding officer himself; the German artillery officer commanding the battery located near Nogent l'Abesse, thinking he saw observers in one of the Cathedral towers, did not dare to give of his own accord the order to fire. He asked permission of the commanding officer; the commanding officer gave it. It is therefore upon the German high command that the responsibility for the crime must rest. The crime has elsewhere been repeated, and for three and a half years it cannot be said that a week has passed without a shell falling upon or near the Cathedral.

A statue of Jeanne d'Arc alone, marvelous emblem, standing before the Cathedral, has remained untouched. Women and young girls come every morning to place upon it a bouquet of flowers.



© 1918, by Charles Duvent

THE CRIME



Rheims

The Industrial Quarter and the Cathedral

Upon the walls of Rheims was written the whole history of France.

Rheims was the town where Clovis came to receive baptism. Rheims was the town where Jeanne d'Arc came to crown King Charles. Rheims was the town where the kings of France came successively to be crowned. Rheims, situated in the east of France, upon the route of enemy invasions, saw, across the stormy centuries of France's history, armies pass, and legions. She knew of old the invasion of Goths and of Huns; she knew, in 1814, the passing of all the allied armies breaking upon France in the pursuit of Napoleon; she knew, in 1871, the German occupation. Up to this time every one had respected this historic town. It remained for the Germany of Wilhelm II to do what the Slavic barbarians in the fourth century and the Cossacks at the beginning of the nineteenth century had not done.

Rheims, town of history, town of commerce, town which was in no sense military, is to-day only a heap of ruins.



© 1978, by Charles Davitt

RHEIMS
The Industrial Quarter and the Cathedral



The Cloth Hall at Ypres

Ypres was the pride of Belgium, and the Cloth Hall was the pride of Ypres. It had required a hundred years to achieve the Hall; the first stone was laid in the year 1200 by the famous Baudouin, Count of Flanders; and it was not until the fourteenth century that the magnificent monument could be formally opened. It was a veritable marvel of Flemish Gothic art; it seemed to vibrate with the inspiration of a whole people steeped in beauty. It was, as well, the cradle which had seen the birth and development of all Flemish liberty.

Behind the Hall rose the massive pile of the Cathedral, with its Flemish garden enclosed by old houses in peace and quiet.

This marvelous and unique group was destroyed at a single stroke, as if by a cyclone, by the German bombardment commencing September 3, 1914, and lasting throughout the day. In the evening, the sun, radiantly and magnificently dropping to the horizon, lighted up with its rosy rays a scene of disaster without precedent; the Hall was gutted, the church was destroyed, the little Flemish garden had disappeared, the houses were reduced to powder. Only the three Gothic towers remained standing, lifting to the heavens their arrowpoints which seemed to beg for mercy.



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IN FRONT OF THE CLOTH HALL AT YPRES

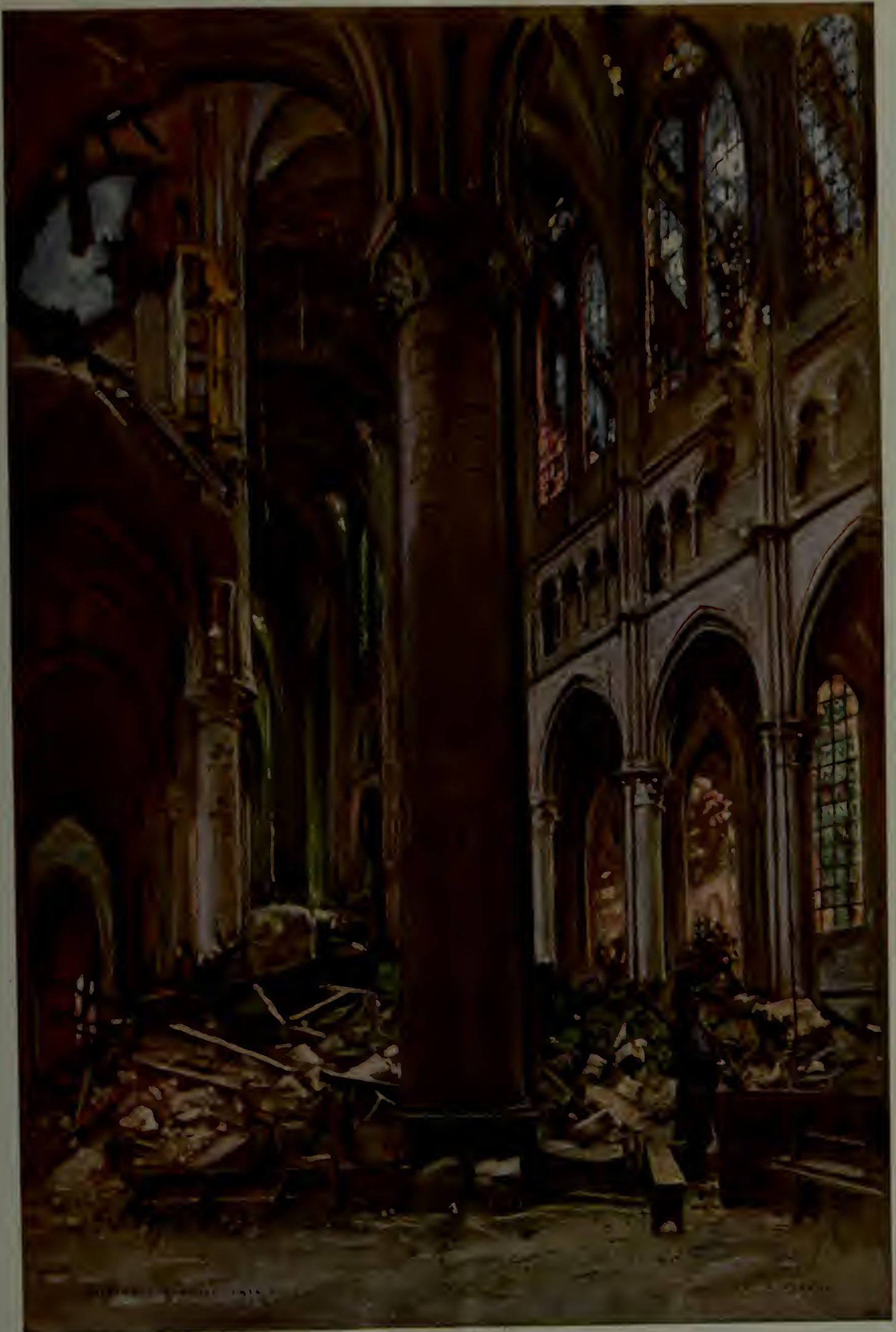


The Cathedral at Soissons

A letter from the Arch-priest of Soissons Cathedral, the curé Landias, tells more eloquently than history can show just what happened at Soissons:

"Our church was struck for the first time on September 2, 1914; a shell, passing through the roof and exploding in the centre of the nave, damaged the magnificent Gothic pulpit which had been recently built. The bombardment continued systematically, and in January, 1915, no less than eighty shells had fallen on the cathedral. The worst day's work was that of February 5, 1915, when twenty projectiles reduced to dust all the north part of the nave near the tower. The Germans, to justify their crime, have claimed that the cathedral towers served as observation posts for the French officers. This is absolutely false; not one officer or soldier ascended the tower, for the good reason that at the beginning of the siege the military authorities, for protective reasons, had barricaded the cathedral and the towers, formally forbidding any one—even the priests—to enter."

Here, then, once again there has been crime, and once more the crime has been followed by falsehood.



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INTERIOR OF THE CATHEDRAL, SOISSONS



The Ruins of Arras

It was the 6th of October, 1914, at eight o'clock in the morning, when the bombardment of Arras commenced. There was the fear of the tramp of troops in the town; the population had partly withdrawn, the shops were closed, it was gray and foggy, and the town was silent. Not a single shot came from the streets or from the nearly deserted squares. The bombardment suddenly became furious. The shells burst first upon the station, killing women and children; then they showered upon the whole town, gutting the houses, starting fires which, as evening came, lighted up the whole heavens. The bombardment lasted forty-eight hours and on the 7th of October, in the evening, all was over.

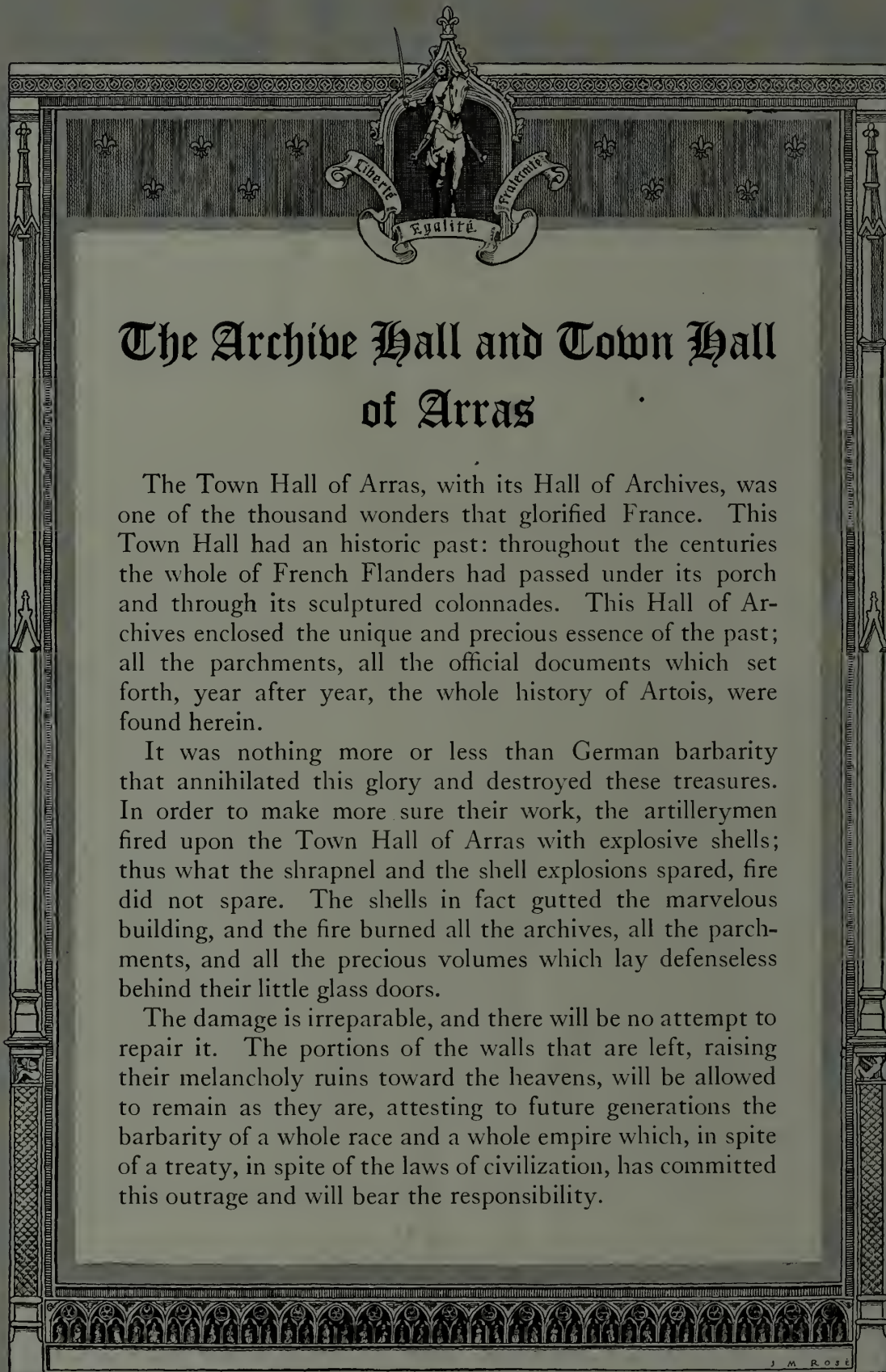
The Town Hall, the Cathedral, the *Grand Place*, the beautiful and historic *Rue Saint Gerry*, were nothing but a pile of smoking ruins.

The crime had been accomplished.



ARRAS

© 1918, by Charles Dauvent



The Archive Hall and Town Hall of Arras

The Town Hall of Arras, with its Hall of Archives, was one of the thousand wonders that glorified France. This Town Hall had an historic past: throughout the centuries the whole of French Flanders had passed under its porch and through its sculptured colonnades. This Hall of Archives enclosed the unique and precious essence of the past; all the parchments, all the official documents which set forth, year after year, the whole history of Artois, were found herein.

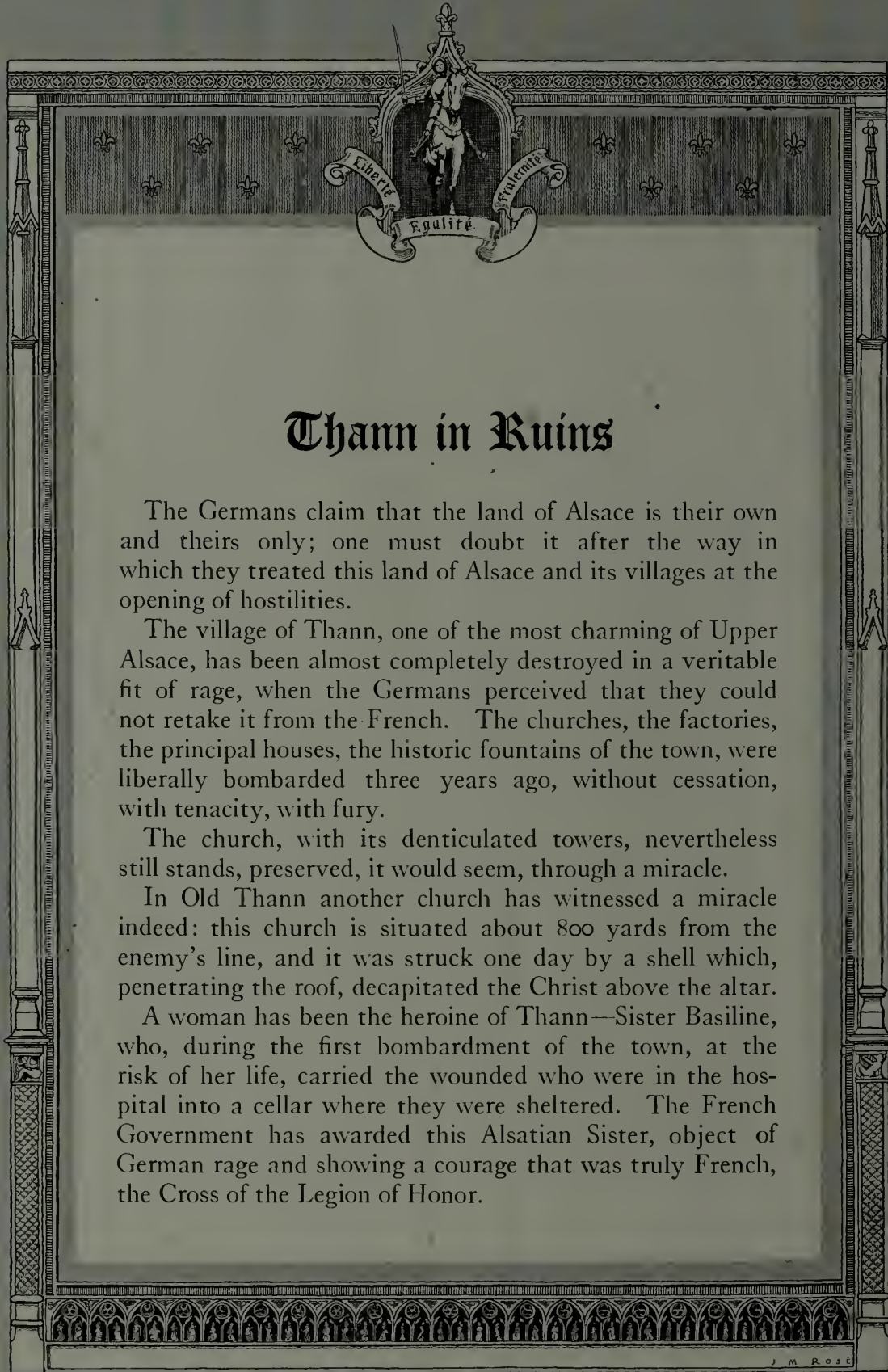
It was nothing more or less than German barbarity that annihilated this glory and destroyed these treasures. In order to make more sure their work, the artillerymen fired upon the Town Hall of Arras with explosive shells; thus what the shrapnel and the shell explosions spared, fire did not spare. The shells in fact gutted the marvelous building, and the fire burned all the archives, all the parchments, and all the precious volumes which lay defenseless behind their little glass doors.

The damage is irreparable, and there will be no attempt to repair it. The portions of the walls that are left, raising their melancholy ruins toward the heavens, will be allowed to remain as they are, attesting to future generations the barbarity of a whole race and a whole empire which, in spite of a treaty, in spite of the laws of civilization, has committed this outrage and will bear the responsibility.



© 1915, by Charles Duvent

ARRAS
The Town Hall and Hall of Archives



Thann in Ruins

The Germans claim that the land of Alsace is their own and theirs only; one must doubt it after the way in which they treated this land of Alsace and its villages at the opening of hostilities.

The village of Thann, one of the most charming of Upper Alsace, has been almost completely destroyed in a veritable fit of rage, when the Germans perceived that they could not retake it from the French. The churches, the factories, the principal houses, the historic fountains of the town, were liberally bombarded three years ago, without cessation, with tenacity, with fury.

The church, with its denticulated towers, nevertheless still stands, preserved, it would seem, through a miracle.

In Old Thann another church has witnessed a miracle indeed: this church is situated about 800 yards from the enemy's line, and it was struck one day by a shell which, penetrating the roof, decapitated the Christ above the altar.

A woman has been the heroine of Thann—Sister Basiline, who, during the first bombardment of the town, at the risk of her life, carried the wounded who were in the hospital into a cellar where they were sheltered. The French Government has awarded this Alsatian Sister, object of German rage and showing a courage that was truly French, the Cross of the Legion of Honor.





Metzeral and the Valley of the Fecht

The Valley of the Fecht is one of the most poetic and radiant of all the mountain country of Alsace. In summer its trees have a sombre tone which makes of it a veritable nest of verdure; in the autumn it takes on a copper tinge, one of those tints which clothe only the forests of Alsace.

At the point where the Valley opens out is situated the little village of Metzeral with its old, steep-roofed houses; a little village, serene and peaceful, visited by tourists from all lands.

The village was entirely burned during the first days of the war, when the Germans, in the face of pressure from the French, were forced to evacuate it. The houses, for the most part of wood, blazed with a terrible readiness. Within a few hours there remained only a mass of rubbish and blackened timbers.

Metzeral, village of Alsace, has suffered the fate of thousands of villages in France. Metzeral, village of Alsace, after the war will remember, as will the other villages of France.



METZERAL AND THE VALLEY OF THE FECHT

© 1918, by Charles Duvent

Sometimes, as in this case, the paved terrace beginning as almost a part of the porch, and continuing down into the garden, does much to make the house a more intimate part of its environs



Grosvenor Atterbury, architect

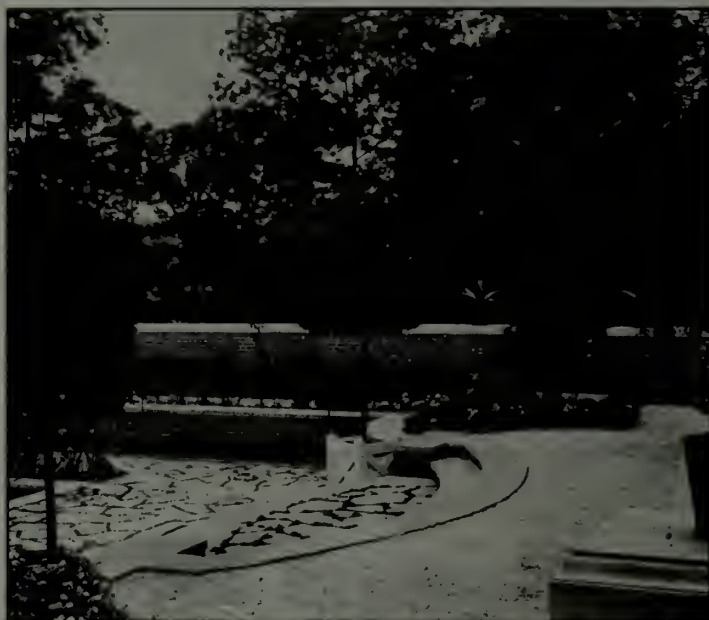


Albert Herter, architect

In this instance the furnished terrace has been made a notable feature of the decorative scheme of the house, carrying in its blue and white tiles, Italian jars, painted furniture, and blue flowers the coloring of the room from which it leads, yet forming a harmonious part of the landscape



Steps leading down to the sunken pool on the terrace at the C. K. G. Billings place, Locust Valley, N. Y.



Guy Lowell, architect



The sunken pool on the terrace glimpsed above. While the walled-in terrace lacks somewhat of the breadth and freedom of the terraced lawn, the loss in one respect is compensated by a delightful sense of privacy and seclusion which, in this instance, adds much to the picturesque charm of the pool



Water garden on the H. L. Pratt place at Glen Cove, L. I. The terraced lawn beyond stretching down to the Sound needs only a few pieces of movable furniture to fit it for complete enjoyment



Jas. L. Greenleaf, landscape architect



When to the ordinary pleasures of a screened veranda on the lower floor and a spacious porch above is added the delight of a comfortably furnished terrace, there would seem, as in this instance, little left to be desired for the full and complete enjoyment of a country home

A. F. Brinckerhoff, landscape architect



Sun dial and boundary line pergola in one of the terrace gardens on the E. P. Thomas place at Plainfield, N. J.



Another view of Mr. Thomas's terraced gardens. The development of this place shows the happy results possible where nature and the formal art of architecture meet in accord. The clever placement of painted furniture completes the decorative scheme and gives the terrace the needed touch of liveableness



To the WOMAN in the COUNTRY



WHAT proportion of all the people who live near you in the country do you suppose know that the butter allowance fixed by the Food Administration is half a pound a week, per person, or that the meat allowance is two and a half pounds a week? How many—rich, poor, intelligent, and unintelligent—do you suppose understand

what the thrift and war savings stamps are, or that they can be bought at the post office or from the rural free delivery carrier?

Many of the most vital activities of the Government in its conduct of the war are dependent on the voluntary response of the public to its appeals. There can't be much response from that part of the public which does not hear the appeals. Most of this uninformed part of the public lives in the country and probably some of it lives near you.

It is a fairly simple thing to spread the news of war activities among the people in the cities or the industrial workers in the country factories, but it is not so easy to do it elsewhere in the country, and in consequence the Government's campaigns have not been as well carried out in the rural districts.

These various campaigns are all conducted in much the same manner—by advertising, newspaper publicity, pamphlets, cards, and various other kinds of printed matter. Our Government does not, after the German fashion, send a policeman or inspector to enforce its mandates, but instead publishes its requests and suggestions of what it wants done and then leaves it to the citizen to do. The effectiveness of this method is limited by the success with which Government requests and suggestions are distributed.

This is a crucial point in the Government's campaigns at home, and it is a point where the woman in the country can help. There are Liberty Loan, Red Cross, and Savings Committees in almost every community, and also agents of the Food and Fuel Administrations, who would welcome the aid of intelligent missionaries with automobiles to distribute and explain their propaganda. About the only sure way to reach all the dwellers in the country is by personal touch, and the best link between the local agencies and the country people is the woman in the country in her automobile. She can make the time, and she has the brains and the means of transportation. In many places it would be possible to have a disseminating committee which could hold itself in readiness to spread the news of any campaign for the Liberty Loan, War Savings, Red Cross, Food and Fuel Administrations, the call of shipworkers for the Shipping Board, etc., *ad infinitum*. A committee that divided up the territory and came to know everyone in it could save a vast amount of time, and increase the greatly needed effectiveness of the war work by acting for all of these organizations. Each visitor would become a kind of instructor in war effort to the people to whom she went, encouraging food saving, thrift, and Red Cross work, and building up the war information and morale of the community. She could repeat her

visits as often as need be to check up her efforts or give out the new information that appears from time to time.

In less sparsely settled communities the work could be intensified by bringing a group of women together regularly. We cannot expect people who go to town once a week to make much headway in complying with the many things that the Government is asking us to do, unless these things are explained to them carefully. Once collected into groups, the people can be formed into War Saving Societies, given Red Cross work, instructed in food saving, and thus their knowledge of the war and their war morale will be built up.

This is much more important than many people realize. There are most extraordinary theories and ideas which circulate in the country which badly need correction if the men at the front are to have cheerful families behind them. For example, the other day a country boy who was drafted said that he expected to go to France immediately. "Why," he was asked. He explained that after the *Tuscania's* sinking the Government wouldn't bother to train men on this side who might be lost in transit and the training thereby wasted. His impression of the danger to the troop ships and the likelihood of loss was wrenched hopelessly out of perspective, and he and his family were in need of some reassurance. Now the Home Service Department of the Red Cross is designed for exactly this purpose, but it, like the many Government activities, would welcome a means of contact with the people in the country. This Home Service of the Red Cross can be of the greatest assistance to the families of men at the front, because the Red Cross not only has a home service to keep the families informed about the men who have gone, but also they have agents at the camps here and abroad to reassure the men concerning the folks they left behind them. In an order issued by the Adjutant-General of the Army this service is explained as follows:

"To relieve the anxiety and to sustain the morale of the soldiers who are worried about their families at home, and to promote the comfort and well-being of these families, authority is given to the American Red Cross to place one or more representatives of the Home Service Bureau of the Department of Civilian Relief at the service of the men of each division of the army wherever located. The soldiers should be informed through official orders of the presence of such representative or representatives, and that the Red Cross is able and willing to serve both soldiers and their families when in need of any helpful service."

This takes care of the work on the soldier end, but the Home Service Bureau could be greatly helped in its activities by the women who know all the people of their district and who visit them or gather them together frequently.

The possibilities of service for the women in the country in a campaign of dissemination are limitless, and it furnishes a use for her time, energy, brains, ingenuity, and automobile.





"No other creature of the forest seems more a shape of the moonlight than does the deer"

MY FRIEND *the* DEER

By ARCHIBALD RUTLEDGE

Photographs by George Shiras, III.



IT WAS the middle of May in the woods of South Carolina, and the time of day was noon. I was riding along leisurely, trying to drink in a portion of the marvelous beauty of the scene which stretched away from me on all sides; a scene in which bright birds flashed, wild flowers gleamed and glowed, and great trees seemed to shiver and expand in the ecstasy of their springtime joy. Suddenly my attention was arrested by a strange and beautiful sight. Far through a forest vista a doe came bounding along gracefully. She showed neither the speed nor the tense, wild energy of a deer in flight, so I judged that she was not being followed. And as it is very unusual to see a deer traveling about at midday, there must be, I reasoned, some unusual cause for the doe's movements. Slipping from my horse I watched her approach. She was bearing to my left; and while still a hundred yards away she turned abruptly to the right, leaped, with a great show of her snowy tail, a hedge-like growth of gallberries, and then came to a stop in a stretch of breast-high broom grass. As her running had not been that of a fugitive, so her pause was not that of a listener and a watcher. Instead of standing with head high and ears forward, the doe bent her beautiful head, and from the slight movements of her arched neck I knew that she was nuzzling and licking something that could be nothing but a fawn. I tied my horse and quietly drew near, but, alas, generations of hunting have made deer incapable of distinguishing between a friend and an enemy. To a mature wild deer, the scent of a man is the most dreadful of all warnings that death is near.

As I came up, the doe winded me, tossed up her beautiful head, leaped over the high grass, paused to look back, then bounded off again. If there is such a thing as reluctant speed, that doe showed it. She went and went fast, but clearly she didn't want to go. Indeed, when 300 yards off she came to a stop, and after that she did not increase the distance between us. As I approached the fawn, the little creature stood up, swayed on its delicate legs, and took one or two uncertain steps away from me. But

though startled, it was not frightened. It let me come up to it, stroke it, and prove my friendliness. Indeed, after I had turned away from it, the delicate woodland sprite bleated faintly and followed me for a step or two. Far behind, among the glimmering aisles between the pines, the doe began to approach her baby as I receded from it. When I had mounted my horse and ridden some distance away, I caught a glimpse of the mother and baby together again.

This scene of the woodland illustrates a typical incident in what I shall call the "inside life" of our Virginia deer. American hunters are quite familiar with these beautiful creatures as an object of sport; but few indeed even of those who know the deer well in a general sense have an understanding of the real nature and everyday habits of these most interesting creatures. Whatever I know of deer has been gained from many years of experience in the woods; and perhaps a statement of this experience will be of interest to those who care for details of an intimate nature of the lives of the woodland wildernesses.

The little scene described shows us much about the deer. After the birth of the fawn, the mother will leave it in a sheltered, sunny spot and will go away to feed. This is a daily habit. Sometimes the doe will go several miles, and will return twice or three times a day to nurse her fawn, the frequency of her return depending on the age of the fawn. When a fawn has thus been placed by its mother, it will not leave the spot. I once knew this habit to be pathetically illustrated. A negro worker in the great turpentine woods had brought me a fawn, and I was raising it on a bottle. It slept in the house at night; but early in the morning it would go in its wary, delicate fashion to a patch of oats near the house and lie down. There I always found it for its midday bottle; and there it would remain until I brought it in at dusk. Except when disturbed (by hunters, dogs, or swarms of flies), in all regions where deer are hunted they very seldom move about in the daylight; but a nursing doe's mother instinct overcomes her timidity, and she travels from place to place for her food. When the fawn is very young, she never leaves it at night. This mother-and-child



An albino buck and fawn, with normal does—part of a herd that may establish a white species of white-tail deer

relationship lasts until the fawn is at least six months old. I have seen a fawn (possibly a "late" one) following its mother in December. The doe was started first; she ran off a short distance and waited for the fawn to overtake her, when both of them bounded off.

As deer secrete themselves by day, it will be interesting to follow them into some of these secluded sanctuaries in order to discover what kind of cover they like best, and what precautions they use to secure themselves from danger. Deer retire to their fastnesses in the early morning; a man never sees a deer in ideal surroundings unless he sees it coming forth to feed at twilight, or returning in the misty dusk of morning. Always an unsubstantial creature, the deer is peculiarly so when seen in shadowy forests. In approaching the place where he is going to lie down for the day, a deer (especially a wise old stag) will try to cross, and even to follow, water. This always is an effective barrier to trackers. I was once walking in a swamp, following a trailing hound, when ahead of me I detected a slight movement. Against the gnarled roots of a tree standing in shallow water a deer was lying, literally curled up. It did not leave its refuge until I was almost on it. Favorite bedding places for deer are hummocks or tiny islands in sluggish water courses. Often, too, where the growth is dense on the edges of woodland pools, a deer will walk across the water and lie down on the other side. Then he will need to be alert for danger from one side only, and that the side which his tracks have not traversed. In sections where there are growths of laurel, tamarack, scrub cedars, and other evergreens, these dense coverts will be haunts of deer. Much, however, depends on the season of the year and on the state of the weather. In the winter, on clear days, deer seek for southern exposures, sunny and wind-sheltered. I once started a drove of seven deer lying in a tiny amphitheatre made by fallen logs. The dense top of a fallen tree is a favorite place with deer. In violent storms, by night or day, deer will speedily make for open stretches of woods, where they will not be in danger of falling limbs and trees. After such a tornado, it is no uncommon thing to find many cattle killed; but I have known of but one deer to be killed in this way. If the weather is rainy, deer will move about in the day in search of shelter. An old hunter told me that if a snowstorm sets in during the day, he always looks for deer under the densest hemlock trees on the mountain. One day I was going home through a heavy rain, when I was astonished to see a great buck cross the road ahead of me and go into a very heavy myrtle copse beside the road. Being unpursued and showing no signs of fear, he was evidently merely getting in out of the wet. There was something positively bored about his expression; it resembled that of a chicken which, being caught in a far corner of the yard in a shower, runs disgustedly for shelter.

During those periods in summer when gauze-winged flies are a

torment, deer resort to the densest thickets, and at such times they do little lying down. I remember coming, on an August day, upon three deer—they were a family—on the edge of a heavy copse. Being unobserved and unsuspected, I saw the creatures behave in what must have been a most natural manner. There was continuous petulant stamping, much flicking up and down of the ends of tails (precisely after the manner of goats), and an impatient tossing up and down of graceful heads. The buck, which carried fine antlers, once lowered his stately head and made a sudden tumultuous rush through the dense bushes. Probably he did this to clear himself from the flies and in order to ease the itching which was making his velvety horns tingle. As soon as I showed myself, two tall white tails and one tail-let rocked off in standard fashion into the thicket.

As deer are seldom seen by day except when they are disturbed, the time to observe them is at night; but, naturally, they are even less frequently seen then. In

regions where deer are plentiful, their shadowy forms are seen crossing old roads or clearings at dawn and at dusk. No one can have an accurate idea of the true life of the wild deer who has not observed the creature browsing by moonlight. Now that most of the animal enemies of deer have been practically exterminated in the white-tail's habitat (such enemies as wolves and catamounts), deer fear the dark less than the light. Their movements are bolder and freer; by daylight, a deer is seldom aught but a skulker, a fugitive. In the Southern pine woods, I have watched deer at night, and they seemed to me stranger, wilder, more dream-like creatures than any I had observed by daylight.

Near our plantation house there was the ruin of an old negro church. This stood in a circular clearing of about an acre in extent, surrounded on three sides by scrub pines, and on the fourth by low myrtle and gallberry bushes. For some reason the clearing had remained inviolate of growths of any kind. In the centre was the ruined church, which was ringed by an arena of pure white sand. I discovered that deer loved to come to this place at night, partly because it lay between their daytime haunts and their favorite night feeding-grounds, and partly because deer seem to love open sandy places—"yards" they are sometimes called. I buried some rock salt in the sand by the old church, knowing that the deer would find it and come to it regularly. Then in the forks of a pine I built a suitable platform, about sixteen feet up. I should have hidden among the timbers of the old church but for the fact that a deer "travels by his nose." Both by day and by night a deer's eyesight is comparatively poor; it is not to be compared to the clairvoyant seeing power of a wild turkey. But a deer can generally wind and locate a man, if he is not well off the ground. During the still nights of good moonlight in November and December I spent many a solitary hour on this platform, waiting and watching for deer, and being richly rewarded.

In order that some time might elapse between my coming on the ground and the arrival of the deer, I always ascended the platform at sunset. I shall try to describe exactly what I saw and heard from this platform on a typical night.

Though near a plantation road, it was at least three miles from any habitation. There were therefore absent many of those sights and sounds which characterize the Southern plantation twilight. Sometimes I could hear the melodious whooping of a negro, but usually the only sounds were from the wild denizens of the woods. In the dim distance an owl would hoot; perhaps a fox would bark, and once I heard the cry of a wildcat, utterly savage. Then the risen moon would begin to steep the woods in light, and with the coming of the moonlight, there seemed to be a cessation of the wild cries; there was movement in the forest, the mysterious movement of wild life that hunts by night or is hunted. Long before I could see anything, I could hear furtive

steps, glimpse a swaying bush, and hear twigs crack. Animals of many kinds were prowling the half-wild hogs and cattle that infest the Southern pine woods, the crafty raccoons, pacing along well-worn paths; the silent foxes, the very spirit of craftiness, the hushed-winged birds that love darkness better than light. Last, after I had been on the platform nearly three hours, came the deer.

No other creature of the forest seems more a shape of the moonlight than does the deer. It is apparently possible for the largest buck to move through the dense bushes and over beds of dry twigs with no perceptible sound. A movement rather than a sound off to my left had attracted my attention; another glance showed me the glint of horns. A full-grown stag was in the act of jumping a pile of fallen logs. He literally floated over the obstruction, ghostlike, uncanny. I noticed that he jumped with his tail down—a thing he would not do if he were startled. Behind him were two does. They negotiated the barrier still more lithely than the buck had done. Even in the deceptive moonlight and at the distance they were away from me (fifty yards) I could easily discern a difference in the aspect distinguishing the buck from the does; the stag was bold, proud, impatiently alert; the hinds were hardly less alert, but were meek followers of their master. All three of them were feeding; but at no one time did all of them have their heads down at the same moment. One always seemed to be on watch, and this one was usually the buck. For a few seconds at a time his proud head would be bowed among the bushes; then it would be lifted with a jerk, and for minutes he would stand champing restlessly his mouthful of leaves, grass, and tender twigs. Often he would hold his head at peculiar angles—oftenest thrust forward—as if drinking in all the scents of the dewy night woods. After a while, moving in silence and in concert, the shadowy creatures came up on the space of white sand which stretched away in front of me. Now they paused, spectral in the moonlight, now moved about with indescribably lithe grace, never losing, even amid the "secure delight" of such a time and place, their air of superb readiness, of elfin caution, suppressed but instantly available. The steps they took seemed to me extraordinarily long; and it was difficult to keep one of the creatures in sight all the while. They would appear and reappear; and their color and the distinctness of their outlines depended on the angle at which they were seen. Broad-side, they looked almost black; head-on, they were hardly visible. At no time could I distinguish their legs. When they moved off into the pine thicket, whither I knew they had gone to eat mushrooms, they vanished without sound, apparently without exerted motion, and I was left alone in the moonlight.

In addition to his fondness for mushrooms, the deer is also a great devourer of hazelnuts, chestnuts, acorns of many kinds (especially those of the white oak and of the live oak), beechnuts, pine mast, and the like. Occasionally he will eat apples; and I have known peach trees to be wholly stripped of their half-ripe fruit by deer. Of domestic crops, the deer will eat anything green and succulent; he delights in wheat, rye, buckwheat, oats, alfalfa, rice, sweet potato vines, young corn, timothy, turnips, beans, and peanut vines. Deer have been known to pull up peanut vines in order to get at the nuts, which they greedily relish.

In order to obtain these green crops of the field and garden, deer resort to some very crafty devices. A great hunting club in the South had planted several acres of peas to attract quail; the deer found the peas in the early summer, and every night a herd of six or seven jumped the six-foot fence. The fence was raised to eight feet, and this height the marauders did not negotiate. But possibly it was because they did not have to.

Whenever I think of the jumping power of deer, I am



"Always an unsubstantial creature, the deer is peculiarly so when seen in shadowy forests"

reminded of a shrewd remark once made to me by an old woodsman: "A deer can jump as far or as high as he has to." In this case the deer, to enter the field, got down in an old ditch, crawled under the wire fence, and found themselves in clover. And so baffling was the manner of the deer's entrance that the manager of the preserve could not account for it until he had sat up in an oak on a moonlight night and had seen the affair come off.

This striking instance of crafty intelligence may well serve to introduce the question of the deer's mental capacity. At the outset it can assuredly be said that the deer is so intelligent that it is impossible to classify his probable actions. As animals increase in intelligence, the chances of their behaving in a regular, unvarying manner are decidedly decreased. It therefore becomes impossible for us to say that a deer will do this or will not do that under certain circumstances, for he has both a certain sense of judgment and at least a rudimentary power of decision. This intelligence is best illustrated by examples of the deer's cleverness.

A buck in cover, if he hears what he takes to be danger approaching, will carefully weigh his chances; though it is his instinct to run up the wind, he will dash down it if in such a course appears to be his way to safety. If from afar he hears the noise and decides that it means danger, he will probably slip craftily out; if the danger is near before he is aware of its approach, he may steal out silently, he may bound out with astonishing vigor and speed, or he may lie where he is, even though the peril be upon him.

After it has passed, it is like him to leap up and sail off down the back track of his enemy. It all depends on what seems to him the wisest thing to do under the particular circumstances. A buck will send does or a young buck out of a thicket ahead of him, or he may take the lead himself.

One day in the woods I waded within twenty paces of a buck which was lying down on the sand under some leafless scrub-oaks. I probably would never have seen him but for the fact that as he moved his head craftily, I saw the rocking antlers. He had his lower jaw flat on the ground, much like a crouching rabbit. He was planning to have me pass him by, but I disappointed him. Almost the instant that he discerned that I had seen him he bounded up and was gone. A friend of mine had a somewhat similar experience with a buck; only the buck did not wake up until my friend seized him by the horn, when there was a regular tableau. Whether this buck was deaf, I do not know; but the manner of his flight betrayed not the slightest impairment of any of his other physical powers.

When deer are hunted on sea islands, where their range is naturally limited, they will frequently leave their wooded haunts and

take to the surf. I have seen a buck go 200 yards out in shoal water and stand there for hours, with little more than his back and his antlered head showing above the water. Frequently, from a refuge of this kind, a deer will not come ashore until after nightfall. On reaching the beach after such an experience a deer is always plainly exhausted.

From these examples it is easy to infer the degree of a deer's intelligence—the brain power of this mischievous, playful, timid, curious, truculent creature.

I say he is truculent; and on occasions he undoubtedly is. A doe is never dangerous; but a buck in the mating season is a treacherous animal. It is his nature at such a time to attack. It is the time of love, of rivalry, and of combat; and a buck, with his clean, sharp antlers, his new dun coat, is a creature of ugly and uncertain temper. Keepers of preserves are frequently attacked; but I doubt if a buck in a wild state would ever attack a man unless cornered or wounded. If the records of men being injured by wounded deer be examined, it will be found that in the majority of cases the victims have been injured by the wild struggles of the deer rather than by any direct attack of the creature.

At close quarters, the sharp hoofs of a deer's front feet are more to be feared than the antlers.

But while bucks very seldom bring man to an encounter, they are forever fighting their fellows, at least until some sort of caste system of superiority is established. In the course of these combats many fatalities occur, the most gruesome of which are the cases of the locked antlers. The fighting of deer is playing with fire.

Often two bucks, in a spirit of frolic or of indolent urgings of strength, will put their heads together just to feel the tingle that must come when hard horn raps against hard horn. They may break off the bout in a friendly spirit, or, stirred by a painful wrench of the neck or a jab from an antler point, they may enter a battle which gradually increases in fury. This fierceness of the fray may continue even after the battle is ended; for sometimes the victorious stag will mutilate the body of his fallen rival. This he can do by retreating, turning, bounding back and jumping on his fallen adversary. Carcasses of such bucks have been found which have literally been cut to pieces. Wherever two bucks have been fighting, there will be an arena worn almost bare of verdure by their trampling hoofs. Occasionally on the scene of the encounter a broken part of an antler will be found. Few are the mature bucks that do not show evidences of their having been in battle.

His antlers are, of course, the pride and the glory of the buck. I read recently, in a book of natural history that has had a wide circulation, the following statement: "The older and larger the buck, the finer the crown of antlers he wears." This is not entirely wrong, but it is quite misleading. Deer antlers are directly related in growth to the reproductive processes; and a buck will wear his most massive crown when his physical powers are at their zenith. This usually comes, with the white-tail deer,

between the fifth and the twelfth years. The size of the buck does not determine the size of his antlers, though the ruggedness of the life he leads may determine to some degree the architecture of his horns. Thus, the wilder the surroundings, the heavier and the more craggy are the antlers. Naturally, this is because in savage environment the deer has great need for his horns as defensive weapons.

In the old days deer had many enemies; and even now in the wilder portions of their habitat some of these enemies are present. Man is the chief; after him are cougars, wolves, wildcats (which kill fawns), and possibly the more savage of the bears, though the smaller bear and deer are known to live amicably in the same woods.

But take it all in all, deer probably have fewer natural foes to contend with than almost any other of the wild creatures. Their closed season is long and is pretty general throughout the sections where the white-tail is found.

Occasionally a deer will be killed by a rattlesnake, but far more frequently will the rattler be killed. In sections where alligators infest lagoons, streams, and wood ponds, many deer are taken by these grim saurians. The fawns sometimes suffer from the raids of eagles, particularly golden eagles.

The only disease which makes any considerable inroad into the ranks of the white-tail is black tongue, or hoof-and-mouth disease (anthrax). This is a highly contagious disease, and it is singularly fatal to deer. In riding the woods where such a plague is abroad, I have counted as many as eleven deer in various stages of the malady. Such deer act very strangely. Some attempt to run, but fall over. Some lie quite still. Others stand, shaking and shivering as with the ague.

The superb normal health of

a deer, which enables it almost incredibly to recover from terrible wounds, seems unable to combat this fell disease. Wherever it appears in deer forests its effects are disastrous.

Unless attacked by black tongue, or unless meeting an untimely fate, deer may live for thirty years; Millais, the British authority, says that deer live as long as horses. But the deer's existence is precarious, and few ever attain an age exceeding fifteen years. I have seen several ancient bucks taken, and they gave clear evidences of age; their hoofs were broad, stubby, and cracked; their muzzles were grizzled; their horns were small and scraggly; and even their motions in the woods were as near being decrepit as I suppose the motions of so alert and graceful a creature can ever become.

Such are some of the facts concerning the secret life of the white-tail deer. It is an animal vividly interesting; shy and crafty, swift and elusive, gentle and beautiful. There is no creature which seems more adequately to express the spirit of the lonely wood, the solitary lake, the silent mountain, the gloomy swamp.

He who sees a deer in its native surroundings sees all that is wildest in the wilderness, all that is most haunting in deep sanctuaries, all that is most delicately alluring in remote woodlands, in wild valleys, and on far mountains.



Flashlight photograph made by the deer's touching a baited thread—



—and one made a quarter of a second later, when a string, burned by the first flash, started a second one



Mr. Conklin himself—watching 'em grow

ROSEMARY—*an* ESTATE to WITHSTAND *a* SIEGE

By ROLAND R. CONKLIN



WHEN my wife and I decided to acquire a farm on Long Island, we approached the undertaking from an angle differing as materially from that of the commercial farmer (if I may use that term) as it did from the point of view of the country estate owner.

Yet it was in a way a combination of the two ideas that was sought—a self-supporting estate, a place having all the beautiful qualities of a country home which could pay its own way. It was a more difficult undertaking than I dreamed, but after the lapse of some fifteen years' trial, I can look back upon my various experiments with a feeling of guarded amusement at the failures, and gratification at the measure of success sufficient to have made it all worth while.

Let no one think, however, that success was achieved in cash dividends on the outlay. That was never expected, even in my most enthusiastic efforts. It would indeed require a high order of skill and experience to make enough money from farming to pay interest on the present value of land on Long Island. But having the land and the necessary buildings and equipment, can farming operations be made to pay when associated with a country house?

An affirmative answer to that question can be made only under certain conditions, but it can be done; and it is an interesting thing to attempt, and a still more rare and interesting thing to accomplish. The subject is particularly timely now when we are all imbued with the desire to do work which will aid in winning the war. To increase food production, to cut down waste—these are the most helpful things that a non-combatant can do.

The number of retailers, shopkeepers, agents, and commission men—that is, the non-producers—has been recently growing out of all proportion to the number of producers—the farmers and the manufacturers. There is one retail store for every fifty persons in New York City, and in New York State one retail store for every seventy-two persons including those in prisons and asylums. One third of this number would be quite sufficient. The other two-thirds under present conditions, are a real incubus

and only add to the cost of living by increasing the charges of distribution, just as do all unnecessary commission men and wasteful and extravagant methods of getting food from the farm to the ultimate consumer.

In these times, it ought to be a disgrace not to get out of the inert mass of non-producers into the organized ranks of the producers, if there be any avenue open to such a change.

The expression "Back to the farm" need no longer convey the idea of retrogression in economic and social importance, when compared to the town resident. It should be recognized that the man who devotes his time and energy to the cultivation of the fields is taking just as important a part in this great war as the man who shoulders a gun, and his work should be held in the dignity to which, in the face of existing conditions, it is entitled. Much prestige would be gained for the work by the formation of a National Agricultural Army. It could be within the scope of the Food Administration to enlist the services of every man in this country either under or over the draft limits, who is not already more usefully employed. Each member ought to be required to pledge his fidelity to the nation and to promise to do his best in whatever field of agricultural effort he might be employed for the duration of the war. If each soldier in this new army were put in uniform as has been suggested, or given some distinguishing insignia emblematic of the country's service, he would feel that he was taking a responsible part in the war. In this way, with comparatively small effort, it would not be difficult to organize the farm labor throughout the entire country. Food will win the war, as many patriotic posters announce, and boys too young and men too old to go to the trenches ought gladly to go to the farms. There is enough tillable land on Long Island to feed New York City, under proper organization, and incidentally greatly relieve during war times the strain on railway transportation caused by bringing food half way or entirely across the continent.

I started to recount in brief form, however, my own experience in demonstrating what could be done on a Long Island estate to make it a producer, and as nearly as possible a self-supporting producer.



The mixed flock. Mr. Conklin's theory that the mixing of poultry breeds produces hardier and healthier stock may not be generally endorsed in toto, but there is no doubt about its soundness as to the first or second cross

Long before the war, various friends have suggested that I seemed to have established Rosemary Farm with the view of standing a siege. This idea arose from the fact that I have attempted to grow on my farm practically every necessary food used at my table. The waterfront of Lloyds and Coldspring harbors furnishes both clams and oysters. Two artificial ponds, fed by springs, supply trout and small-mouthed bass. The poultry department furnishes chickens, ducks, geese, squabs, and an abundance of fresh eggs. A flock of thirty sheep supplies spring lamb for the entire season. Three brood sows produce plenty of young pigs, and a smoke house converts enough of them into bacon and ham for our own use. The dairy furnishes milk, cream, butter, and cheese. The garden supplies more than thirty varieties of vegetables, and in a small, dark cellar are grown a satisfying quantity of mushrooms. An orchard provides all the varieties of fruits and nuts possible in this latitude, and between the trees are planted small fruits such as currants, raspberries, loganberries, blackberries, etc. The farm furnishes wheat and corn which are ground into whole wheat flour and meal respectively, by a small mill on the place, operated by a gasolene engine. Greenhouses furnish tomatoes, salads, melons, and grapes, as well as cut flowers and decorative house plants. An apiary gives us honey. My superintendent turns my extra apples into cider, and my vineyard supplies grapes from which he makes light wines and cordials and grape juice. Many of the fruits and vegetables are preserved, canned, and jellied for winter use. Is much more needed for one's table except sugar and pepper and salt?

Possibly, many of these things could be bought for a lower price at the markets than it costs to produce them, but they certainly cannot be bought as fresh and palatable. Aside from what is grown in the garden and greenhouse, the household is charged with the products of the farm at market prices. But the pleasure in growing everything you need and furnishing them to your guests pays good dividends in itself, in times of peace as well as war.

It is not necessary for the owner of an estate to go into the production of as many varieties of food as it has given me pleasure to grow, and during war times especially it is better that the time and effort expended in growing luxuries and in experimental work be abandoned in favor of producing the greatest amount of the necessary standard foods. Every man who has a country home necessarily will have vacant land, and one of the most engrossing and interesting features of country life is planning to develop and utilize it to the best advantage.

I have divided my farm operations into departments covering poultry, dairy, and general farming, and it is possible that my experience may give some

hints to those who now feel the pressure and the duty of doing their part in increasing food production.

The poultry department. The plant should be neither too large nor too small, and incubators are of course essential. Provision is needed for raising at least 1,500 chickens per season. I produced up to between 2,000 and 3,000, but found that to raise more fowls of various kinds than could be cared for by one man was unprofitable.

I find that the household can easily consume the eggs from 250 hens, provided surplus eggs during the spring months are preserved in waterglass. They are kept by this means far fresher and more palatable than storage eggs.

Eggs, as well as dressed chickens, easily find a market with tenants or neighbors at prevailing prices, though for the sake of convenience in bookkeeping I charge the household 60 cents a dozen for eggs the year round, and \$1 for chickens. My

poultry man tells me, however, that I ought to increase the price to 75 cents for eggs and \$1.50 for chickens, to come more nearly in accord with present market prices.

As much as possible of the feed should of course be grown on the farm, and a strict account kept of all grain fed. Ample space should be provided for the chicken runs. I am getting the best results by keeping my chickens in the orchard, it having been fenced with wire, which serves a double purpose: the chickens have plenty of room to scratch and exercise, and the orchard is kept free from grubs, caterpillars, and other fruit tree pests.

As to the best variety of fowls, I think I have tried all the well-known ones. At first I made a specialty of White Indian Games, and at one time had the best flock of this variety in America. They took the first prizes in numerous poultry shows all over the country wherever they were shown. But I gave them up, because while the meat is of exceptional quality, they are poor egg producers, and I could not make them pay, even though I sold good specimens for breeding purposes at \$25 to \$50 per fowl.

I have tried Black Minorcas, White Wyandottes, Rhode Island Reds, Plymouth Rocks, and White Leghorns. My experience has taught me that the Leghorns are the best egg producers and that the finest birds for general utility are obtained by getting good stock birds of the above standard varieties, and allowing indiscriminate crossing. It is true that the hybrid offspring is of no value to exhibit in poultry shows, but you get a hardier and healthier stock for practical purposes, which will continue year



The family residence at Rosemary overlooking Lloyds and Coldspring harbors. Immediately in front of the house, on the slope between it and the waters of the harbor, lies the famous open-air theatre where the Red Cross Pageant was given last October

after year without deteriorating and will provide you with plenty of eggs and quick growing and healthy broilers.

The dairy department. This department ought always to return good dividends on the investment, if you consider the advantage of having for home use pure, fresh, and uncontaminated milk, cream, and butter. But with present war prices for dairy products, there is no reason why actual cash dividends cannot be earned if the household is charged at market prices with what is consumed, and the surplus milk and cream is sold to tenants or neighbors. Financial success is doubtful if you attempt to keep a greater number of cows than is required for home or neighborhood consumption. If such products have to be transported even a short distance, the estate owner cannot compete in that line with the farmer whose overhead expenses are nil.

For the cows, the farm should supply mangels, grain, and alfalfa or hay, for there will be but small chance of making money on the dairy if all the cows' feed has to be bought. On the other hand, the farm receives an indirect profit from the manure and from the skimmed milk when fed to the chickens or pigs.

One is sure to raise a storm of protest and opposition no matter which variety of cows he recommends for dairy purposes on an estate. I gave serious consideration to investigating the comparative merits of the Guernsey and Jersey, and finally decided in favor of the Guernsey and acquired a herd of registered cows and a good bull. The milk is of delicious flavor, yellow, and rich in butter fat. After some years, however, my herd began to deteriorate in milk and butter production, although I kept the blood fresh by breeding with high-priced registered bulls.

I determined, therefore, to switch over to Holsteins, noted for giving a much greater quantity of milk, and probably the most popular commercial dairy cow in this country. I had been told that Holsteins could be and had been bred up to giving milk as rich in butter fat as the Guernsey, while still retaining the gift of greater abundance. I secured four choice registered cows averaging about \$400 each. After a few years' experience with them I became satisfied that the greater supply did not make up for the lack of quality in the milk, and I would now unqualifiedly recommend the Guernsey or the Jersey for an estate. It is a truism that it costs as much to keep a poor cow as a first-class milker, and therefore careful watch should be maintained over each cow, and the poor milkers should be promptly weeded out.



The farm buildings are built on a common-sensible plan, utility being the first desideratum. An abundance of windows in all the buildings gives full scope to the cleansing and curative effects of sunlight and fresh air.

I have sometimes mixed the breed and got an exceptionally good grade cow. For practical results, a first-rate grade cow can be generally relied upon to give as good and as much milk as expensive, highly bred, registered animals not carefully selected, and they require a much smaller investment.

The next thing I should recommend as a food and money producer is a piggery. Every estate should have one, and especially under existing conditions, when there is such an unprecedented demand for bacon, ham, and pork products which can be shipped to the firing line.

From half a dozen brood sows fifty or sixty pigs can be raised a season. That number may be economically fed upon an average estate. I have been able to sell my surplus this year at 25 cents per pound on the hoof, and there is a large profit at a much less price if you raise your own grain and feed. Not only the skimmed milk, but the kitchen and table leavings can be converted into money as feed for the pigs.

On the whole, I have found pure bred Berkshires the most satisfactory pigs to raise, especially desirable on account of the high grade bacon and hams that they produce.

It may be a patriotic thing to do to keep a number of sheep on an estate when wool is so much needed, but I have not found it profitable. A flock of fine sheep grazing has a picturesque appeal, and young lamb is very toothsome, but they are luxuries for an owner, and generally cost in care and feed much more than he can get out of them. At any rate, such has been my experience.

A matter of distinct importance is the consideration of raising standard farm crops on estates contiguous to a large city. Of course, it is quite out of the question to consider adding to operating expenses in farming an interest charge on the higher value of the land or even the larger tax rate on country estates. It might naturally be supposed that the proximity to market ought to offset the higher cost of labor when compared with regular farming, but this theory is rarely made good in practice. In the first place, the farmer in considering his profits usually takes no account of the money value of his own services or those of his sons. The estate owner, on the contrary, generally pays a cash salary to his superintendent which alone would represent a good income to the average small farmer, and if he has no interest in the returns, unless very closely watched he is apt to make purchases and expenditures that he would not think of doing if working for himself.

On the other hand, our system of food distribution is such that a farm almost adjacent to a large market has apparently little advantage over a farm a thousand miles away. Experience has taught the hopelessness of getting fair prices through commission



The Rosemary dairy. Even in these parlous times it is possible to make the estate dairy pay, but to do it you must raise your own feed for the cows. This year it is a patriotic duty to increase output to the maximum, regardless of profit. Notice the individual drinking receptacles, cutting out the dangers of infection in the trough.

men; and the expenses attendant upon reaching the consumer direct are too great for one farmer to undertake.

I attempted this in marketing fruit. I had planted an orchard of forty acres, largely of apples, with peach trees as fillers between the rows while the apple trees were maturing. Some seasons I would get several thousand dollars for my peaches, but notwithstanding the good market rates I obtained, when I computed the expense of cultivating, pruning, picking, crating, and marketing, there was little or nothing left. The surest way of netting returns seems to be to sell the fruit on the trees to the professional dealers, after setting aside what is needed for the household.

One season I attempted the raising of garden truck, with the view of delivering direct to the consumer an assorted variety of fresh vegetables in a neat and compact crate at a popular price. Some thirty acres were carefully fertilized and tilled for the experiment, and planted with vegetables that had been demonstrated in my own garden to be of choice varieties. Experienced laborers were obtained at Castle Garden, and, as many people had expressed a desire for weekly or semi-weekly deliveries, the undertaking looked very favorable.

If my employees had been willing to work for me the same hours and with the same diligence that the garden trucksters surrounding New York obtain, success would have been a foregone conclusion. But to meet that competition they would have had to get up before daylight and work till dark, and while in Europe they may have been perfectly willing to do so, they had worked in my fields but a few weeks when they wanted an eight-hour day. This condition, augmented by the expense of house to house delivery, demonstrated before the season was half over that my plan, attractive and desirable as it was to the city consumer, would be a failure so far as profits were concerned. Some of my customers felt quite aggrieved at my not continuing the delivery as a philanthropic venture, but I could not see it in that light, and abandoned the plan several thousand dollars poorer, but considerably richer in experience.

I would, therefore, advise estate owners to stick to standard farm crops, as does the successful farmer, and so far as possible to secure the double profit from feeding the stock on the place, the chickens, the pigs, and the cows, for in that way you save transportation and convert your grain or hay into more concentrated and valuable food products.

The need is even more urgent than it was last year for every estate owner to utilize every possible acre in the cultivation and production of food products, whether he makes money or not in the process. While the war lasts, profits should and must be a minor consideration. It is a patriotic duty for a man to produce all that he possibly can, irrespective of gain or loss.

One must be on guard, however, not to fall into an endless chain or circle of raising grain solely to feed the horses required to cultivate the crops. The average estate superintendent seems to think that is quite a legitimate method, and if he succeeds in producing an agrarian harvest sufficiently large to feed the horses which work the crop, the ambition of the owner should be considered achieved.

I venture to say that there is not one country gentleman in ten, employing a superintendent or farmer on salary, who makes his farming pay, and the majority find their operations a source of actual expense which in many cases amounts to yearly losses of thousands of dollars. This is wrong and wasteful and unnecessary, and in these times is entirely unjustified. Notwithstanding the higher cost of labor, the higher prices obtainable for all kinds of farm produce enable a farmer to show profitable returns if business methods are used.

For instance, let us take corn—now selling, say, at \$1.50 per bushel. Estimating the expenses most liberally, they would be as follows, per acre:

Seed	\$.50
Fertilizer	8.00
Labor, plowing	4.00
“ cultivating	2.00
“ harrowing	2.00
“ cutting	3.50
“ housing and storing	10.00
	<hr/>
	\$30.00

Estimating the yield very conservatively as fifty bushels to the acre, the crop would be worth \$75, and give a profit of \$45 per acre.

Wheat will show, at \$2.25 per bushel, about an equal return per acre. And potatoes selling at \$1.25 per bushel ought to yield a profit of about \$100 per acre, as follows:

Seed	\$30.00
Fertilizer	20.00
Labor, plowing	4.00
“ cultivating	12.00
“ spraying	10.00
“ hilling	4.00
“ digging and storing	6.00
	<hr/>
	\$86.00



In the potato raising campaign of last spring Mr. Conklin's young son enlisted his boy neighbors to help prepare the seed potatoes

A reasonable crop on Long Island is 150 bushels per acre, and at \$1.25 per bushel, the price at this writing, it will give gross returns of \$187.50 per acre. It must be remembered that the wholesale price of potatoes within the past year went as high as \$4 per bushel. The reduction in price can be ascribed to the patriotic response to the Government's appeal to all citizens to plant potatoes on town lots, or on any vacant land. The great crop thereby raised during the season of 1917 naturally brought the price down, and while many who had anticipated very large profits were disappointed, the result of lower market prices was really what was expected and desired by those who planted

potatoes as a patriotic duty. Nearly all the owners of large places responded most patriotically to the appeal to increase the food supply for our allies and our country. The construction of new private roads and plans for landscape improvements were cut to a minimum, if not abandoned. Many, at a considerable sacrifice, converted their lawns into vegetable gardens and extended considerably the acreage that they would cultivate under normal conditions.

In addition to the raising of farm and garden produce, there are other opportunities for usefulness. On many big estates there is a considerable amount of greenhouse space which, during the war, can be usefully and profitably employed for the cultivation of medicinal herbs. The supply of certain necessary drug-bearing herbs such as belladonna and digitalis, has been almost entirely cut off, which has brought about a really serious condition in the drug market. Those who have available glass-house space could employ it in no more valuable manner than in growing certain of these plants that formerly came from enemy countries. Owners of private greenhouses are particularly well equipped for this work, because most of them have in their employ highly trained horticultural experts who are exceptionally well fitted to take up this new work.

Finally, for days of war or days of peace, I advocate an estate owner giving the farming superintendent an interest in the business, and a share in the profits. There will be a magical reduction in cost of operations, and a man can look upon his waving acres of grain without wondering how much that pleasing feature of the landscape is taking out of his income.



BUILDING and the WAR

Some building is helping us to win the war; some building is hindering the great cause. Ask your conscience

By HENRY H. SAYLOR



ANY years ago I worked in an architectural drafting room where, as an experiment, a Chinaman was employed to do tracing. The first task given him was to reproduce, upon transparent tracing cloth, a drawing that had become somewhat worn and untidy from much use.

In the course of its active life there had been spilled upon it a blot of ink. The Chinaman faithfully traced in the blot on the new drawing and blacked it. He trusted his instructions rather than his judgment.

There seems to be an almost parallel case in the matter of the present building situation. Last summer it became evident that, if we were to throw all of our available energy into the work of winning the war, it would be necessary for us to curtail all non-essential production. This turned out to be a very much more intricate matter than it appeared upon the surface. The man who tries to separate essential and non-essential production and set them apart as sheep and goats, will become old and gray at the task, provided he does not first go mad. Nevertheless, it became apparent at once that unnecessary building was one of the things that might be done away with at the start. The country needed cantonments for the new army; it needed warehouses; it needed, and still needs, new ships. Every man who could handle a saw and hammer was called to the job of building these absolute necessities at once. The country estate owner who, in the face of this need, could proceed with the erection of an elaborate high brick wall about his estate, must have had an easily subdued conscience. The man who went out and bid against the Government for labor to build himself a new concrete swimming pool held back the progress of our war programme by just that much effort.

The Administration itself has told us that we are to do no unnecessary building. There are evidences that we have heard this call and have heeded it. The *American Contractor* reports building permits for new construction in February, in 110 cities, amounting to slightly more than \$29,000,000; a year earlier the amount was nearly \$53,000,000.

The country as a whole reacts very quickly to the Government's appeal in these days of stress. A recent striking illustration of this was in the recall of a porkless day by the Food Administration, due to the unbalancing of the food supply through the country's promptness in following the Food Administration's former appeal. The building situation is in somewhat the same state. We are in danger of forgetting that we are asked to forego only unnecessary construction, and in our zeal are perhaps lowering our efficiency or even curtailing our output at a time when these must be kept at the highest notch.

The United States is, at the moment, a huge factory, the product of which is material to win the war. The factory faces the need for immediate production in the maximum amount. We must make more soldiers, more airplanes, more munitions, more clothing, more food, more ships; and the date for delivery of all these products is day before yesterday. In the case of a small factory meeting the same call, the general manager would turn his mind at once from matters of expansion for distant future needs. He would put every available man and machine at the job and push them with all possible speed. He would probably even set to work his repair gang on active production. Naturally this could not be maintained for



very long. A machine breaks down. The manager faces two alternatives; he can allow the machine to stand, thereby lessening production over an indefinite period, or he can repair the machine, at a less cost of production hours, to set it at work again. The choice is obvious; the manager will look beyond the loss of the present hour's production to the greater gain beyond.

That we must follow the same plan is perfectly clear. Every possible bit of labor that can be put upon war work should be so disposed, but we must not neglect our upkeep. There is no economy for the United States in allowing its plant to go to pieces. If a new roof is needed on a house, it is a gain for the national wealth of the land that it be fixed now rather than require the far greater expense of a whole new roof next year. There is no economy for the owner or for the nation in allowing his house or his barns to deteriorate for the need of paint.

"But the war will be over in a year or so, surely, and then we can stop the big machine and make repairs."

There is nothing in it. So far as our war programme is concerned—not only as to airplanes and ships and men, but in the lesser details of making milk and raising horses and fattening pigs and getting the most eggs out of your little poultry flock—the end of this war is at least ten years off. That job of renewal or repair cannot be put off that long. The stitch must be taken in time.

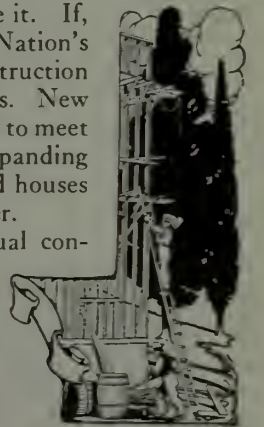
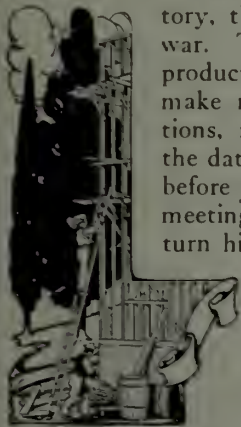
The question is not, would paving my barnyard make my country home more attractive; rather is it, would paving my barnyard help this Nation at war.

The thing that we must not fail to do is to replace the worn-out things with the best possible construction and materials; we must build for durability first of all. Construction for mere appearance's sake must wait; we do not design a machine gun to add to the beauty of the world, but to shoot straight and often. To get that result we put the designing of that gun into the hands of those who know most about such matters. By the same token, if you would build a dairy barn, this is no time to try out your pet theories on the housing of cattle; hire the man who knows how, to incorporate the best of modern knowledge into a building that will do its job, not only now but for years to come.

The cantonments and most of the rush Government work in providing shelter for the army and its supplies have been finished. These workmen have been released for other tasks—not for the creation of new luxuries but for the production of war necessities.

The case seems perfectly clear so far as repair and maintenance go. How about additions to our present buildings, or new ones? If, by building a new dairy we can help the milk supply of our particular neighborhood, thereby saving transportation, there is no question as to the benefit accruing to the Nation. If a new silo will help us to produce more stock, and the labor is available, it would be absurd not to utilize it. If, by building a sheep fold, we can add to the Nation's production of wool, fats, and meat, the construction surely comes under the head of necessities. New houses will have to be built by the thousands to meet the shift of labor to the shipyards and expanding factories, but those are local problems. Old houses must be made to last longer and serve better.

After all, it is a matter for the individual conscience. The facts in each case must govern. The final test question is: will this particular utilization of labor and materials contribute to the Nation's ability to win the war, and, if so, will it do this more directly than by any other possible use?



WORLD STARVATION

By F. F. ROCKWELL



RECENTLY, for the first time in some months, I dined in a New York restaurant. Nothing very interesting about that perhaps. But a few days before I had dined with several men engaged in the official work of increasing food production, and I had heard things which had not been given out about the condition of our own national larder, and about the reports of those who have been investigating food conditions abroad, and these facts did make it interesting.

There were a few "meatless" and "wheatless" signs, in patriotic borders, hung about the walls, and "war bread" and "Hoover corn muffins" on the menu, but nevertheless there still existed the same old prodigious and profligate waste of food on the part of both the management and the patrons of the establishment. I could not help but think of Edgar Allan Poe's wonderfully told story of the "Masque of the Red Death." In that tale, it will be remembered, the guests and friends of Prince Prospero, within the locked walls of his castle considered themselves so safe from any touch of the death and devastation which harassed the countryside without that they planned and carried out the most extensive and elaborate fête that the Prince had ever held. It was only at the climax of this affair, with the revel of the dancers at its height, that they realized, suddenly and too late, that the Thing, the dread spectre which they had assumed could not possibly get to *them*, was actually in their midst.

And these diners, who joked about war bread and laid wagers on the chances of our having food cards before summer passed, undoubtedly considered themselves so safe, within the walls of good incomes and prospective business prosperity, that they could feast and be merry without giving any very serious consideration to the possibility of ever seeing actual hunger, face to face, stalking among them.

This is the great trouble: we have become so used to measuring our personal security in terms of incomes, of viewing all of the necessities as well as the luxuries of life on the dollars-and-cents basis, that it is next to impossible to realize that in reality it is *commodities* and *not* cash which stand between well-fed stomachs and warm backs, and hunger and cold. For so many generations we have considered starvation as a corollary of poverty, that it has become impossible to think of it in connection with full pocketbooks.

One thing the Great War is doing—it is bringing us back to elementals and making us think of things as they actually exist, in terms of tons of shipping or pounds of wheat per capita, instead of universal dollars-and-cents. And so at last we come to realize that we may face *hunger*, even in the midst of unprecedented bank balances and industrial activity.

There is another point which most persons fail to realize: the only thing which is keeping us from world-wide hunger to-day will make world starvation all the more sudden and complete

when it does come. That thing is the ever increasing and ever more efficient distribution of food. The world is like a man who faces certain bankruptcy, but who postpones the evil day by liquidating all of his assets; when the crash finally comes it is all the more complete.

Is it possible that while we are congratulating ourselves on the fortitude that we are showing in meeting such supreme sacrifices as eating good rye bread and hot corn muffins instead of wheat, that the shadow of the reincarnation of Famine, long since banished from the civilized world, is already beginning to fall across our doorsills?

That shadow is not only possible; it is present. And the only thing that can possibly prevent the substance from following the shadow is not more efficient distribution, and the further substitution of one form of food for another—helpful as those things may be temporarily—but the *increased production* of food on a scale immeasurably greater than anything that we have contemplated thus far.

One indication of the situation that faces us is the trend of prices of foodstuffs—that is, prices to the producer, which reflect conditions much more accurately than prices to the consumer, which are affected by market manipulation, transportation, etc., and are not always a true indication of actual conditions.

The level of prices for all farm crops paid producers, March 1, 1918 (the latest figures available), were 39.9 per cent. higher than a year ago, and 108.4 per cent. higher than two years ago; and for meat animals, 34.3 per cent. above those of a year ago, and 82.2 per cent. higher than two years ago. The figures as to meat animals are of February 15th.

The increase in prices in some of the important crops are as follows: wheat, from \$1.50 to \$2.02 per bushel; corn, 90 cents to \$1.35; oats, 51 to 74 cents; rye, \$1.18 to \$1.70; hay, \$11 to \$18 per ton; eggs, 38 to 46 cents per dozen; hogs, \$8.76 to \$15.73 per hundred; lambs \$8.72 to \$13.81 per hundred; wool, 31 to 58 cents.

"But," it may be argued, "the general level of prices has gone up; the figures are not conclusive. They only go to show how the farmers are profiting by the war; and farm production will be speeded up accordingly."

These figures are not conclusive; but in a broad way, they certainly are significant. Without going into too many detailed statistics, let us look at a few things specifically.

Take, for instance, wheat, the staff of life of the Western world. The latest report from the International Institute of Agriculture (cablegram received December 26th last) gives the total of last year's wheat crops in the United States, Canada, Great Britain, France, Italy, Spain, Denmark, Sweden, Norway, Egypt, India, Japan, and a number of smaller wheat-producing countries as 1,864,000,000 bushels, which was smaller than the 1916 crop in spite of efforts at increased production, and *only* 85.1 per cent. of the average for the five years of 1911-1915. And this is without any allowance for the very considerable losses by incendiary fires and submarine and mine sinkings.

How have we, claiming that our most important part in the war is to feed the world, met this serious situation? In a statement on the "Food Needs for 1918" issued the 16th of last August, the Department of Agriculture, after making all allowances for decreased per capita consumption, substitution of other food for wheat, etc., estimated that it would be necessary to plant 48,700,000 acres of winter wheat in the United States. What *did* we plant? The preliminary report of the Bureau of Crop Estimates (December 19th), shows a total of 42,170,000 of acres. But that is not all; in the Dakotas, Nebraska, Texas, Oklahoma,



—IS IT POSSIBLE?

Drawings by J. M. Rose

Utah, Idaho, and Washington, including the biggest wheat-producing states, the acreage planted was actually less than that put in in 1916; while Minnesota, Iowa, Montana, Kansas, and Nevada barely held their acreage.

The preliminary estimate for the whole country showed a gain of 4 per cent. in acreage, which may change with the revised report. But the serious fact in the situation is that the condition of the crop, in December was the poorest ever recorded, being more than 10 per cent. below the ten-year average! On this basis, the yield in sight is 540,000,000 bushels.

Rice to us does not mean so much, but it is to a large part of the Eastern world what wheat is to the Western. According to the International Institute, the 1917 production of rice in Japan, Egypt, United States, Spain, and Italy was a little more than 80 per cent. of the 1916 crop, and *less than 84 per cent.* of the five-year average of 1911-1915.

Our last year's corn crop, while large, was injured to a very great extent by the early frosts, with the result that there is not enough first-grade seed corn to plant the normal acreage, even if it were uniformly distributed to the farmers in the sections which suffered—a necessity for which as yet there has been no adequate provision made.

Hogs, of course, constitute another very important food item, especially as a source of animal fats, which are vitally necessary. Miscellaneous reports indicate that there was a decrease of at least 7,000,000 and possibly of 9,000,000 or 10,000,000 in the number of hogs slaughtered in 1917 as compared with the year before. These figures would seem to indicate a considerable decrease in the amount of pork produced. On the other hand, reports show that the number of hogs in the United States on January 1, 1918, was the largest ever estimated—namely, 71,374,000 as compared with 67,503,000 on January 1, 1917.

And so one might go through many more items; but the question is not so much whether we are really in danger of being short of food for the world, as what we are doing to meet the situation. I quote the following few items from a late issue of one of the typical and most widely read rural papers. They give, in miniature, a true picture of conditions on the farms:

Dairymen Buy Up Hay—In Chautauqua County many cellars have been frozen and potatoes damaged. Many farmers are hauling logs, coal, and wood. Hay is a very scarce article, and has mostly been bought up by local dairymen. Farmers are so short of help owing to the draft that there will not be half the acreage put in this year as heretofore.

Much Feed Required—In Morrow County much corn is still out in the fields. Fodder is keeping well owing to the cold weather. On account of its quality, corn is being fed up very fast, and May will see less corn in farmers' cribs than usual. There is not much hay in the county, cold weather making rapid inroads in hay and fodder. Hay brings \$20 per ton delivered, corn fodder 8 cents per bundle. Prices of mill feeds have not been Hooverized yet, bran bringing \$40 per ton and middlings \$50.

Corn Still Unhusked—In Miami County, farmers are still having trouble to obtain help and not more than half of the corn is husked. Hogs bring \$16 per hundred pounds, steers \$10, chickens 18 cents per pound, corn \$1.15 per bushel, oats 75 cents, wheat \$2.15.

Much Feed Required—We have had snow in Vinton County since December, and an enormous amount of feed is necessary to keep live stock going. Little work is being done with the exception of hauling coal. Hay is selling at \$25 per ton, corn \$1.50 per bushel, eggs 50 cents per dozen, butter 40 cents per pound.

Wheat Crop Damaged—Wheat in Huron County is covered with a layer of ice as a result of a sleet storm before it snowed. The outlook is dark for some.

Such is the food situation that faces the world to-day! Perhaps



we have looked too much on the dark side of this picture. In a statement to the Senate Committee on Agriculture, Assistant Secretary Ousley estimates that there will be probably a little more land under the plow this year than last. He looks for an increase of spring wheat acreage of from 5 to 15 per cent. Market gardening products, particularly around industrial centres, will probably be lessened because of labor difficulties; but on the other hand the home garden movement should more than offset this. Farm labor offers the principal difficulty, in his opinion, and he points out the fact that municipalities must come to the aid of the farmer in freeing city labor for harvesting and other needed activities, to take care of the peak load.

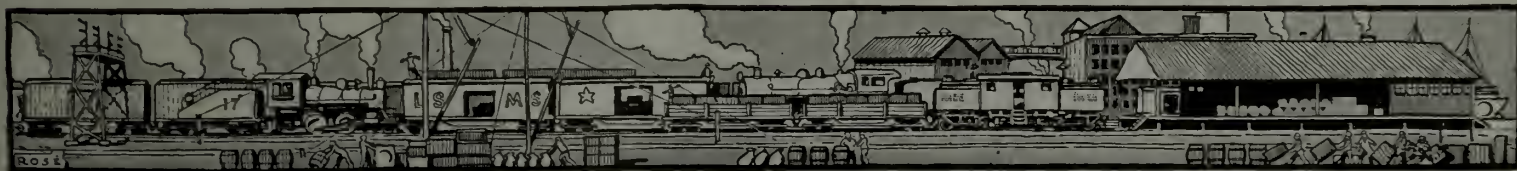
In several countries—including some of our allies—many thousands will die of actual starvation during the next few months; it is already a physical impossibility to get food to them all in time to prevent that. And starvation for the world is certainly so near that a year of poor crops may precipitate it among us, even here in our own land, where, although we have not produced very good average yields per acre, the individual farmer has been producing more than in any other country in the world.

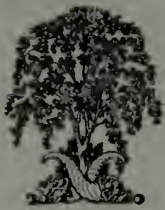
Hunger is emperor! After all is said and done, despite the purple and ermine trappings of royalty, the clockwork discipline of great armies, and the reassuring vision of the world's accumulated wealth, hunger, half-shod and in rags and tatters, is revealed as the Great Dictator, directing, from garret and gutter, the destinies of empires! Hunger is emperor, and his kingdom is anarchy. His real entry into the war would bring the tides of battle rolling back from the far-flung fronts to city and town and home to turn order into chaos.

Thus there are indeed pregnant possibilities that the Great War may be succeeded by a greater war—a war of Humanity against Famine.

The production of food, therefore, becomes of more importance than ever before from every point of view: as a personal necessity; as the most common-sense kind of patriotism; as a social obligation. The individual may feel that the few acres of corn or of root crops that he may have put in, on such land as he controls, can play no important part in saving the situation, in stemming the drift toward starvation. But if the drift toward starvation is to be stemmed, and world-wide hunger avoided, it must be by the simultaneous action of millions of individuals, each making an earnest, conscientious effort to produce every last pound of food that can be produced; and taking an active part in urging adequate social action, no matter if old ideas and customs that stand in the way have to be thrust aside, just as they have had to be in the conduct of the war.

“It is not a theory, but a fact, which confronts us”—hunger, the most poignant fact in the world. And the famine that threatens must be met, and that without delay, or civilization as we know it will experience the most tremendous upheaval that has ever been known.





FROM A COUNTRY WINDOW



"THE WOMEN NOW WENT willingly into ye feild, and tooke their little-ons with them to set corne, which before would alledge



"THEN SHALL THE
EARTH BRING FORTH
HER INCREASE"

weaknes, and inability; whom to have compelled would have bene thought great tiranie and oppression." I like that revealing sentence of Governor Bradford's; its sturdy strength, its simplicity. "The Log of the *Mayflower*," our country's first book, is full of just such phrases; phrases cadenced and with the same marching, rhythmed dignity as Bunyan's "Pilgrim's Progress." And are not these early struggles of our ancestors here recorded vivid with the spirit that again awakens in us; those times when all worked; when men and women and children alike turned their faces toward the common goal of freedom? Somehow, today, the war is setting us all such wonderful tasks: economy, efficiency, the sweeping-away of the non-essential; recapturing, actually, our forefathers' virtues.

There is a woman who lives in this small country town of ours, and to talk to her is as refreshing as a draught from a mossy wayside well. She has traveled very little; her life has been bounded almost entirely by her New Hampshire hills. Of books she does not know a great deal, and yet she gives you the impression of having lived so very really! To hear her speak of her girlhood on the farm is like reading a prose version of "Snowbound": the rugs they wove, the candles they dipped, the thrifty hoards of honey and maple sugar they stored away—for other sweetening they lacked—when "all hands" labored, and each contented hour was filled with its wonted duty. Why, even their pleasuring had the basic purpose of accomplishment: quilting-bees, husking-bees, barn-frolics, all of them! "People are in such a hurry nowadays," she says with her serene philosophy. She makes me feel as if in striving for the bigger things we have missed so many of the common joys of life; as if we reached perpetually for the moon and stars, heedless how lovely were the flowers of the fields. If only we can remember permanently the spirit of the lessons we are learning so hardly to-day; if only we do not forget to treasure the simple happinesses of existence, to keep our dailiness of life secure and sane and wholesome.

Our forefathers' virtues! May we live to inherit them:

I SUSPECT that the rural American is by nature and training a pacifist. His isolation gives him a sense of security and detachment; he fears no invasion. The comparative independence of his life has rendered tenuous his connection with world affairs and national issues. He



OUR
RURAL
MILITARISM

fails to see the advisability of mixing in other peoples' concerns to the disadvantage of his own. The very peacefulness of his surroundings has lulled to sleep any martial ardor he may have inherited, and to a man hoeing potatoes on an August day, with only mosquitoes and crows for company, war seems a distant and unreal thing.

Consequently, to the enthusiastic youth of the Eastern seaboard, or the nervous inhabitant of one of the more populous centres of psychological impulse, the countryman looks uncommonly like an unpatriot and a slacker. But once let the necessity for fighting get hold of him, and the man who is accustomed to working ten hours at a stretch in the hayfield is not the one who is going to give up before the job is done. Carrying on is the farmer's normal vocation.

It was the draft that wrought the change in our hills. The war spirit came slowly out our way. When war was declared we were, like Artemus Ward's hero, among the first to remain home. The two or three adventurous spirits who ran away to enlist caused

mild surprise, attended by comments not wholly complimentary.

Then came the draft, and at first mutterings of rebellion among the free-born youth of our hills. But a few weeks at Camp Devens taught them something. They were forced into step with America's manhood. They caught vague glimpses and then the broad view of what it was all about. They were snatched out of their *laissez-faire* isolation and were thrown into contact with the world.

And when they began coming home on leave, striding proudly along our roads in their trim khaki, they brought something with them that our community had nearly forgotten. Something awakened within us that had been comfortably dozing, and service flags began to flutter from farmhouse gables.

Oh, I know we should have responded more promptly, but before you judge us, remember what the Green Mountain Boys once did, and reflect that it was embattled farmers who fired the shot heard round the world.

MADAME LA DUCHESS (this is as far as names are permitted) wrote to the Paris headquarters of the American Red Cross a few



SOMEWHERE
IN
FRANCE

days ago that she desired to give us her château for the benefit of *blésés convalescents*—convalescent wounded soldiers. There were no considerations—no "strings" as we say at home. Her servants, she explained, would remain to contribute their best—aged men and women, to be sure, grown almost to the grave through having been faithful to the three generations they had served.

The château, standing majestically back from the Gironde, in the heart of vineyards, sheltered by a mildly undulating terrain on which at this season browse flocks of sheep, is one of the most romantic spots in southern France. For nearly 800 years a single family has held it, and now the heiress of such a rich antiquity comes offering it to the American Red Cross. The Red Cross man who visited the château for the purpose of receiving this gift will not soon forget his experience. To describe the *déjeuner* that day would be misleading. War bread, of course; a glass of goat's milk, honey, cold poulet, and salad. Also coffee served in seventeenth century cups—yet the sugar was of the coarse war variety.

"Do not be surprised," madame said, when the old *serviteur* had moved away, "if Legard spills anything over you! You know, he served my grandfather; and it would break his heart to be reduced. Therefore, he must simply stay on, and spill!

"He will miss the place, as it has been to him!" she went on, wistfully. "You know, he was born here. Of course, he will remain; but the soldiers' coming may confuse him—he is so very childlike! You have a camera, Monsieur? Would you object if I told him that you will take his picture and mine together?"

And then Madame—because another faithful servant would shortly feel confused without the place he had occupied for nearly fourscore years—led her guests through a succession of ancient hallways to the kitchen, and there, with charming naturalness, introduced her cook. A bent old man this was, who in his younger days had prepared the boar's head for happy gentlemen whose ghosts now lingered in the ancestral dining-hall where we had just lunched upon war rations!

Madame pays a price for this gift? Yes, but what do the real women of France think of price if their nation lives? Her ancestral home, her beloved servants, her fields and vineyards may be hurt?—Yes, but this is her reply:

"*Messieurs de la Croix Rouge Americaine*, take what I have, and continue bringing your blessings to those men who bleed for us!"

Which reminds us that the Red Cross War Fund Campaign opens May 20th.

GARDEN SCULPTURES

By

Captain Robert I. Aitken

The garden sculpture of Robert I. Aitken is sufficiently varied in character to indicate the wide range of his abilities as a sculptor, his ease in handling gracious subjects, and his vigor in dealing with more heroic ones. Mr. Aitken, who was born in San Francisco, studied and exhibited both here and abroad, and sent back to his native city several very fine pieces of work executed for the Exposition. He has received the Medal for Sculpture awarded annually by the Architectural League of New York, has done a number of public monuments, and is at present serving as a captain of infantry in the United States Army.



MODEL for a FOUNTAIN (*two views*)
in a garden yet to be made



PART of a
FOUNTAIN
*in a garden near
Philadelphia,
Pa.*



DANCING
BACCHANTE
*in the garden of
Augustus Thomas
New Rochelle, N. Y.*



ORPHEUS



FOUNTAIN IN
FAIENCE
*in the court of the
home of
Isaac Guggenheim
Port Washington, N. Y.*

*H. Van Buren Magonigle
Architect of setting*



*in the garden
of
Augustus
Thomas*

DANCING
FAUN



ORLD-WIDE
food shortages
strongly bring
home to Amer-
ican estate
owners the

need for doing their utmost to relieve the situation. Yet, in endeavoring to make the land yield its full quota, most people find themselves seriously handicapped by unparalleled conditions. Labor is scarcer than ever before. Seed of America's greatest food crop—corn—is alarmingly short, and the vitality of stock on hand is often unreliable. Due to the increased use of motors on the farm, the old-fashioned kind of fertilizer—manure—has become almost a luxury. With Chilean nitrates and German potash as scarce as they are, the problem of properly feeding crops is assuming serious proportions. What, then, are we to do?

New and difficult problems often prove a blessing in disguise. Making the best of what we have is not our national habit as yet. If it is not by the time the war is over, we shall have failed to learn a most important lesson. Briefly, the problem confronting us in combating food shortage is threefold:

I. To make the estate entirely independent of outside sources of food supplies should be the primary object. A properly managed kitchen garden goes a long way toward attaining this end.

II. To press into service such acres as have not heretofore been considered fit, for the purpose of raising more meat—sheep, hogs, cattle.

III. To do this with the least amount of labor, with the biggest promise of adequate returns, and to leave the ground in a better state of fertility than before, if possible.

Point I, the properly managed kitchen garden, has been covered in several previous issues. The province of this article is to point a way to grow more flocks under conditions that leave the soil in better shape than it was before, through methods that save labor.

Supposing that you knew of a crop easy to grow on soil of indifferent fertility, an acre of which would provide pasture for fifteen lambs from July to November, wouldn't you be tempted to raise a small flock of sheep? Of course; especially if it were proven to you that the crop, in addition, stored quite as much fertility in the soil as the crop on top of the soil offered in the form of nourishment to animals. Yet that is precisely what Canada field peas will do, and they are only one of a large group of leguminous forage plants that every estate owner ought to know.

I do not know which makes legumes the more valuable, the fact that they enrich the soil or that they furnish a highly nutritious forage relished by all live stock. Their capacity to gather nitrogen from the air and to store it in the soil for succeeding crops is appreciated by all who are familiar with the nodules



One of the greatest labor saving devices in pig raising is the green forage system of feeding—letting the pigs do the harvesting right in the field

FORAGE PLANTS *that FEED and FERTILIZE*

By ADOLPH KRUEHM

found on the roots. But relatively few agriculturists appreciate the value of the crop on top of the ground which, as in the case of soybeans, stands for a composition of 35 per cent. protein and 20 per cent. fat, a combination offering bigger advantages to stock raisers than feeding the most expensive grains.

But I am getting ahead of my story. I propose to tell you more about Canada field peas, cowpeas, and soybeans; also about alfalfa, alsike, bokhara, and crimson clover, besides dwarf Essex rape and hairy vetch. Properly handled, all these will go a long way toward solving the problem of feeding bigger flocks with less help and keeping the ground in a high state of fertility.

Canada field peas are unsurpassed as a fattening feed for sheep, pigs, and cattle, especially in high altitudes and northern climates where the more tender cowpeas and soybeans do not thrive. Field peas are closely related to the

ity, following corn or potatoes, Canada field peas will yield as much as 4,000 pounds of forage and dry matter per acre, and they are unsurpassed for silage, while the pea vines cured as hay, are more relished than straw or grain crops by horses, cattle, and sheep. In view of present seed shortages, it may even pay to save some of the crop for seed, the yield of which varies from twenty-five to forty bushels per acre, according to the fertility of the soil.

Cowpeas are really a member of the bean family and are to the South what the clover are to the North. This does not mean, however, that they are not suitable to be grown in the North. Sown any time during May or June the plants make a remarkable growth before frost. Cowpea hay compares very favorably with wheat bran in nourishing value of dairymen's rations. Think what that fact alone means with this country's bran supply cut short by the export of bulk wheat!

Sown at the rate of thirty to forty pounds per acre, in drills three feet apart, cowpeas will yield nearly two tons of cured hay, besides 500 pounds of dry seed per acre. Since the cowpea plants are of a rather spreading habit of growth, they are generally planted with a nurse crop, like corn or soybeans. Crimson clover and cowpeas are a wonderful soil-building combination, each storing more than a hundred pounds of nitrogen per acre. As a late fall crop cowpeas are unsurpassed to feed hogs off the land. For that purpose they are generally sown broadcast with corn, after the last cultivation. Grown with soybeans they furnish a feed ratio superior to either, alone.

Until comparatively recent experiments proved that soybeans (or sojar) are richer in protein than either corn meal, bran, or oats, their use



The objective of every estate owner and farmer this year should—and will—be to make every acre yield its utmost; and legumes will play an important part in the campaign if given an opportunity

...in American agriculture was largely confined to the South, especially the Gulf States. Here the soybean has for years been appreciated as a tremendous yielder of rich forage (six to eight tons per acre) and as a soil improver beyond compare. Prominent hybridizers increased the scope of territory where the soybean may be grown successfully, so that now we have special sorts for all sections. And let me here sound the one warning of that most prominent soybean champion, Wing, that, in no other class of forage plants is the choice of the right sort for your particular section and purpose as important as with soybeans.

Sown in rows two feet apart, at the rate of twenty pounds per acre, either late in May or early in June, soybeans will yield from fifteen to twenty-five bushels of beans per acre, worth approximately \$2 per bushel. Then, there is a nitrogen deposit at the roots, worth as much more, besides from two to three tons of forage for ensilage or to be gathered by cattle. Where the litter method is practised, it is advisable to let hogs follow the cattle, because they'll get the beans and the stubble. Because of their fully erect growth, soybeans are frequently planted with cowpeas, which combination not only

greatest of all forage plants, alfalfa. But the results are more worth while than in the case of other legumes because an alfalfa field is a permanent asset.

Alfalfa may be sown either very early in the spring or in August, at the rate of thirty to fifty pounds per acre, with drills fifteen to eighteen inches apart. This is far preferable to broadcasting, since it affords an opportunity to cultivate seedlings and small plants. Alfalfa will grow in the greatest variety of soils, so long as they are properly inoculated, about which more is said later. Alfalfa should not be grazed at all the first year, and not heavily the second. It is most profitable to balance it with small grain rations. One acre of it will pasture a dozen hogs. It is probably the best roughage known for beef

ture in dry sections, and is less apt to bloat stock than alfalfa; it also furnishes valuable hay, yielding at the rate of two tons per acre in two cuttings in the North, and twice that much in the South.

An acre of bokhara will provide pasture for twenty hogs, with some grain to supplement it. Sheep, hogs, chickens, and horses are equally fond of bokhara. When pastured upon it, stock makes gains which compare very favorably with those scored from either alfalfa or clover. The principal drawback to bokhara is that it is a biennial and must be reseeded every other year. Sow at the rate of ten pounds per acre.

Crimson clover is an annual, generally sown in August or September at the rate of fifteen pounds to the acre. Plowed under as a soil improver, it adds more nitrogen to the soil than fresh barnyard manure. As a hay or pasture crop it is relished by all kinds of stock.

In connection with all these clovers, bear in mind that land which has never carried them should be inoculated with the particular bacteria essential to their existence. This is easily done by spreading soil from a field that has produced these crops lightly over the new field to be seeded.

	APPROXIMATE TIME OF SEEDING	READY FOR FEEDING
Canada peas (with oats)	Early April	End of June
" " " "	May	August 1st
Soybeans	August	Early October
Cowpeas	End of May	End of August
" " "	Early June	Early September



When sown at the rate of thirty to forty pounds per acre will yield nearly two tons of cured hay besides 300 pounds of dry seed to the acre



Soybeans are one of our most valuable forage plants, but be sure to plant the right sort for your particular section and purpose

facilitates harvesting, but also furnishes the best feed combination, surpassing many grain rations in percentage of digestible dry matter.

The area devoted to any of these crops must be determined largely by three factors: the number of animals to be fed, the duration of the feeding period, and the fertility of the soil that produces the feed. Broadly speaking, you should count about half a square rod per day for each full-grown cow, and smaller animals in proportion. It, even this holds good only where a succession of crops is provided so that a constant supply is available between May and November, and the animals can be shifted about from one field to another to give each planting a turn to recuperate. A good programme is to start pasturing on either rye and crimson clover carried over from the preceding fall. This may be followed by feeding Canada field peas and oats during June to August, finishing the fall with either cowpeas or soybeans, or both. The table at the top of the page shows how these crops come available when sown at different seasons.

As to that other important group of legumes consisting of clovers, it cannot be denied that they are more difficult to establish and that extra care is required in the preparation of soil, in seeding, etc. This holds true especially in the case of that

cattle, and some prefer it to clover for sheep, but when green it should be fed with caution, since the sheep will overeat, bloat, and frequently die. Because of its high protein content (15 per cent.) alfalfa is one of the best egg-producing poultry feeds known. It is relished either green or dry and steamed.

Alsike or Swedish clover is hardy and enduring and valuable as either pasture or hay, alone or with other grasses. Sow the same as alfalfa, but twenty to twenty-five pounds of seed per acre should prove sufficient; sown with timothy or other grasses, fifteen pounds will do.

Bokhara or sweet clover is of manifold value. It will thrive in soils too poor to support either of the above. It inoculates and enriches the soil, paving the way for alfalfa; makes good pas-

In addition, quite a number of laboratory-bred inoculators are available.

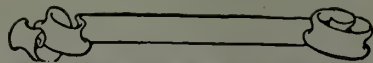
The same holds true with hairy vetch (*Vicia villosa*) which is one of the greatest forage crops, besides being a soil enricher. It is generally sown in early fall at the rate of sixty pounds of vetch with twenty to thirty pounds of rye, which latter supports the vines. It is, perhaps, the best legume where red clover fails, yielding about two and a half tons of hay per acre. It is also one of the finest of pasture plants and a great soil improver.

But the prize for being a superior emergency crop goes to dwarf Essex rape. This may be sown any time from early spring until August, as ground becomes available, at the rate of eight to ten pounds per acre, broadcasted, or

five pounds per acre in drills. The latter is preferable. Rape makes possible a pasture season from early June to late November; one acre of it will provide pasture for thirty-five to forty pigs from the time they are weaned until late fall, with a supplementary grain ration of 300 to 500 pounds per pig per season. Or, one acre will provide twenty-five sheep with pasture for eight weeks, where some supplementary pasture of natural grasses is available. Rape may be pastured eight to ten weeks after seeding.



A scene which should this year have its counterpart on every country estate in the land

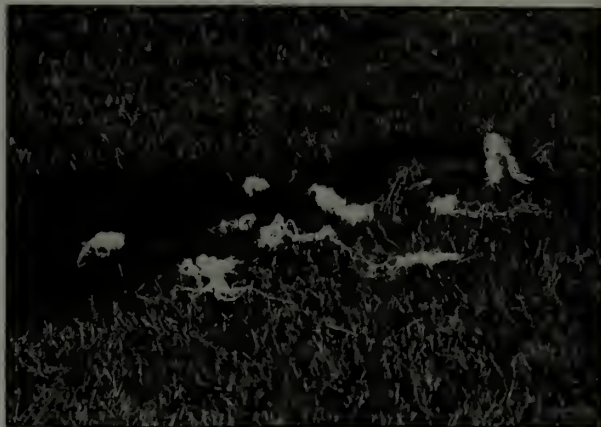


BIRD NESTING

Photographs by A. RADCLYFFE DUGMORE,



The indigo bird, whose sober-colored mate you have probably mistaken for a sparrow, builds his not too tidy nest in low bushes or weeds, and the eggs hatch in ten days. Surprisingly soon the young are out of the nest and fending for themselves



Confidence in man distinguishes the wood thrush from other members of the thrush family. He is not above accepting help at house building time (see him gathering up cotton waste put out for the purpose); the mother bird on her nest (left and above) will allow an inquiring hand to approach within a few feet



Perhaps the most common of our woodland birds is the ovenbird, so called from its domed nest which is shaped like a Dutch oven. Its gait is a walk instead of a hop. The young remain with and are fed by the parents until fully grown; a frequent woodland sight is the old birds scratching about in the leaves, like diminutive barnyard fowl, for grubs and insects

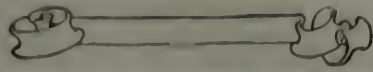


A trio of Baltimore orioles and their pendant home. The oriole's gorgeous black and orange plumage is sufficient reason for his existence, but his economic value is even greater than his beauty. The number of grubs, worms, flies, caterpillars, and even cocoons that go to satisfy the hunger of an oriole family is unbelievable



American egret feeding her little ones. The egret is one of the beautiful herons so mercilessly sought by plume hunters that the species would now be extinct but for the efforts of the Audubon Society and a few individual humanitarians who have provided sanctuaries for the birds, and wardens to guard them

DAYS *are* HERE



PAUL G. HOWES, and others



A parent bluebird approaching nest cavity in post, young and nest (above) at right. Bluebirds are not notable nest builders, but they are nevertheless conspicuously domestic, raising two and sometimes three broods in a season. Their claws are very sharp, probably to enable them to climb out of the nest.



Young green herons, the smallest and most widely distributed of the family; nest and eggs above. Green herons have a greater diversity of building sites than any other of the species—in heronries, alongside streams, and frequently inland.



Young chipping sparrows, friendliest and most unassuming of our feathered neighbors. Unlike most of the sparrows, the little chippy nests in high trees quite as frequently as in low bushes. The horse-hair which always lines the nest is responsible for the name hair-bird by which the chippy is sometimes called.



The blue-winged warbler (among warblers bluish slate is meant when the term blue is used) makes her nest on the ground, but so well concealed is it that it is almost impossible to find. The mother bird alone feeds the young until they leave the nest, after which time both parents turn to and keep up a constant stream of supplies.



Nest and eggs of crested flycatcher, the opening made to show nest. At left above, a sextette of young. The crested flycatcher's nest is always lined with snake-skin if one is to be had. John Burroughs says that in the absence of snake-skin he has found onion skin and shad scales in the nest.



MAKING EGGS *while the* SUN SHINES

By W. G. KRUM

Extension Instructor, N. Y. State College of Agriculture



WE ARE all more or less familiar with the old Bible promise that "While the earth standeth, seed time and harvest shall not cease." We are also aware of the fact that the time to make hay is while the sun shines. Nature has provided a season for everything and especially for the reproduction of plants and animals under natural conditions.

Man has been able, through his knowledge of the variations of nature's laws of inheritance and of reproduction, so to modify them with animals under domestication that these animals are now better able to supply the needs of man.

The wild jungle fowl (*Gallus Bankiva*), which is still found in the Philippines and in the East India islands, is supposed to have been the ancestor of most of the varieties of modern fowls. They live in a natural state and follow closely the original laws of nature. The young are hatched during the spring months, giving them a long summer in which to grow to full maturity. When the pullet is about eleven months of age she builds her nest in a secluded place and deposits therein from seven to twelve eggs. When storms and natural enemies have taken their toll, there are enough left to keep the total numbers about the same year by year.

When these birds were brought under domestication and better protected from the elements and from their natural enemies, and food was furnished more plentifully and regularly, they soon increased in size and in egg production, especially when man took charge of the breeders and mated together those showing the most desirable qualities. We now have in the civilized countries several hundred varieties, each with its own distinct size and color or combinations of colors.

Many varieties are now characterized by their early and persistent laying; not only do they lay in the spring time, but starting in the fall or early winter, when less than six months of age, they continue to lay for ten or twelve months; so that the 200-egg hen is quite common, and we occasionally find whole flocks averaging from 150 to 175 eggs per hen.

The consumer of eggs often protests against the high prices charged during the fall and early winter months, under the delusion that the producer is making a phenomenal profit at that time; and it would be a rather difficult task to convince him that the prices of eggs last November did not pay the feed bills, to say nothing of the other expenses.

By the keeping of careful records of flocks handled under the most practical and economical

methods, it has been found that of the total expense, about 60 per cent. should be charged to feed and 40 per cent. to labor, taxes, insurance, mortality, depreciation, interest, etc.

The amount of feed consumed will vary with different breeds and with birds of different ages; it is also influenced by the number of eggs produced, the heavy layers requiring more than the poor ones. We can expect that a flock of 100 Leghorn pullets, averaging 136 eggs each, will consume in a year about 6,800 pounds of grain and mash, 230 pounds of shell, 90 pounds of grit, and 1,000 pounds of green food. This amount of green food is in addition to what they can pick during the summer. The amount of feed consumed each month will vary with the season, from about 550 pounds in November, to 750 in May. If these pullets laid twenty dozen eggs last November, the feed would have cost about \$13, or 65 cents for each dozen eggs produced. The yearling hens would have produced about eight dozen at a feed cost of \$1.50 per dozen, while the two-year-old hens would have given only about five dozen at a feed cost of \$2.15 per dozen.

During the month of May the number of eggs was about the same from each flock, that is, 150 dozen per 100 fowls. These were produced at a feed cost of from 6 to 15 cents per dozen, these selling for several times the cost of feed. Not only did this cost apply to May, but this would be about the average cost for six to eight of the spring and summer months, the feed consumed from May on decreasing in the same proportion as the decrease in the number of eggs produced.

Now if eggs can be produced at a profit only during the warmer months, why produce winter eggs at all? Why not feed a maintenance ration of the cheaper foods and wait until spring for eggs? There are two reasons why we should work for all the winter eggs possible. The first is that even if we do not pay expenses for two or three months, the nearer we can come to doing so, the less deficit we will have to make up later. The second and most important one is that if, by scientific breeding and feeding, hens can be induced to lay under unfavorable winter conditions, they are sure to lay more under favorable spring and summer conditions than will those hens not so bred or cared for.

Pullets starting to lay before cold weather often continue laying for a year, while those

waiting until March or April usually cease laying before the middle of summer.

Let us consider how we can best take advantage of the natural season of production as well as of the unnatural season.

First we must keep only those birds that are well bred and carefully selected for the production of a large number of eggs. Hens are not alike in this respect, and often we find that many fine looking birds fail to come up to our expectations. They show high vitality, without which we cannot expect eggs. They may show the result of careful breeding for color and shape, which is an advantage over birds not uniform in this respect, and still they may not have inherited the quality of high egg production.

We should use as breeders those pure bred hens, two years old or older, that show their ability to produce, by their high vitality, lateness of molt (the latest molters usually being the best layers), and loss of color previous to molt from all parts of the body where the color pigment is shown, especially from the shanks, in varieties having yellow skin and yellow shanks. To these should be mated strong males, probably of the same strain, that are the sons of late molters and high producers.

The young should be hatched early enough in the spring to enable them to mature to full size and begin laying in October or November. This means that they must be hatched and grown under ideal conditions, either with good natural mothers or with good artificial ones. They need sanitary surroundings, plenty of shade, a green range, pure water, and good feed, properly fed.

As soon as the cockerels reach the limit of the profitable age all those not to be kept for breeders should be marketed, eaten at home, or canned for future use, and not allowed to take up room needed by the others, nor to consume expensive feed that they will no longer pay for. Only the good, well developed pullets should be put into the laying pen, the others to receive the same treatment as the surplus males. The pullets should be properly housed for the winter. Egg production is dependent not only upon good breeding, but also upon the hen's physical condition as affected by her environment and by her feed.

In the construction of poultry houses or in the remodeling of buildings for poultry, we should have in mind those essentials of construction necessary to produce the best results. Economy should be considered, but at the same time the buildings should be made durable, for the hens and not our bankers are expected to pay the interest on the investment. We should also



Whether you realize any profit from the transaction or not, raise as many chickens this year as you can. If you do no more than supply your own table, you will be releasing that much food for the men at the front, and helping by just so much to win the war.

save expensive labor by making all buildings and equipment as convenient as possible, while for the good of the fowls we should construct the buildings so that they will be comfortable, dry, cheerful, free from drafts, and well ventilated. Your own State Agricultural College will gladly assist you in solving your personal problems along these and other lines.

In regard to feeding for egg production, the method followed is often as important as the ration, because hens do not handle food in the same way as other live stock. They must be given highly concentrated foods, must never be overfed, nor allowed to consume a large amount of food at once. A little and often gives the best results, provided they go to roost at night with full crops. Plenty of exercise produces a keen appetite and good circulation of the blood, so that the food can be well digested and assimilated. The best layer is always the busiest hen.

All hens' eggs are practically the same chemically; as an egg is laid to produce another chicken, it is quite important that we feed a ration properly balanced. By a balanced ration we mean a combination of feeds that contain the nutrients necessary to maintain life, to care for the wear and tear of the body, to replace worn-out tissue, to make the finished product (the egg), and to do this with the least possible waste.

A good scratch mixture should contain two to four kinds of grain. At least 60 per cent. of these grains should be low in fibre, as wheat or corn or both; 40 per cent. of grains high in fibre, as oats, barley, buckwheat, kafir, or any combinations of these; although we can sometimes feed any combination of grain, provided the mash is adjusted to make the amount of feed consumed average one pound of protein to five of fat, and not more than 5 per cent. fibre.

The fibre is the woolly part of the feed and is practically indigestible to hens. The protein is that property of the feeds used in building muscle tissues; it makes up nearly all of the white of the egg, while the fat includes the oils, fats, starches, and sugars, used for the production of heat and energy and for the egg yolks. All commercial mixtures must have the analysis printed on the bag, showing the proportion of these ingredients. Methods of figuring balanced rations are given in books on feeds and feeding and in experiment station bulletins and circulars.

The grain should be fed in a deep litter, giving in the morning a light feeding not to exceed two quarts per hundred hens, while in the afternoon they should be given all of the same grain mixture that they can clean up before dark.

The mash, consisting of four or more ground feeds or mill products, should be fed dry in self-feeding hoppers, and if this mash is very rich in protein and fats, the hopper should be kept closed during the afternoon. Otherwise it may be kept before them all the time. Any dry mash can be left before the hens all day during the summer, if they have a free range.

Hens are naturally bug eaters and therefore about 16 per cent. of the mash should consist of meat scrap or fish scrap, unless skim milk or buttermilk is available, in which case the scrap may be omitted and twelve to fourteen quarts of the milk given in drinking vessels daily per hundred fowls. Absence of animal food may decrease the egg production by one half.

Clean, pure water should always be available and should be renewed at least once daily. As all eggs contain about the same percentage of water (one pint to one dozen eggs), we cannot expect to produce eggs with snow or with a water pail empty part of the time.

Grit and shell should be available at all times,

the sharp, hard grit to grind the food, and the shell to furnish material for egg shells. Table scraps may be utilized by feeding them clear or by mixing with them enough of the mash to make them crumbly. The hens can be fed at noon all of these that they will clean up in fifteen to twenty minutes.

Green feed in the form of mangel beets, cabbage, sprouted oats, or vegetables (except potatoes) should be fed every day at noon. Not only are they valuable as a food, but they also have a high medicinal value, making it possible for hens to digest the other feeds so much better that no poultryman can afford to leave them out of his rations.

The poorest layers will quit in May and start to molt. Culling should begin at this time and continue throughout the summer and until September first, at least, all quitters being disposed of as fast as found. Sell or eat these and keep the good ones over. Where small flocks are kept for home use, the surplus cheap summer eggs may be preserved for winter use by storing them in stone crocks in a solution of one part water glass (sodium silicate) to ten parts of water that has been boiled and then cooled. The crocks should be kept in a cool place in the cellar. The eggs to be stored should be clean, fresh, and free from cracks, and may be placed in the solution as fast as they accumulate. In this way many more people will be able to do their bit toward solving the problems of the high cost of living and the scarcity of meat foods, which is sure to grow more and more acute in the next few years. As good hens, in spite of the high cost of feed, have made as much or more profit this year compared with the past few years, and poor hens have made a greater loss, let us keep good hens, more good hens, and "make eggs while the sun shines."



An old orchard is the ideal place for the flock, for the trees derive as much benefit from the association as do the chickens



A COURSE *in* ESTATE MANAGEMENT *for* WOMEN *in* WAR TIME

By ELMA LOINES



N YEARS past most of the large country estates in America have been maintained for pleasure rather than for profit. The owners of some of

them, however, have endeavored conscientiously to maintain them for both; but this requires much thought and responsibility, and therefore the path of least resistance has been more often followed. Now, however, the war and the stern necessity for carrying it on to the best of our ability has given a different aspect to the whole question of the development of the land by the gentleman farmer. In order that all the Allied world may be fed, every acre is called upon to produce the most that it possibly can.

Many of the owners of these large estates have themselves been asked by the Government to do some special work because of their professional or business experience; so in a number of cases the women of the family will be expected, where possible, to take over the estate management. Already women in different parts of the country have proved themselves successful farmers. Why, therefore, should not the untrained woman learn how to manage the family property, and make it productive in the absence of the man of the house?

As an illustration of what one woman did in an emergency, the following may be interesting. Two summers ago a sheep farmer from Virginia enlisted quite unexpectedly, and served for eight or ten months on the Mexican border. His younger sister, about twenty-eight years of age, without any previous experience other than that of living on the farm, took hold and ran the place so successfully that when her brother finally returned he declared that he could not have done it better himself.

In the mind of any woman who contemplates taking over such management, several questions will naturally arise. The first will probably be: *What knowledge is necessary in starting in?* The natural answer by one who has interested herself at all in the problems of country life will be the following: some general knowledge of the conditions, such as soils, fertilizers, climate, and especially as to the approximate times of early and late frosts—the bane of the farmer—and how to protect the crops from them where possible; how to get the best labor, the best farm implements, a good breed of stock; also a knowledge of local markets and of those farther afield, and something about the best and cheapest methods of transportation. Even if a practical farmer is employed this general knowledge is necessary. But all this is not as formidable as it sounds.

The next question will be: *Where to get expert advice?* This may be had from several sources, such as federal, state, and local bureaus, and individual professional experts. There are a number of trained agriculturists, fruit growers, foresters, and others, each a specialist in some line, who for a moderate sum will go over an estate and recommend a definite method of development suited to the place, which may be followed little by little or all at once, according to the owner's desire or circumstances. To owners of woodland of a certain number of acres the Federal Department of Forestry will send, free of charge (except for living and railroad expenses), a forester who will go carefully over the whole tract, make out a report of the different kinds of timber, and work out a plan for the scientific cutting of it. Both State and Federal Departments of Agriculture and Forestry are glad at any time to give advice on any special problems which may be presented to them. For instance, if specimens of blighted leaves or those destroyed by insects are sent them, these

will be examined in the laboratories and some method of treatment advised. There are also county Farm Bureaus which are gradually being established throughout the country. Membership in them and a monthly bulletin (in some cases) are to be had for \$1 a year. The Farm Bureau agents are at the service of any member. We ourselves felt very grateful for the advice to plant millet rather than fodder corn, given by our Warren County agent last spring. This was urged because of the very high cost of labor entailed in harvesting the corn, the scarcity of men to do it, and the ever recurring danger of early September frosts. The frost came, and in motoring up through Saratoga County all the way from Schenectady to Lake Champlain, one could see for miles the devastation to the corn. It takes ninety days for the earliest, large-eared field corn to ripen, and in those northern regions it is always a close contest as to whether farmer or frost will win the race. But the farmer will still take chances.

The Farm Bureau agent, besides going over any farm and making suggestions as to planting, cultivating, etc., may be consulted on any special problems, such as the best fertilizers for certain crops, and sprays or special plant diseases. He is usually a man of practical experience in farming, and is therefore competent to advise on problems which may arise from time to time.

Then there are state lecturers. It stimulates interest in the community and helps each individual farmer as well, if during the year the local improvement association, or some similar organization, asks the State Agricultural College to send one of its professors to lecture on some special subject of general interest, as "The Soil and the Tree," "Grading up the Dairy Herd," "The Care of Milk," "The Household Fly," etc. The State College is glad to send out these excellent lecturers without cost to the association except for traveling expenses. In the Lake George district an educational campaign was initiated largely by women who were summer residents, and greatly increased production has come as a result. When the lectures are followed by flower, vegetable, and stock shows at the end of the season, their value at once becomes evident.

Then there are always good reference books and encyclopedias of agriculture, from which one may get a general knowledge which may be followed up later by a more specialized one, as one's interest seems to concentrate on some particular department of land productivity. The names of a few books may be of assistance to the beginner: "Cyclopedia of American Agriculture," edited by L. H. Bailey; "Farm Animals," by E. V. Wilcox; "The Farm Woodlot," by Cheyney and Wentling; "Handbook of Timber Preservation," by S. M. Rome; and "The Principles of Handling Woodland," by S. H. Graves.

It almost goes without saying that a practical farmer, and one who is always willing to learn, is the greatest treasure that the manager of a country place can have. All naturally have their limitations, but one who is well versed in the general principles of farming and who can get along well with the extra farm helpers—in short, one who understands the general principles of human nature as well—is a jewel. If the woman who manages her own place does not live on it all the year round, such a person is absolutely necessary—and is always advisable.

Large estates imply distance from a centre, and unless that centre is well organized to serve the best interests of the community in helping to develop the productivity of the land and to find a local and comparatively easy

market for the products, the organizing of the estate owners to such an end cannot be done too soon. This, as indicated before, may be done through a local organization already established. In the Westchester, N. Y., district the Bedford Fruit Growers' Association has been of great value to the neighborhood. A community market, vegetable shows, and fairs for showing stock and dairy products, poultry, and preserved, canned, and dried foods are all tremendous aids to every man, woman, and child who is helping win the war through the increased production and saving of foods. The residents of Scarsdale, N. Y., performed a great service in the summer of 1917 through intensive community, or rather co-operative, farming. All such efforts help not only the country and the community as a whole, but also help the individual farm manager by raising the standard of agricultural labor in the vicinity, and by furnishing a local market for surplus products of the kitchen garden which in times past have too often been allowed to go to waste.

Another experiment tried by a woman, and one which may well be adopted by others, is that of having a community storehouse where surplus potatoes, corn, etc., belonging to villagers and neighboring farmers may be kept over till spring when they are needed for both food and seed, instead of being sold and shipped away from the district where they are grown. She herself raised 800 bushels of potatoes to help toward supplying the needs of the three or four hundred village inhabitants. The storehouse was built of cement, and made thoroughly frost proof for an Adirondack winter. But in the North, as a storehouse cannot be opened during winter without danger of freezing, each farmer should keep his winter supply in his own cellar, storing only the surplus.

An experiment in co-operative buying was tried last summer by the Chamber of Commerce of Fairfield County, Connecticut. Fertilizers and tools were bought at wholesale and sold to the farmers at cost price, with a consequent great saving to them.

The foregoing are in the main the questions and needs that would arise. The problems and uncertainties may seem many, but the compensations and pleasures are great, and the desire to help the country in its need will carry one over the rough places before he realizes that he is going over them.

The following account of our own experience in developing a country place, with comparatively little technical training, and covering a period of about fifteen years, may be of interest. As the place combines several features, such as woodland, water, and arable land, it may be described in general as a somewhat typical estate, though its individual qualities and difficulties of development will soon appear.

This property comprises about fifty acres of arable land and 2,000 acres of woodland, largely white pine; a lake and river frontage of two miles; two ponds of from eleven to twenty acres each, one shallow and the other moderately deep; and with elevations above the lake level of 200 and 700 feet respectively. It was made up from several separate farm and wood lots, the latter having been bought to save wholesale destruction of the timber by neighboring lumber companies.

As Lake George is one of the most beautiful lakes in the Eastern United States, and used widely as a summer resort, the development of the timber land has been carried out with this idea in mind; for cutting of the timber on a large scale and unwisely would destroy both the beauty and the usefulness of the land.

The development of the water power suggested itself almost immediately. First a small powerhouse with a water wheel and a four-inch pipe, and later a larger house with a six-inch pipe were built.

As this system has been described in detail in a pamphlet published by the New York State Conservation Commission, it will not be gone into here.

The farm land was the greatest problem because of its low degree of fertility. Worked year after year with insufficient fertilizer and without rotation of crops, it had become greatly impoverished, and the hay it produced was very poor and thin.

Manure was the only fertilizer to be had in the neighborhood, and there was not much of that, as every farmer had need of his own supply.

Roads were poor, freighting on the boat which stops four miles away at the nearest village was expensive, and the railroad was fourteen miles distant. The four farms on the property are scattered along a road, with two miles of forest between the second and third. The first and second are half a mile apart. This all adds tremendously to the expense of operation.

For a while the plan of renting the largest farm, one of about twenty-five acres, was tried, but it was soon found that the soil was being impoverished more than ever. Then we tried working it on shares. This had its disadvantages, because tools and implements were left out and allowed to rust when no direct responsibility was felt.

But all the time our principal idea was to build up the soil. Mr. George T. Powell, who has done such wonderful work in stimulating interest in the development of the land in New York and many of the states from Maine to Florida, went carefully over the ground and made suggestions which were followed in detail. As buckwheat grows especially well in that latitude and is a good and cheap green manure, he advised that it be grown, plowed under, and a second crop planted. This was done year after year.

In the vegetable garden crimson clover was planted in among the sweet corn just as soon as cultivating was finished. In the fall that was plowed under, too, for fertilizer, so that each year some nitrogen was put back into the soil.

To improve the hay, the land was plowed deep, and inoculated clover put in. The inoculation serum was obtained from the state laboratory, and the seed mixed with it before planting. With the help of the improved soil and the more plentiful rains, for the last two seasons the yield has been about thirty-six tons on twenty-two acres. It has taken nearly ten years to do this, but it must be remembered that the conditions were extremely bad to start with.

In mountainous country, what nature gives in beauty she takes

toll for in work. Here the fields are full of stones, and one has to keep removing them all the time.

For years the region was subject to long periods of drought, which affects hay as much as it does any other crop. Fortunately, of late there has been enough rain. Sometimes August hail storms ruin potatoes and corn. But these are freakish and have sometimes passed us by and gone a mile or two to the north or south, to the detriment of our neighbors' crops. I once saw hailstones three quarters of an inch thick bounding on the lawn like fairy balls, and rebounding two feet into the air. Next day a little pile of them was discovered in a sunless spot. Needless to say the corn was in ribbons after that. But such storms may come but once in a lifetime.

Frosts are the *bête noire*, or perhaps the *bête blanche*, of the farmer. They come frequently in late May and early September, and sometimes in early June. For twelve years we have kept a maximum and minimum temperature record, which has proved quite useful. When the frosts come on suddenly in the fall, as they always seem to do, one cannot attempt to save the field crops.

But with our plentiful supply of water and with the aid of two turbine sprinklers which throw a spray in a circle fifty feet in diameter, we save most of our vegetables and have been known to have sweet corn as late as October 18th. That we cut and stack when frosts are hovering near. If a cheap method of keeping fires going could be devised, some of the

field crops might be saved. With such excitements, farming is never dull.

Taking the tract of land described above as more or less typical, because of its varied features, what then might a woman select as the best department in which to specialize?

Of course it is understood that all departments must be kept up to a certain extent; that is, wood must be cut for fuel, and certain trees should be cut when they reach their maturity, so as to give place to others in the forest; and the water power should be developed for convenience, if nothing else, and to reduce the cost of upkeep and the labor of running a powerhouse. But until roads are better, labor cheaper and easier to get, and transportation rates reasonably low for the independent shipper, the simplest and most natural department for a woman to take up would seem to be something directly connected with the cultivation of the soil.

In the first place, if she lives on the estate she will want her own kitchen garden. For this she will need a gardener or farmer. It therefore becomes merely an extension of the same kind of work to specialize in some crop such as hay or seed potatoes.

New York and the New England States are, because of their cool climate, peculiarly suited to the production of potatoes. These are a staple food and when perfected for seed purposes bring a higher price in the market than potatoes sold for food only. About twenty years ago Saratoga County potatoes brought the highest price of any in the New York market.

Then almost every farmer in the county planted them year after year in the same spot. This soon caused the exhaustion of the natural potash, and no more potatoes could be grown until the soil was built up again. But if the farmers had not abused the soil, they could still be growing fine potatoes. The fault lay in their method.

It is safe to say that good potatoes, carefully grown, will always be in demand and bring a high price, or at least a price at which they can be raised profitably.

Other crops might be specialized in. Hay is always wanted, particularly when of high grade.

Excellence in farming, as in everything else in life, should be sought for. If it were not wartime it might be suggested that the northern parts of this state offer fine opportunities for the growing of evergreens and hardy perennials—and the opportunity will still remain, after the war is over.

The esthetic side of country activities will always appeal to woman; and there is certainly a future for her in this line of work. Poultry raising, either market or fancy, or for egg production, also offers business opportunity, but these are things which require much study to be done successfully.

As a manager, therefore, the specialization in some of the many forms of farming offers the most opportunity with the least amount of study at the outset. Once started, the study can go on side by side with her supervision and her developing interests. And there appears to be no reason why any intelligent woman should not, in a comparatively short time, be able to make her estate not only productive in the interests of the country at war, but also to make it profitable.



Miss Marion Hollins, well known polo player and skilful driver of four-in-hands, demonstrating that women can plow. She turned under an acre in one day





A view of the south side of the house, showing the terrace at two different levels. Behind the old apple tree one gets a glimpse of the porch and enclosed terrace, at the end of which is a fountain and pool. Great care was taken, in planning the house and garden, not to disturb the old apple trees, which now form one of the chief attractions of the place and make the house look as if it had stood for a hundred years instead of four



The house and garden were designed to conform to a sharply sloping hillside once covered by an apple-orchard. Enough of the old trees have been saved to give the site a character of its own. One of the

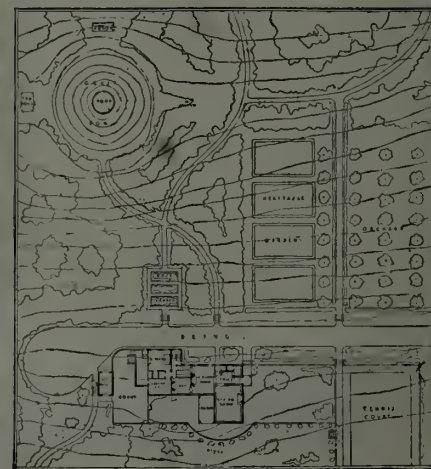


The hood over the front door is a mass of pink ramblers. In the background are the steps leading up to the driveway level



chief features of the place is the circular garden on the top of the hill—a large grass bowl at the bottom of which is a fountain. The bowl is surrounded by cedars, bayberry, and other native growth

A HOUSE
in an
APPLE ORCHARD
The Home of
WM. ADAMS DELANO
at
SYOSSET, L. I.





The driveway winds through the woods, makes a curve around the tennis-court, and as it comes into the open runs straight to the house and past it to a turn-around



A flagstone path and steps lead from the drive to the front door, and the lower terrace on which the house proper stands. The level of the road is three feet higher than the ground floor



The door in this picture gives on to a landing in the stairs and affords access to the second floor without going through the main part of the house. The apple tree casts welcome shade in summer on the path to the front door and on the side door, and for a week in spring literally forces its blossoms through the window on the stairs

HERE AND THERE

Money for New York Meat Makers Many farmers who would like to answer the patriotic call to raise more pork, mutton, and wool find themselves short of breeding stock and without ready money for the purchase of any. To all such, the Patriotic Farmers' Fund offers to furnish the necessary means. This organization will lend money for the purpose of buying breeding ewes, brood sows, and pure bred sires. Loans for the purchase of sheep must not exceed \$300 and for the purchase of swine must not exceed \$100. A reputation for fair and honest dealing and for sound farming is all the security needed. No endorsement or "second signer" is required, but each application must be approved by the local loan committee. This committee is composed of two Grangers and one banker. There are several hundred such committees scattered throughout the state. The loan is made through your local bank, acting as agent for the Patriotic Farmers' Fund.

Any farmer who needs money for the purchase of breeding sheep or hogs should look this up and write to the secretary. This is your chance to serve. Will you make the most of it?

Sugar Canning Those of us who have been concerned over the possible lack of sugar for canning purposes during the coming season, will welcome the following announcement from the Food Administration.

"In reply to many inquiries that are being received regarding sugar supplies for manufacturers of essential food products, and appreciating, as we do, the necessity for both production and preservation of food supplies, as well as reflecting the policy of the Food Administration as bearing upon collateral industries such as manufacturers of cans and fruit jars, etc., and buyers of same, all manufacturers of essential food products are advised that they will be able to obtain their full necessary requirements of sugar for manufacturing purposes during the coming season.

"This applies particularly to the packers of fruit, condensed milk, and such vegetables for the preservation of which sugar may be necessary, as well as to the housewives for usage in preserving purposes.

"As soon as the car shortage is relieved, supplies of sugar will be available for the necessary preservation purposes. Shipments from Cuba are steadily increasing."

Quick, Watson, the Needle! The Experiment Station of the United States Department of Agriculture in Hawaii has been wrestling with rather a knotty problem.

It seems that much of the best pineapple land on the islands is highly impregnated with manganese. Pineapples planted in this soil thrive amazingly for a time, but before the fruit can ripen, they turn a sickly yellow, and after lingering on long enough to give the plantation owner a real disappointment, they die without bearing anything worth considering. It was ascertained that lack of iron was the real cause of the plants' failure. The manganese prevented the plants from absorbing the iron, which was waiting for them in the soil and which they could not get along without. The experiment was tried of injecting a solution of iron sulphate by means of an ordinary hypodermic needle, into a yellow and unhappy looking pineapple. The plant promptly turned green again

and in due course delivered itself of a plump and delicious pineapple. The Experiment Station has now discovered that by painting the leaves with a copperas solution, the plants absorb enough of the iron to counteract the evil effects of the manganese in the soil. Eventually they will probably find a method of spraying, which will save time and labor. At any rate, the pineapple grower has no reason to regret the Government's little excursion into the realm of the dope fiend.

Peanut Flour Rescue A baking company in Gainesville, Fla., working in coöperation with Mr. B. F. Williamson, a chemist of that city, has

put peanut bread upon the market, and is securing wide distribution for it in that locality. The peanut flour used is made from peanut cake left after oil extraction. It contains a satisfactory percentage of fat and is said to have almost twice the nitrogenous food value of dried beef—44 per cent. for peanut flour, against 25 per cent. for dried beef. One fifth peanut flour to four fifths wheat flour produces a balanced ration, supplying necessary ingredients furnished by bread and meat in human diet. Peanut flour is said to be readily digestible, wholesome and palatable, and the Florida concern believes that it will be able to market it at a price below that of wheat flour, pound for pound.

Rationing Hunters in England The rationing of hunting horses in England has been transferred to the Committee on the Utilization and Feeding of Horses, and

every Master and Acting Master is now required to register his own and his servants' horses, and those of the Hunt's followers and subscribers with the Secretary of the Committee, keeping a counterpart of the list for his own use. Each horse between the ages of four and twelve years, which is regularly hunted and is sound and suitable for military service, is allowed an oats ration of six pounds per day until October 31st, and ten pounds per day for the rest of the season. Horses can, of course, be registered only once, and it is understood that they are liable to be taken by the Army Remount Department at any time.

Coöperation and the Farmer The real lure of the land is independence; call it freedom, elbow-room, or whatever else you will, it amounts to the

same thing. A very inspiring condition is this independence, but do not forget that it may be overdone. The old time farm life was nearly absolute independence, though those who lived it were tempted to call it isolation, physical, moral, and commercial, from one's fellows. It is a fatal mistake for the individual farmer to attempt to grapple with the economic system of to-day single handed, like Don Quixote with his windmills. In commercial life coöperation is the fundamental characteristic of the times; all trades, businesses, and industries are coöperative to a greater or less extent, and when the farmer attempts to break into this system as an individual, he gets very much the worst of it. The value of coöperative associations among farmers is too little appreciated in this section of the country. On the Pacific Coast these associations are becoming powerful factors in rural life. They not only market the farmer's

or orchardist's crop, but many of them provide for coöperative buying of supplies of all kinds, thereby getting better prices for their members. The scope to which the usefulness of these organizations may be carried is almost endless. There is no reason why Eastern and Middle Western farmers cannot profit in the same way, but it is a regrettable fact that there are far too few of these coöperative associations in this part of the country. Why does not some genius try the experiment of starting more of them?

The Rise of the Road Map One of the concomitants of motor-ing to-day is the road map, which has been growing in grace, until now one is able to travel with

perfect understanding simply by an occasional glance at one of these guides. Perhaps the most characteristic form of road map for automobile guidance is the strip map, which shows the contour of a single highway between two more or less important points. The American Automobile Association has brought out a remarkably well developed type of strip map, which in addition to the course of the road to be followed with its various cross-roads and distinguished landmarks, has indicated all the elevations along the route, so that the traveler knows when he is coming to a mountain range or steep hill. At the side of the map is a table showing the altitude of the road throughout its entire length.

This is extremely interesting, but the strip map is not the modern innovation in cartography which the average motorist probably assumes it to be. Away back in the early seventeen-hundreds the Colonial postal authorities published a strip map of the Post Road between New York and Boston. So well was the work carried out that throughout the greater part of its length the traveler of to-day could follow this highway by the help of this primitive sample of map making.

Science and Wild Oats From the heading of this paragraph, the reader might suspect a description of some process for regenerating Broadway Johnnies, but

in the present instance the title is prosaically literal. The wild oats in question are not the effervescences of youth, but the weeds of that genus, which have come under the disapproving eye of science and are likely to suffer as a result of the encounter.

Out at the University of Minnesota they have established a generous garden in which nothing is grown but weeds. These malefactors of the farm are just as carefully segregated and grouped as if they were useful plants. The learned professors of agriculture study them, their habits and preferences, as anxiously as if they were the choicest varieties of vegetables, but with a different purpose in view, for their object is to learn what the plants best thrive on, in order to give them just the opposite.

In this garden of uselessness there are more than 250 varieties of weeds. Under the careful tutelage of their instructors, the agriculturists of the future learn to know every one of these parasites, its leaf, stock, and seed. They learn just what treatment will most quickly discourage the growth and spread of each kind. Altogether this is the type of preparation that is going to give the weed crops of the future a set-back in their overlastingly persevering struggle for existence.

Tarvia

Preserves Roads
Prevents Dust-

Tarvia in the famous Ogden Cañon, Utah

When a town is contemplating the use of Tarvia to preserve its roads and prevent dust, it is very apt to write to other towns where Tarvia has been thoroughly tried out. For instance, Rock Springs, Wyoming, secured the following report from the authorities at Ogden, Utah:

"I am pleased to state that Tarvia has proved a success in the City of Ogden. For the past three years we have been treating our gravel and macadam roads with Tarvia and in every case it has proved an entire success. I might say we are now constructing about two and one-half miles of Tarvia road on Harrison Avenue and the Dug-way, which is a part of the boulevard leading to our famous Ogden Cañon resorts.

"The people of Utah appreciate the wonderful scenic beauties of Ogden Cañon and the perfect driveways that are maintained with Tarvia, so much so that it is my purpose to continue the use of Tarvia, believing that we get better results, eliminating all dust and mud, and preserving the roads at a very nominal cost.

(Signed) "CHRIS FLYGARE
"Supt. Streets and Public Improvements."

Correspondence like this is flying around the country all the time, and the praise which Tarvia gets in such letters frequently makes our own advertisements seem tame and moderate in comparison.

Tarvia has behind it ten years of experience and one of the strongest organizations of road engineers in America.

Now, when the nation needs good roads so that motor-trucks can help out the great railroad congestion, it is more important than ever that every community should investigate the road proposition thoroughly. Obviously, what we need is more good roads to save the situation. To any one interested we should be glad not only to send our regular good-roads literature, but to give advice on specific road problems.

Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems. If you will write to the nearest office regarding road conditions or problems in your vicinity the matter will have the prompt attention of experienced engineers. This service is free for the asking. If you want *better roads and lower taxes*, this Department can greatly assist you.

The Barrett Company

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland
Cincinnati	Pittsburgh	Detroit	Birmingham	Kansas City	Peoria
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OLD DELFTWARE

By WALTER A. DYER

Photographs from specimens in the Metropolitan Museum of Art, New York



One of a pair of decorative plaques, 19 x 16 inches, in blue and white Delft, showing Rebecca at the Well



Companion plaque to one at left of page. The pictures are well drawn. This represents David and Abigail



A typical blue and white Biblical plate illustrating the triumphant entry into Jerusalem, with an especially neat border design



ONE has always heard of Delftware; the name is as familiar as Canton or Chelsea. Novelists speak of Delft tiles and dishes as though they were old friends, though I very much doubt whether the average novelist would be able to tell old Delft from blue Staffordshire. Have you ever noticed that novelists invariably write of men dressed in comfortable tweeds, drinking tea out of Delft cups at a deal table? Dear old stage properties! In real life does any one ever talk of tweeds or deal or Delft?

Familiar as the word Delftware is, I fancy not one person in fifty could identify a piece of it, and most of us would have to confess to a rather inclusive ignorance if questioned very closely about it. Perhaps it would suit our purposes to dispel a little of this ignorance. Very good.

To begin with, it ought not to be necessary to mention the fact that we are speaking of a kind of useful and decorative pottery of a former time which was manufactured in the town of Delft in Holland. Delft was a small city, not far from Rotterdam, which was famous for its cloth weaving and its breweries before it became a pottery centre. There were some tile and brick factories there in the sixteenth century, but it was not until after 1600 that the pottery industry really got a foothold there. Then for two centuries it flourished, producing an earthenware with certain peculiar characteristics which will presently be described. Ware of this kind was made also at Haarlem, Middleburgh, Amsterdam, and elsewhere in Holland, but from the first the best of it came from Delft, and none of the other towns attempted to compete with Delft in quantity of output. There was, too, an English imitation which was also called Delft, so that it is customary to speak of the original ware as old Delft or Dutch Delft.

The pottery industry had already become established in Delft when the powerful Guild of St. Luke was formed in 1611. It was like a combined chamber of commerce, manufacturers' association, trades union, artists' club or academy, masonic lodge, and mutual insurance association. It was a corporation in which were included all the arts and crafts represented in Delft. It was supreme in its authority and did much to foster the prosperity of the different art industries and to raise their artistic standards. The guild was in a powerful and flourishing condition for nearly two centuries; it was finally dissolved in 1833.

By way of general definition, old Delftware was

a Dutch pottery product of the seventeenth and eighteenth centuries. It was a stanniferous or tin-enamelled earthenware, a faience similar to majolica, the process for making which was imported into Holland from Spain and Italy. Old Delftware was, in short, a particular kind of majolica with a particular kind of decoration, usually, though not always, of Chinese origin.

It was the taste for Chinese design, however, that started the vogue for Delftware. The Dutch East India Company was founded in 1602, but Chinese porcelains had probably been imported into Holland before that. At any rate, there was a lively demand for the Oriental ware early in the seventeenth century, and an accompanying demand for a cheap imitation. In order to meet this demand the potters of Delft, about 1612, unable to make porcelain, worked out their method of applying Chinese designs to a tin-glazed earthenware.

Now the Delft potters, in their attempts to

imitate Chinese porcelain, were seriously handicapped by the fact that the only pottery they knew how to make, or had the materials for, was a coarse, brownish or yellowish, light-weight, porous, clay earthenware, which possessed neither the quality nor the surface appearance of porcelain. In order, therefore, to secure anything like the porcelain effect, they sought to give this earthenware a hard, white surface upon which to paint the Chinese decorations. This surface they obtained by means of a heavy, opaque glaze or enamel composed of a mixture of oxide of lead, glass, and a small amount of oxide of tin. This produced a hard, smooth coating made white by the addition of the tin. This stanniferous enamel has an appearance peculiar to itself, being covered with many minute holes something like salt glaze.

The decorations were painted on the white glaze before firing. In the kiln the colors fused to some extent with the glaze, producing a softness of effect which is one of the chief charms of the ware. In the later Delft, the colors were applied to the enamel, and the whole was then given a thin coating of transparent lead glaze and was fired a second time. In this way, while nothing like porcelain was produced, the Delft potters secured an imitation not unlike Chinese porcelain on the surface, and as their methods were perfected, they achieved considerable success, producing a very beautiful sort of pottery which often exhibited great skill in execution.

The painters and designers of Delft were fellow members of St. Luke's Guild, and they cooperated with the potters in producing the decorations. They copied the forms and decorations of Chinese models, the earlier and much of the later Delft being in blue and white, varying from a slaty gray to a deep, bright cobalt. Later, purely Dutch designs were executed in this way, pictorial, floral, and conventional patterns, as well as mixtures of the Oriental and the Dutch. Many of the Dutch pictures were extremely well drawn.

Not all the old Delft was blue and white, however. Toward the close of the seventeenth century Delftware was being produced in much greater variety.

Beginning about 1662, the Delft potters copied Japanese Imari effects, later on varying and adapting the Japanese patterns. These were produced largely in polychrome, red, black, green, and gold predominating, though the blue and white work was not discontinued.

The first Delftware was in the form of tiles, chiefly in small sizes; the common

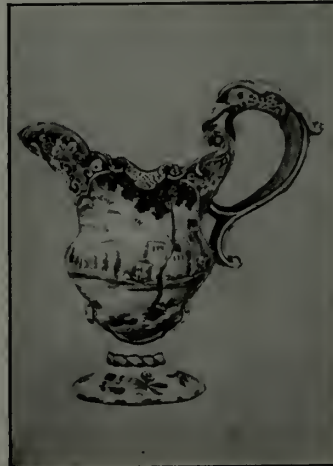


Two particularly well executed bowls in polychrome Delft

A clever example of Delft figure work in the form of a drinking vessel



Delft pitcher or ewer showing a blending of Dutch and Oriental in the design



Tea pot, lamp, and stand, fourteen inches high, in polychrome. Designed by Geertruyde Verstelle and made at The Moor's Head



A hillside slope is an ideal rock garden setting. This one is full of surprises in its clefts and crannies. And, oh how cool and restful after the hurry-worry things that crowd us so.



And another thing, don't think size matters. If you have only a few feet square, it's big enough. Or if an acre, it's none too large.



Think not of a Rock Garden as filled only with ferns and unflowering "woody things." In its own particular way, it is a ceaseless round of bloom.

Roehrs Made Rock Gardens

LIKE your hardy garden, your rose garden, or your formal garden, a Rock Garden would hold for you a distinctive joy all its own.

Its crevices, its niches, are always revealing new interests and unexpected beauty in bloom or foliage.

Its sincerity, its downright lack of the formal, always holds a welcome restfulness.

The fact that it can always give interest and beauty to spots seemingly impossible to make attractive, is decidedly in its favor.

A lack of sincerity, an obvious artificialness, is, however, the reason for many Rock Garden disappointments.

There are many *Rockeries* but few Rock Gardens.

The success of each Rock Garden must largely depend on taking the best advantage of natural conditions. The individualizing of them. This means a careful personal study of locations. Also an exact knowledge of plants best adapted for the purpose. All such plants are grown here in our own Garden at The Sign of The Tree.

We can be of invaluable service to you, as experts in such Rock Garden planning and making.

At your suggestion, we will gladly visit your grounds and make carefully considered recommendations.

 **Julius Roehrs Co**
At The Sign of The Evergreen Tree
Box 12 Rutherford N.J.

Ro



New Negligees and Washable Silk Skirts at McCutcheon's

The new Spring models are ready, a wide variety of dainty Boudoir Gowns, Underwear, Negligees, Skirts, Caps, Brassieres, etc., from the simplest styles at modest prices to the more elaborate and costly. As usual, our showing includes Lingerie of both French and American manufacture.

New Boudoir Gowns

Slip-over of Charmeuse (illustrated above) in Pink, Blue, or Lavender, fine shirring at waistline \$10.75

Gown of Coral or Light Blue Crepe de Chine, slip-over model, Cream Lace, shirred back and front to form waistline . . \$12.75

Boudoir Gown of Blue or Pink Crepe de Chine, Empire model, neck and sleeves trimmed with fine Lace, elastic at waist . . \$11.75

Gown of Crepe de Chine in Lavender, Blue, or Pink, top of Georgette Crepe, Skirt has box-plaits \$13.75

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Skirt of Flesh-color washable Satin, two Scalloped ruffles; lengths, 34 to 36 inches . . . \$6.95

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Registered Trade Mark



Fifth Avenue New York



A polychrome mantel set of three pieces. The two bottles or vases are by De Keiser; the central jug is by Cosign



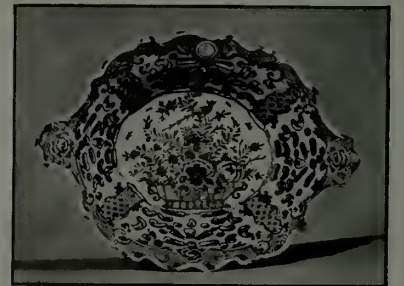
This was the popular form of box for tobacco or sugar

fireplace tile was about five and a half inches square. It was not until the second half of the seventeenth century that very elaborate decoration was attempted, though tiles bearing heads or coats of arms were used as early as 1600. Tiles continued popular throughout the Delft period, being used extensively on kitchen walls, in dados, and about fireplaces, and even in the construction of stoves. The decorations included copies of Oriental patterns, landscapes, figures, Biblical subjects, conventional Dutch designs, etc.

Later on, with the growth of skill in manufacture, larger tiles were fired, some of them more than three feet square. Some of the smaller tiles were made in sets, several of them being required to complete a picture—a landscape, marine, or floral design. These composite pictures were set into the wall or were framed. There were also ornamentally shaped pictorial plaques. The finest of the decorations were executed by the professional painters of the Guild who frequently signed their work. Sometimes popular paintings were reproduced. There were also portrait tiles, often excellently executed. Most of these designers succumbed to the Oriental influence, but not all.

The Dutch potters were very ingenious in the invention of forms and in the production of useful and ornamental articles in their ware. They made all sorts of dishes, plates, bowls, mugs, jars, vases, bottles, decanters, etc., as well as more unusual objects. Drug jars were among the first things to be produced after tiles.

A highly prized piece of Delftware is the large jar, some thirty inches high, with cover, based on an Oriental model and produced in the Chinese blue and white or the Japanese red, blue, and gilt. Tea drinking came into fashion in Holland about 1660 and resulted in the manufacture of Delft teapots, cups and saucers, tea caddies, etc. There were also statuettes, groups of animals and birds, and other mantel ornaments. Very popular were matched mantel sets of three or



A dish of polychrome Delft after the Japanese



An assortment of tiles in blue Delft



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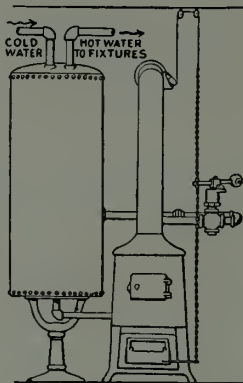
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five jars, beaker-shaped vases, and gourd-shaped bottles.

Among the many domestic articles made in Delft, both large and small, may be mentioned snuff jars, tobacco jars, covered boxes for salt, sugar, and spices; cruets, pepper pots, flower holders, jugs and flagons, partitioned vegetable dishes, wig stands, soup tureens, ink stands, candlesticks, snuffboxes and patch boxes, scent bottles, milk bowls, barbers' dishes, crucifixes, music racks, sun dials, lanterns, bird cages, boxes for hot coals for the feet and hot water for the muff, and stoves.

The industry was at its height between 1675 and 1725. There were then twenty-eight factories in active operation at Delft. A large export trade was built up between 1700 and 1750, but after 1760 it declined. Wedgwood's discoveries and English competition sounded the knell of the Delft pottery industry. In 1780 the number of potteries had dwindled to eleven, and in 1808 there were only seven. The industry has never ceased to exist, for new methods were adopted, but only one of the original twenty-eight factories is in actual operation to-day. The quality of the ware and the decorations also deteriorated, though there were some notable exceptions. Some of the best of the late Delft was decorated in bright colors and gold on a black or dark brown ground. It is rather rare and is largely confined to small vessels and beakers, small plates, and the backs of brushes. The modern Delftware is not without merit, but it is of a different character and lacks the remarkable softness of glaze of the original.

Some of the Delftware is marked and some is not. Marking was not required by the Guild until 1720. The marks when used were often painted and were easily forged. The ware manufactured for the export trade during the eighteenth century was usually not marked at all. There are two or three standard French and Dutch books which contain all the known marks. Very good collections of marks are published also in "Dutch Pottery," by W. P. Knowles, and in "Delftware," by N. Hudson Moore. These include both personal and factory marks.

During the best period there were some 763 potters employed in Delft. Knowles gives an account of about 125 of these whose work is known or who used marks.

Among the earliest of them was Abraham de Kooze, who started his famous pottery, The Old Moor's Head, in 1632. He was himself a skilled painter and executed some of the best of the blue and white ware. It was often marked with a cherub's head, a shield, and the date. In 1661 Jacob Wemmers Hoppstein became proprietor of The Old Moor's Head. He became famous for plates and plaques bearing historical and classical scenes, often marked with an IW monogram.

Another famous early potter was Aelbrecht Cornelis de Keiser, who started in 1642. His pupil and son-in-law, Jacobus Pynacker, founded The Porcelain Bottle in 1672, the only one of the original potteries that is still running. Pynacker excelled in polychrome ware.

In many respects the master of them all was Arendt Cosign, who established The Rose in 1675. He produced a superior quality of blue and white ware, fine and clear, with a splendid glaze, bearing charming landscapes and figures, and also finely drawn polychrome work. His mark was the Dutch word Roos, the letter R, or a rose.

Lowys Fictoor at The Double Jug made fine mantel sets and fluted dishes. Lambertus van Eenhoorn of The Metal Pot also made mantel sets designed in fine detail. P. Verberg of The Gilded Flower Pot and others were of almost equal importance.

Delftware was very popular for a long time and a great deal of it was made and exported. Old inventories show that not a little of it was brought to New York and New England both before and after 1700. Collectors may still hope to find some of it, but it is friable and chips and scales easily, so that comparatively few whole pieces are left.

Such was the old Dutch Delft, the only real, authentic Delftware. There was, however, the so-called English Delft which should be briefly mentioned in order that no confusion may arise. The name Delft has been applied to any glazed earthenware, bearing blue and white decorations,



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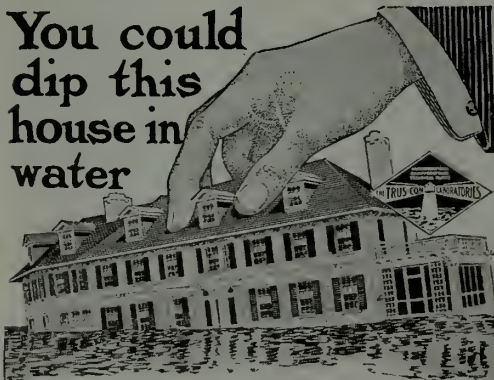
"Not nearly as much so as you might think," rejoined the host. "Through our architect we discovered North Carolina Pine, a wood which takes stains and enamels as well as any of the other and much more expensive woods. And we have used it all over the house, even for our bare floors. Our architect tells us that it is one of the best and most economical woods on the market for all interior purposes."

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which is at all like the true Delft, but the word has been most commonly used in connection with the English imitation of the Dutch pottery.

William of Orange introduced Dutch taste and Dutch potters into England in 1689, but some years before that a number of English potteries had begun to produce blue and white wares more or less faintly resembling the Delft. The term English Delft, however, is properly applied to the tin-glazed pottery made at Lambeth, Bristol, and Liverpool, which was intended as a definite imitation of the Dutch ware. It has been asserted and denied that English Delftware was also made to some extent at Staffordshire and a little of it at Wincanton in Sussex.

It is said that English potters attempted the blue decorations on tin enamel as early as 1630, but the first factory of any importance to make a specialty of it was established in Lambeth about 1650, by one Van Hanne who employed Dutch immigrant potters. This factory was operated well into the eighteenth century. Of all the English Delftware, that made at Lambeth was the best, its glaze being thinner and whiter than that of the other imitations, its blue less crude. The Lambeth ware is not without distinct merit, indeed, and is prized by collectors next to the genuine old Delft.

From 1700 to 1780 at least two factories in Bristol were turning out this ware in considerable quantities, and not a little of it found its market in America. There were bowls, plates, tiles, etc., with English and pseudo-Oriental decorations.

At Liverpool the industry was thriving by 1716, tiles and punch bowls being the favorite products there. Sadler & Green of Liverpool introduced the innovation of transfer printing in place of painting on this English Delftware. Elsewhere the popular articles were of the useful rather than the ornamental sort—drug and wine jars, dishes, candlesticks, plates, mugs, posset pots, etc.

This English Delftware was cheap and therefore found a wide market. The factories which produced it were very successful until it was superseded by Wedgwood's queensware and the cheap printed china of Staffordshire.

Like the Dutch ware, the English Delft formed a step between the crude slipwares and the finer earthenware. It is not to be compared with the Dutch ware in interest or excellence. It was merely a poor copy of the Dutch, with cruder colors on coarser ware. Nevertheless it found its way to many a Colonial cupboard and it is a class of English ware that the well informed collector should know something about. The only unfortunate thing about it is the fact that it should have masqueraded under the name of Delftware all these years.

The English ware bears practically no marks. Anything that is especially good may usually be set down as Lambeth ware, particularly if it is pinkish in tone. Bristol ware is usually greenish and Liverpool Delft bluish.

OKRA—A HEALTHFUL AND DELICIOUS VEGETABLE



OMPATIVELY few people really know and appreciate okra. The plant is tall and decorative, with palmate leaves and handsome, showy flowers. The flowers are the size and shape of the single

hollyhock, a creamy yellow in color, with dark crimson velvety centres. The pods grow four or five inches in length and while tender are delicious cooked as a vegetable or in stews and soup.

Okra is of African origin but is a great favorite in Greece and for many years has been widely cultivated in our Southern States and the West Indies.

It is a mistaken idea that okra cannot be grown in the Northern States. The seed is planted in the open ground when early beans are planted and when early tomato plants are set out. On account of the seed being so very hard and slow to germinate, the best results are obtained by soaking the seed in water for two days before planting. Plant at least a half inch deep in rows two feet apart, and, when the plants have made a good start thin out to stand about a foot apart in the row. The little plants may safely be moved to fill in vacancies or make another row, but care should be taken to dig deep—four or five inches—as they have a long tap root.

Soil for okra should be only moderately rich.



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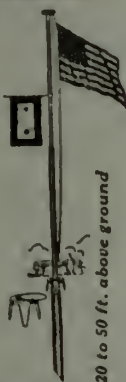
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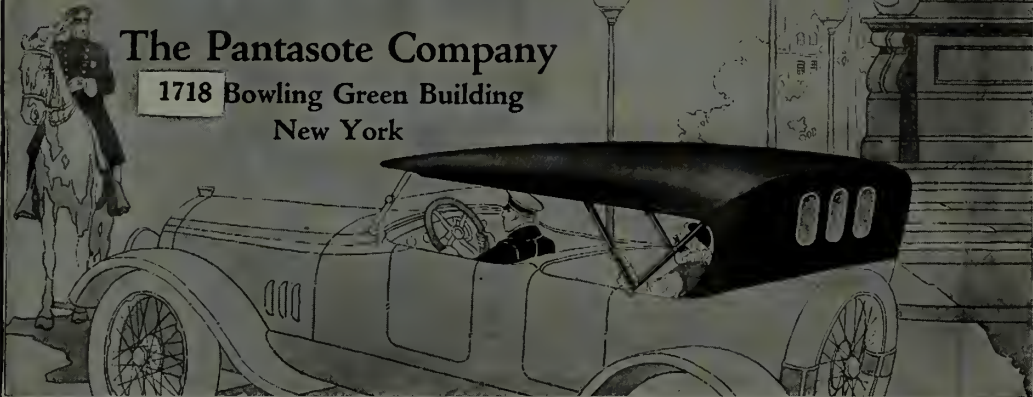
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The great trouble with many gardeners who have been unsuccessful in producing good crops of okra is that they make the soil too rich for this vegetable, the result being great height and breadth of stalk, but few flowers and pods. If the object in growing the plant is to produce an ornamental screen or background, then six feet is not too high, and for this purpose tall okra stalks are desirable and a few pods may be had at any time throughout the season. But if an abundant crop of the vegetable is desired, three or four feet high is enough for stalk growth.

Shallow and frequent cultivation such as most other garden crops receive, will keep the plants bearing a constant succession of flowers and pods until killed by the frost. The fruiting season is long and untroubled by any insect pests or disease. The pods ripen quickly and must be cut while they are tender, which means a daily cutting. When a pod cannot be pierced easily with



For winter use okra can be dehydrated the same as corn or other vegetables, or it can be strung on a cord and hung in a clean place until dry, when it may be stored in cans or jars

the finger nail or cut smoothly with a paring knife it is too old to use. No amount of cooking will ever make it anything but tough and stringy.

A few pods may be left on the stalks to ripen into seed for next year's planting, if desired, but such pods should be large and smooth and straight. Pods that have been overlooked and are not wanted for seed should be cut off so that the strength of the plant may go into new flowers and pods. The seed pods are ripe when they have become dry and brown and look ready to burst open at the seams. They should then be cut from the stalk and hung up in a paper bag.

The crop of okra is abundant and the daily cutting if not wanted for immediate use is easily saved for winter. The pods may be canned, put in brine for pickles, or dried. There are two ways of drying. While the pods are tender, slice into rings, string on a cord and hang up to dry away from the direct rays of the sun, so as to retain the color. No preliminary cooking is required, nor the assistance of any artificial heat. Merely hang the strings in a dry, airy place and in a few days they become bone dry. Or the tender pods may be dried whole in the same way. When perfectly dry, remove from the cords and store in bags, where they are safe from dust and will retain their natural color indefinitely. This method of preserving okra is so easy and so sure that there is no reason why lovers of this healthful and delicious vegetable should be without it the year round.

A jar of dried okra rings on the cook's shelf furnishes a quick filling and flavoring for soups. The rings need no previous soaking, but the pods that are dried whole should be soaked for a half hour or so. From twenty to thirty minutes' time is sufficient to cook dried okra.

For soups or stews the sliced rings are best, but for a vegetable dish or salad the pods are cooked whole. The famous gumbo is okra soup or soup thickened with the mucilaginous pods of okra. Okra stewed with tomatoes is a favorite dish, the acid of the tomato cutting up the mucilaginous quality that is disliked by some tastes.

When cooked whole, care should be used to avoid over cooking and breaking the pods. These may be served hot, carefully arranged on toast with a seasoning of butter, salt and pepper, or served cold as a salad with French dressing or vinaigrette sauce, like asparagus.

P. B. RUGGLES.

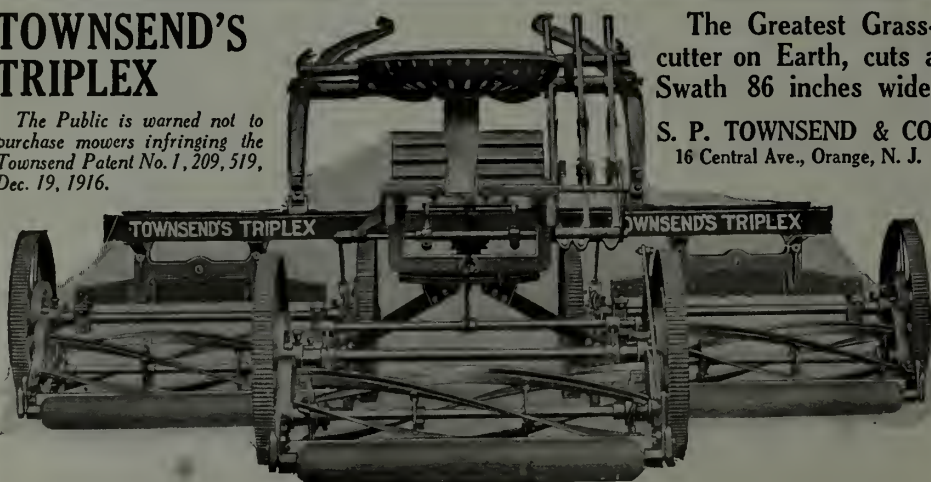


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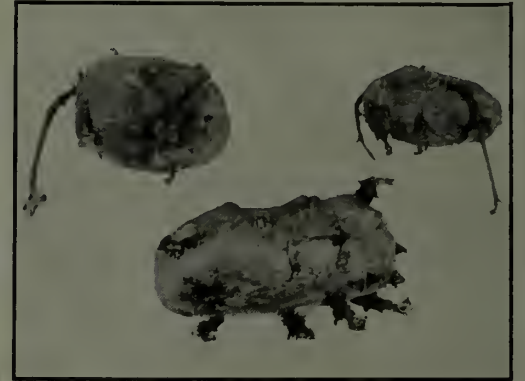
windows are given a thorough cleaning, sufficient light can be obtained to sprout the seed properly. A southern exposure is preferred on account of the longer period of bright light. The temperature most suitable varies according to the time that may be allowed for the sprouting; 40° to 50° for slow sprouting and 50° to 60° for quick sprouting.

Many growers take the precaution to disinfect and treat their potato seed for scab, dry rot, etc. It is plain that this work must be done before sprouting, as the seed should be handled as little as possible after the sprouts are grown.

The method employed in sun sprouting potato seed is to set the selected whole tubers on end, stem end down, in shallow trays or on the floor in partial sunlight. A tray twenty-four inches by thirty-six inches will hold a bushel, and when trays are used they may be turned around occasionally to bring the seed at the rear of the tray nearer to the light. The seed must be kept dry and not allowed to freeze.

The sprouts that are thus formed in the light are a natural green in color, entirely unlike the familiar cellar sprout that is white and pink. The sprouts are short and stubby and surprisingly tough, but it is well to use care to handling and cutting so as not to break them off.

The seed is ready for planting as soon as all danger of freezing weather is over, or it may be kept until July without deterioration; the tubers



Showing the difference between strong, healthy sun-sprouts (below) and sprouts of potatoes affected with "spindling sprout"

will shrivel but will retain all of their original vitality. The seed is cut like the dormant seed. It may be cut according to the size of the tuber or one or more sprouts to the piece, as preferred. As the most sprouts are at the top, it is a good plan to cut each medium sized potato into quarters, lengthwise. This allows ample plant food for each seed plant to get its start.

Sun-sprouted seed should not be cut and allowed to stand long before planting, or the sprouts will dry out and wither, thus defeating the object of the sprouting, which is to procure an advanced growth on the seed and keep it in a live and vigorous condition. Such dried out seed is not ruined, however, but merely set back in its growth.

The seed is planted at the usual depth and may be dropped and covered in the usual way. If placed in the furrow with the sprouted side up, the sprouts will appear above ground a few days sooner.

In the event of a protracted dry spell at potato planting time, which frequently occurs at the time of planting the main crop, the sun-sprouted seed is a boon and consolation, for it grows on, notwithstanding the weather. There is also less loss of seed from this method, and ten days to two weeks earlier maturity of the crop.

Potatoes affected with the disease known as "spindling sprout" are unsalable on account of the black fibre that runs through the tuber, and such potatoes cause a heavy loss. This disease is easily recognized before planting if the seed is sun-sprouted. The diseased tubers send out long slender sprouts, a striking contrast to the short, stubby growth on the healthy seed. It is best to pick out the diseased tubers as soon as this fine, hair-like sprouting is detected, for if left until cutting time they may be overlooked by a careless hand or passed in the hurry of getting the seed cut and planted.

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POULTRY KEEPING CONVENIENCES



HERE never was a time when efficiency in poultry keeping was more needed than now. Efficiency means simply avoiding waste in time, labor, and feeding. The poultry keeper finds himself being urged to grow more chickens than ever before, yet labor is increasingly hard to obtain, while wages are abnormally high. There is no need for saying anything about the high price of grain. Every poultry keeper has felt the pinch. A well arranged poultry plant will minimize the amount of labor and time required in caring for the birds, and the waste of grain, which still reaches into the hundreds of thousands of dollars, can be avoided by care and improved methods.

Many of the innumerable devices offered poultry keepers as necessary conveniences have very little merit. The average commercial poultry farmer reduces his equipment to its smallest terms. Yet there are some conveniences, many of them home-made, which have been found decidedly worth while. Most farmers waste a lot of grain by feeding it in open troughs or pans, from which the chickens scratch it into the dirt. Probably the most satisfactory feeding arrangement by which waste may be avoided is a square platform, mounted on blocks six or eight inches high, with a frame of laths nailed around this platform, which is thus enclosed by a little fence. The feed dish is set in the centre of this platform and a round piece of poultry netting, just large enough to slip up and down readily inside the dish, is placed on the mash or cracked grain. The grain is eaten through the meshes of the wire, but cannot be scratched out. Whatever mash may be billed out is caught on the platform and eaten from it. Of course this device is intended for indoor use, but can be used outside in summer by making a shelter of some sort over it.

A prominent poultry keeper of my acquaintance in eastern Massachusetts has constructed an outdoor feeder which avoids waste by setting two common metal hoppers back to back, and arranging a tent-shaped canopy of boards over them. The shelter keeps the rain from reaching the hoppers, and the construction of the latter is such that little grain can be wasted. It has been found that some of the commercial hoppers on the market do not wholly prevent a waste of mash, even though the chickens cannot scratch for it. Some birds have a way of pulling out the mash while hunting for ingredients which they particularly like. If a ten-cent pan is placed so that the hopper rests in one end of it, and the whole device is raised a little way from the floor on a box or platform, practically all waste will be avoided. It is always well to have the feed dishes and hoppers which are inside the house raised at least a foot from the floor. Otherwise litter will be scratched into them.

Many poultrymen have found that but little is gained when they keep their laying hens in small flocks. Accordingly they are dividing their houses into apartments which will accommodate from fifty to two hundred hens. When this plan is followed, it is good practice to construct a long hopper which can be reached from a platform on each side, raising it a foot or more from the floor. With such an arrangement there is no waste of floor space, and the fowls will feed comfortably with but little quarreling. The hopper should have a pitch roof so that the chickens cannot roost on it.

It is quite a common farm custom for chickens of different ages to be allowed to run together. In theory this is not a good plan, because the older chickens are very likely to monopolize the grain rations, keeping the younger birds from getting their share. Farmers, however, often find it too much bother to keep chickens of different ages in separate plots. They can keep the smaller birds from being imposed upon, however, by the simple plan of placing a feeding hopper inside a covered box which has slatted sides, the slats being far enough apart to allow young chickens to pass through, but close enough to exclude the larger birds. I heard of one farmer's wife who utilizes a cast-off wire spring bed. The little chickens can get under, but there is not room enough for their larger companions.

When colony houses are used and scattered over a wide range it requires considerable time to feed all the birds. In some sections the

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practice of feeding only once a day is followed, and seems to give good results. This plan is followed almost exclusively in Rhode Island's Little Compton district, where originated the little red hen which bears the name of the state, and where great numbers of chickens are raised every year. The colony house system is followed almost wholly in this section, and a cooked mash is fed. Each morning a wagon loaded with mash is driven from house to house, and the feed shoveled into troughs. At the same time hoppers on the wall are filled with whole or cracked grain. The mash is naturally cleaned up in a short time, and the hoppers are depended upon to supply the needed rations for the rest of the day. It is probable that many experienced poultry keepers would criticize this plan. Yet it seems above criticism for the reason that the results obtained are quite as satisfactory as in any other section of the country, where more complex methods have been adopted.

Most poultry keepers seem to think that it is necessary to have the floors of their houses covered with litter in which the hens may scratch. No litter is used in the Little Compton houses, but the floors are covered with fresh sand every fall. Of course conditions here are different from those in many other sections, because the winters are so open, due to the ocean's close proximity, that the birds can be allowed out of the houses much of the time the year 'round.

One of the best known poultrymen on the South Shore of Massachusetts, who makes a business of supplying eggs for hatching, to the roaster growers of the South Shore, raises a large number of pullets each year, and uses colony houses. In order to minimize the work of feeding his birds he has rigged up a low-down wagon, with wide iron wheels, which carries a big double cast iron tank, obtained from a mail order house. This tank is filled with water, which is thus easily distributed. Buckets filled with grain are also placed on the wagon in front of the tank before the round of the poultry houses is made. This breeder believes that shade for growing chickens is indispensable. Many of his poultry houses are located among pine trees, but nearly all of them are also built with awning-like projections in front.

Droppings boards are taken as a matter of course by the average poultry keeper. Here and there, though, practical poultrymen are questioning the value of droppings boards, and not a few men, especially on large farms, have eliminated them entirely. In the Little Compton district already mentioned, where poultry keeping has been perhaps the chief means of livelihood for years, droppings boards have been largely dispensed with. Occasionally, though, a board is set upright in the floor a short distance in front of the roosts, in order to keep the droppings from being scattered broadcast. A little sand is thrown over the space back of this board two or three times a week, and no ill odors can be detected, even when the houses are not cleaned out all winter. Droppings boards are practically indispensable in very small houses, such as are to be found in suburban back yards, but when large flocks are being kept their necessity is certainly to be questioned. Cleaning the droppings boards is an unpleasant job and takes a large amount of time which, in the writer's opinion, might often be devoted to other work to better advantage.

Another innovation, and one which is meeting with favor, is the substitution of one long nest for a series of short nests. Nests built on the new plan are being used by several poultrymen, and give much satisfaction. They are simply long boxes, raised a foot from the floor, and with an opening at each end. When the hens wish to lay, they walk along in the box, which is filled with hay, until they find a spot which suits them. Then they make a little nest for themselves in the hay, and lay their eggs. The front of the nest consists of a single long board, which is hinged at the bottom, and held in place by a wooden button. When it is dropped, the entire nest enclosure is open to view, and the eggs may be gathered with the greatest expedition. It has been shown by experience that there is practically no quarreling among the hens when this type of nest is used, and no breaking of eggs. The nests can be quickly cleaned and disinfected, and there are few hiding places for vermin.

A California suggestion which seems worth while is a catching coop, which is to be used when



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fowls are sorted or transferred from one pen to another. There is an opening at one end, which may be set against the exit of the pen. As soon as the chickens have run into the coop a sliding door closes this opening. The chickens are removed through trap doors at the top. There is no danger of the hens becoming suffocated when a catching coop of this kind is used, if the sides are covered with poultry wire.

There are few poultry keepers nowadays who indulge in the old-fashioned practices of sousing sitting hens in the watering trough, or slamming them on the barn floor when they prove hard to break up. The only proper way in which to deal with broody hens when they are not desired for incubating purposes is to place them in a breaking-up coop. Such a coop may be fastened on the wall inside the house, but the location is likely to be unduly warm when summer weather comes. Many practical poultry keepers provide breaking-up coops which are set just outside each house. This is a good plan, but it is highly desirable to have the coops mounted on legs a foot or two high, and with a slatted bottom, for the circulation of cool air will go far toward checking the desire of the hens. The coop should, of course, be slatted or wired all round. If the poultry keeper goes through his houses each night and coops up any hens that are found on the nests, he will experience little difficulty in keeping his pens free from sitters. When they have been allowed to remain on the nests twenty-four hours they are much harder to break up than if taken in hand promptly.

The ideal place for raising chickens is a corn field with a little grass land adjoining. The corn field will give protection from hawks and crows, and provide many bugs and worms. It is not commonly realized, though, that young corn leaves make an excellent green food, especially if they are chopped or shredded.

Naturally the small poultry keeper will have to follow different methods, and when there is but little grass available, it is an excellent plan to make a coop about ten feet long and four feet wide, with a tent shaped shelter of boards at one end. Such a yard can be moved its width or length every day. In that way it may be worked across a field or a lawn, so that there will be an abundance of green grass available at all times. By the time one end of the plot has been reached, the grass at the other end will be long enough to serve as pasturage again.

E. F. F.

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NOT long ago an anxious dog owner told me that his puppy's teeth were falling out and asked me what he should do to check the calamity. I advised him not to worry.

There are a lot of people, apparently, who do not know that a puppy sheds his milk teeth just as a child does. Usually they do it so unobtrusively that unobservant masters and mistresses never know it. As a matter of fact, if a dog is properly fed, with plenty of good meat in his diet and with bones and hard biscuit to gnaw, he will never have any dental trouble worth mentioning. Occasionally, however, it pays to have a look at his teeth.

Sometimes the milk teeth, after loosening, become set again. This means that the second teeth, when they come, may be deflected and grow crooked. It is therefore not a bad idea to help the puppy to get rid of his first teeth. When loose they may be easily pulled out with the fingers, covered with a handkerchief. This will also prevent his swallowing any of them. If the tooth becomes set, it must be extracted by a veterinarian.

Sore gums in this connection, or whenever they appear to trouble the dog, may be treated with myrrh, borax, and water, which is a good mouth wash for a dog at any time. It helps to keep the breath sweet.

Crookedness in teeth may sometimes be corrected by frequent pressing with the fingers.

Both for the sake of his digestion and his teeth, do not feed your dog many sweets or dainties. Tartar and decay may cause him endless trouble if you are too indulgent.

Do not teach your dog to carry stones or allow him to chew sticks.

Tartar, if it forms, should be scraped off. The teeth of show dogs are sometimes kept polished with charcoal.

W. A. D.



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The dwelling house at Umbria, the home plantation of the estate

The VANISHED PLANTATION SYSTEM By EYRE DAMER



IN ATTEMPTING a description of the vanished plantation system that coëxisted with slavery, I have in mind a typical estate, that of the late Samuel Pickens, in Hale County, Alabama, with Umbria as the homestead. Before division amongst the heirs, the property consisted of the homestead, with added farms, and three large plantations.

Prior to manumission of slaves and consequent disorganization of the labor system, the orchards of the homestead produced in superabundance varieties of apples, peaches, apricots, pears, figs, pomegranates, quinces, and plums; the patches, watermelons, cantaloupes, and berries; the truck gardens, upland and lowland, with borders of hoarhound, thyme, sage, lavender, and other old-fashioned herbs, maintained a continuous supply of vegetables. Ample quantities of milk, cream, and butter filled jars and crocks placed in troughs around the walls of the dairy house, which enclosed a bold spring of freestone water. In the luxuriant pastures and meadows ranged and fattened thoroughbred sheep and cattle, to be slaughtered and dressed by skilled slave butchers. In pickling troughs and suspended from rafters in the commodious smokehouse, vast quantities of spareribs, backbones, and sausage, choice parts of carcasses for household use, sent from the plantations, were cured at the annual hog killing. In the poultry yard and on the ranges roamed flocks of turkeys, geese, ducks, guineas, and chickens; and from the pigeon loft were obtained squabs. Cooking was done in a capacious open fireplace, with hearth extending far outward, and equipped with cranes and hooks. Covered skillets, banked above and below with smokeless oak and hickory coals, and occupying spaces on the broad and deep hearth, served as bakers and roasters.

With all of these adjuncts to housekeeping, and carefully trained cooks and waiters, there was no problem connected with the table.

A stable of fine harness and saddle horses, and various vehicles, highly-bred pointers, setters, and hounds, and populous covers and fishing waters provided means for wholesome and exhilarating outdoor amusements.

Indoors, a carefully-selected library, musical instruments, and card tables were strong counter attractions.

Resident private tutors prepared the boys and girls for famous institutions of learning; and a musical instructor visited his pupils at their home.

At Umbria was transacted all of the business of the estate. At regular intervals the overseers were received in the detached office building, and there submitted their reports and received instructions. In the management and discipline of the slaves they were never permitted to practice cruelty or impose excessive tasks. The slaves were of a superior class of



Abner, an inhabitant of the quarters



Hays, progenitor of "nine head of chil'un"



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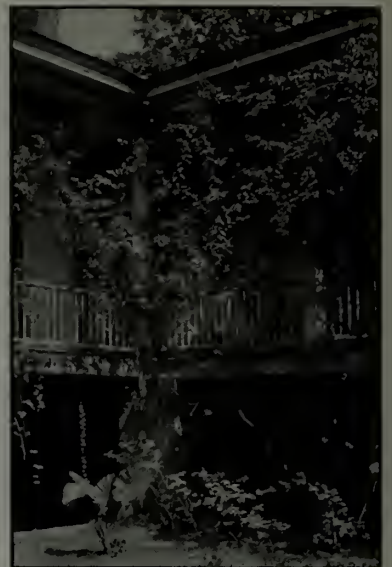
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The hospitable entrance gates to Umbria



Rose corner in the rear court

negroes, being either those brought from Virginia and the Carolinas or their descendants. They were tractable, intelligent, loyal, and happy, and performed tasks patiently and uncomplainingly.

Crow Wing, adjoining Umbria, was preserved as a range for stock. It had a wonderful forest of hard-wood trees, traversed by clear streams.

On the opposite side, Eubanks also adjoined Umbria. It was an ideal plantation for cotton and stock, containing a vast area of perennial cane, through which streams of pure water flowed, unaffected by droughts.

Goodrum, with annexed Mallory Place, is in the prairies. In early times there was lack of water in that region. When Robert Pickens returned from travels abroad, having studied the wells in Artois, France, he began experiments at Goodrum and succeeded in bringing in the first artesian well in this country. Wells rapidly multiplied and promoted quick settlement of the prairies. Mr. Pickens brought from Philadelphia an engineer who drew plans for utilizing the water power at Goodrum. Water from well No. 1 issued from a lofty tube, flowed thence into an elevated trough, and in its escape therefrom emptied into the cavities of an overshot wheel, the shaft of which operated machinery that converted raw cotton into hanked thread, and this in turn was converted into cloth in the plantation looms. After moving this machinery, the water flowed into long, wide canals, cut in the lime rock underlying the soil, and was there impounded to furnish power for a grist mill and cotton gins. During the night the canals filled nearly to their brims, and the volume of water was sufficient to operate the mill and gins continuously the entire day. This mill ground sufficient meal and grits for the estate, and more besides. Cotton, corn, peas, sorghum, and clover were grown at Goodrum. At the time of its settlement, cedar trees so abounded there that rail fences, cribs, cabins, and stables were constructed of the wood.

Annexed to this place and extending to the Black Warrior River was Port Royal, with a steamboat landing and brick warehouse, used for estate purposes only. Most of the Port Royal tract consisted of hard-wood forest and swamp, and here were raised and slaughtered great numbers of hogs of good breed. They ranged the forest at will until rounded up and corraled for fattening at the approach of cold weather. So extensive was the range and so abundant were the nut-bearing trees, that many of the animals reverted to a state of wildness, and after the annual roundup all without earmarks became "game" and afforded exciting and sometimes perilous sport for privileged hunters.

Canebrake Place, with deep, black, and fertile soil, was the chief cotton and corn plantation, and large quantities were produced there. At Canebrake and Goodrum places about 500 bales of cotton were produced annually as early as 1844.

At Umbria were grown excellent tobacco (for home consumption), small grains, and hay. Each plantation had a ginhouse and cotton screw press. On this estate were trained slave mechanics who manufactured nearly everything needed. There was a tanyard, in which was prepared leather from hides of animals raised and slaughtered at the several places.



Each plantation had its cotton screw and press

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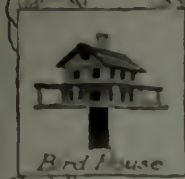
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have been recognized throughout the world for over thirty years as the standard of quality. There are many cheaper refrigerators—but they are also less efficient than the McCRAY. Wherever economy—quality and efficiency are demanded, McCRAY Sanitary Refrigerators are used.

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From this leather were fabricated in the plantation shop, harness, saddles, boots, shoes, and other articles into which leather entered.

There was a carpenter shop, equipped with all kinds of tools, in which slave workmen made sash and blinds, moldings, turnings, carvings, wagons, plowstuffs, furniture, buckets, tubs, and other articles of woodwork.

Fabrics for clothing, bedding, bags, and tarpaulins were woven in the hand looms, from cotton, wool, and hair produced in the estate's fields, pastures, and ranges.

The "walk" turned out rope and twine.

There was a smithy in which slaves made plowshares, scythe blades, hoes, rakes, knives, hinges, and other iron ware.

Baskets, floor mats, chair bottoms, horse collars, and brooms and brushes were supplied by superannuated slaves, from materials gathered in field and forest.

A roll of household and plantation slaves in the year 1848—152 in number—records the age, parentage, and value of each. There are about Umbria three generations of the descendants of negroes brought from Virginia and the Carolinas, and these old rolls show their lineage so far back that they could readily obtain very respectable genealogical charts. There are strange variations in the appraisements. Opposite a few names are placed three ciphers, and the explanation of the zero valuation is in



A deserted negro cabin of shakes

their ages; they had run the course of usefulness and become charges on the estate. In a later roll (that of 1864) there appears the name of "Daddy" Simon, an accomplished handicraftsman. He was a housebuilder, cooper, and wheelwright. Simon was valued at only \$800; while John and William, proficient dining-room servants, whose names follow his, were rated at \$1,200 each; but Simon was fifty-two years of age, and John and William, thirty-two and thirty-three, respectively.

Simon was a preacher, but not so well versed in theology as in carpentry. According to his own testimony, he had a harrowing experience in "getting religion." Monstrous sinner, he was, in a vision, taken to the brink of a fearful precipice; below, in a bottomless gorge, roared a sea of fire, emitting sulphurous fumes; from brink to brink stretched a slender spider web; and a radiant figure, from the opposite side, in an awesome voice which rose above the roar of the flames commanded him to cross the chasm on that web—a single strand. Simon was no rope walker and the burden of his sins oppressed him, but the spell was upon him and faith nerved him, and bravely he planted his feet upon the web. Instantly the great load of sins rolled from his shoulders and fell, crashing and reverberating to the pits below. Then a wonderful change took place—lo! the chasm was no chasm at all, and the fire was no fire at all. He had been deceived by the Devil, but triumphed through faith—and this faith was what he taught; and his dusky hearers listened breathlessly, and marveled as they listened, to the fervid story of his conversion.

The pioneer planters of Hale County had little, if any, desire for public-service factories and workshops, nor could such institutions have existed prosperously in a county so completely occupied by self-sustaining plantations. Commercial activity was limited; most of the commodities required by planter families were obtained in Mobile and transported by steamboats to landings, and thence conveyed in plantation wagons to their destination. All this produced homogeneity of society and community of interest. The planters founded towns merely as seats of religion, education, sociability, and government; and trade was incidental and not purposely encouraged and fostered.

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THE HEALTH of your family demands that oil lamps be discarded. They are unhealthy, unsightly, odorous and hard to keep clean. Tests prove that eleven people use less oxygen than one large lamp. Lamps, too, are dangerous.

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These filters are widely used for providing clean, pleasant, safe water for all household purposes. They handle either the cold or hot water as required.

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A Loomis-Manning House Filter

Silent SI-WEL-CLO



THOSE who know the perfect privacy of the noiseless closet must consider the obsolete loud-flushing toilet an offense against good taste.

THE TRENTON POTTERIES CO.

SILENT SI-WEL-CLO CLOSET

operates silently. It cannot be heard outside the bathroom. It is self-cleansing and sanitary. It is designed to prevent clogging and constructed with a view to saving plumbers' bills. Point for point it supersedes the best loud-flushing toilets made, being unequalled either in appearance or sanitary qualifications.

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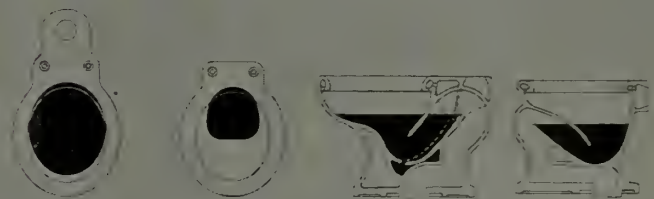
A copy of our book "Bathrooms of Character" B-9 will be of great help to those interested in home betterment or in building a new home. Write for it.

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One feature of the SI-WEL-CLO is the care taken to furnish only the finest quality seat—no exposed metal parts. Either white or mahogany. Another feature is the china connection between tank and closet—never corrodes or tarnishes. Consider these other features besides that of quiet operation.



The SI-WEL-CLO Ordinary Type of Water Closet

Water Surface (Represented by solid black)
The fouling surface in a water closet is but one difference between a scientifically constructed bowl (the Si-wel-clo) and the ordinary type. The bowl of the Si-wel-clo is always clean and free from soil.

Seal and Water Trapway (Represented by solid black)

The Silent Si-wel-clo has other advantages besides its quiet operation. It has a much deeper water-seal—guard against sewer gas; a much larger trapway, preventing stoppage; and a siphon auxiliary, which causes the closet to flush more rapidly and positively.



AMERICAN MOTORISTS *and* the GASOLENE SITUATION

By ALEXANDER JOHNSTON



THE past few months have constituted the most anxious period that the American motoring community has ever been called upon to endure. Manufacturers have been worried for fear that the Government might feel obliged to stop the production of passenger motor vehicles, while private motorists have had cause to fear the shutting off of their supply of motor fuel. Inevitably this uncertainty has favored the growth of a fine crop of mixed rumors that have kept the motoring public on the anxious seat. One day it would be that the automobile industry would not be able to get any more steel, all that ubiquitous product being needed for war-making functions. The next day, with equal positiveness, that the Government would commandeer all crude oil stocks and that no gasolene would be available for driving private motor vehicles.

Naturally the ordinary automobile owner, with his vehicle already in use, has centred his attention principally on the gasolene situation. Until recently, conditions have not justified much jubilation on the part of car owners, but now the situation has happily clarified and we are able to look at the future with reasonable confidence, provided we give the national conservation authorities a little individual coöperation.

For a complete understanding of the motor-fuel situation that is going to exist during the coming year, we shall have to glance briefly at some statistics of production and consumption. In 1916 the output of crude petroleum in this country, according to figures of the Geological Survey, was 295,000,000 barrels. From this there were extracted 54,000,000 barrels of gasolene. However, the actual production of crude oil was not equal to providing for all the demands of 1916, and it was necessary to withdraw 20,000,000 barrels of oil from the reserve, which amounted to some 150,000,000 barrels. Please note that this means that the normal oil production of the country was not sufficient to meet the demands of a perfectly normal year. If we were to continue drawing upon our reserve at the proportionate rate indicated by the 1916 withdrawals, it would take but a few years to exhaust that vitally important surplus and leave us wholly dependent on the current production of crude oil, which we have shown was insufficient even for present needs. To any normal estimate of gasolene consumption in 1917, there must now be added the heavy demands of our fighting forces, to say nothing of the quantity that we must export to take care of our allies.

In these circumstances the casual observer might be pardoned for throwing up his hands in despair and steeling himself to read the edict putting an end to private motoring for the period of the war. Happily, however, there are certain extenuating circumstances that have already begun to operate, which make it evident that if every individual motorist in America will

observe a few simple rules of conservation, we shall make our supply of gasolene cover our extended needs, and there need be no interruption of necessary motoring.

The mitigating circumstances of which we spoke,

are first, the fact that while our crude oil output will be only slightly larger than that of 1916, improved methods of extracting gasolene from the base will result in a considerably augmented production of motor fuels. Secondly, the obvious demands of the situation have tremendously stimulated activity on the part of the oil producers, and well boring is being carried on feverishly in all of the great producing fields. Thirdly the production of casing head gasolene, the product obtained by reducing to liquid form the gases flowing from the wells, will be heavily increased. All these factors promise well for the future, but the really hopeful factor as regards present relief, is the nation-wide campaign that has been launched to end the serious and, in the present circumstances, criminal waste of gasolene by the private motorist.

An informal commission, comprising oil experts of the United States Bureau of Mines and various individuals prominent in the automobile industry, met recently in Washington to formulate the terms under which the gasolene conservation campaign should be waged. A number of their findings are of supreme interest to all motor-car owners and we shall consider them in detail a little later on. The general result of their investigations was the discovery that 561,000,000 gallons of our total available annual supply of 2,000,000,000 gallons of gasolene is actually wasted. Some of the waste is in distribution, but most of it is lost in improper operation of the car. Just how important this loss is may be realized from the fact that the estimated demands of our Army, Navy, and air fleets for motor fuel, reach a total of approximately 550,000,000 gallons. In other words, we motor-car owners annually waste more gasolene than is needed to meet our entire military demands. The motorists of America could scarcely ask a more direct way of showing their patriotism in the present crisis, than by thus presenting their country with enough motor fuel to keep its military forces abundantly supplied with this vital necessity for modern warfare. We make no question as to what the answer will be, but before we can reach the desired end, it must be borne in upon every single car owner that this is part of his contribution to victory over the Hun. He must remember that while his individual waste of a pint of gasolene a day may seem inconsequential, when that pint comes to be multiplied by 4,000,000 (and there are more than that number of cars in use in America today), we get the appalling total of 500,000 gallons per day. We must each of us make it an intimate, personal care not to waste a single drop of gasolene. That is the only solution of the problem.

The Washington investigators, of whom we spoke, inform us that the greatest single factor of waste is in the needless use of passenger cars, and they estimate that 13 per cent. of our total gasolene supply is wasted in this way. This does not mean that cars must be placed in dead storage, nor even that a reasonable amount of driving for pleasure, for health conservation, for relaxation shall not be indulged in. But the mere driving to keep going, to kill time, must stop. The man who uses his car for covering business calls or for doing errands, must so arrange his trips as not to cover the same ground two or three times, when once can be made to serve the purpose. A little looking ahead and planning will take care of this class of waste.

The second prolific source of gasolene waste is in the poorly adjusted carbureter. Our Washington friends estimate that this is responsible for the loss of 4 per cent. of the total quantity of

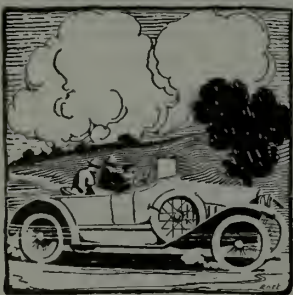
gasolene used in the country. Personally I believe that this estimate is too conservative and that the carbureter or rather its adjuster, is even more guilty than they think.

One of the big carbureter companies has recently compiled figures bearing on the waste of fuel through incorrectly proportioned mixture. The correct ratio of gasolene to air is approximately .07 of a pound of gas to each pound of dry air. A mixture containing as much as .08 of a pound of gas to the pound of air will give satisfactory engine performance under ordinary conditions, although it is richer than need be. It is possible, however, to increase the proportion of gas to as high as .12 and still have no actual trouble with the engine, though such a mixture contains nearly twice the amount of gasolene actually needed. Now if the correct mixture of .07 gas enabled the car to give sixteen miles to the gallon, the .08 ratio will reduce the mileage to fourteen to the gallon, and the .12 mixture will drop the average to ten miles per gallon. Obviously under the latter condition, nearly 50 per cent. of the gasolene is being wasted. The fuel is being consumed but the engine is not doing one whit more work; in fact not as much as it would do with the leaner mixture.

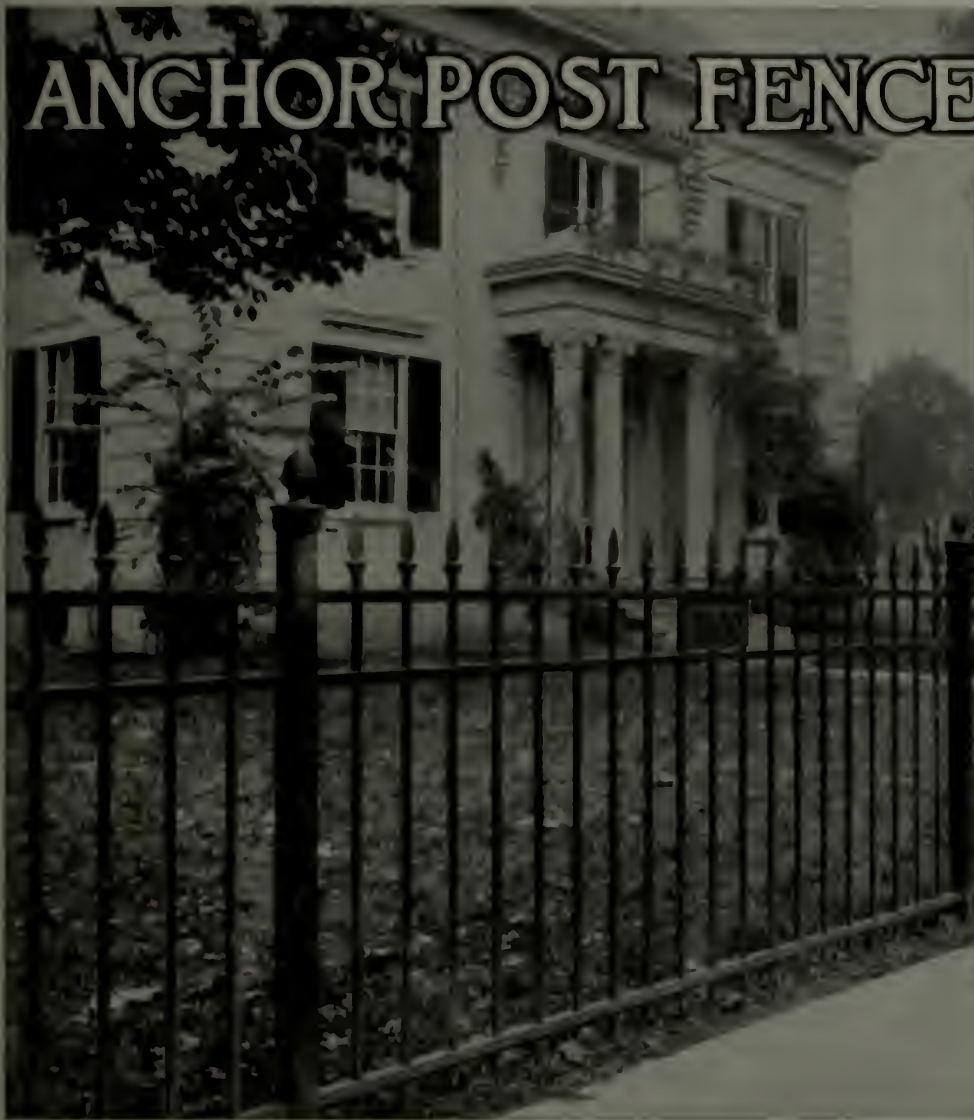
It is practically impossible to give general directions for adjusting the carbureter that will hold in every case, for the simple reason that there are scores of makes of these instruments in common use, and adjustments for one will not hold good for another. Unless the individual car owner is expert enough to adjust his own carbureter so that he is sure of getting maximum efficiency and minimum consumption, he should consult the nearest service station and have the instrument properly set by a man who makes that particular device his specialty.

While we are on the subject of carbureters, we may point out the many advantages to be derived from the application of heat to devices compelled to handle the present debased grades of gasolene. Where the carbureter has hot water jackets designed to maintain the fuel at a temperature making vaporization easy, this problem is solved. When the carbureter is not jacketed, the installation of a hot-air stove or housing fitted over the exhaust pipe and with tubing connecting it with the carbureter air intake, is recommended. The capacity of the housing must be great enough to heat the air entering the carbureter to a temperature of not lower than 160 degrees F. The tubing used to carry the hot air to the carbureter must be of ample size and as short as possible, to prevent restriction of the air flow, which would reduce the power. An adjustable sleeve located in this tubing is desirable so that cool air may be admitted during very hot weather. It is to be noticed that hot-air equipment of this kind is not only valuable as a means of making present grades of gasolene yield greater power per unit, but it is also a great convenience in bringing the engine up to an efficient operating temperature on cold days. Both economy and convenience, then, suggest the installation of air-heating apparatus, and in the present circumstances it might almost be considered a duty to the country.

Another prolific source of gasolene waste is to be found



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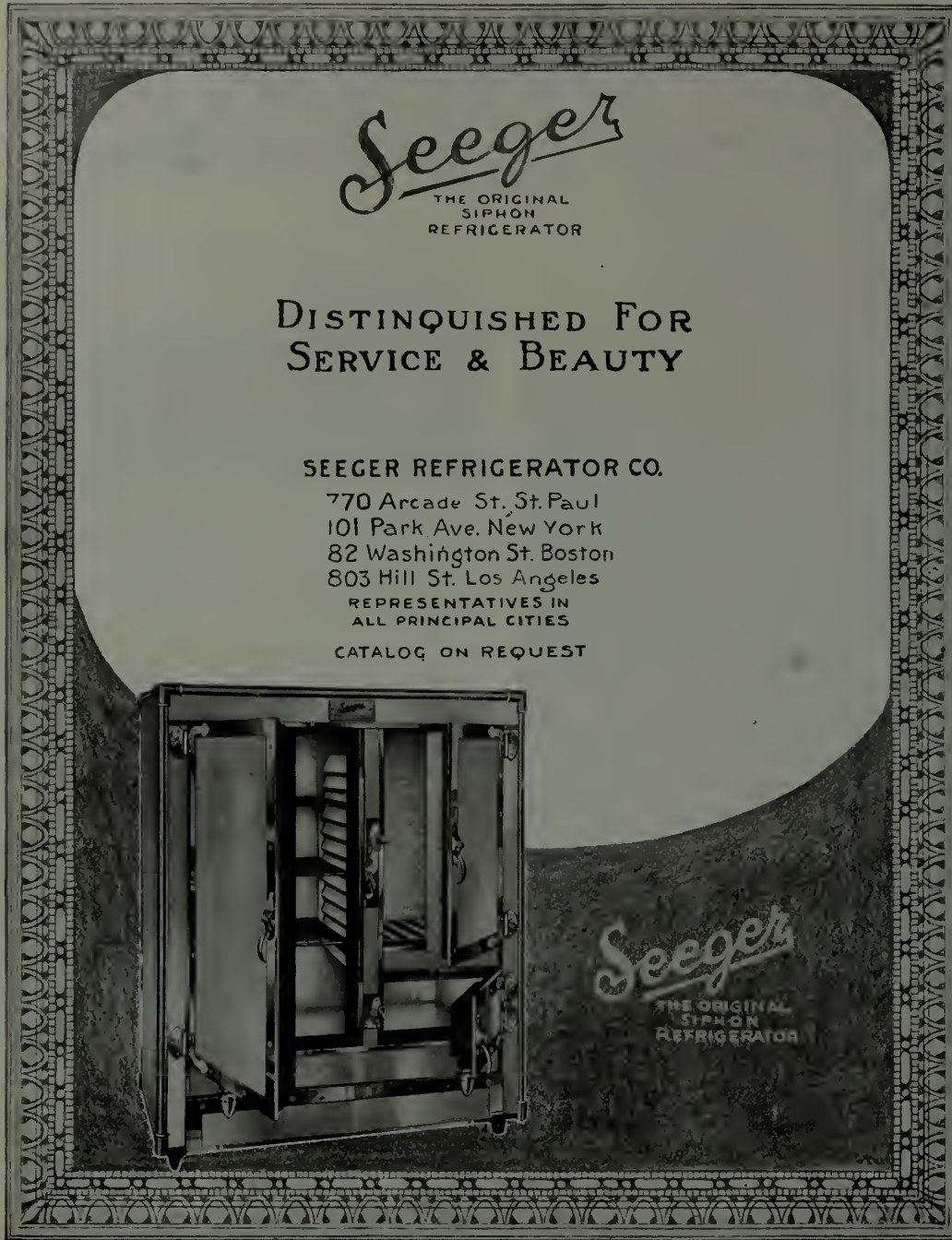
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motor car owner would learn to take odometer readings whenever the tank of his car is filled with gasoline. In this way a little simple computation will give him the miles per gallon of the vehicle from time to time. With this data in hand he will know whenever anything goes wrong from the simple fact that his car is demanding an excessive amount of gas to deliver a given quantity of service. Remember that the happy, careless days before the war are gone, and a very different situation confronts us.

It may not be amiss to call attention to the fact that waste of heat inevitably results in waste of fuel. Heat is power, and the modern motor vehicle is forced through inherent shortcomings to dispense with a large part of the available supply of this sort of power. It is simple common-sense not to let the matter go any further. For instance, where such a thing is possible, it is well to instal a thermostatic control in the water line, to keep the temperature of the circulating water at the highest possible point. Not all car owners may do this, but certainly all of them can purchase one of the many radiator covers now on the market and blanket the hood during the cold weather. These coverings are made of material impervious to heat, and they keep the vital warmth of the engine from being rapidly dissipated in the cold air.

In summing up we may call the attention of our American motorists to their comparatively happy condition. All that is requested of them is a little not very onerous care, whereas in England the final edict abolishing private motoring for the term of the war has gone forth. Moreover, the care which car owners in this country are asked to exercise will actually prove beneficial, not only to their pocketbooks but to their cars. The motor vehicle will really run better on the .07 fuel mixture than it will on the wasteful .12 compound, to say nothing of the obviation of carbon deposits. Tools and parts are better washed in kerosene than in gasoline. With no hardship involved and with every inducement of patriotic appeal on the side of economy, there is no question what the answer of the American motoring public will be to the request that it shall use gasoline instead of wasting it.

THE WISE USE OF HOME CANNED FOOD



PRESERVED goods should be considered as material for the making of dishes rather than as foods already prepared for use. When a family tires quickly of canned foods it is usually because nothing more than a can opener and a little seasoning have been used in their preparation for the table.

It must be remembered that canned vegetables and fruits, because of an almost inevitable loss of flavor in preserving, require more art in making attractive than do these same things in a fresh state. While they can not be served so simply, yet the same general rules apply to them as to the fresh products. As far as possible they must be used to save meat.

Beans and peas can be served in place of meat, as to a large extent they have the same food value. A small amount of meat may be used to the best advantage by cooking it in combination with these and other vegetables, which absorb and extend the meat flavor.

String beans, peas, corn, and tomatoes from the can may be served in soups, salads, and casserole dishes.

The strawberries, peaches, pears, and other fruits which have been stored may be used in fruit salads, ices, and in combination with ice creams. The family will not tire of them so quickly when served in this way as when they are simply placed on the table as a fruit dessert.

Children who are prejudiced against anything which comes from a can often grow eager for such dishes when they are told that food saving means helping our soldiers and saving the lives of little children across the ocean.

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CHICKENS—AND A CHILD



TO BEGIN with, he was a miserable looking specimen. It was not the fault of his ancestry; that was good Plymouth Rock, dating far back in the most respectable annals of history. No, not ancestors, but feathers, he lacked, and the lack was great and mortifying. Fortune had cheated him. A few weeks earlier, when, according to the natural run of events, woolly down was exchanged for the first coat of real feathers—well, it was not a fair trade, for a few stiff and scraggly tufts tried in vain to bridge the gaps where down had been before. The patches of skin thus left exposed to the elements had taken on a sickly blue-green cast, shot over with dashes of inflamed red. In fact, they resembled nothing so much as the upper surfaces of new potatoes still in the hill, that, venturing too near the top of the ground, have been properly punished by the sun and rain.

Now picture this waif of chickenhood drawn up, a shivering bunch, in the partial shelter of a hard stone wall, chilly rain falling all about. Next, cause this discouraged lump of potential broiler to "Yipp! Yipp! Ye-e-ep!" with all the forlornity common the world over to small chickens in the rain, and you have a mental image of what I chanced upon one unseasonable day in July.

Of course, I caught him. At first a new wild note of protest appeared in his "Yipp," but, comforted by the grateful warmth of my hands, he snuggled contentedly and quietly. That completed the easy conquest of my child heart, and so I took immediate steps to add to his comfort and pleasure.

The barn floor was a favorite retreat of mine, and here I took my new-found friend. That barn!—I can see it now. Two big mows full of new hay that smelled of crushed clover and mint and many good things; in the high, dark gables, narrow window openings which framed bits of the sky, and silhouetted the swallows as they darted through to their grass and mud homes upon the rafters; the good sound of rain upon the shingles, sometimes pattering, sometimes battering, but never able to get in—these were the things that had made me love the barn; but on this day of which I write, the practical side of me was uppermost, and the most attractive thing in all the barn was a bin of bran in the basement. For, given bran and warm water, one has the foundation of a mash most comforting to a cold and ill-clad chicken—that, any one can of perception see.

I dashed through the rain to the house and there, in the kitchen, quietly got some hot water and a spoonful of lard, and as quietly withdrew so that no embarrassing questions need be answered. There was a reason! A few days earlier, some orphan mice had escaped from my play-closet in which they were being brought up to lead blameless lives, and even then they were roaming at liberty about the house. The whole subject of pets was, just then, a sore one between my mother and me.

Chick enjoyed his warm bran-mash; his spirits rose. The lard rubbed on the parched, chapped skin gave temporary relief, at least, and I had a vague hope that, in time, it might "re-forest the burned over area" with feathers. In a few weeks the feathers *did* grow! It may have been mash, or lard, or Mother Nature herself, that did it, but at any rate he soon became a sleek and handsome cockerel. But he was never, apparently, quite as robust as others of the same age.

He was a grateful chicken, or else (horrid thought) visions of good bran-mash were ever in his mind, for always, after that rainy day, he ran to me each time he saw me and delighted to get into my hands. How the other chickens must have wondered to see one of their number act in a manner so foreign to the accepted ethics of chickenhood! Possibly they muttered under their breaths, "Teacher's pet!"—or whatever best conveys the meaning in chickenese of those horribly derisive words.

But among those ill-bred chickens there was one exception—Talk-Away, the most polite hen in the world. She was a fine Minorca with the rosiest of rose combs, and iridescent lights of green and blue gleamed on the surface of her glossy black feathers. Black Beauty was her other name, and well she deserved that title.

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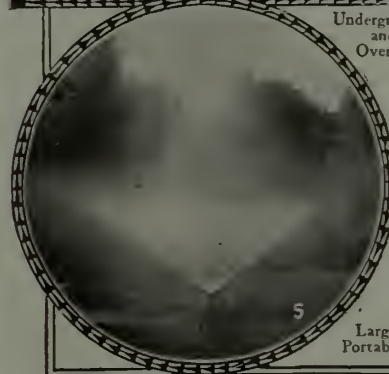
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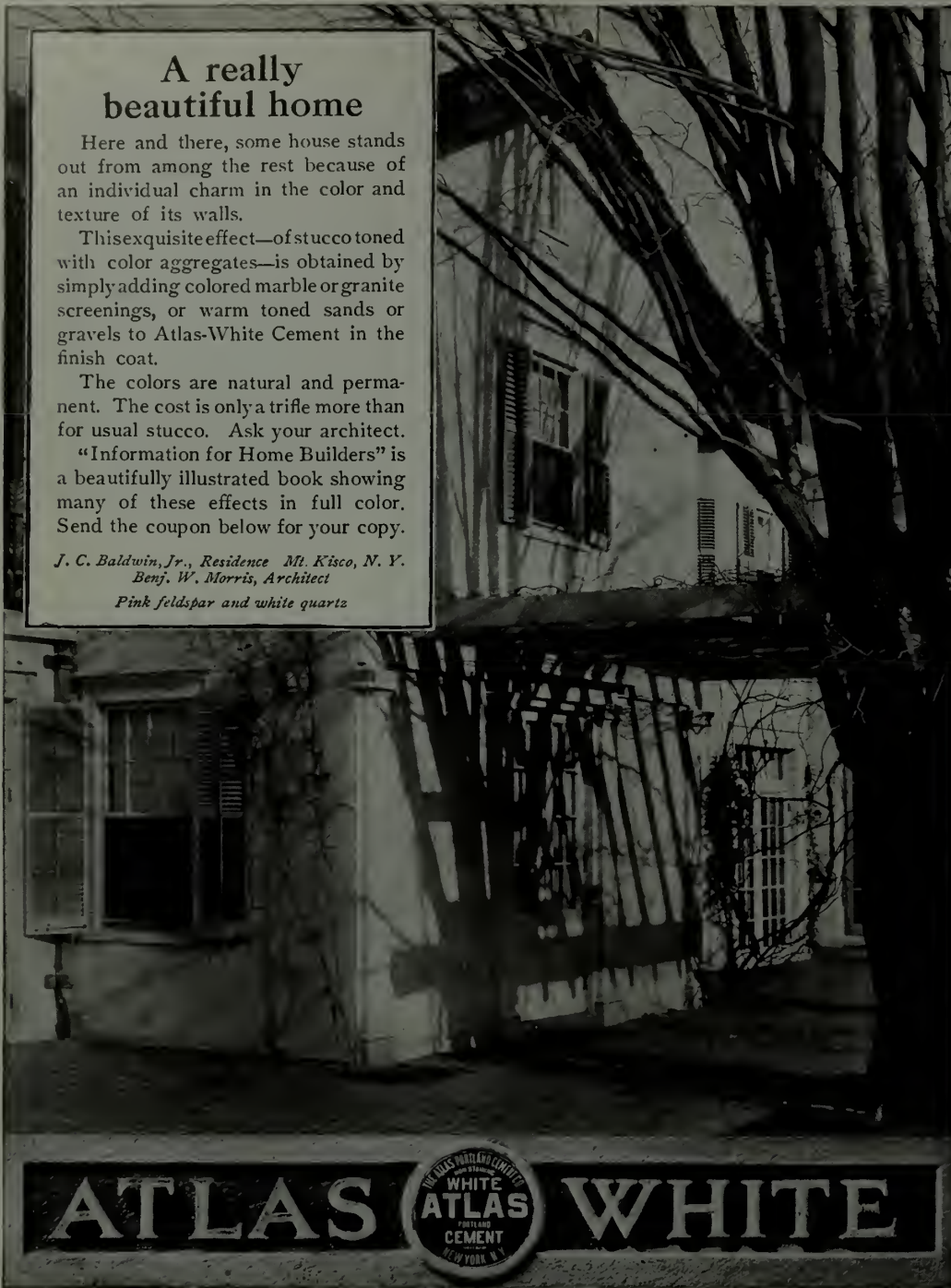
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Moreover, her beauty was by no means superficial.

I still remember the soft light in her eye, and her gentle, lady-like manner, as, seated on my lap, she upheld her part in the conversation with placid hen-talk, turning her head from side, "nicking" the nictitating membrane of her eye in drowsy contentment as I stroked her. She had a way of investigating the buttons on my dress. Nearly all animals seem to like buttons—from canary-birds to dogs and cats and horses and babies. My saucy red squirrel takes particular delight in carving the buttons on my sweater.

Aside from her charming manners, Talk-Away also made an exemplary mother. And the trials of incubation never produced the least bit of clucky peevishness. On the other hand she seemed to enjoy my visits during that trying time.

Once she gave to me an unusual treat, and made me feel like a true intimate, for as I sat beside her she carefully turned with her bill the eggs beneath her—that little instinctive act that the ordinary hen seldom does before witnesses. But Talk-Away was never what could be called an ordinary hen.

Chicks of the family Talk-Away were always the best trained of all the youngsters in the Chicken Park. (We always used the term "park" when speaking of our chicken yard. It was so large—and stylish, too, for it boasted several trees, and green grass, and other elegancies of that nature, not forgetting to mention a refreshment booth and drinking fountain.) Talk-Away's children learned the merits of deep scratching—that little cousin of the deep furrow in plowing; Talk-Away's children knew the morning habits of the worm. And when, for strictly hennish reasons, Talk-Away decided to forsake her family, now nearly grown-ups, it must have afforded her extreme maternal satisfaction to know that each husky son and daughter was well able to fight life's battles alone. I sometimes used to wonder if she minded greatly that not one of her offspring ever looked like her. For Talk-Away, you must know, was the sole member of the Minorca tribe in all the flock, and tolerated only because of her winning personality.

This was a Barred Rock Club of most exclusive personnel, membership consisting of descendants of the first families only. The roosters were wont to crow considerably over this, but Talk-Away simply cackled softly to herself at such foolishness—which, really, was the only thing she could do, under the circumstances, and after all, was the best way to treat the matter. And she seemed to think as much of all those Plymouth Rock babies as though they had been pure Minorca.

Statistics show that the vast majority of chicken kind meets a violent death—capital punishment, usually. That is what happened to poor Chick after one brief summer of happiness. In the case of our Talk-Away, the executioner's hand was stayed.

Five useful years she lived with us, and then, one morning, we found her stiff form beneath the perches in the chicken house. When the news was told to the family, a certain small girl fled to the secluded region behind the barn where she could be alone for a few minutes; and I verily believe even the grown-ups swallowed hard and had little to say for a time. Talk-Away was only a hen, but —!

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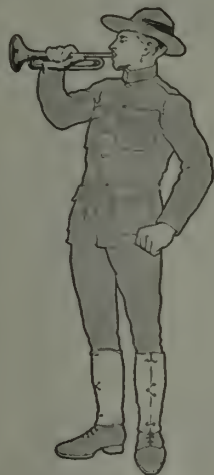
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THE HOUSE WREN



COMPETENT representative of that avian incarnation of happiness, that feathered fountain of cheerfulness, took up his abode in my yard the middle of last April. From that time until his departure late in August there was not a dull daylight moment.

He was a booster and an advertiser of a brand of genuine optimism, and proved its worth by living it; and at all times he was a golden-rule aristocrat. His family has been described so often and so well by competent scientists, and his domestic affairs have been so spied upon and gossiped about in public meetings and back-fence interviews, that ornithologically I fear he is regarded as commonplace, but as a tenant and neighbor, he is ever a novelty and a star.

So loud and insistent was his song on his arrival last spring, that one might have suspected that he had imbibed of the wine of hilarity, but within fifteen minutes he turned his tuneful attention to the sober business of househunting. In this

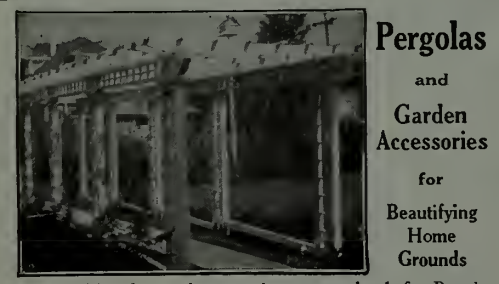


Mother Wren with a spider in her mouth has just stopped in the doorway to scold the camera. She is neither bowlegged nor knock-kneed—the camera played this joke on her

he betrayed that characteristic of many humans— indecision—a state of mind I have but little patience with. Later it was all cleared up and my impatience turned to sympathy. His indecision was manifest in the utter inability to choose one of the dozen vacant bird houses. He inspected all, of course, and after seemingly having decided upon the most artistic and perfectly adapted rustic wren bungalow, would perhaps five minutes later manifest that intensive "here is the very thing" interest in a rusty tin can, equaled only by the Florida real estate man when showing his properties to a Northern would-be purchaser. He kept this up for days.

Finally he did show a marked preference for a certain house attached to a pillar of my front porch; he was noticed to spend more and more time in its vicinity, and I imagined that his voluble babbings had taken on a tone of content. He often perched in a sumach tree quite near the pavement and sang as if the hurrying traffic, the whizzing automobiles, and the roller skating and roller coasting school children inspired him. None of your quiet and secluded nooks or deep wood retreats for him; rather the gay highway where there was speed and life.

After he had ten days of this sort of bachelorhood, the little lady arrived. With quivering wings and palpitant song he expressed his happiness and devotion, and she responded by



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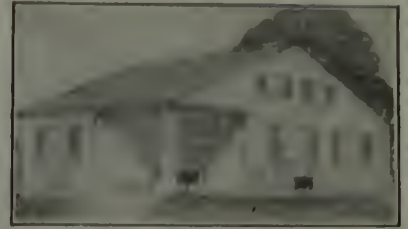
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ignoring his whole report on the desirable vacant houses and refused to be influenced by his gallant efforts to induce her to peep into a single one of them, but forthwith began carrying twigs and other building material into an impossible tar paper house in a little red-bud tree. Theoretically she was dead wrong and everybody knew it. The house faced the wrong way, was in the glaring sun, and was easily accessible to cats, but her mind was made up. In due time she hatched six wrens that waxed and grew strong on my bugs, beetles, hoppers, and worms.

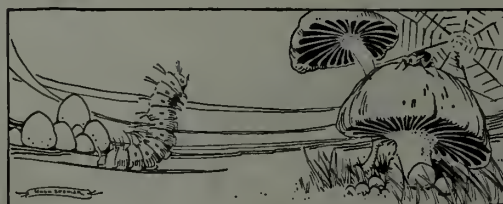
It was when I saw her choice of all the unoccupied houses and her manner of treating his opinion of what was good and desirable that the light dawned. I understood then the why and wherefore of his unsettled state of mind when house hunting. Did you ever go ahead and try to pick out a house that you thought your wife would like? That is when my impatience changed to sympathy.

Several days before the oldest son was able to break home ties, this wily little male struck upon a plan to influence his lady toward seeing his way regarding the attractive box on the pillar of the front porch, by beginning a new nest in it. He gave more time to carrying sticks and twigs into this box than to carrying food to his ever hungry family. I think she consented to inspect the place and his work, and almost immediately decided that she favored a house in a quiet corner of the yard hidden by a heavy growth of rose vine. Of course, that was where the second nest was built and the second brood reared, and as she did all the work and assumed responsibilities, he just kept on being cheerful and announcing it. Sometimes when he was off duty, or perhaps when neglecting duty, he was seen in the front yard somewhere near the little house on the porch pillar, but never for long.

Just as before, a day or two previous to the second family exit from the cradle house, the little male again began building in his choice of the houses. And when this second brood was on the wing and caring for themselves, Mrs. Wren, perhaps just to humor her loyal and joyful mate, accepted the work he had done, as well as his choice, completed the nest, and settled down to the routine of rearing a third brood. Having demonstrated on the two former occasions that he was *not* boss, she yielded in this, I imagine, to show that she was really broad minded, and to flatter his judgment.

While under such convenient and all but unavoidable observation, we grew fonder and fonder of the wrens, and they became so fearless as to go and come from the little house when we stood on the steps within a few feet of it. One of the interesting things that we learned about wrens is that they can sing and scold with as much vim and earnestness when holding a bug or worm in the beak, as when without. With a mashed and mauled moth or hopper of some kind in his mouth, Father Wren invariably stopped on some convenient perch near the nest and bubbled forth his happiness, before going in to feed the young. Time and again he sang from the roof of his little house. Mrs. Wren worked like a trooper and was as quiet as the proverbial mouse, with the exception of those times when she considered my too near approach to her home and family an intrusion. Then she scolded with a vim and did it easily and emphatically with food in her mouth for her young. But she didn't lose time to scold as her mate did to sing, but went right in scolding, scolded while caring for her babies, came out scolding, scolded as she dropped among the ferns or into a flower bed, and even scolded while she searched the plants for another morsel of food for her family.

With the departing of this brood both parents went, no doubt southward, and the yard and garden were minus one of their chiefest charms, for the heart as well as the ear misses that un-failing spring of cheerfulness ever bubbling among the plants and trees, that super-spirit of happiness. EUGENE SWOPE, M. D.



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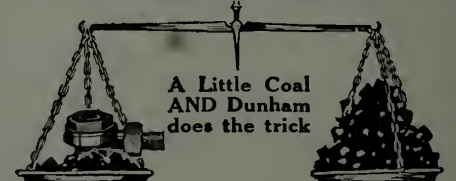
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His Conclusions

may be summed up in a few words of intense significance. He says "the American people still need the vivid realization that GERMANY'S OFFENCE was not accidental manslaughter, but that it WAS MURDER IN THE FIRST DEGREE, that is, it was premeditated."

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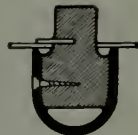
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Canaletto View of the Ducal Palace—Venice Tolentino Art Galleries



Canaletto View of Santa Maria Della Salute Tolentino Art Galleries

Fitting the Pictures to the Country House

By JESSIE MARTIN BREESE

BEAUTY, after all, is really only the proper arrangement of form. However fine the individual units may be, if they be alien to each other the whole will be inharmonious.

Herein lies the reason why so many of the fine old painters failed to leave behind them a single picture that is prized for anything but its masterly brushwork. Splendid as may have been their technique, their color, or even the ideal they held, they failed to so assemble the component parts of a picture as to produce a living entity.

Herein, too, lies the reason why so many fine old houses are merely a collection of rooms instead of being an interrelated group which shows the definite scheme behind it.

Upon approaching a house one usually comments, consciously or unconsciously, upon the style of it. There are houses which baffle one for a time until the original type or types of architecture from which it has been adapted is definitely placed in one's mind. But more often the observer can say with little or no hesitation:

"What a charming English country place!"—or, "How well that Italian villa is suited to these American hills which so remind one of Italy!"

Supposing it to be the English house, entering it one will be shocked to find that the owner has decorated his great hall in the style of the Italian Renaissance which is so much in vogue at this time. There is little doubt but that the furniture of that period will look well in such a spacious room, but the fact that the mind of the visitor has already registered the information that the house is an English one has led him so far to expect a corresponding interior that he will be too shocked and disappointed to appreciate the beauty that is there. He naturally supposes that some period of English furniture has been used to preserve atmosphere. Even the question of what style of interior decoration to use is answered by a study of the period of the architecture under which the house may be classified. Furniture of the Queen Anne or an allied period forms the proper complement to a Georgian house. The chief point to be kept in mind, however, is that the affinity between the rooms must be maintained. This is not to say that the Gothic house must be furnished in Gothic style throughout. If one desires a breakfast room in the French style, he has only to lead away from the dominant style step by step through the rooms. A dissonant note is struck when two things of equal beauty are so placed as to harmonize neither with each other nor with their setting.



Jacob Van Ruysdael The Two Mills Kleinberger Galleries

That the owner should enjoy his pictures is of the greatest importance, of course. But although he may enjoy the particular picture which he has bought for his own pleasure, if it is hung in a setting in which it does not fit he will find himself before very long wondering what was the particular charm of that picture which attracted him. So it is easily seen that the fittingness of the picture to its setting is of equal importance to the personal tastes incumbent upon it.

Realizing the frequency with which this poor hanging of good pictures takes place, I have collected together this month a number of pictures and one piece of sculpture which are entirely different from each other in school, treatment, and setting needed, but which are all equally fine, regardless of their differences. It is my intention to try to show in what sort of a house and in what sort of a room each of these pictures would give its best to its owner. They are, of course, used as examples of their school.

The two companion pictures at the top of the page are representative of the Viennese school. Exquisite in draughtsmanship and color, they are true to the best that is Canaletto.

Knowing the joy this man took in his work and the long years of study, which fitted him to portray the fascinating palaces and canals that are Venice, we are not surprised to find these canvases of such worth.

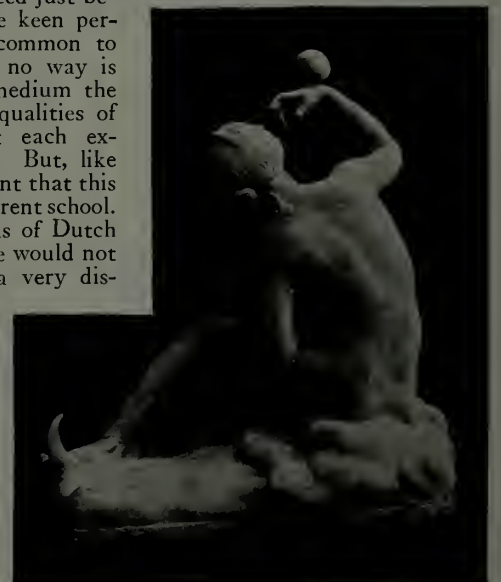
Such pictures as these will fit in a house decorated in the Italian style of the Renaissance. They are thoughtful enough to go well with the heavy type of furnishing that was peculiar to the time, but not too heavy in treatment to fit equally well in a room done in the more colorful and lighter furniture that followed immediately afterward.

There is a strange similarity of feeling between this man and the man whose painting I have placed just below his. Perhaps it is the keen perception of detail that is common to both of them, although in no way is their handling of their medium the same. Or it may be the qualities of life and colorfulness that each expressed in his presentation. But, like as they are, it is quite evident that this picture is of an entirely different school. There are all the earmarks of Dutch landscape about it, and one would not be long in deciding that a very distinguished member of that school had painted it.

Indeed, Jacob van Ruysdael, its painter, ranks next to Rembrandt, although his art is of so different a type and has such different feeling.

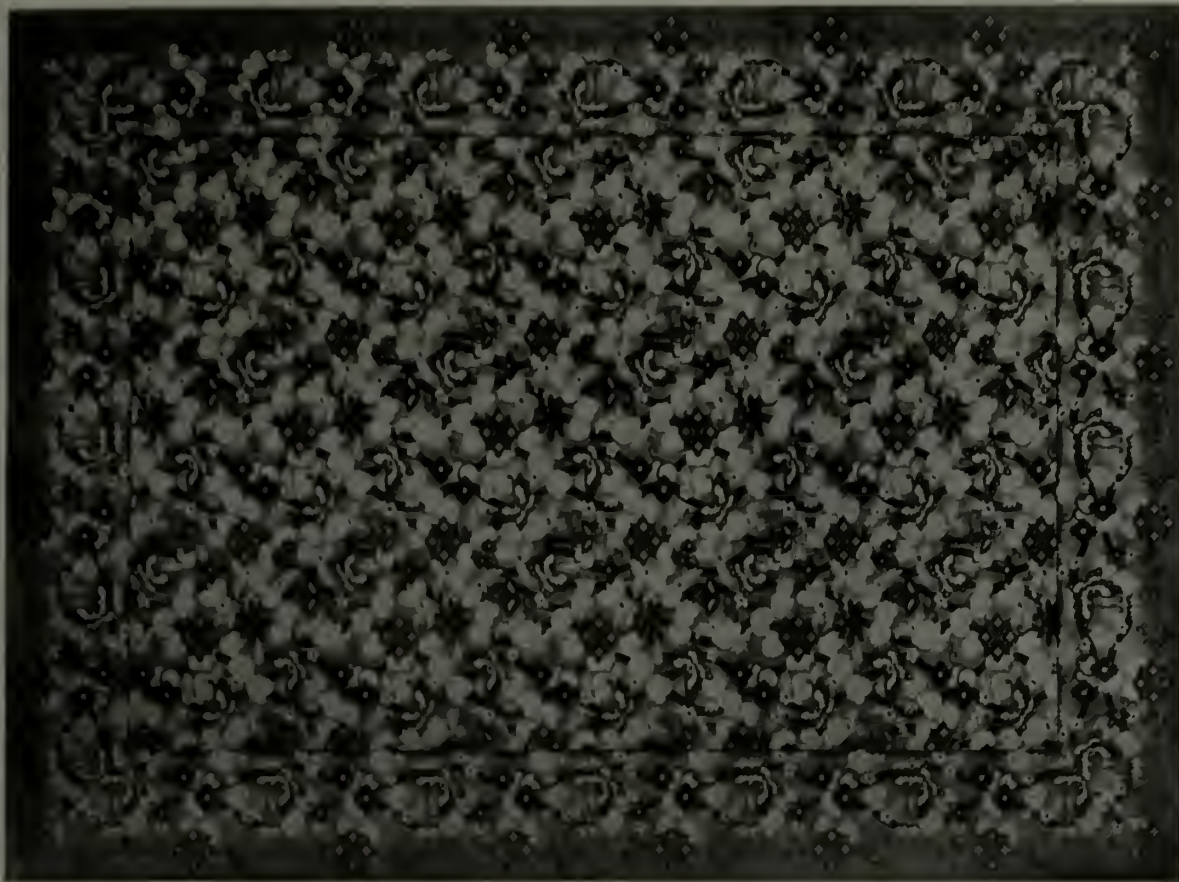


Albin Polasek Bubble Gorham Galleries



Albin Polasek Bubble Gorham Galleries

Inquiries regarding home decoration, color schemes, furnishings, art objects and interior arrangement—should be addressed to Mrs. Breese, of the Decorating Service of *The New Country Life's* Advertising Department, 120 West 32nd St., New York.



The illustration shows a Rug made of "Karnak" Wilton Carpet and Border in a classic Japanese design, effectively brought out in black and taupe colorings.

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80

What superficially appears to be simplicity in his paintings is in reality a reserve in the man himself that is stately and thoughtful. All of his work shows a careful attention to contrast in tone and structure which is not at first apparent to the eye.

Greater freedom can be allowed in the hanging of this picture than in the other two, for this type of treatment extends over a longer period of time, and is found in the work of other schools. It is not necessary to have one's home furnished in furniture from Holland in order to hang this picture there, for an English room in the style of William and Mary would make an excellent setting for it. Certain of the French styles would be good also.

An English picture that will go equally well in a French setting is this delightful portrait of a child done by Sir Thomas Lawrence. It is ideal, however, for the type of English country house that is being built in this country so much just now. There is a never-failing appeal about childhood that has attracted painters of every age. If they paint children at all, they will, more than likely, put the best of their gift into the portrayal. That seems to be what Lawrence has done in this case, for charming as are his portraits of women, there is a subtle appeal in this that is not present in any of his others.

The child, interested in nothing but the butterfly poised on her chubby fingers, seems suddenly to have wakened to the realization of another presence near her, to whom she instantly offers her treasure in childish generosity.

Radically different in treatment is the bronze which is illustrated in two views on the first page. Albin Polasek, the sculptor of this exquisite statue, has revived again the ancient ideals. Form is to him an expression of rhythm, and flesh the mobility of that rhythm. No conventionalizing of



Sir Thomas Lawrence

Child with Butterfly

Ralston Galleries

form in his work can take from the marvelous sense of flesh delicately handled. All the beauty of all the ages is embodied in this one bronze which is named "Bubble," suggestive of its delicacy it would seem. The curve of the back and the wondrous swing of the line of the leg as the figure faces one, are only two of the perfect lines which happen to show plainly in the photograph.

Such a sculpture seems, as I have suggested before, to be of all ages, and not merely of the one in which it was given birth. For that reason, it can be placed with almost any period of room and furnishings, and will be thoroughly in keeping with them. Its very simplicity of conception — though its execution be far from simple — gives it this wide scope for use.

There is one exception to this rule of having one's pictures fit in a decorative scheme. Whether necessity gave rise to the custom or whether sentiment may sometimes transcend art, I cannot say. However it may be, the fact remains that in the matter of family portraits, the style or period of a setting is thrown to the winds when their hanging place is to be considered. Either art or custom, or even both, perhaps, have given sanction to this arrangement. When one of our family sits for his portrait, we are allowed to hang the finished, modern picture in whatever room we will, regardless of its treatment. This is looked upon by most people as a most sensible arrangement.

Whatever the picture or sculpture may be, it is probably not so limited in its choice of settings as might at first appear. As a rule, the finer the work, the greater the scope of the setting that can be employed.

The Sure- of Hampton Shops

May we discuss intimately just what Hampton Shops stands for, and what its relation is to the entire subject of interior arrangement and decoration?

WE have found that most women, and many men, are excellent interior decorators. Much of our finest work has expressed the intuitive artistic sense of our patrons as much as it has resulted from our own technical art and decorative resources.

We are glad to make this acknowledgment. For lacking a widespread interest in and appreciation of beautiful furniture and its assemblage, it is doubtful if Hampton Shops would so quickly have attained its present institutional importance.

From our very beginning, we had the good fortune to realize that the basis of adequate decorative expression must be the masterpieces of every period.

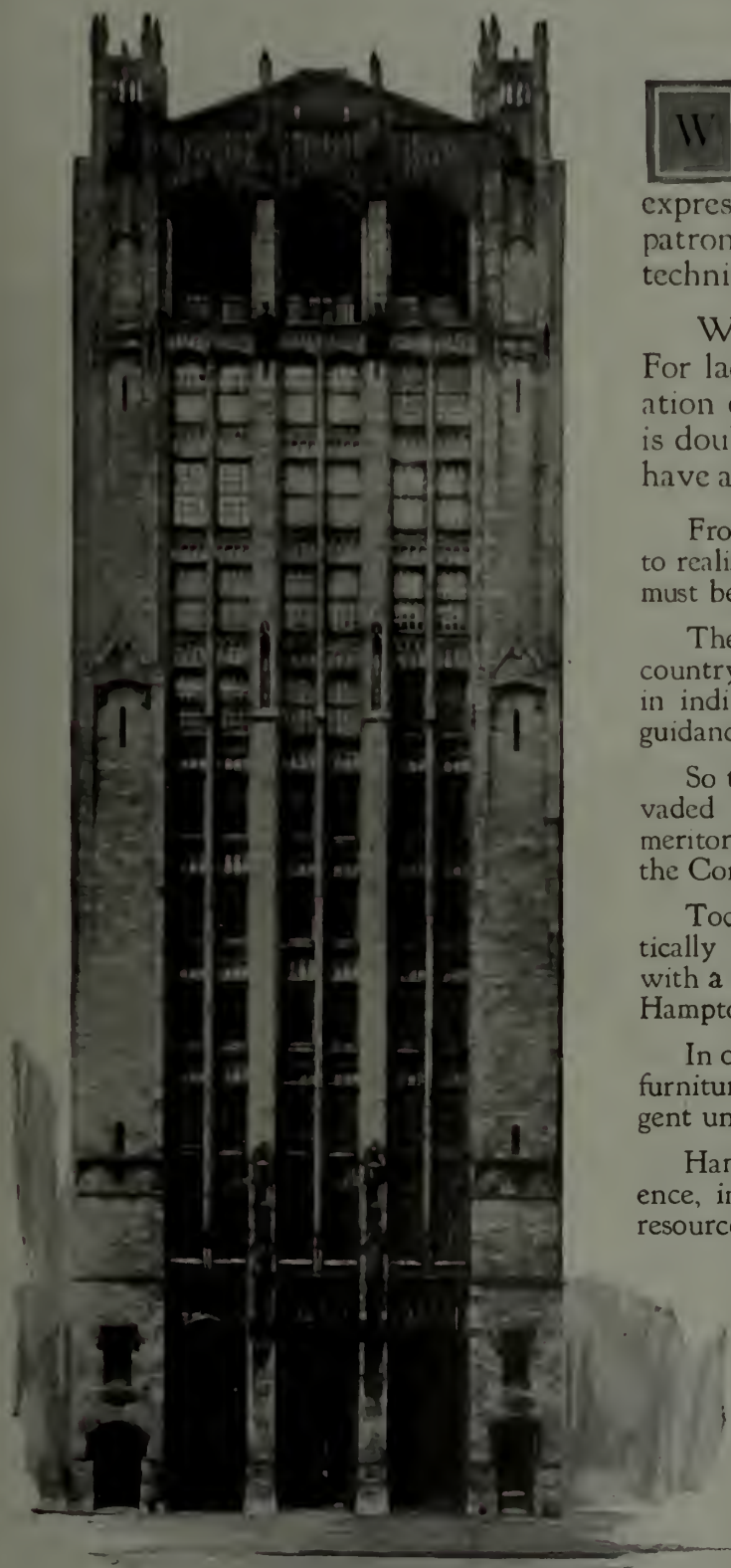
Then, however, most of the good furniture in this country was in the hands of collectors or was scattered in individual pieces—and not available for study and guidance.

So the principals of our business, and our agents, invaded the art centers of Europe. Some of our first meritorious interiors were imported almost intact from the Continent.

Today, our commissionaires are still culling the artistically worthwhile of every period and every land, with a result that is best seen in the eleven Galleries of Hampton Shops.

In original, or faithful replica, the masterpieces of the furniture makers of all times are assembled with intelligent understanding against harmonious backgrounds.

Hampton Shops offers a ripened decorative experience, in combination with vast equipment, unlimited resources and far reaching organization, for the enrichment and beautifying of American Homes wherever means and culture are found in association.



Hampton Shops
18 East 50th Street
facing St. Patrick's Cathedral
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Decoration

Antiquities

Furniture

The Country House and its Furniture



Echoing the traditions of long ago, our modern Country House imparts to the artistic ideals of to-day a more subtle expression than is elsewhere suggested.

Within its hospitable doors the very spirit of olden times may be re-awakened by the deft disposition of well-chosen Furniture, each piece finding congenial surroundings in the charming atmosphere of its engaging rooms. One need but pause before the exhibits in these Galleries to realize how readily this interesting result may be achieved.

The collection on view is rich in replicas and reproductions of every historic epoch, from the sturdy styles of the Renaissance to the simple Furniture of Old England's farm cottages; rich, as well, in unique Decorative Objects and the fine Rugs of the East. And it is gratifying to contemplate that such appointments may be acquired at well within moderate cost.

Suggestions may be gained from de luxe prints of well-appointed rooms, sent gratis upon request

New York Galleries

Grand Rapids Furniture Company
INCORPORATED

34-36 West 32nd Street
New York City

Furniture Designed for Summer Use

THESE are days of strenuous preparation for the summer flight. Country homes are being remodeled and refurnished, and the shops stand, a ready ally to the harassed owner with the ever-present question, "What shall I use this year?"

In furniture, reed and willow confront us on every side. A number of quite new designs have made their appearance, and the shopper is sorely tried trying to choose from so many fine things. There are also many charming designs which originated last year and found such lasting favor in our sight that they have been revived, and in many instances remodeled.



Unusual and charming in type is the furniture that is shown at the top of this page. It is called Chromewald, a name

which explains the furniture better than anything else could do—literally, color-wood. Thus it is seen that this furniture is made with a color finish, a finish which is neither paint nor varnish, and has a charm peculiar to itself, seeming to be a part of the wood. In appearance it is more like a beautifully worn antique piece than anything else.

While it is suitable for either town or country house, its lightness of build and color coolness make it notably commendable for use at this time of the year.

The reed chair next shown is built on excellent lines, as its reproduction here shows. Cushioned in a striped damask of rose, green, and gold, it would be a lovely as well as a dignified chair for almost any room in the country house. Five other pieces belong to this suite—two chairs, a settee, an oblong table, and a table lamp.

Fine French willow is the material



of this low, comfortable chair whose arms and back are in one. Its depth and roominess suggest a quiet hour's reading or a few minutes' chat. A soft finish in any color desired vies with the smoothness of line produced by the weaving of the willow.

Illustrating an excellent treatment for a bedroom done in enameled furniture is the one shown below. The furniture is an old blue which is well supplemented by the biscuit-colored walls. Linen in blue, cream, and rose was used for the inside curtains at the window, with rose gauze for the casement curtains. A blue taffeta bedspread follows the general color scheme of the room. The cushions are of blue, cream, and rose striped taffeta, as is the upholstery of the armchair in the foreground of the photograph. Rose chiffon shades on the candles flanking the



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An exhibition of recent Garden Sculpture

BY

Janet Scudder

APRIL TWENTY-SECOND TO MAY ELEVENTH

THE GORHAM GALLERIES
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New York

mirror bring the only solid note of rose color to the room.

An interesting feature is the dainty little vanity table which is a modern adaptation from the charming powder tables that our great-grandmothers kept in their boudoirs for the powdering of their wigs when the hair-dresser called. Its purpose has changed but little in all these years but its form has changed even less.

It is unnecessary to comment on the room's pleasing arrangement.

Another reed chair of interesting build is this rocker, which is solidly woven, with only one small open space near the top of the back. The feature of the design is the sweeping curve of



the back into the arms. This line broadens as it reaches the seat of the chair, where it returns somewhat suddenly to the simple, narrow binding.

This chair is one of a suite of six pieces containing a smaller rocker like it, an arm chair, a settee, and a round table with a spreading base which is of very graceful design. A table lamp completes the suite. It is all finished in a most attractive bronze. Upholstery of rose damask is the other note in the color scheme. The damask is used beneath the glass table top as well.

Great events in history are told by painters as often as by story tellers and historians. The world war has been no exception to this rule, and painters, poets, novelists, and even designers of



materials for every day use have been inspired to give their impressions of it through their various mediums. Such a one was the designer of the linen which upholsters the French chair pictured here. One section of this linen celebrates Verdun. Another shows Chantecler crowing atop the famous 75. Helmet, rifle, and sabre are intertwined with oak and laurel in one, while the battle flag of France flies triumphant in still another. The red, white, and blue of France is the color scheme.

The chair itself is enameled white with the grooves in the legs alternately striped with red and blue.

J. M. B.

GARDEN FURNITURE

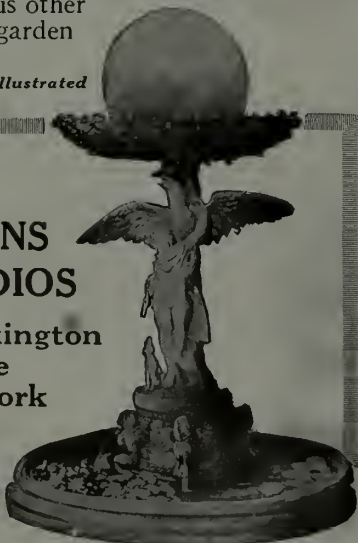
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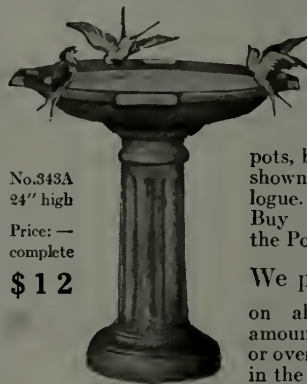


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The Ehrich Galleries

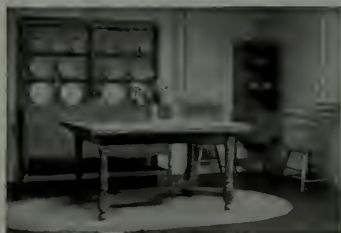
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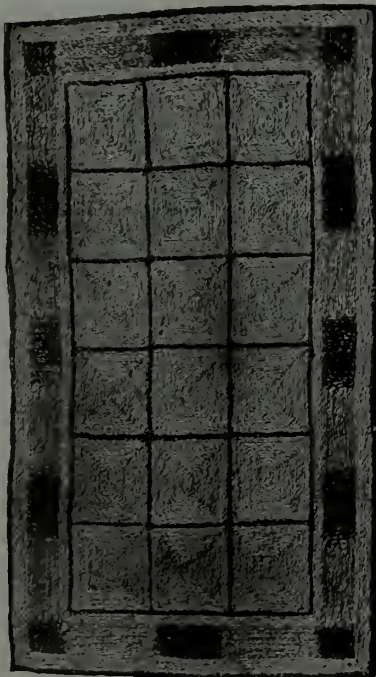
A GROWING interest in lighter furnishings for summer homes has been evinced now for some years. But it is only within recent years that so many different rugs have been made in the lighter styles.

The Colonial rag rug never loses its popularity. Somewhat similar to it is the Scotch art rug which is also woven, but is an all-wool rug. In some of them, as in the rag rugs, special attention has been given to the needs of children by a Mother Goose design in the border.

Rush rugs and fibre rugs, plain and decorated, are to be had in many color combinations. But



quite the most interesting thing on the market in this line would seem to be some new rugs which are made of Formosa wood fibre. They are of Indian inspiration, and made in almost every conceivable design of geometrical limitations. One of their most attractive characteristics is the fact that the rope follows the shape of the pattern, thus emphasizing it in a most interesting way. One of the advantages of this rug is that it withstands any kind of weather. This makes it excellent for out-of-doors use.



The rugs illustrated here are only two chosen from many different designs. The square, the diamond, the triangle, the oblong, all are combined in every known way, it would seem. One especially interesting rug is made up of a number of twenty-inch squares which are sewn together, a row of squares of contrasting weave making the border. Such a rug can be had in any size. A difference in weave or color within the square itself adds interest in many instances.

J. M. B.

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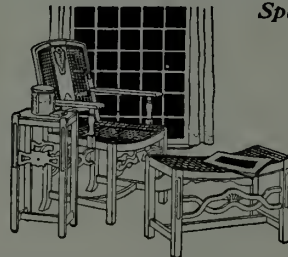
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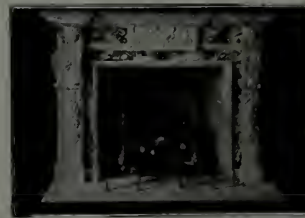


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Sheffield Relish Dish, hand-tooled border. Removable compartments of engraved glass, 14" diameter. Price \$22.00.

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BOSTON CHICAGO SAN FRANCISCO DALLAS

Strengthening Kitchen and Dining Room Relations

HOW can I serve my country?" is on the lips and in the heart of every woman in the land to-day. War work alone not sufficing, she follows the trail blazed by the Food Administration and spends much thought on the personal problem which has become the national one—conservation. Her efforts are to save not only food-stuffs and coal, but also her own time and energy.



Naturally, it is in the kitchen that the housewife starts her reform measures. Cooking utensils being her first consideration, she comes to the conclusion that she must have the article which saves her time and coal by baking the food in less time than any corresponding utensil could do it. Such a dish she finds in Pyrex glassware.



Not the least of the advantages that this specially prepared glass has over other materials is that it is more easily and thoroughly cleaned—an item not to be considered lightly. Then too, it can be served from at the table, which again is an advantage. The pie-plate and covered casserole are illustrated here as examples of the many articles to be had in this ware.

The dining room comes in for its share of im-



provement, and hails the advent of an attractively decorated bread board on its table as an excellent saving measure. Mr. Hoover has asked housewives to cut bread as it is needed. To overcome the difficulty of cutting bread in the kitchen, a slice at a time, and serving it in the dining room, the bread board has been resurrected from the past to come into its own. It has blossomed forth from its long hibernation as a butterfly emerging from its past life, for now it goes bedecked with gay young rabbits racing around its rim in search of elusive carrots. On another one are geese in



dignified parade. These delightful boards come in any color to match the scheme already carried out in the dining room.

Tea wagons have long been a source of comfort to the housekeeper, but the many variations of usefulness in their make-up seem to have been combined in this table-wagon to a degree unknown in any other of its kind. It can be pressed into service as table, desk, or service-cart, and is, for that reason, particularly applicable to the kitchen in war time.

J. M. B.

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By the light sane joy of life, the buckler of the
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Here are shown but a few selections from our large assortment of Summer Furniture. We offer many styles and some models are of unusual design. For those who prefer to match, with their furniture, the color scheme of the various rooms, staining and enameling will give the desired results at slight increase in cost. The following prices are for the Natural finish and *do not include cushions*, an extra charge being made according to material and filling selected.

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4002 (Shade Lining Extra)	14.50
4003 (Shade Lining Extra)	21.00
4004	28.00
4005	4.75
4006	34.75
4007	10.00
4008	12.00
4009	13.50
4010	26.25
4011	17.50

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Announcement



The department of Clothes for the Country will be under the direction of MISS MARION C. TAYLOR beginning with the June issue.



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HERE are plenty of people who consider that the only sort of dog really worth while is the bird dog—the highly specialized pointer or setter. There is good ground for this creed, for there is something inspiring in the sight of a good dog at point on birds. It means so much of intelligence, of physical perfection, of highly developed senses, and it suggests so much of the joys of sport in the open.

For this large and enthusiastic class of people there is a well organized and well supported sport that is gaining new adherents every year—the field trial.

The first trial ever held in this country was in 1874, near Memphis, Tenn. In 1879 the Eastern Field Trial Club held its first meeting on Robins Island, New York. In 1880 their entries included such brilliant contestants as Count Gladstone, Dashing Monarch, and Sensation, whose progeny to-day are racing for supremacy on the prairies of the West, and on the stubble, sedge, and plum thickets of the South. The sport



Celebrated field trial winners: left to right, Ch. Pioneer, Hard Cash, and Ch. Jesse Rodfield's Count Gladstone

has grown steadily, until last year twenty-three recognized field trials were scheduled by a score of thriving clubs.

After the local midsummer trials, the prairie chicken trials begin in North Dakota about the first of September. Early in July hundreds of braces of trained pointers and setters are taken to Manitoba, Nebraska, and the Dakotas, to be worked out on the chickens. Then the Grand Fall Circuit begins not far from the boundary line between Manitoba and North Dakota, and continues till after frost, running down through Illinois, Indiana, Ohio, Kentucky, Virginia, and North Carolina, leaving the winter trials to be run in Tennessee, Georgia, and Alabama. And during this period almost every other state is holding its Amateur Handlers' Trials.

The club holding the trials arranges for certain stakes, often beginning with a Members' Stake, in which the dogs are handled by owners only, the prizes being cups and diplomas. Then there is the Derby, which is for youngsters less than two years old. The chief stake is the All-Age, open to all comers, both previous winners and novices, in a great contest for honors and a big purse. Then comes, usually, a Champion Sweepstake or Subscription Stake, for which only winners at previous trials are eligible. This is always a contest of the great ones and is followed by a big gallery.

These field trials are contests of dogs on actual game. Setters and pointers are put down in braces and are run under rules before judges—usually three—selected by the club. At most of the trials the Derby has perhaps twenty starters, the All-Age thirty, and the Champion Stake fewer. The prizes for the All-Age and Derby are usually \$500, \$300, and \$200 for first, second, and third, with a handsome trophy for the Subscription; or \$500 divided between the winner and the runner-up.

The final classic that closes the Grand Circuit is the National Championship Field Trial. It is a trial of but one stake, and the premier honors, that are dearly won at this event, are coveted by every breeder, owner, and handler in the game. It is always run over the extensive preserve of the Hobart Ames estate at Grand Junction, Tenn., and every year attracts a huge crowd of sportsmen from all sections of the country. As a sport, the field trial stands in somewhat the same class as polo, and its history includes tales of the prowess of some of the finest dogs ever bred in America. W. A. DYER.

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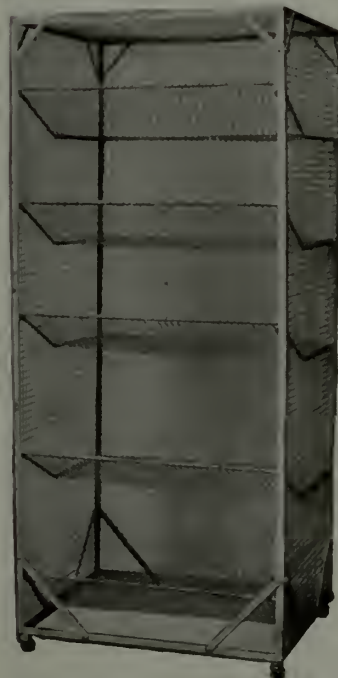
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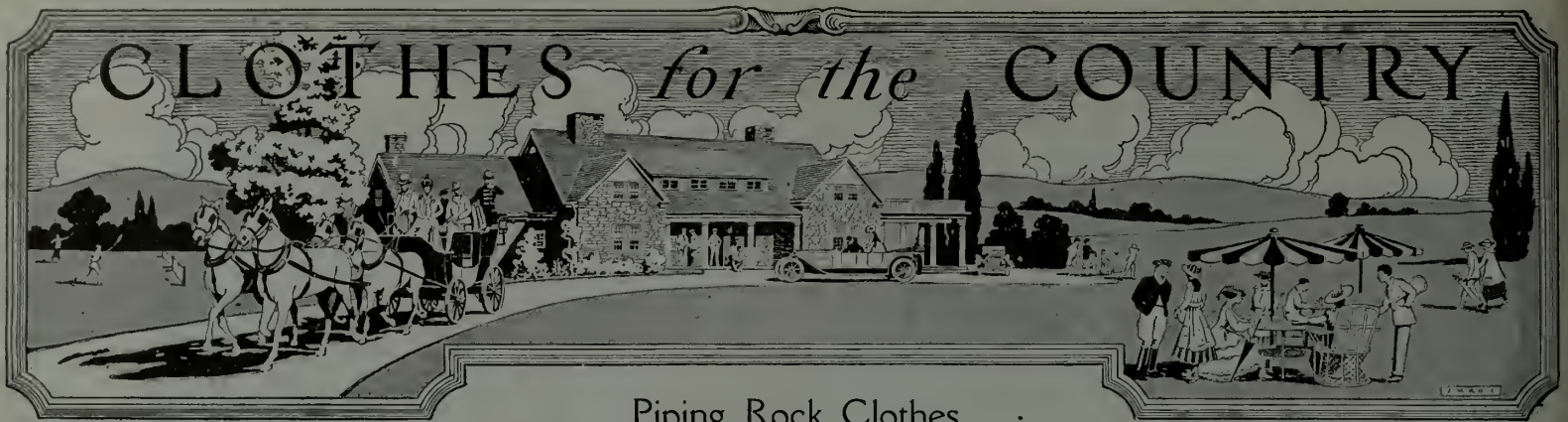
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Piping Rock Clothes

THE brilliancy in the coloring of the sports clothes this season is an eloquent testimony to the development of the American dye industry. The wonderful colors and combinations of various tones of the same color are bewildering in variety. The sports outfit lends itself easily to these brilliant effects so much in vogue at the present time. The tennis suits have skirts in gay plaids, one very striking costume being a plaid skirt in yellow and black on a cream ground, the fine lines of the plaid crossed by two broader stripes in yellow and black. The skirts are less full this season and a bit longer. They have a slit of an inch or two in length in the back seam at the hem to give greater freedom.

A cream colored silk shirt has narrow cuffs and a low collar and is made to be worn under a sleeveless black satin coat. The coat is fastened with two gilt buttons, smaller gilt buttons trimming the edge of the pockets. A soft crush leather belt in yellow or black suede gives an effective touch to the coat and may be worn with a sports hat in yellow straw with a black ribbon band, yellow silk stockings, and black leather tennis shoes.

A quieter costume is in pink and white and is the acme of appealing daintiness. The skirt is in finely plaited gabardine, the shirtwaist in fine white Swiss muslin, the collar and cuffs of which were finished in tiny plaits, and edged with narrow lace. Over this shirtwaist is worn a coat sweater in shell pink silk, with a soft pink silk girdle, ending in two pink tassels. The hat is in pink straw of a modified picture shape with a snood of black satin on the crown.

The train frock which gives most comfort and satisfaction is done in wool jersey with the plain, tight skirt, and long tunic with envelope pockets. A band of embroidery edges the round neck and the sleeves. The pockets, which are envelope in shape, are formed of embroidery in wool of the same shade as the frock or in a contrasting color. These gowns come in gray, dark blue, and tan. The tunic is worn with a soft crush belt and may also be used as a sweater coat over a one-piece silk foulard gown of the same shade.

Another train gown, and one which also will be found useful for the week-end visitor who plays the game of tennis most effectually from the side lines, is made in cotton voile in blue and white design, combined with plain blue voile. A tucked vest and rolling collar in white organdie edged with narrow valenciennes lace is a smart touch. With this costume is worn a small toque in dark blue straw which fits the head snugly and is trimmed with a wreath



A trio of smart tennis fans and a choice of country togs in which the sweater plays a prominent part and the hats are varied and becoming



Miss Katharine Force who has exchanged her tennis kit for the uniform of the Duryea War Relief

in dark blue, the wreath being tied in the back with a tight little bow of dark blue glazed ribbon. A dark blue coaching parasol is carried. The stockings are in dark blue silk, and patent leather ties complete the costume.

Plaid gingham have come again into their own for summer gowns, and will be useful made into train frocks. Gingham are seen in many smart separate skirts to be worn with sweaters and white shirtwaists for the mid-summer sports. A charming one-piece gown in a plaid gingham has a plaited skirt and plain waist finished with a fold collar, and a soft gingham belt. A white piqué vestee is worn with this one-piece model. These plaids come in various colors and will be popular for train wear.

Separate skirts in silk poplin shirred quite full under the belt but hanging in soft, straight lines, are popular this season. These skirts come in black or white. Separate skirts are also seen in washable satin, cut on the same lines as the poplin skirts. The satin skirts are seen in varied colors, such as pale blue, rose, cherry, green, and cream. White sweaters in the cobweb weave or a light, finely woven scarf in the shade to match the skirts are worn with sports hats in fine summer felt in the same shades as the skirts and scarfs. These costumes are very effective on the lawns and grouped about a tennis court, and make the country club a gay affair indeed.

DYES may come, and dyes may go but the white flannels go on forever. A tennis expert so put it when I asked him if men were ever going to vary their tennis togs. White flannels, is all the answer I could get from him. It is almost impossible to make a man change his point of view as to his apparel on the court. The only reason that a tennis player changes his kit is because it wears out. The material is not always flannel, for the trousers are occasionally in serge or linen.

This year the blazer coat of other days is seen on the courts. These coats have stripes in black and red, green and black, or cream and brown, and give an effective touch to the even whiteness of a man's tennis togs. They are light in weight, and provide just the warmth that is needed after the game. The older men are wearing a light tweed suit made with a Norfolk jacket coat. A coat which is very useful, and is being worn by men who are exercising to reduce overweight, is made in white linen, very loose, belted in the back, and sleeveless. These coats are very smart with white trousers to match, and worn over a striped shirt and gay tie. The shirts are in materials that have almost a silk effect.



The Piping Rock Club House

NEWS NOTES

WHEN a nation that has rarely if ever had to concentrate on problems of economy attempts to put the feeding of its people under an Administration and greatly to conserve food supplies, it is bound to hit some snags and, temporarily, suffer the results of misunderstandings. It is presumably such a misconception that has brought about the conditions which the National Dairy Council in a recent conference most justifiably deplors. Its contentions and excellent recommendations, as expressed in resolutions unanimously adopted, may be summarized as follows: Owing to changed conditions it is unnecessary at present to restrict the use of dairy products by employing substitutes, nor does the Food Administration request this. On the other hand, the success and future of the dairy industry require that both consumption and production of dairy foods be increased. The Food Administration is therefore asked to advise the use, wherever possible, of these products; the Government is urged to supply its armed forces with butter and with cheese, state and federal governments are urged to encourage and authorize the formation and operation of cooperative selling organizations of farmers; and in token of its desire to work for the welfare of the nation as well as that of the dairy industry, the Council pledges that for the period of the war "those engaged in producing, manufacturing, and distributing milk and its products will continue to demand only the cost of their operations, plus a reasonable profit."

Early reports indicate a widespread and effective response to this appeal, at least so far as public sentiment is concerned. Developments will be noted in this department next month.

ANOTHER of America's veteran breeders has answered the last roll call. Mr. Henry N. McKinney, of the firm of Ayer & McKinney, well and widely known as the owners of Meridale Jerseys, died suddenly at his home in New York on Sunday, April 28th.



The late Henry N. McKinney

Mr. McKinney and Mr. Ayer were associated in the early days of Jersey breeding in America. Meridale Jerseys became a working herd at Meredith, N. Y., in 1888. In 1890 Mr. McKinney was elected to membership in the American Jersey Cattle Club serving that organization as Vice President in 1892-93 and as Director from 1892 to 1894.

Mr. McKinney possessed a wonderful capacity for making friends. Quick enthusiasm combined with tenacity of purpose made him a forceful character in both the breeding and the advertising worlds. Yet amid the exacting demands of an engrossing business life, he found time for much religious work. His ready sympathy endeared him to a host of friends.

Architects' Directory



If you intend to build and wish your new home to be different from the commonplace and expressive of your individuality, you will be interested in my proposition in regard to special sketches and in the two publications described here. "COLONIAL HOUSES," with new designs for 1918, containing floor plans, perspectives, descriptions and estimates for designs in that ever pleasing style. Price by express prepaid \$2. "STUCCO HOUSES" containing perspectives, and scale floor plans of designs suitable for this imperishable construction. Price by express prepaid \$5. In selecting give brief description of your requirements and they will have earnest consideration. Plans furnished for the alteration of old buildings to the Colonial and Stucco styles. Fireproof dwellings a specialty. Visits for consultation and inspection. Address E. S. CHILD, Architect, Room 1017, 29 Broadway, N. Y. City

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Shows the latest practical development of the garage, farm barn, horse stable, cow stable, sheep fold, kennel, ice house, dairy, chicken house, piggeries, etc. No part of the detail of these buildings is neglected, and there are many pleasing photographs showing their artistic side. SECOND EDITION JUST OUT.

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Estate Manager, Practical Breeder, Farmer and Horticulturist

Now employed on prominent eastern estate wishes an opportunity to develop. Has had twenty years' experience in constructive live stock breeding, landscape gardening, practical farming and development of country places. Seven years in present position. Will consider change for bigger proposition. Address all communications to Box 889, care of Country Life, Garden City, N. Y.

The Readers' Service gives Information about Poultry

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ENGLISHMAN, well educated, open for position as manager of large farm or gentleman's estate. 15 years' experience of practical farming, expert in dairying, poultry keeping on large scale, economical pork production, and a first class knowledge of the science of general farming, crop rotation and soil building, experienced in all kinds of fruit growing, pruning, spraying and tree surgery. A working knowledge of up to date farm machinery, gasoline and steam engines. A good accountant, a man of initiative and resource, of absolute integrity and sobriety and one to be depended upon in a position of trust. Address, Box 900, Country Life in America, Garden City, N. Y.

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BETTER STOCK



NEWS of the BREEDS and the BREEDERS



THE fiftieth annual meeting of the American Jersey Cattle Club—its golden anniversary—was held in New York City on May 1, 1918. In spite of war conditions the officers of the Club were able to report the greatest year's work and the best financial condition that it has ever enjoyed.

A total of 44,887 Jerseys were registered in 1917, and 35,884 transfers were recorded. The books of the Club now show 36,117 breeders of Jerseys, which is the largest number of followers of any one dairy breed in America. The increase of registrations over 1916-7 was 24 per cent., which indicates that Jersey breeders are increasing the size of their herds even in these strenuous times. There are now 721 members of the Club, and new applications are coming in at the rate of nearly 100 per year.

A resolution was adopted authorizing the Club to subscribe for \$10,000 in Liberty Bonds, which increases its holdings of these bonds to \$25,000. The Secretary was instructed to submit to the members the question of changing the date of the annual meeting, a recommendation being made that, if changed, it be made the first Wednesday in June instead of the first Wednesday in May. After Chief B. H. Rawl of the Dairy Division of the U. S. Department of Agriculture reported that foreign cattle-buying commissions were already at work in this country, and that he thought it advisable to take steps to insure nothing but the best stock leaving these shores for their work in war-torn countries, the meeting empowered the Board of Directors to appoint a committee to supervise the sale of Jerseys to any such commissions.

Owing to the possibility of wide variation in the percentage of fat in butter, it was decided that, in the future, results of Register of Merit tests will be given exclusively in terms of milk and butter-fat. This is the system now followed by all but one of the dairy breed associations.

After other business matters were attended to, M. D. Munn of St. Paul, Minn., was reelected president for the coming year; F. W. Sessions of Utica, N. Y., was reelected vice-president; and Geo. T. Chaffee, Rutland, Vt., was reelected treasurer.

HOLSTEIN breeders the country over are looking forward with eager enthusiasm to the great sale of Holstein-Friesians to be held in Milwaukee on June 6th, 7th, and 8th in connection with the annual meeting of the breed association which immediately precedes it. Nearly two hundred animals have been consigned by fifty of the most prominent breeders of the black-and-whites in all parts of the country, and in every case individuality and quality are represented in most generous measure. Despite the fact that a similar sale held last year at Springfield, Mass., was marked by the sale of a five months' old bull calf for \$53,000 and an average of \$2,000 per head, there is a widespread feeling that the 1918 event will see more breaking of records in regard to attendance, interest, competition, and prices too. For the consignment sales of these days are not only business opportunities, but also real educational live stock exhibits which progressive breeders and dairymen can not afford to miss. That the details of the sale will be handled efficiently and to everyone's satisfaction, goes without saying, since the affair, under the auspices of the Holstein-Friesian Association of Wisconsin is also under the sole and personal direction of Mr. H. A. Moyer of Syracuse, N. Y.

An incomplete but interesting advance note of another important Holstein sale to be conducted by Mr. Moyer has just reached us. This is the dispersal of the Balsams Stock Farm herd of Dixville Notch, N. H. The time is early in June, hence prospective participants should immediately write to Mr. Moyer for further particulars.

WM. ROSS PROCTOR, ESQ., of Barryville, N. Y., pushed the record price for a Jersey cow up another notch at Edmond Butler's sale of imported Jerseys at Mount Kisco, N. Y., on May 2d, when, after a few moments of spirited bidding, he offered \$10,000 for Oxford's Briar Flower. The object of this striking tribute is a daughter of Oxford Majesty, made famous by the achievements of his progeny both in the show ring and at the milk pail. She has many notable Island of Jersey records as a butter producer and show winner, and in addition to

Oxford Majesty's Pearl	1,500	buyer	Carter Glass, Virginia
Gambonia	1,500	"	Frank Baldwin, Virginia
La Croiserie's Poppy	1,375	"	J. McGinn, New Hampshire
Pauline May	1,350	"	Wm. Ross Proctor, New York
Imp. Golden Lustre	1,300	"	Ogden Mills, New York
La Ruette Lily	1,050	"	Meridale Farms, New York
Imp. Belle of Oxford	1,000	"	Frank Baldwin, Virginia
April Lustre	1,000	"	Wm. Ross Proctor, New York
Clara's Primrose	1,000	"	F. D. Underwood, New York
The Cid's La Gloire	1,000	"	Meridale Farms, New York
Cid's Lady Nixey	1,000	"	Meridale Farms, New York

Sunray's Princess, a heifer calf, was brought into the ring and auctioned off for the benefit of the Red Cross. She was first sold for \$500, then placed back in the ring and resold until she brought \$1,335.

THERE are now thirty Holstein cows in the forty pound class, two individuals having joined the famous company within a month. Of special significance from the breeder's standpoint is the fact that both are owned by Oliver Cabana's Pine Grove Farm, Elma Centre, N. Y. The first is Korndyke Winona, an eight-year-old daughter of Pontiac Korndyke and Miss Winona Mechthilde, whose seven-day record was 683.4 pounds of milk, 40.28 pounds of butter. The second is Woodcrest Nig de Kol, six years old, and a daughter of Segis Fayne Johanna, the only cow of any breed that has ever yielded fifty pounds of butter in a week. Nominations for new members in the class are now in order.

WHENEVER the name of Sophie 19th of Hood Farm is mentioned, Jersey breeders can well sit up and take notice, for both as a breeder and as a milk producer she is truly a "queen of the dairy world." There is, therefore, especial interest and significance attached to the announcement that an auction sale of Sophie's progeny is to be held at her home, on June 1, 1918. Catalogues and information can be obtained from Manager J. E. Dodge, Hood Farm, Lowell, Mass.

THE Ayrshire Breeders' Association has prepared and published a complete list of its officers and members, the latter classified by states, which can be obtained by those interested from its home office at Brandon, Vt.

BOTH the Atlantic and Pacific coasts are represented by individuals who have recently added noteworthy tests to the Ayrshire records. At Mr. A. Henry Higginson's Middlesex Meadows Farm at South Lincoln, Mass., Rosella Webb has completed a senior four-year-old record with 16,721 pounds of milk, 682.21 pounds of butter fat to her credit. She was bred by S. S. Karr & Son, is the daughter of Earl's Choice of Springhill who ranks third among H. R. sires, and has the splendid average for three consecutive records of 12,418 pounds of milk, 517.63 pounds of fat.

At the other end of the continent Willowmoor Farm of Redmond, Wash., comes forward with three very creditable records which, made by cows bred on the farm, show the success that is attending its consistent, constructive policy. Willowmoor May Mischief 2nd has recently made 14,557 pounds of milk, 545.34 pounds of fat; Willowmoor Lily 5th has completed a test with 14,577 pounds of milk, 662.53 pounds of fat; and Willowmoor Woodbine completes the trio with 17,692 pounds of milk, 707.75 pounds of fat.

THE success that has attended the Guernsey Roll of Honor during its first year suggests that this means for identifying and honoring superior animals is going to become as popular and important as the Advanced Registry system itself, of which it is an outgrowth, and which,



Oxford's Briar Flower, the world's highest priced Jersey cow, for which Mr. Wm. Ross Proctor paid \$10,000. The former record of \$7,000 was held for seven years by Lady Viola

being a cow of good size, with large, deep body and strong constitution, she has the refinement of type that is characteristic of the breed. Her large, well-placed teats and her wonderful udder stamp her as one of America's most valuable Jersey acquisitions. Previous to the Butler sale the highest price paid for a Jersey cow was \$7,000, for which Lady Viola was sold in 1911.

This epoch-making sale was held the day after the annual meeting of the Jersey Club. Optimism as to the future of the breed was everywhere in evidence and the sales ring was the scene of the wildest excitement and the greatest outburst of enthusiasm that has ever prevailed at a Jersey gathering. There were a number of new faces in the ranks of the bidders, and the keen competition quickly ran the bidding for the worthy animals up to prices well beyond anything yet received.

The Butler importations, numbering originally ninety-five head of Jerseys, had been reduced somewhat by the sinking of a ship by which thirty-five animals were lost, but those arriving on this side brought the greatest average price ever obtained at a public auction. Sixty head were sold for \$60,115, an average of more than \$1,000 per head, and nineteen animals sold at \$1,000 and over per head, as follows:

Oxford's Briar Flower	\$10,000	buyer	Wm. Ross Proctor, New York
Oxford Gipsy's Lad	2,700	"	C. C. Wehner, Minnesota
Greenfield Brand	2,610	"	Murdale Farms, Ohio
Les Prairies Bessy	2,200	"	Bull & Son, Canada
Molly's Dolly	2,000	"	F. D. Underwood, New York
Eventide's Lassy	1,750	"	John Pringle, Canada
You'll Do Blanchette	1,700	"	L. V. Walkley, Connecticut
Wardress Queen	1,700	"	Ogden Mills, New York

it will be recalled, was started by the Holstein Breeding Association and soon afterward adopted by the other breeds.

The Roll of Honor, it may be said for the benefit of those who are not fully informed about it, includes those cows which, in addition, to fulfilling the A. R. requirements of their respective age classes, also carry calves for at least 265 days of their test periods. The names and records of the leading ten cows in each class (designated by double letters instead of the single letters that identify the A. R. classes) are published in each issue of the *Guernsey Breeder's Journal*. The significant fact is that since July 1, 1917, twenty-one cows have won places in the Roll of Honor, while but nine names have been added to the "single letter" classes. In other words, owners recognize the value of an animal that makes its mark as a combined producer and breeder, and are actively striving to have as many of their animals as possible awarded the palm for such dual ability.

Among the cows that have recently entered the lists of class leaders in this group are Clare of Gerar, 49122, of Gerar Stock Farm, Maryland; Nivollette of Harbor Hill, 52916, owned by Clarence Mackay; Imp. Rose of the Russel, owned by L. H. Baker, of Ohio, and Imp. Grand Fort Pride III, 60614, owned by Edgemoor Farm, of California.

THE longer that the premier place in any list of champions is held by one animal, the greater is the satisfaction of the owner of the individual that finally succeeds to the position. On this basis Mr. Frank Graham Thomson of Devon, Pa., can well feel proud of his two-year-old Guernsey, Brookmead's Dorothy, who has recently become leader of class G in the Advanced Register, ousting Cherry of Edgewater who has enjoyed the honor for the past three years. The record of 14,179.4 pounds of milk, 742 pounds of fat, with which she accomplished the task, together with her splendid breeding, entitle her to recognition as one of the greatest cows in the May Rose family; it also had its effect in bringing a price of \$3,000 for her bull calf, purchased when but four months old, by Mr. Henry J. Krebs, Bredablik Farms, Wilmington, Del.

THE first call has been sounded for the National Dairy Show of 1918, and progressive breeders will lose no time in beginning to formulate plans for their participation in its success. It will, of course, reflect the national movement for the vigorous prosecution of the war and the amelioration of war conditions. Nor can the importance of the dairy cow in this connection be easily overemphasized. Both as a producer of food directly and as a means of bringing the soil to a point of greater productivity, she is an invaluable asset of the agriculture of the nation. The Show will also take note of the inevitable after-the-war demand upon this country for food—a demand that we must be able and prepared to meet. For the second time the Show will be held at Columbus, O. The dates will be October 10th to 19th, and right now is the time to begin to plan for it.

THERE has recently been received in this country a new guide to the herds of Kerry and Dexter cattle in Ireland, with descriptions of each of them and also valuable descriptive and historical notes concerning the two breeds. The pamphlet is issued by the Kerry and Dexter Cattle Society of Ireland, and may be secured from Wilson, Hartnell & Co., Dublin, for a shilling per copy. Any one already familiar with or interested in these little animals will find it a decidedly worthwhile publication; breeders and dairymen in general are likely to find in it sufficiently striking and significant statements to warrant the development of such an interest. Note, for instance, in view of the present-day cost of feeds, the following paragraph: "Kerry and Dexter cattle in their native elements, as a rule, receive no concentrated food, and thrive well on natural food,

provided the grass is plentiful and of fairly good quality. On poorer pastures artificial food may sometimes be found necessary, especially for the milking cow and for fattening purposes during the winter. On ordinary, medium land, under ordinary economic management, the highest ration of artificial for the milking cow in winter should not exceed five pounds daily, and for the fattening animal of twenty to twenty-four months, six pounds at end of fattening, with the usual roots and hay or straw."

OF GREAT interest to breeders as well as feeders is the decidedly novel method of feeding beef cattle, worked out at, and now unequivocally endorsed by, the Missouri College of Agriculture. The striking feature of the system, which is called "the greatest departure in cattle feeding that has come within the last twenty or thirty years," is the feeding of corn solely in the form of silage. Corn meal has long been considered an essential part of any fattening ration, but a recent test, in which a bunch of steers that received an average daily ration per steer of 2.77 pounds of linseed oil cake, 2.54 pounds of clover hay and 45.48 pounds of corn silage (and that made a profit of \$15.04 per head), and easily led all the other groups, has proved the economy and efficiency of the new method. The financial gain in the form of results, and the saving of time and labor in the raising and utilizing of the corn crop give it tremendous importance and value, both as a war measure and as a factor



Mr. F. G. Thomson's two-year-old Guernsey, Brookmead's Dorothy, who has recently become leader of Class G in the Advanced Register

in successful farm management at any time. Complete details can be obtained from Bulletin 150 of the College, which is located at Columbia.

MR. F. A. CRABB, formerly manager of the Colt Farm, Bristol, R. I., has resigned his position to take charge of a new department in the Quaker Oats Company, namely that of expert swine feeding. This is another instance of the foresightedness of "big business" in adding to its forces practical authorities whose ability and knowledge are reinforced by successful experience along just those lines that make them of greatest possible usefulness, both to the concern itself and to those with whom it deals.

ANOTHER personnel note of interest to live stock men is to the effect that Mr. A. H. Tryon, until recently field representative of the *Breeders' Gazette*, and formerly manager of Tannenbaum Farms, Willoughby, O., has succeeded Mr. John Livingstone as manager of Strathglass Farm, the home of the splendid Ayrshire herd of Mr. Hugh J. Chisholm, at Port Chester, N. Y.

SHORTHORNS and their breeders promise a substantial contribution to Red Cross funds, as the result of a sale of high class bulls that is to be held at Birmingham, Ala., early in June. While the Red Cross will profit by the entire proceeds of the sale, as well as the various unique features that are being arranged for in

connection with it, the live stock industry of the South and of the entire country will also derive great benefit from the distribution of the animals throughout the state. The bulls, and a few females that are also to be disposed of, have been contributed by more than fifty breeders, mostly located in the Central States. The sale will be managed by Mr. V. L. Derby who has already done much to promote the distribution of Shorthorns over the Southern territory.

THE increasing popularity of futurity classes in our live stock shows is indicated in the fact that \$8,000 has been appropriated by the American Shorthorn Breeders' Association for these classes alone in 1918. They will be features of the Iowa and Ohio State Fairs, the American Royal and the International Live Stock Exposition, and since twenty awards will be offered in each class, the opportunity presented to breeders, both old and new, is decidedly inviting. Entries for senior classes have closed, but those for the junior classes will remain open until June first.

The generous provisions for this one feature have not, however, involved any reduction in the amounts offered in other classes. On the contrary, the total appropriations for all Shorthorn cash prizes during the coming season will reach, if not actually exceed, \$200,000.

THE Percheron Society of America is the authority for the statement that between August, 1914, and February, 1918, 983,899 horses and 343,435 mules were exported to Europe; and that between May, 1917 and April, 1918, more than 300,000 head were purchased by the United States Army. Since this period marks but the beginning of our active participation in the war, it may be expected that the continuation of hostilities for two or three years more will witness the use of fully as many again. Even with the dawn of peace there will remain a demand for horses—good horses—especially of the medium to heavy type, for all sorts of industrial activities. It is one of the responsibilities that rest upon farmers and breeders that they shall provide these horses, as rapidly and in as great numbers as they may be needed—both for the defense of the nation and for its upbuilding and maintenance. But as it is a responsibility, so also is it an opportunity with but one essential condition: the horses, to prove useful to the user and profitable to the producer, *must be good ones*. This means, first, sound mares in good condition; second, the right sort of care for mare and foal; and third, but of supreme importance, the use of a sound, pure bred stallion of the best quality available.

DESPITE all the criticism about the delays in providing for the wants of our boys in the new National Army, little incidents are constantly bobbing up to show that Uncle Sam is pretty thoughtful and watches out carefully for his nephews. One of these incidents comes from Arkansas. Dr. G. F. Putney of the Camp Pike Base Hospital, recently went up into Wisconsin and returned with twelve of that state's fine Holstein cows. Space for a dairy has been set off by Major Upshur, in charge of the hospital, and men detailed to care for the cows, the milk from which will be used exclusively for patients.

IN THESE days when every article of food has taken on new and increased value, an additional hundred pounds or so on a beef carcass is a matter worthy of serious consideration, and the good dairy cow that carries a generous load of flesh is bound to become more popular. A young registered Holstein heifer was bred to freshen last May. When she failed to develop an udder as calving time approached, an examination showed that she was carrying a mummified calf and was therefore unfit for breeding purposes. She was kept till fall, then sold for beef at the Buffalo (N. Y.) stock yards, where at two years, ten months of age she weighed 1,580 pounds and brought \$201.45.

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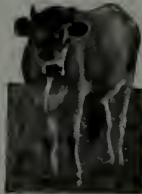


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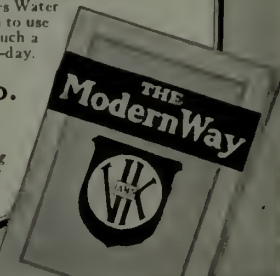
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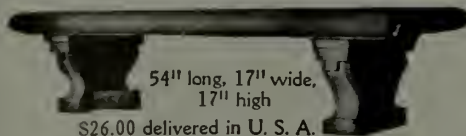
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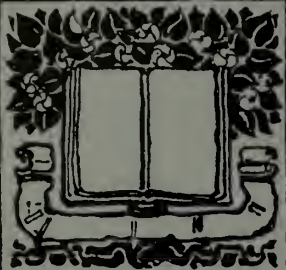
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A NOVEL OF TIMELY HISTORICAL INTEREST

Through the movements on the vast check-board of the world war an especial timeliness is given to Selma Lagerlöf's novel, "The Holy City," which is laid in Jerusalem. The pages of the book are filled with descriptions of the very ground over which the British have been advancing recently, and some of the most dramatic and heart-rending incidents in the story take place upon the slopes of the Mount of Olives where there has been such desperate fighting. Thus does this novel serve as a link between the days of Our Saviour, when this ground was consecrated for all time, and the present, when it is reclaimed from the Moslem for Christianity and Judea.

While "The Holy City" is a novel complete and independent in itself, it is yet a companion volume to Miss Lagerlöf's classic "Jerusalem." The story carries the Dalecarlian peasants, whom the reader met in the novel, "Jerusalem," to the Holy City, the objective of their pilgrimage, and here we see the great drama carried to its inevitable conclusion. The story in itself is historical, having been based upon an actual Dalecarlian pilgrimage to a colony which was maintained in Jerusalem by a company of Americans headed by a Mrs. Judge Spafford of Chicago—the Mrs. Gordon of "The Holy City."

So great was the suffering of the Dalecarlians in the Holy Land that the Swedish Government finally became alarmed for their welfare and commissioned Selma Lagerlöf to go there and investigate. In the days before the war, when Americans frequently visited the Holy Land, the colony was one of the places they always went to see, and those who have this memory will recognize familiar faces and places in "The Holy City."

O. HENRY INTELLIGENCE

It is an interesting comment upon the place that O. Henry has created for himself in American literature that the Twilight Club of New York, made up of distinguished people from all walks of life in the city, should have given a dinner a few days ago, at which the topic of discussion was, "O. Henry, His Life and Works." At this dinner various men who knew O. Henry in the life held spellbound more than two hundred and fifty discriminating New Yorkers with stories of this big-hearted American writer. Richard Wightman, in reading a couple of his poems to O. Henry never before given to the public, made a plea for people to send O. Henry books to the soldiers in the trenches.

A collection of a dozen or so O. Henry's letters to William Griffiths written to the latter while he was editor of *Hampton's Magazine* recently were put up at auction and the proceeds invested in Liberty Bonds, which Mr. Griffiths then donated to the Red Cross. The bidding was sharp and the prices brought

ranged from \$65 to \$165. The letters were more than routine business correspondence, for Griffiths was also a personal friend of Porter's and in them he put much of himself, and much of the whimsical humor which characterizes his work.

The collectors, it seems, are not missing any opportunities for picking up first editions of O. Henry according to word from Asa Don Dickinson, in charge of the Hoboken Dispatch Office of the American Library Association Library War Service. "This office," he says, "is daily in receipt of appeals from book collectors and dealers for first editions of O. Henry."

The unfortunate part of the situation, according to Mr. Dickinson, is that he is receiving practically no O. Henry books. "We receive in donation the books of practically every other author except O. Henry," he says, "but apparently people refuse to give up their copies of 'The Four Million,' 'Rolling Stones,' 'Heart of the West,' etc. Shame on them. They ought to send their old copies to the soldiers and buy new ones."

TO THE WEST POINT OF FRANCE

Many of the readers of the book of that inspired French soldier, Lieut. Antoine Redier, have asked us why it was that in making the translation of "Comrades in Courage," Mrs. Philip Duncan Wilson, who is responsible for the rendition into English, did not also translate the sonnet, "La Gloire," which appears in the chapter on "Duty."

Mrs. Wilson is a French lady, for years a resident of this country, though now in France, where her husband, an American surgeon, is also; and when we asked her this very question about "La Gloire," she replied: "I could not attempt to put that into English. That is something you feel—or you don't. It is a sonnet to the West Point of France, and I leave it in its original French for those who can take it first hand."

Not so Miss Edith M. Thomas, who, in writing us a letter about "Comrades of Courage," in which she referred to the book as "that most moving of French soldier monographs," enclosed the following excellent translation of the sonnet, which we are sure will be appreciated by all readers of Lieut. Redier's book:

GLORY

To see if well the school deserved of her,
Glory descended at Saint-Cyr, one day.
The good Saint-Cyrians with a welcome gay
Paid homage to the Immortal Visitor.
That she was beautiful—they valiant were—
Was mutual joy; and, ere she went away,
She set a plume, pluck'd from her wing'd array,
On every helmet, as remembrancer.
Long time we wore them, till a battle eve
When one of us his death-wound did receive,
And, dying, took his plume, and laid it there,
That it in blood might be baptized, and blessed.
Since when—oh, proud insignia!—we wear,
On each blue cap, a white and crimson crest.

AMERICAN DIPLOMACY

One of the things this war is accomplishing is the acceleration of interest among all classes of people in the history, not only of Europe, but of our own country as well, and what will seem strange to a great many people is that their studies will reveal that the United States has been much more intimately connected with the world-wide actions and reactions of international diplomacy than most people would think.

A suggestive little book on the subject is Ralph Page's "Dramatic Moments in American Diplomacy," which we have just published and which contains some delightfully informal "inside" history. In a chapter devoted to some of our strained relations with Germany in past years, the following paragraphs may be of interest:

A survey of the actions of the Imperial German Government which are the basis of the deep-seated conviction of our Department of State that the Hohenzollern dynasty has far-reaching designs upon the integrity of American soil and the inviolability of the "American System" reveals that they date from the decision of the Kaiser to drop Bismarck, the great pilot. The Iron Chancellor developed to its deadly conclusion the brutal policy of the Great Frederick, and deserves the lion's share of the discredit for the fatal ambition for conquest and dominion that has undermined the Teutonic character.

Venezuelans owed the Germans some money. The Germans had "claims" against them. Claims constitute the principal commodity as well as supply the principal topic of all talk—social, political, or merely casual—in this interesting country. But even a Venezuela claim has this in common with the ordinary variety. It has two sides. It is capable of producing a difference of opinion concerning its validity and volume. Of course, any one will have to agree, however, that a claim held by the Kaiser is another matter. For, obviously, there exists no living human, not to mention Venezuelan being, capable of doubting the Kaiser's decision upon any subject, much less a claim. Since Venezuela had the audacity to delay and dispute payment a great opportunity had arrived. Out went the demand, and hard upon it came the invincible Armada.

John Hay, Secretary of State, taking note of this affair, pointed out that the United States had an ancient rule, by which they set great store, to the effect that no excuse would do for invading American soil. The Kaiser politely replied that if he found it necessary to take Venezuelan territory it would only be for "temporary" occupation.

Mr. Roosevelt, then President, has since written an explanation of how the American Government curbed this gesture of German against the United States. It was known that our whole battle fleet was gathered near Porto Rico for "manœuvres," but it was known only to the Secretary of the Navy, Admiral Dewey and the Secretary of State that the President had ordered the fleet to be ready to sail at an hour's notice. The President then put this matter squarely up to the German Ambassador, Herr von Holleben, and after some negotiation the American Government received word that the German Emperor would submit to arbitration after all. But Von Holleben was recalled to Germany in disgrace!

The New Country Life

CONTENTS - JUNE, 1918

Subject Index

Aid for Cavalry, 72
 Antiques, 74
 Art, 49
 Attracting Birds, 80
 Audubon Society Headquarters, 56
 Automobile, 90

Bees, 66, 102
 Bird Conservation, 56, 80
 Bird Propagation, 56
 Briggs House, 41
 Brown Trout, 68

Camouflage, 27
 Chamberlain House, 70
 Country Houses, 41, 70
 Cretonnes, 54
 Cup Plates, 74

Dairy Cattle, 12, 13
 Dogs, 64, 100
 Draperies, 54

Essays, 48
 Estate Management, 61

Farming, 48, 52, 57
 Fishing, 68
 Fish Skin Shoes, 72
 Flasks, 74
 Food Production, 52
 Forestry, 72

Garden Shelters, 44

Honey to Save Sugar, 66
 Honor Rations, 72

Interior Decoration, 54



Mr. Clare A. Briggs, the well-known cartoonist, whose house is described on page 41

Subject Index

Legion of Loyal Women, 72
 Live Stock, 11, 12, 13
 Lubrication, 90

Man's Camouflage, 27
 McKinney, Henry N., 11
 Motor Boats, 59
 Mushrooms, 48

Nature, 27, 48, 78, 98
 Nature's Camouflage, 27
 News of Breeders, 11, 12, 13

Obituary, 11
 Outdoor Sports, 68

Paintings, 27, 49
 Pictorial Flasks, 74
 Pigs, 57
 Poultry Feeding, 96

Reindeer Meat, 72
 Root Crops, 52

Sales, 12, 13
 Sap, 98
 Sealyham Terriers, 64
 Stock Raising, 57
 Stones in Plants, 78
 Summer Houses, 44
 Sweet Potato Storage, 72
 Swimming Pool, 94

War Dogs, 100
 War Time Estate Management, 61
 War Time Rations, 96
 Women in War Time, 61

Article Titles and Authors

Cover Design - - - -	Charles Livingston Bull	
Nature's Camouflage and Man's	Captain Aymar Embury, II, U.S.R.	27
My Home and Why it is Different	Clare A. Briggs	41
Garden Shelters - - - - -	Ruth Dean	44
From a Country Window - - - - -		48
A One-Acre Club; Time and the Days; Mushrooms for Breakfast		
American Pastoral Paintings by Walter Clark, N.A.		49
Last Call for Food Production -	F. F. Rockwell	52
War's Reaction in Decorative Art	René T. de Quêlin	54
A Rendezvous for Birds and Their Friends	Herbert K. Job	56
The Pig as a War Bride - - - -	J. E. Dodge	57
What the War is Doing for the Motor Boat	Lawrence Perry	59
A Course in Estate Management for Women in War Time—II - - - - -	Elma Loines	61
The Sealyham Terrier - - - -	Walter A. Dyer	64
Honey Bees to Save Sugar -	Susan E. Howard	66
Golden Days With the Brown Trout	Warren H. Miller	68
The Home of Joseph and Elizabeth Chamberlain		70
Here and There - - - - -		72
Pictorial Flasks and Cup-Plates -	Walter A. Dyer	74
Stones in Plants - - - - -	S. Leonard Bastin	78
What a Suburban Community Can Do for the Birds - - - - -	Alden Fearing	80
Engine Lubrication - - - -	Alexander Johnston	90
A Swimming Pool While You Wait	Marvin Campbell	94
War Time Poultry Rations -	E. I. Farrington	96
The Uprush of Sap - - - - -		98
War Dogs in the U. S. A. - - -	Walter A. Dyer	100
When the Bees Begin to Rob -	E. I. Farrington	102
News of the Breeds and the Breeders - - - -		12

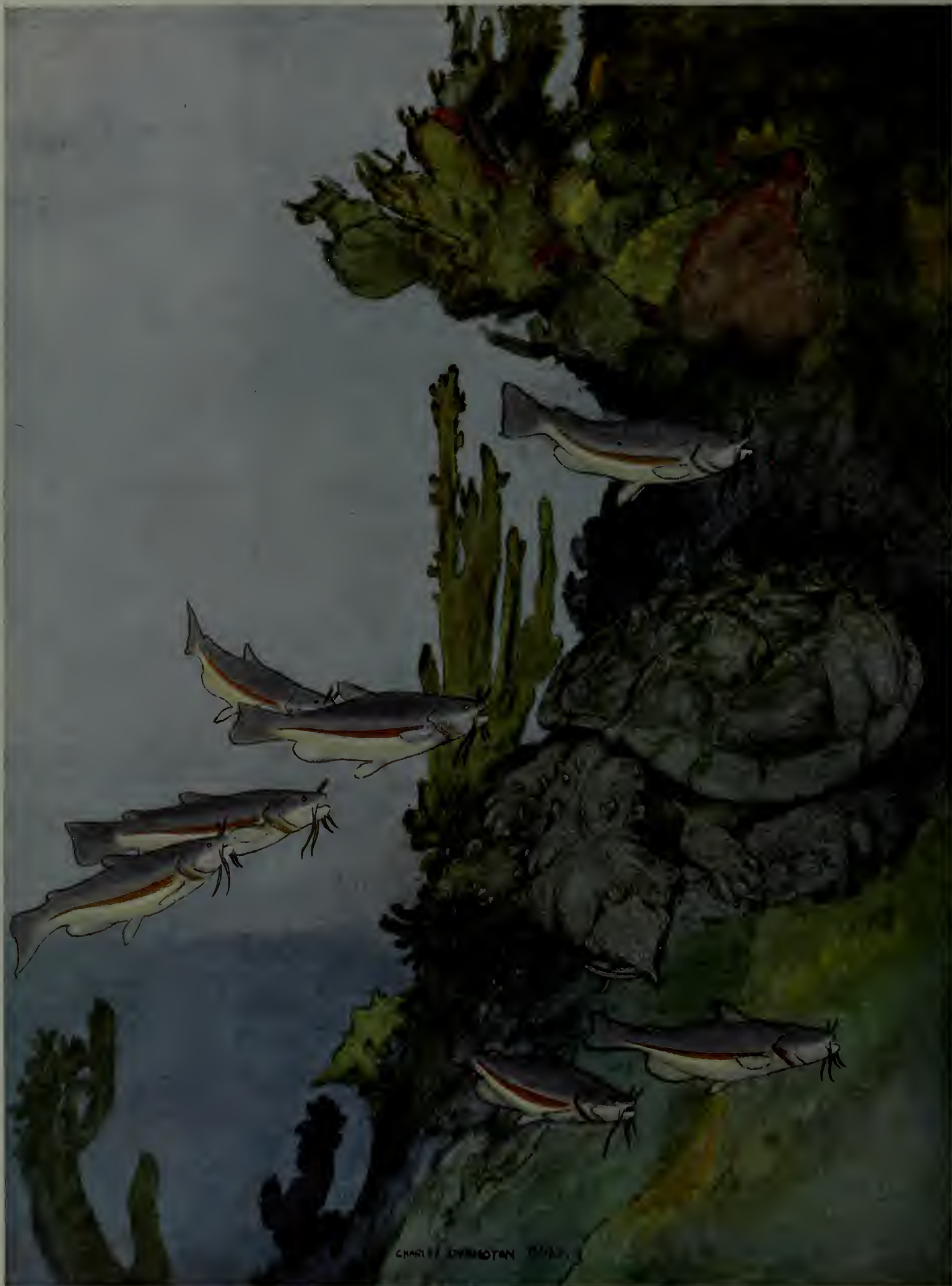
HENRY H. SAYLOR, EDITOR

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THE MATAMATA TURTLE OF SOUTH AMERICA, WHOSE EXCRESCENCES, WITH THE SEAWEED GROWTH ON ITS SHELL, MAKE IT PRACTICALLY INVISIBLE TO THE SMALL FISH THAT IT SEIZES FOR FOOD

The New COUNTRY LIFE

VOLUME XXXIV

June, 1918

NUMBER 2



The nearer hill is a canvas-covered wooden frame cut to imitate the sky line, painted to imitate the landscape, and set up to hide from enemy observers a stretch of exposed road

NATURE'S CAMOUFLAGE *and* MAN'S

By CAPTAIN AYMAR EMBURY, II, U. S. R.

Illustrations by CHARLES LIVINGSTON BULL



IT IS an interesting fact, perhaps not commonly known, that the men whose researches developed the theory on which all camouflage is based were Americans, and that

their studies were made primarily as contributions to natural history, although they were painters as well as naturalists. Mr. Abbott Thayer was perhaps the first to take issue with Darwin's theory of the development of animal coloration, and was certainly the first to think out the subject so clearly and express his conclusion so forcibly that the whole scientific world has adopted as final his conclusions, at least in part, discarding the Darwinian theory of sex attraction as the dominant factor except as an explanation of special cases. Another painter-naturalist, Mr. Louis Fuertes, together with Dr. Chapman of the American Museum of Natural History, have in their studies of bird life carried Mr. Thayer's theories into detail, and through their admirable publications, both scientific and popular, have made them common property.

It is therefore fitting that military men should have turned to the artist-naturalists for information on camouflage, and should have placed artists in charge of



The pig knows that the farther log is harmless, so why should he suspect the nearer one of being an alligator?

military camouflage, not in the United States alone, but in England and France as well, and I believe also in Germany. In this country the camouflage, both naval and land, is being done largely by artists with the assistance of men of kindred professions, such as the stage and architecture; and we have been fortunate in having had the advice and assistance, in so far as knowledge of animal coloration is valuable, of Mr. Thayer and Mr. Fuertes.

I cannot pretend to speak with any authority on natural camouflage, for I have not studied the question of protective coloration of animals except as it has appeared to contain solutions to problems which were analogous to those occurring in military camouflage; but there is one fundamental in which nature's camouflage differs from man's and which must be constantly kept in mind in comparing the two—that is, that animals are protected mainly, but by no means entirely, by simulation of color alone, and men by imitation of natural objects in form as well as in color. In other words, most animals are protected by coloring their natural forms, while man hides behind forms which are utterly unlike his own, which may be of shapes built up of papier maché or plaster of paris, or which may be natural objects cunningly arranged to



THE SNIPE—
If it were not for the fox's keen scent he would pass the snipe
hidden in the grass without ever knowing that it was there



CHARLES LIVINGSTON DULL

—and THE SNIPER

In a baggy suit of burlap to which grasses are sewn, the sniper, lying out in No Man's Land, could almost be stepped upon without being seen

afford a hiding place. These things may be protectively colored, or they may be left uncolored; natural objects certainly would not be colored at all. Now there is no animal so far as I know which sets up or surrounds himself with artificial concealment, and that is precisely what man does, to hide both himself and his machines, whenever it is possible. In all cases where it is impossible to cover himself with something else or to hide his guns, tanks, and cannon behind screens of grass or trees or ruined buildings, he must perforce resort to protective painting so arranged in pattern as to disguise the actual form as much as possible, and to blend as well as may be into the surroundings.

In the earlier days of the war, protective coloration played a great part; observation was then horizontal to a much greater extent than at present, and in consequence the protective coloration as found in animals played a much greater rôle than now, when most observation is from airplane, and most camouflage is against vertical observation from above; but camouflage as used in modern warfare is based on the principles so ably described and so clearly explained by Messrs. Thayer and Fuertes.

I am going to say very little about nature's camouflage, since were I to write about it at length I should inevitably make mistakes which would be ludicrous, and further because I am told by naturalists in whom I place confidence that the Darwinian theory of coloration as a result of natural selection cannot be wholly laid aside, and as my opinions on the subject are of no value I must accept what I am told. These scientists say that we cannot account for all animal coloration purely on the ground that those species best protected alone survive, but that certain animals and birds wear garments which are probably the result of other causes. The male scarlet tanager, for example, at certain seasons is crimson with black wings, while the female is yellowish green. As there is little or no difference in the habits and enemies of the male and female of these birds, there must be some reason, other than protection, which has led to the lovely coloring of the male alone.

Nevertheless the general rule in the animal world is that animals and birds (and fishes too, for all I know) are colored so as to lessen their visibility

either to the other animals who prey upon them, or to the animals upon whom they prey. The latter case has been usually overlooked by the general public as an explanation of the marking of certain animals, and was called to my attention by Mr. Louis Fuertes. We are accustomed to thinking of animal coloration as being a protection on the defensive only, whereas, it is really in many cases a concealment of the attacking animal; and the same parallel occurs in military camouflage, which is used both defensively to conceal roads and ammunition dumps from attack, and to conceal attacking material such as guns and snipers.

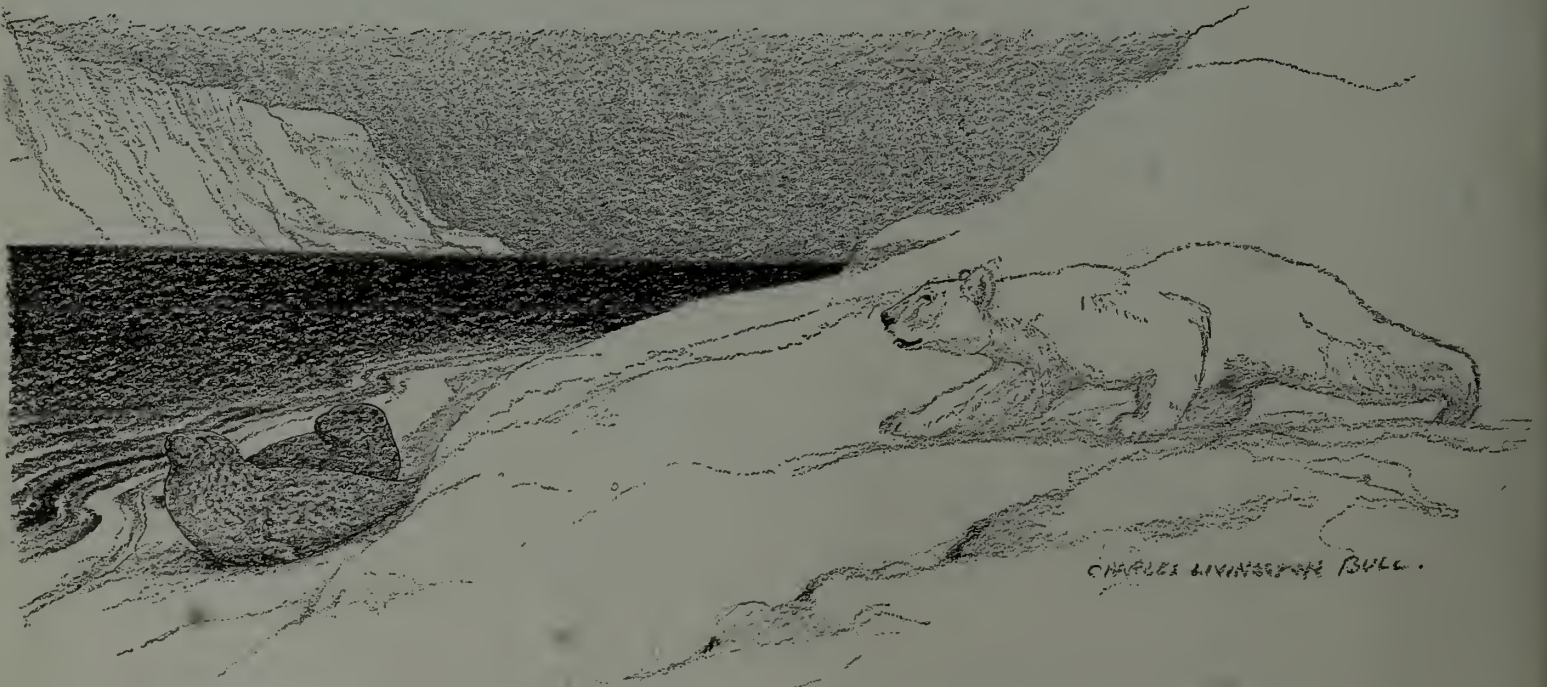
Many peculiarities of animal coloration which cannot be explained as protective may be explained as concealment while on the offensive; in considering animal coloration one must remember from what viewpoint the animal is to be seen, and the attending circumstances. Thus the skunk, which is marked in strong blotches of black and white, is perfectly visible in the daytime from the height of the human eye; but it is a nocturnal animal, and at night, viewed from the height of the small animals upon which it preys, is seen through the underbrush against a back-

ground of sky, so that it is practically invisible, because the black patches of fur are of irregular outline and the white looks like the sky between them. The same thing is true in ship camouflage; the ships are painted to deceive an observer, not on the deck of another ship, but at the height above the water normally occupied by the periscope of a submarine.

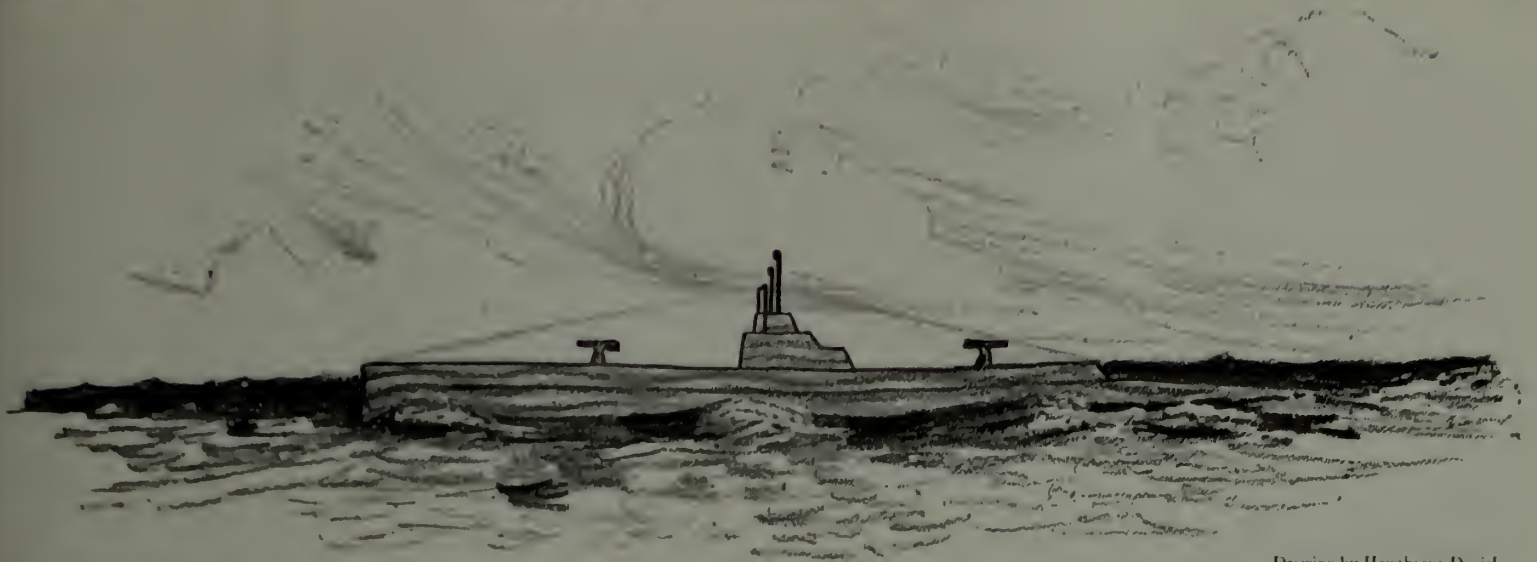
In land camouflage also, the first thing to be considered is the probable position of the observer: whether he is in a dugout looking through a periscope a few inches above the ground; in a tree or on a hillside fifty or more feet above the object to be concealed; in an observation balloon a thousand yards in the air and a mile away; or in an airplane three miles in the air and directly overhead. Since of all these points of observation the airplane is that to be guarded against in the generality of cases, one very important element of animal camouflage, counter shading, enters but little into military camouflage. Counter shading may be defined as a system of coloring which tends to neutralize the effect of shadows and high lights in the usual lighting of round



In his white costume the Italian Alpine sentinel is inconspicuous, provided he does not appear to the enemy with the sun at his back



The white coat of the polar bear enables him to creep through snow and ice close enough to the seal so that he can catch him with a rush



Drawing by Hawthorne Daniel

The submarine has little need for camouflage—its best chance of escape lies in submerging. With the wave-like striping upon its hull and its few shadows neutralized, it may lie upon the surface invisible even at a comparatively short distance.

bodies. Everyone knows that a horizontal cylinder is darkest at the bottom and lightest at the top; counter shading colors the tops dark and the lower sides light, so that they will be nearly equal in color under average lighting. It will be noticed that practically all animals and birds which are not nocturnal have bellies which are much lighter than their backs, and that in many of these cases the bellies are quite white; this is evidently so that the roundness of the body of the animal is not made obvious by the shadow on the lower sides. In many animals the counter shading is combined with blotches of color to destroy the silhouette which a uniform color produces when viewed against either a broken color background or a unitone background, and it is this principle which has been adopted in part for the concealment of guns; the roundness of the barrel is hidden by painting the lower side a light color and the top part dark, while the silhouette is confused by blotching the barrel and the carriage with spots of irregular color of the same general hue as the background, but of various tones, some light and some dark, resembling in general the colors of the surroundings as seen in bright light or in shadow.

This method of painting cannon is in general like the protective coloring of the tiger; the tiger has a white belly and the upper part of the body is in stripes of rather brilliant color, darkest at the top. It is also like the tiger in that the coloring increases its visibility except in its natural surroundings; one would hardly think, from seeing a tiger only in a cage in a zoo, that there is any place in which he would be practically invisible, and though I have never myself seen a tiger in his native surroundings, men who have seen him, tell me that it is very difficult to distinguish his striped hide from the black shadows caused by the heavy grass of the jungle, especially when the grass is dry, and not far different in color from the orange ground of tiger skin. I have seen camouflaged guns standing both in the open and against mottled backgrounds, and there is no doubt at all that the particolored gun is far more conspicuous from near by than the plain-colored one, and far less conspicuous when set among trees or against a mottled background. It is obvious that, if the gun is seen only from above, it is unnecessary to take the trouble to counter shade it; but the mottled effect, to simulate patches of shadow and of high lights, is retained, so that guns will not appear smooth surfaced,



A mouse-eye view of the spilogale or little striped skunk of Florida. His whites imitate the brightness of the sky, and his blacks the silhouetted weeds and grasses

but as if they were part of the ground, with irregularities like those of the ground upon and in them. The blending of the gun with the ground is improved by two things: first the great height of airplanes, as compared with the heights of gun barrels, and second by the interposition of a loosely woven screen above the gun, partially hiding it from the observer above. Guns thus covered with loose and open screens are often seen in illustrations of the front, and one wonders why such flimsy and open screens are used. The reason is that a solid screen may itself be visible, thereby attracting the attention of the enemy to the spot, and because a confusion of the shadows cast by the green is necessary, for shadows are most difficult to conceal, and at best can never be totally eliminated. The colors both of the gun and of the overhead covering are of course shown to correspond with the colors of the immediate vicinity, and as far as possible the appearance of the spot chosen for the cannon is made to conform to its appearance before the cannon was placed.

Man has this much advantage over animals, in that he can change color to suit a change of location, and most animals cannot; but in the case of either, motion is the greatest possible revealer. The slightest movement in a landscape, otherwise quiet, attracts instant attention, even when the eye is not focused upon the particular point where the motion occurs; and once attention is attracted

to an object it is much more difficult to lose it again that it was to hide it originally. And as movement will place the object against variable backgrounds, a somewhat different type of protective coloring must be done, which, while necessarily imperfect, is better than nothing. Of objects colored in this way, we have among animals, the turtle, and in war, the tank, and man has developed for the tank a system of protective coloration not greatly dissimilar to that of the turtle.

The system devised for painting the tank was probably chosen from the combination of two distinct types of reasoning. First we know that the human eye has learned to recognize objects rather by their forms than by their colors; and that form is indicated to the mind by light and shade rather than by distinctive coloring of different parts. For example, we recognize automobiles by their shapes whether they are painted red or black or dark green, just so the coloring be commonplace; but if we could



The tiger's markings, so pronounced in the open, are completely lost among the orange stems of the giant bamboo. Even the markings of his head closely resemble the leaf of a bamboo in the shadow



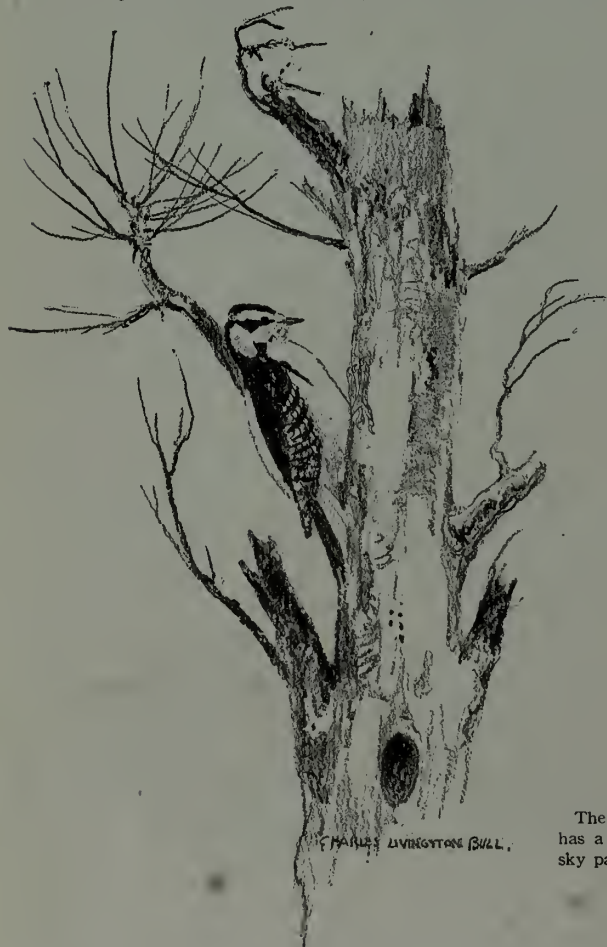
If a big gun is given a neutral tone and then painted with shadows and highlights corresponding in size and spacing to those of the surrounding trees, it is practically invisible at reasonable distances

paint automobiles with blotches on their lower surfaces to destroy the effect of shadows, with black spots on upper surfaces where the mind subconsciously expects high lights, it would be much more difficult to pick them out. Just this thing is done in painting the tanks; every effort is made to paint them so as to call attention to the contrast in the shapes and colors of the painted surfaces, thereby distracting attention from their actual shapes as shown by the play of light and shade on the surfaces at different angles to the light.

The second line of reasoning is responsible for the selection of the colors used, so that the average color of the tank should approximate the mean of all conditions against which it is to be seen; and, as in the case of the turtle, it is surprisingly successful, chiefly because few people realize how great a variation there is in natural colors, so that the only colors which stand out or accentuate the object to be concealed are those which never occur in nature, such as blue or scarlet. Even small spots of these may be used if the sum effect of the color is not at variance with natural colors.

In painting a tank, therefore, the man in charge would first find out the general type of background against which the tank will be seen, and approximate the average of all backgrounds in his color, using a palette perhaps a little more brilliant than nature's own.

Another respect in which nature's camouflage and man's are alike is in the seasonal changes which must occur in both to continue to be effective. The most obvious is of course the winter change for snow backgrounds—and incidentally, nothing is more difficult to manage, because of the sharpness of contrast between a white surface in full light and the same surface in shadow. Nature furnishes many examples of animals which change their color when snow falls, as the Arctic hare and the ermine; and man puts his troops into white robes in the Alpine heights, and along the snow-covered winter Russian frontier. But there are other seasonal changes constantly necessary in all camouflaged objects. Guns and gun coverings must be repainted to follow the green of summer and the brown of autumn; and it is even said that on certain sections of the front the gunners' repaint their guns several times a day to conform to changes in light conditions.



The hairy woodpecker has a tree-branch-and-sky pattern



A spotter or lookout in a tree-branch-and-sky pattern costume. So long as the sun shines upon him from the enemy's side he is fairly safe. Silhouetted against the light he is at once visible. The difficulty is to get him up the tree

Seasonal changes are comparatively easy to prepare for and correct; in experimental work we found that a screen representing woods as seen through a road could remain unchanged for about a week at a time, but the changes necessary to provide for variations in lighting conditions at different times of the day were difficult in the extreme. A painted canvas screen which was perfect at high noon reflected morning and afternoon sun so strongly that the painting was lost, and cannon which were completely obliterated from sight in the early morning showed up very prominently at noon when the shadows were cast from a different angle. I do not know whether animals in stalking their prey consider the light problem or not; it is quite possible that they do, since those which depend upon scent habitually feed "up wind," but they have a rather better chance to use their protective coloration in a place suited to it than do men whose cannon must be placed in spots of military value rather than in those which lend themselves readily to concealment, and which may or may not be so disposed as to be evenly lighted all day long.

The variety of light conditions in a single day, or even in a few hours, is one of the things which make the design of the perfect costume for a sniper almost impossible. It is a proven fact that a costume can be made in which a sniper will be practically invisible in a tree without leaves, from a distance of less than a hundred feet; but it is unfortunately equally true that the growing or the waning light will reveal him perfectly, and also he can never remain invisible between the enemy and the source of light, for there is no white which is as bright as the sky. A long series of tests made by our service has proven to us pretty conclusively that we can hide a man for an hour or two if we can get him up a tree; but we are sure that with an ordinarily watchful and intelligent enemy he would never live to get there—and the Germans are neither stupid nor neglectful.

On the other hand, sniper's uniforms for use on the ground or against a background of trees, grass, or shrubbery can be made with tolerable success, although they do not, so far as I know, resemble animal camouflage at all. The simplest are loose suits of spotted or blotched muslin, the paint sometimes being dirt gathered in the surrounding fields; but they are often elaborate affairs of sticks and weeds sewn on to cloth and so disposed as to resemble little bunches of shrubs or clumps of grass.

One of the "stunts" that certain animals accomplish parallels to some extent the camouflage of buildings as it is sometimes done. The greatest difficulty with all camouflage is the care of the shadows, and especially the shadows cast by geometrical surfaces such as the roofs and walls of houses. To break up these shadows, silhouettes of trees are erected in such ways that the shadow cast by the house will be irregular and uneven, resembling the shadow cast by a clump of trees. Certain small water animals have

tall feathery fins which grow upward to simulate water plants, and to some species little water plants actually attach themselves so that these animals are camouflaged in the best of all ways, by hiding behind natural objects instead of trying to simulate them.

Hiding behind natural objects, as, for example, screens, is man's favorite way of disguising himself, it is, however, very rare in

(shells at \$70 apiece) an artillery commander hesitates to shell a point which is very probably set up only for him to shoot at, thereby using up perfectly good powder and steel and gas which might otherwise be employed to real advantage. The Americans are notorious as poker players and therefore ought to make excellent camouflage men.

The vast number of road screens in use have no parallel in nature,



The tank painted to break up its hard outlines and render it inconspicuous among its surroundings

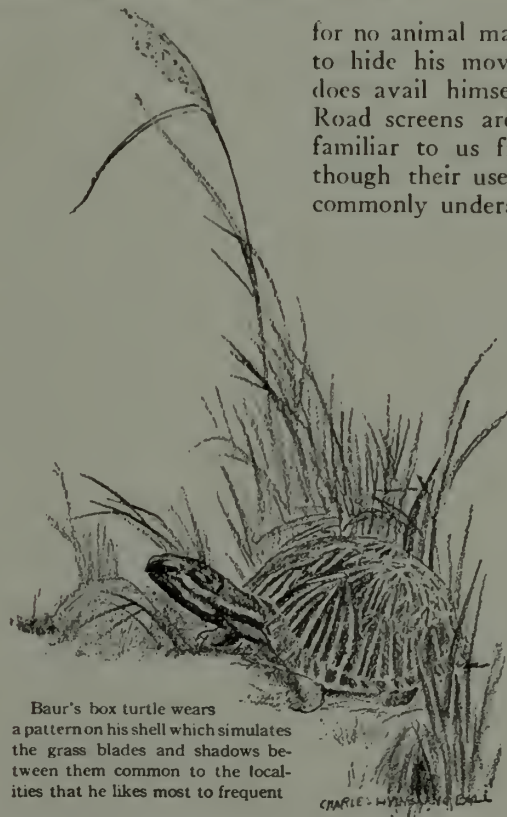
nature, the only case which occurs to me being the hermit crab, which hides from its unwary prey in the cast off house of the innocent snail. When the sniper makes a hollow steel rock and, lying in a pit in the ground, sticks his head into the rock for observation through a peep hole, he is not so very different from the animal. The rock is one of the many forms which can conveniently be made into observation posts; the dead horse is also a familiar one, and others are tree stumps, lumps of dirt, logs, and even imitations of the bodies of soldiers.

The sniper in his disguise, painted and colored to match the ground on which he lies or the foliage in which he conceals himself, is like the octopus, which curls itself up around rocks and even simulates them in color as well as in shape. The sniper cannot, of course, imitate a tree, but he can paint himself sky color with branches across him, and he can arrange a loose burlap suit to look like a heap of dirt, or by sticking brush and weeds to his clothing make himself into a very creditable imitation of a brush pile.

Thus far the military camouflage we have discussed has at least some kinship with nature's camouflage as exemplified by the protective coloration of animals, but by far the larger part of the work of the camoufleur is, as indicated in the beginning of this article, quite different from that of animal coloration, except as regards the general principle that it is an endeavor to make something look like something else; and very often this is accomplished by actually bringing in and setting up above or behind or in front of the object to be concealed, the other thing itself. Thus, gun coverings are often of wire woven with raffia or strips of canvas, of the type so frequently seen in photographs of artillery, but not infrequently the guns are placed completely underground and the shrubs or trees above continue to exist as if nothing were going on below them. Work of this kind requires the services of a skilful gardener or landscape architect to see that no indication of artificiality is left to draw attention to the concealed object, for it is obvious that the greater the amount of labor spent to conceal a thing, the more it is worth while to destroy it; which leads to the greatest fascination of the camouflage service—the ability to keep the enemy guessing as to whether you have actually built something of importance or not. With the present high cost of dying

for no animal makes himself a screen to hide his movements, although he does avail himself of natural cover. Road screens are of two types, both familiar to us from illustrations, although their uses are perhaps not so commonly understood. The first, in

which screens are erected simply to conceal open roads from observation, so that the enemy will not know what is going on along them, and the other where false representations of what the enemy sees behind the road are erected between him and the road, so that he will think the road vacant when it is in reality in use. The latter type is shown in one of the illustrations,



Baur's box turtle wears a pattern on his shell which simulates the grass blades and shadows between them common to the localities that he likes most to frequent

where a representation of the bank back of the road is set up in front of it so that the accustomed landscape will still remain, just as the old panoramas were built. This is perhaps the most spectacular feat which the camouflage service can perform, but it cannot be said to be very desirable to attempt, since if it is discovered (and with the increase in the efficiency and amount of airplane observation it is very likely to be) the enemy can feign to be ignorant of its existence until it is most useful, and then blow it and the troops behind it to nothingness.

The frank screen, on the other hand, simply says to the enemy,



If you were a chipmunk just coming out of your hole would you realize that the dead stump is alive at the top? On the other hand, if you were a screech owl would you see the chipmunk among the dead leaves and brilliant color of the mushrooms?



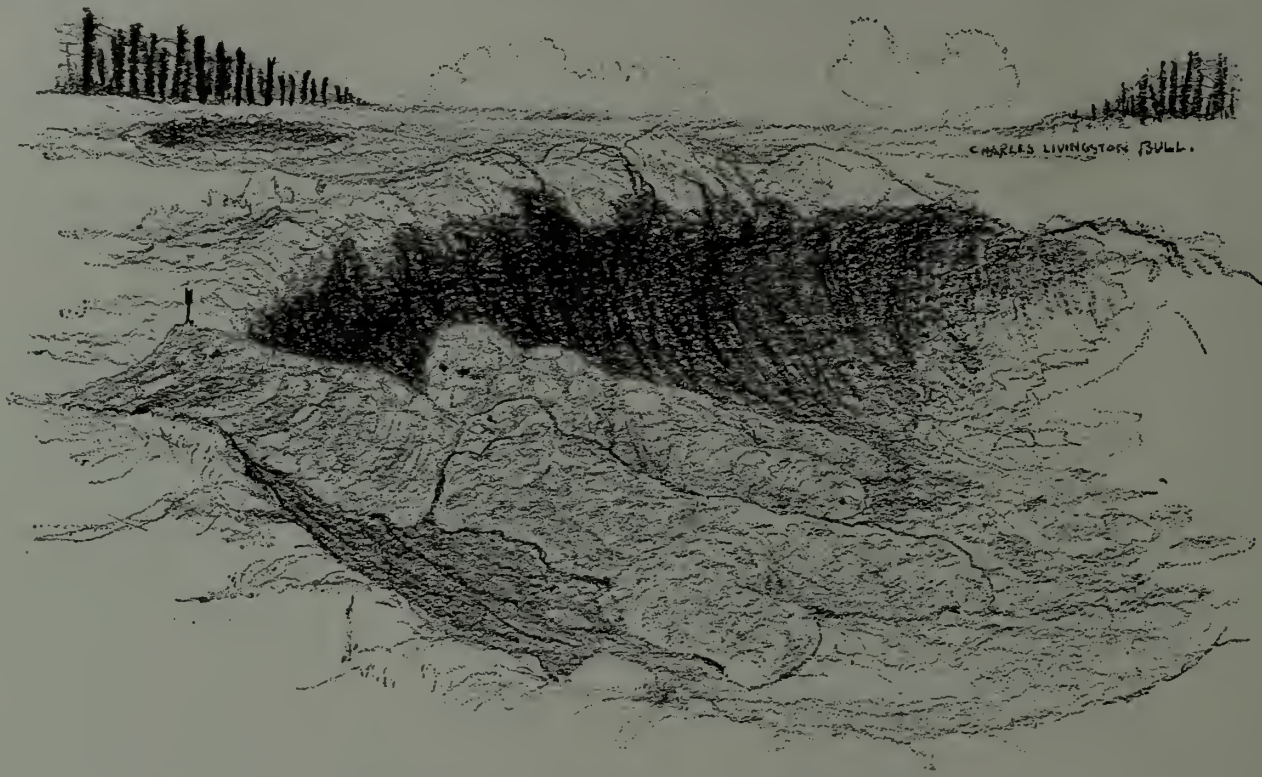
CHARLES WILSON PECK

An observation post made of chicken wire and papier maché, almost as realistic a tree stump as the shattered reality that it has replaced. By day a curtain would reduce the peephole to invisibility

"Here I am; I may be hiding something and I may not; shoot if you like; I am cheap, easy to replace, and very probably you will have your pains for nothing." Road screens of this type are made of anything which is at hand; perhaps of canvas or burlap, perhaps of woven twigs and branches, perhaps of chicken wire with cloth and branches woven into it, but in any case thick enough so that the enemy cannot see through them, and strong enough

animals are painted or stained to seem to be parts of the roads or fields when seen from above, and with a success that is quite surprising when they are motionless. The protective coloration is like that of but one animal, the tortoise, since the tortoise is the only thing which is looked down upon by everything.

Camouflage is by no means a new art, even in the way of broken color; the uniforms worn by the different troops in the field

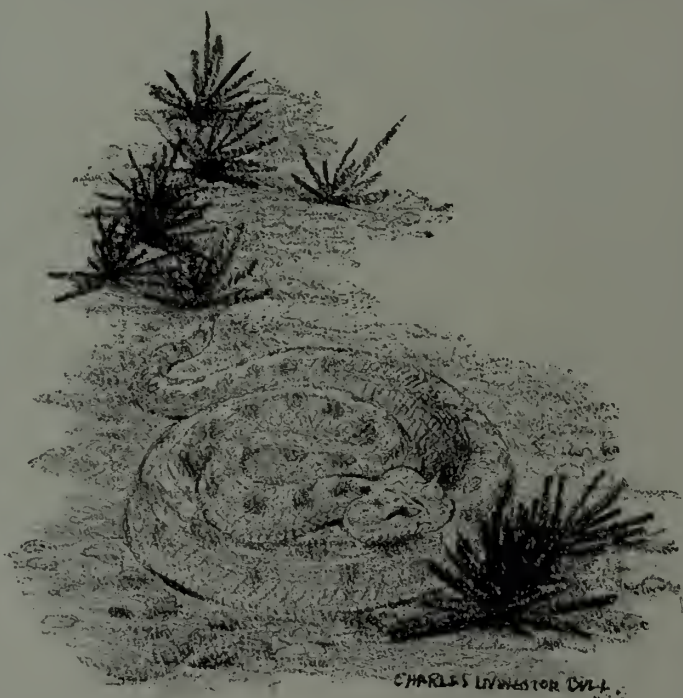


Machine gunners in loose, baggy costumes of canvas or burlap, stained and painted to imitate the torn earth at the bottom of shell holes, their gun covered with a piece of the same cloth—invisible from an airplane or observation balloon

so that they will not blow over in a heavy wind. The principal consideration which enters into their construction is economy, both of men's time and of cost of material; for cost of material is, after all, mainly determined by the amount of labor needed to produce it, and all labor is to a considerable extent military, whether or not it is in uniform, so far-reaching has been the effect of the war.

Nor does camouflage stop with purely military objects. Every article within the war zone (and the war zone is a variable quantity, and because of the increasing efficiency of the service a constantly augmenting one) the destruction of which may tend to embarrass the possessor is camouflaged to whatever degree may be expedient, when the value of the article is compared with the expenditure of time and labor and money necessary to conceal it.

Nor are the armies dependent upon protective coloration alone, though this plays a large part in it; fields of grass are sown to cover ammunition dumps, and ground is plowed to hide the traces of wheels; the location of familiar landmarks is altered so that the enemy may be confused as to where to range his guns or drop his bombs, and all this work of appalling magnitude goes by the name of camouflage. On the other hand, every movable thing which cannot be covered or hidden is colored with the aim of making it less visible, and all with the one idea in mind, that the color must match the surroundings as closely as possible. Thus, the tops of cars, the hoods of automobiles, tarpaulins, and even



The horned viper, with a pattern and coloring to match the coarse sand and gravel of its surroundings, needs a keen eye to discover it, and is correspondingly dangerous, as it is an extremely venomous serpent

to-day are excellent examples of protective coloration. The German field gray is of them all perhaps the best, because it fits equally well into all conditions, although against the brown tints of autumn or the raw brown of the fields it is by no means as good as the olive drab of the American army or the khaki of the British.

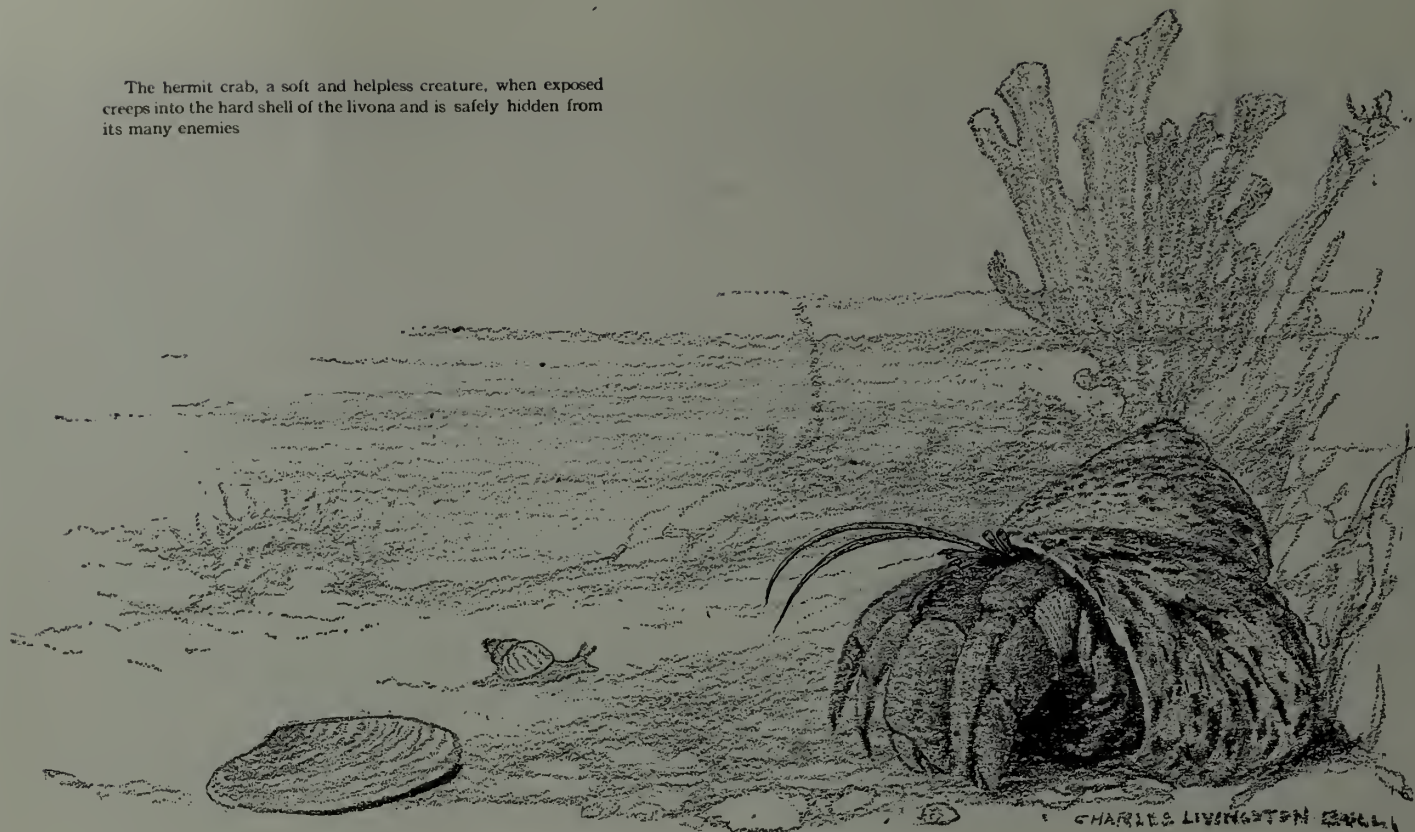
It is interesting, in this connection, to attempt the reconstruction of what must have been a very different attitude of mind in the soldiers of bygone days. Inspired by the pomp and glory of military action, or perhaps relying upon its impressiveness and fear-inspiring character, he scorned such methods of personal protection as have now come to be used universally, and attired himself in the most blatant and gorgeous uniform. In our own land in early days, the Indian, painted with clay colors, decked in the feathers of forest creatures, taught the Redcoats a bitter lesson in protective coloring. And yet it is by no means definitely established that the Indian adopted these low-visibility expedients in the full knowledge of their practical value. Did he put on his war paint rather in the thought that he was thereby making himself appear the more terrible, the more inhuman monster in the eyes of his enemy? The chances are that the latter considerations were uppermost in his mind, but if so, the fact remains that he painted better than he knew.

Mr. Tayer has advocated very strongly the use of particolored uniforms, and it is quite possible that they would further reduce the



A serene and peaceful landscape which would be greatly changed in character if an airplane should drop a bomb upon the near-by clump of cedars — in reality painted upon the flat sides and roof of a wooden ammunition shed

The hermit crab, a soft and helpless creature, when exposed creeps into the hard shell of the livona and is safely hidden from its many enemies



visibility of troops, but any one who has seen a skirmish line of American soldiers advancing through woods and thickets, and has realized that the first thing which he sees is the flesh tint of their faces, is inclined to doubt that any very substantial improvement would be effected; while there is a real value in clothing troops alike on account of the induced mass psychology and because of the necessity for the ready recognition of one's own men.

The principal lessons which the military authorities have learned from the painter-naturalists is that protective coloration is less effective when uniform than when broken in color, and that counter shading will destroy the apparent roundness of an object and therefore make it appear "papery" and artificial. The lesson which the general public apparently needs is that camouflage is not magic, but good, hard common-sense applied to military problems. I remember when I used to think that a detective had to be a mind reader to be worth his salt; but after I had been around with a very successful detective for a while, and found that his way of finding out things was to ask every one who



Perhaps the best known of all the camouflage tricks is the dead horse made of papier maché, or even of steel, so arranged that the sniper or lookout can hide in it and keep watch of the enemy

might have any knowledge of them, I acquired a sort of contempt for the detective, forgetting that after all it was quite an achievement to know whom to ask, and having asked to guess which answers were truthful. It has been the same with camouflage; there is no great and wonderful new thing about it; it is simply a series of precautions taken to make your own presence as modest as possible, and to attract your enemy's attention elsewhere.

On the other hand, the fact that you often know that camouflage is being employed does not in the least detract from its utility. The bird knows that the weasel wears an almost invisible habit, but the bird is no safer for the knowledge, and must in turn take to a coloring which is difficult to see; and in this, nature has acted as has man. The fact that we know that the enemy knows that we use camouflage has not in the least altered the necessity for its employment; and until the war is over camouflage will continue to be employed, just as in the unending war between the beast preying and preyed upon, protective coloring never has and never will be relinquished.





Briggs himself in front of the huge fireplace in the basement grill. Above the fireplace is the rudder of the old ship on which his friends are privileged to carve their initials. Perhaps Briggs can see in the flames the children of his pen—"Skinny," "Friend Wife," and the lost of others who have contributed to his fame.

MY HOME *and* WHY IT IS DIFFERENT

By *Briggs*

MY IDEA in building this house was, briefly speaking, to be different. Merely to add another "box" to the landscape meant nothing to me. One more Dutch Colonial, English Colonial, Southern Colonial or any other "Colonial" did not infuse into my blood the desire to build. I wanted more than a mere house with so many rooms and baths.

The country is monotonously besprinkled with just *houses*. I wanted a *different* house or none.

One may no doubt go out into the open market and purchase at a bargain a ready-built domicile, just as one may go and buy a hand-me-down suit of clothes. Maybe it will fit and maybe it won't, but it is a bargain and you console yourself with that. But you are never really happy about it and you go around the rest of your life wishing that you had had the nerve to build a house after your own ideas—hire an architect and everything. True, you have escaped all the worries that are popularly advertised as accompanying the personal attention one must give in building his own home, but still you are not happy about it, and you realize at last that you have missed the one great chance of your life to do something individual. That's the way I sized the thing up. I didn't want a hand-me-down house, and I think I have done that *different* thing. It was built for me.

When I first came to New York and settled in New Rochelle, four years ago, I had the pleasure of visiting a charmingly home-

like home near Katonah. It was one of those 150-year old affairs surrounded by the well known "broad acres." Of course it had been remodeled, but the dear old rough-hewn timbers were still the feature of the house. It still retained its girlish laughter you might say. It made a wonderful hit with me. There was character in it, and—it was different. That was the beginning of the old timber idea.

Then I confided my idea to Friend Architect; he was a crafty chap, and he allowed that one might build a brand new house—*with old timbers*. Thus another important idea was launched, and from then on we gave ourselves up to the question of where, when, and how to get the timber—enough to build a regular house.

First we banished the idea of going about the country like a couple of ragpickers collecting what might seem to others a lot of junk in the shape of wooden beams and planks. We might have to pillage and burn old homes and barns and sheds of doubtful antiquity. It seemed too piratical a venture, and the returns too scattering.

Then I remember that we discussed old railroad ties that had been discarded and piled in heaps alongside the railroad to burn. At first the idea seemed a good one, because for one thing the ties were not so hard to collect and, as we recalled them, they possessed fairly good color. Then we banished that idea because we found that they were soaked in oil and creosote. (Oh, we did a lot of banishing and we have for sale quite a collection of banished

ideas that might do for less exacting minds.) The ties were rather lacking in real romance, too. True, they were rough and rugged in character, but somehow I didn't fancy boasting that I had built a home of railroad ties. It was an idea a bit too grotesque even for me.

We were nearly stumped for a solution to the problem when Mr. Morse, the architect, chanced to think of old dock timber. Dockage I think he called it. I don't know how he happened to think of it, but instinctively I felt that we were getting warmer. Morse has told me since that he had a peculiar feeling himself, now that he recalls it, just before the big idea was dragged out of its long hiding place. It must have been like going into a trance or something and getting a "message." Because almost right away after mentioning "dockage" he said "ships." Something told us that we had at last "said something." Ships! Why hadn't we thought of that sooner. Right away we knew that my house was going to be built of old ship timber. It was an idea. It was also different.

Immediately we set about looking for a shipyard, one that might have a few old pirate ships or old whaling vessels, or clipper ships full of romantic detail. We heard of one over on the Jersey coast and we lost no time journeying there. I recall that it was a thawy kind of day in February, and as we approached the shipyard I felt a sense of disappointment, for I saw no masts or anything that would distinguish the place from the ordinary junk yard. And junk it certainly was. A jumbled mass of rusty chains, rusty anchors, rusty windlasses, nothing but rusty iron in every conceivable device that is known on ships.

However, we clambered over and past the junk iron toward the shore where we saw the object of our search. There rather neatly piled up in various stacks with respect to size was the timber.



No home—and especially one like this—is complete without a library. This comfortable place is not shown in the pictures, but the next best thing is an illustration of the stairs leading up to it



Romance lurks at the old-fashioned gate. One daughter of the household is old enough to enjoy such comforts as this, but the latest addition thereto will have to wait a few years before she can find the gate useful

I didn't realize then that I was actually gazing upon what was to be the feature of my house. But I do remember that we were highly excited over the find. We must have felt exactly like a prospector who has located a mine after days of toil and privation.

The proprietor assured us that the timber was about 150 or 200 years old, but good timber just the same. He said most of it came from an old schooner that he had just dismantled for copper salvage. He seemed most apologetic about the age of the timber as though that might be detrimental to the success of a cash sale. We in our turn were afraid that if we showed unreasonable interest, he might fathom our secret and charge a prohibitive price.

At any rate, we began to rummage through this yard, which by now had become a paradise, a lot of glorified junk. Here was a stack of huge planks, some forty feet long, fourteen inches wide and three and a half inches thick—undoubtedly the flooring for the main living room. It was pretty hard for me to be converted



This is the Blue Anchor, the fanciful name given to this unique house by the cartoonist. In the grill is a huge anchor painted blue, while the seafaring atmosphere is increased by the use of a miniature ship as a weather vane



A corner of the big living room. Note the floor made of old ship timber. So hard was it that ship carpenters had to be hired to adze it to a usable level



A quiet corner of the house where ships "knees" have been used with excellent effect, showing one of the numerous doors available for egress when a cartoonist can tear himself away from the joys of living inside.



The hall into which the front door opens. Briggs believes that his friend Ring Lardner has made the world "safe for the Democrats," so he generally uses one of the numerous side and other entrances.

side walls of this same room. We bought a hundred or more ship "knees" for the oriel window supports and overhanging cornices. We bought many tons of beams for the solid construction. In all we purchased a hundred tons of this wonderful lumber. Its utility and its artistic qualities have more than surpassed our earlier imaginings.

To furnish a house of this sort properly we have had to be careful as to harmony. We have not sacrificed comfort for the sake of being different and artistic, either. There has been and always will be a joy in adding to such a house the things that make it different. In the billiard room, for instance, the lighting effects are from ship lanterns. The pictures are of old whalers, sea battles, and pirates; everything is of the ship shippy, and nothing else is welcome.

I nearly forgot to mention that in the side walls are built

to the belief that these big, rough, gritty planks full of rusty spikes and nails and bits of copper could ever be made to look like a floor in a civilized home. It seemed a bit rough on the bare feet in case one should desire to do interpretative dancing. But Mr. Morse was seething with excitement and agitation. I fully realize now that his mental turmoil was justified—my living room floor will attest that. What once was junk is now one of the finest examples of old rough hewn plank flooring that could be imagined. It has been so declared by experts. Of old Ohio oak, the color is that of the background of an ancient painting.

If that floor were all that we had found, the venture would still have been well worth while. But we discovered much other material. For instance a rudder 11 x 4½ feet and twelve inches thick, with all the old iron still attached, and clanking chains. This is now the breast of my billiard room fireplace. We utilized several hundred feet of discarded paddle wheel timber for the

two bunks, hinged at the bottom, which may be let down for use in case of extra company.

There are a great many features to this house—in fact it is a house of features. Though everything was done with the idea of being different, let no one think that the place is freakish. It is a combination of a homelike home, an interesting home, and a *different* home. The old English style of architecture so lends itself to the rugged old timbers that many authorities have pronounced the house the best example of English architecture in this country. It rests upon an acre of ground in Wykagyl Park, New Rochelle. The character of Westchester County is wonderfully typified in this acre—huge boulders, a running brook, and lovely trees. It is a fitting spot for such a home. It does not sit boxlike upon the ground, but seems to be part of the natural scheme, rising out of the ground just as the rocks and the trees do.

And above all—as I have mentioned—*it is different.*



Back of the living-room fireplace a secret staircase permits the owner to ascend from the grill to his bedchamber when he is romantically inclined. Above the fireplace is a sort of a choir loft from which one gets a bird's-eye view of the room.

Perched on a pile of rock an acre in extent, Blue Anchor is one of Westchester County's proudest possessions. Here you never find any one "Always Taking the Joy Out of Life"



A good example of the adaptable white painted arbor, outlined against a background of poplars, in the Bright garden at Waltham, Mass.

GARDEN SHELTERS

By RUTH DEAN



THE rules for planning gardens are as few and as flexible as those for painting pictures. Like all the arts, landscape architecture is not susceptible of hard and fast laws, but one is fairly safe in saying that no plan for a really livable garden will succeed unless it contain a shelter of some sort, and a seat—even though they be only the primitive device of a rock under a tree. The one way to get on



friendly terms with the inhabitants of a garden, to discover all the gracious half-concealed charms of the flowers, is to be able to sit down comfortably among them, and to lose the atmosphere of house and household things. The quality of pleasurable peace about a garden is scarcely to be enjoyed from the piazza or from merely a walk around the paths; it is necessary to rest in the midst of the garden itself, where the birds and the insects and the caterpillars and all the other

tenants of the garden are going about their business.

The chatelaines of medieval England appreciated this fact, and the earliest pictures extant of English gardens, contained in old manuscripts, show the lady of the castle sitting on a grassy "benche" under the shadow of a wall, amusing herself with her maidens in the "pleasaunce" while her knight was away—as Mark Twain says, "holy-grailing." Often these benches,

built of bricks and cushioned with turf, ran all around the garden, close to the wall, and sometimes they were made of earth banked up around a tree and retained by wattled osiers; the more pretentious gardens had arbors or "herbers," one of which is described by Chaucer in "The Flower and the Leaf":

A pleasant herber well ywrought
That benched was,
and with turfes newe
Freshly turfed
And shapen was this herber roofe and all
As is a pretty parlor—

Summer houses followed the various changes which do-



A turfed "benche" in the shelter of a medieval garden wall



Garden treillage from a seventeenth century garden

estic architecture underwent and became of greater and greater importance with its development, until in the latter part of the seventeenth century and the early eighteenth they might be said to have fully come into their own, in France the classic revival was translated into terms of trellage that must have made the manufacture of lattice steps the most lucrative occupation of the times. Of course the architecture was thoroughly an ex-



Trowbridge & A. Kerman, architects

James Greenleaf, landscape architect

bors and the thoroughly modern adaptation of the Chinese roof in the Franklin Murphy garden house, are each significant of their respective periods in American architecture, the latter more particularly of our present-day habit of drawing for inspiration on any quarter of the globe which happens to strike our fancy.

The architecture of the house should of course determine that of the garden house, unless, as sometimes happens, one's home is a hand-

This tea house in the George Pratt garden at Glen Cove exemplifies the rule that the architecture of the dwelling should determine that of the garden house

These two simple latticed arbors in old Newburyport gardens are significant of the Colonial period in American architecture



A shelter for tools in the garden of Mrs. Robert C. Hill, at Easthampton, L. I. Designed by Mrs. Hill

pression of the life and spirit of the period, and the formal gardening of Monsieur André le Notre for a gay, artificial people, demanded bowers befitting Pompadour gowns and satin trousers. In a day of sports skirts and flannels (now, alas, turned to khaki) we design our garden architecture with less abandon, and, on the whole, with the same result as to the expression of our needs.

The two simple Newburyport ar-



me-down for whose design some well-meaning Victorian relative is to blame; in such a case the garden architecture may well branch out for itself and express one's ideals instead of one's compromises. Even under these circumstances, however, some point of similarity or harmony of material, if not of design, should be utilized to tie house to garden.

At Gray Gardens on the South Shore of Long Is-



Walker & Gillette, architects

Olmsted Brothers, landscape architects

land, the garden architecture repudiates that of the house altogether and yet is not in-

harmonious, for the reason that it loses itself delightfully in the low sand hills of the surrounding country. The house shown here is a shelter for tools and the like, as well as a tiny work room for its resourceful owner. The thatch roof has in later days given place to one of shingles, with the edges cut irregularly to simulate the pleasing texture of the undependable thatch.



This material is more successfully used (though how long it will withstand the inclemencies of Northern winters remains to be seen) at Peacock Point, where it roofs a charming garden house.

Incidentally, this shelter proves my first statement that it is impossible to lay down rules for landscape architecture, and disproves a later one—that garden architecture should follow that of the house. At Peacock Point the house is Georgian, and although the garden shelter is English, it is what might be called "barnyard English." The use of the two in conjunction produces a result that is probably much more pleasing than it would have been by adherence to a more formal style of architecture for the garden. The rule as twice amended then reads, garden architecture should follow that of the house (unless the house is too ugly to furnish any point of departure) or, if it differs from it, should do so in such a way as to harmonize at the same time.

An exceptionally good example of uniform architecture throughout house and garden is Mr. Pratt's place at Glen Clove. The detail of the house carries over into the garden, and the whole forms a very fine and dignified piece of design.

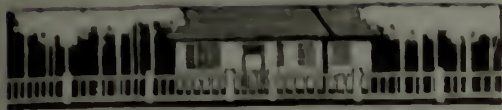
The thatch roof may be less durable than one of shingles, but it sinks wonderfully well into its surroundings, as in this shelter in the H. P. Davison garden at Glen Cove, L. I.



A thoroughly modern adaptation of the Chinese roof, which on this garden shelter seems almost a part of the forest background. In the Franklin Murphy garden, Mendham, N. J.



Olmsted Brothers, landscape architects



Probably the most widely adaptable form of garden shelter is the wood arbor painted

white. In one form or another it can be used inoffensively in a great many different kinds of gardens and often very pleasantly. A good illustration of such an arbor is that in the Bright garden. It is well planted also, the large leaves of the grape vine contrasting interestingly with the fine foliage of the clematis. The cultivated grape as an arbor cover has its drawbacks, for it is rather a dirty vine, but the wild grape has no untidy habits and spreads its fragrant leafy layers prodigally over any support.

At the end of a long path in the garden of Fairacres is a pleasing little shelter with a curved roof. This corner position is a favorite one in English gardens, and one to be recommended for almost any garden. The building reinforces the corner in a way which satisfies one's structural sense, and completes the vista down the path as well.

Another curved roof shelter is that in the C. L. Harding garden at Dedham. It is well designed and happily placed where the view is double faced, so to speak.

Placing the garden shelter is another subject about which it is dangerous to generalize. Usually it is not well to put it in the centre of a garden or any place where it interrupts the continuity of the garden scheme. At the back of the garden, at the end of a path, against the side wall, or terminating a stretch of turf, are logical positions for it to be found. In any location it will be benefited by the nearness of large trees, for they help to make it part of the garden by overtopping it, and so tying it into the surroundings.

A garden shelter in the form of a temple, which has the advantage of being open to the view on all sides. In the C. L. Harding garden, Dedham, Mass.



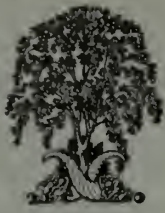
A well placed garden house at Fairacres, Jenkintown, Pa. This corner position is a favorite one in English gardens, and is generally pleasing in almost any garden.



Wilson Eyre, architect



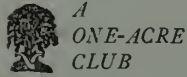
Guy Lowell, architect



FROM A COUNTRY WINDOW



IN THE FALL of 1916 I sowed rye on a half acre of light, sandy soil near the southern boundary of my farm. Potatoes had not done very well there, and it was my intention to turn under a crop of green rye in the spring in the hope that I might be able to make corn land out of the piece.



A
ONE-ACRE
CLUB

The following spring found us at war with Germany, and the Secretary of Agriculture sent out a stirring appeal to farmers to increase the grain production. I changed my mind about that rye. I let it mature, and I don't know when I have enjoyed so much the growing of any crop.

It was, as a matter of fact, the first crop of small grain that I had ever raised—the first crop that did not have to be hoed and cultivated and perhaps sprayed all through a hot summer. All I had to do was watch it grow, and I watched with paternal pride. It seemed to catch hold of fertility that the potatoes had missed. It grew six to eight feet tall, a lake of waving green, and old farmers told me that they had never seen a finer stand.

And I had a lot of fun with that rye crop. I had it cradled by hand and bound by hand by an old-timer among my neighbors. He and another threshed it out on my barn floor, in the picturesque, old-fashioned way, with flails made sixty years ago of hickory and ash and eel-skins. I myself winnowed the grain in a rattley but efficient old fanning mill that had been in our community for three generations. I got twelve bushels of good, clean grain off that poor sandy piece, besides a ton of bright rye straw that had not been mangled by a threshing machine. The grain that I did not keep for seed brought \$2.30 a bushel, an advance of more than 100 per cent. in twelve months, and farmers came from far and near to get my extra-long straw for binding corn, at a cent a pound.

It was, in short, the most profitable undertaking on my farm last year, so far as it went, and incidentally I added a few bushels of grain to the store needed to feed ourselves and our allies. This year I shall harvest another crop of rye on another piece.

A most pleasant and profitable way of serving one's country, surely. And yet I see all about me, on farms and country estates, unused acres that might be growing grain. To be sure, each one of us can raise but a little. The East is not a grain-producing country; the bulk of the needed supply must come from the great West. And yet, in the aggregate we might do much.

Suppose ten thousand of us small farmers and owners of country estates were to form a One-Acre Club, each undertaking to plant one acre of winter wheat or rye this fall—that is, one acre in addition to our normal cropping plan; it would entail but little sacrifice; it might even produce pleasure and personal profit; and it would add a quarter of a million bushes of grain to the supply that is needed to help win the war. Why not?

ONCE UPON A TIME I knew a man—a lieutenant at least, if not a captain, of industry—who planted some lima beans with his own hands, for the first time in his life. He



TIME
AND THE
DAYS

watched over the place of their interment as sedulously as is customary under such circumstances, counting the days, and in due time he made an astounding discovery. . . . His lima beans had not stayed planted! There they all were, every bean of them, sitting triumphantly above ground, in an impudent little row that gave him the impression that they were making faces at him! He mentioned this discovery at last, cautiously and with the air of imparting a vast confidence; but his wife laughed at him. Moreover, she told him callously that all lima beans always behaved in this fashion; and he was surprised, not to say pained. Nevertheless, after the first shock had worn off, the glow of satis-

faction returned; and to this day it warms him—he exultantly confesses—when he sees or hears or thinks of lima beans. For he found out about them himself!

Which is by way of telling that I have made a discovery; and that I too glow with satisfaction. All life is changed, indeed. No more are there days all too brief that resemble hectic nightmares, nor days too long that stretch into interminable torments. I know at last, beyond peradventure—having found it out myself—that there are twenty-four hours in every day, no more, no less. Twenty-four! Think of it! Hours enough to do all the things that the times demand, since—having made the discovery—each thing has been appointed an hour, and each hour has its appointed thing. It dovetails together, you see; and works like a charm. From being feverish and confused, life grows serene, notwithstanding its fullness. Is it possible that such a small timetable of the days is of a piece with that great system of order which constitutes heaven's first law?

DO YOU KNOW the three most enchanting pursuits in all the world? I do. One is the quest for Spanish gold, another is



MUSHROOMS
FOR
BREAKFAST

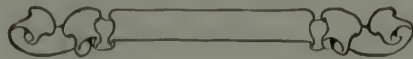
hunting for antiques, and the third is a successful search for—mushrooms! The first, I must admit, I have experienced merely in blessed anticipation, though I am certain that, some day, Fortune is going to moor my bark near a splendid sunken galleon, rich with treasure. But in the happy meantime the other two are mine, for I have a flair that leads me equally to an old pink lustre tea set, darkening with dust on the shelves of a far-away farmhouse, or to a thick clump of shaggy-manes hidden in wet, deep grass. And I cannot tell which of the two is the more delightful sensation; both convince me that I have inherited the earth. Did you ever, some autumn morning, when you first get up—there's a little shiver of approaching frost in the air, and all the hills are swathed in gray mist-veils—say, "Mushrooms for breakfast," because you know, intuitively, that the season has begun? Hurrying, basket in hand, I remind myself of Gray's rapt youth "brushing with hasty steps the dews away to greet the sun upon the upland lawn," for it is on high hill-pastures that mushrooms grow the thickest, and what matter damp shoes when the gossamer-trimmed walk is in itself a reward so gracious? Little by little the mist-veils are lifting; the pointed sky line stands revealed against the tenderest blue imaginable; and, overnight, some giant has kindled flaming maple torches, and thrust them here and there among the pines. Again, walking on one of those afternoons when the sun seems to have gilded the whole world, you stumble suddenly upon a mushroom patch, so many that your willing hands, and your sweater pressed into service, cannot hold them all. You know how such an afternoon looks? So still! And everywhere gold; drifted golden leaves on the ground; golden leaves fluttering gently from the trees. Cyranowether, we call it. Don't you remember that scene? The convent garden and the yellowing leaves falling softly, softly, and that most gallant gentleman of all time telling Roxane his wonderful lie, "No, no, my dearest love, I did not love you!" It's like that. But I have a theory about the leaves; fairies really send them. That's the way they conceal these little pixie parasols of theirs, for they drop them on the ground curled up just like a mushroom top, a most maddening scheme of protective coloring! Often, when I go a second time, with a heart full of hope and an even more capacious basket, the mushrooms have vanished as utterly as if they had never been. The tricky things! No wonder they are under the protection of the elves. Mushrooms, like antiques and Spanish gold, have the permanent charm of elusiveness.

AMERICAN PASTORAL PAINTINGS

By
Walter Clark, N. A.

FROM A RECENT EXHIBITION AT THE AMERICAN ART GALLERIES,
NEW YORK

Walter Clark (who died in March, 1917) was a native of Brooklyn, N. Y., and received his education at the Massachusetts Institute of Technology. Having studied five years at the outset of his career with the intention of following sculpture as a life profession, he acquired a knowledge of form that proved to be a valuable foundation when he decided to devote himself to painting. Thus his equipment was more than ordinarily complete. His vision was both broad and discriminating, and he had a good grasp of the theory of landscape painting. His favorite painting grounds were in New York and Pennsylvania, and along the Massachusetts and Maine coasts. Among the honors of his career were silver medals won at the Pan-American Exposition, Buffalo, 1901, and the St. Louis World's Fair in 1904, and the Inness Gold Medal at the National Academy of Design in 1902.



THE ROAD TO THE
MILL, MEDIA





ON THE ROAD TO
CHADD'S FORD

LAST CALL *for* FOOD PRODUCTION

What you can still do to help meet the vital need for more food;
the possibilities in root crops for stock food and soil improvement

By F. F. ROCKWELL



LAST month, in this magazine, in an article on the world drift toward starvation, I presented some facts and figures which left no room for doubt as to the extremely urgent necessity for producing all the

food that can be produced in this country this year. And it must be produced not only on our grain farms and in the corn section, but on private places as well. The facts which have become public since last month show the situation to be still more serious than it appeared at that time. And food production, consequently, has become even to a greater extent the duty of every man who can produce. "Every idle acre is a reproach to the man who owns it—or who controls it!"

It is always much easier, however, to put things in the form of sweeping generalities than to suggest the ways and means of translating them into definite, concrete action. But it is only when so translated that they spell results—the only thing that counts.

Any plan for increasing this year's output which upsets the farm schedule and means, possibly, an actual decrease in next year's output, is worse than useless. And yet that is exactly what a great many of the "plans" and schemes which the ever increasing army of swivel-chair farmers have had to propose would do if actually put into operation. It helps very little, therefore, to shout from the house tops "We need more food for our brave allies, and the soldier boys, and for the workers at home—get busy and double your corn acreage and double your wheat acreage!" That cannot be done: it is a physical impossibility. The problem is not so simple as that. The problem is, in a word, so far as the estate owner is concerned, "What can I do to help in the most *practical* way?"

To begin with, there are some crops which yield very high food value compared with others. Obviously these are the things to grow, if they can be grown without too much extra cost or without too much interference with the regular farm work. Most important of these vegetables are the root crops—rutabagas, turnips, carrots, beets, parsnips, and so on.

The advantages which the root crops possess in helping the estate owner to do his bit in the present food crisis—and "crisis" is by no means too emphatic a word to be used under the circumstances—are many. They are exceedingly high in food value in proportion to the area required to produce them; they may be planted later than the different small grains or corn; they may be planted at different times, so that the work of planting and also of cultivation may be distributed over a long season instead of coming all at one time; they are easily kept for winter; they are, for the most part, free from any insects or disease troubles; they are valuable for feeding to stock, when they are not needed for human consumption; and last, but by no means least, they put the ground occupied by them in good condition for the crops to follow them the succeeding year. In addition to all this, they may be fitted into, or added to, the regular farm schedule with less readjustment of the latter than any other class of food plants. These considerations are so important and the root crops as a general class are so much neglected in this country, that it is worth while to give these different points some consideration, not only in their relation to the root crops as a war measure, but as a very important factor in economic farm management.

We have passed in this country—only recently, it is true, but we *have* passed—the point where extensive cultivation gave the maximum returns. From now on, we have got to give more and more attention to *yields per acre* as

contrasted with production per man power or per horse power. This does not imply, by any means, that we must reverse the underlying policy of American agriculture—which has been to make ingenious machinery do the work of human hands; that principle has been the basic difference between the Old World and the New World agriculture. But we will have to devote our attention, more and more, to the development of machinery for intensive as well as extensive work. The result of economic pressure in that direction we are already beginning to see in the coming of the motor driven wheel hoe, the mechanical hand weeder, etc. Probably as yet very few people realize that large acreages of onions are now weeded by machinery instead of by hand; any one who has ever attempted to grow them would, perhaps, take it for granted that onions are about the last thing in the world that could be cultivated entirely by machinery!

This drift in the direction of more intensive agriculture is very shortly going to give to root crops in this country the position of importance which they have long held in the Old World. This change, like so many others—industrial, social, and political—is being very much accelerated by the World War. Consequently, the estate owner who is keen to do his bit in the matter of production will this year plant root crops more extensively than he has ever done before, knowing that in doing so he is utilizing the land and the equipment at his disposal to the best purpose—and is also taking a step in the direction of sound agricultural practice for his own benefit, when conditions are again normal.

Of course, the principal objection which occurs to this programme is that labor is scarce. My answer is that this is perfectly true, but that food is even more scarce than labor, and that, therefore, labor should be utilized to get the greatest amount of food value possible, between

now and the end of this growing season. And that, moreover, the only way to do this is to plant root crops of various kinds during the next six weeks, and then to take care of them with the most modern machinery which is available, cutting down to the limit the number of man hours per unit of acreage required. Let us see how this policy will fit in with your present farm programme.

The first things which can be sown and the approximate dates for as far north as central New York are as follows.

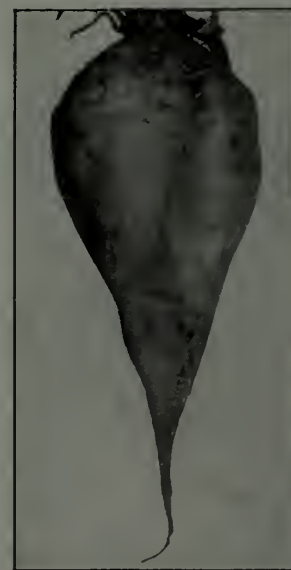
Mangels	June 1-10
Carrots	June 1-15
Rutabagas	June 1-20
Beets	June 10-25
Turnips	July 15-30
Parsnips	June 1-10
Salsify	June 1-10

Of these, the mangels are used almost entirely for stock feed, and the last two—parsnips and salsify—for human use. All of the others are good for either the table or the stable. In passing, I may say that while parsnips and salsify are usually sown early in the spring, much better quality roots may be obtained with sowings made right now. A large supply of these roots, both for your own use and for the people connected with the place, will make an excellent food investment for next fall and winter and spring. Both of these, of course, can be kept over in the ground where they grow, saving the labor and the expense of storing for winter.

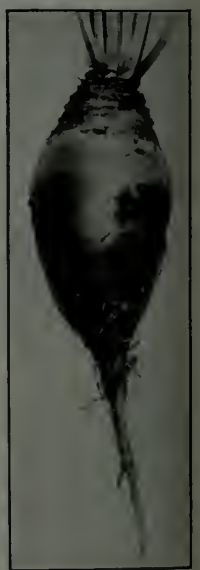
It is evident at a glance that there is enough variation in the time during which these several things can be planted to enable one to put in quite an area. Two teams and two extra men should be able to plow, prepare the land, and plant an acre to an acre and a half a day, even allowing for bad weather and the general scarcity of labor. It would be possible on most large



Carrots, which are the most difficult to weed and thin of all the root crops under consideration, can be successfully tended with a mechanical weeder



Plant mangels as late as June 10th. They yield heavily and are one of the best stock feeds that can be raised



Field beets are as valuable a food for stock as garden beets are for human use



Rutabagas, valuable for table or stable, can be planted as late as June 20th



failure to put in an acre of most of the crops mentioned between the first week of June and the latter part of July. This will amount, in the matter of food production, to from two to six times that acreage sown in spring wheat or corn. While the labor required for the latter crops would be no more, or even less, such an acreage could not be found on most farms without seriously disturbing the farm schedule, and even if the acreage could be found, it would be too late to plant it now, while the root crops can still be planted.

Planting a crop, is of course, a very different matter from bringing it to maturity. In field culture, however, all of these crops can be taken care of by horse or motor machinery. In this connection, I would like to call particular attention to the modern small motor cultivator which has during the last few years been developed into a thoroughly practical machine. It is small and compact, and will do more rapid and accurate work than the ordinary one-horse outfit.

Many market gardeners are using these machines on rows as close as fifteen inches apart; this requires considerable skill and practice of course, but for cultivating roots crops in rows eighteen to thirty inches apart, as they are generally planted for field culture, an ordinarily intelligent man can learn to use the machine in a half-day's practice. As it can be slowed down to a snail's pace in operation, he will not have to tear things up very badly while learning; the first experimenting may be done on a row of small stakes set to represent the plants. These machines take all the regular wheel hoe attachments, so that little or no extra equipment need be obtained with them.

As in the case of the tractor, one of the great advantages of a machine of this kind is that it can be kept going for ten or twelve or sixteen hours a day, by changing handlers, when conditions are right and there is a lot of work to be done, whereas one has to let up on horse work, especially in hot weather, no matter how advantageous it might be to do overtime work.

For the experienced farm manager perhaps it may be unnecessary to give a word of warning against attempting too much, but the enthusiast, who may be new at the game, should be put on his guard. You can say "five acres of root

crops" as easily as "five acres of corn," but they are a good deal more of an undertaking, nevertheless. Better to make it two acres, or even one, if you are not fairly certain, from previous experience, that you will be able to take care of the five with the labor and equipment that you have on hand or can get. Poorly cared for root crops are likely to be more or less a failure, and as such, of no benefit either to you or to Hoover.

As to where your root crops—one acre or five or ten, as the case may be—are to go, that will vary with the individual farm. First of all, they should have a deep, strong, fairly rich, and thoroughly drained soil. These conditions being met, you will be able to work them into the farm rotations in any of a number of places. They may follow early soiling crops that have been cut off for feeding; they may be put in where there are any bad spots in the winter grain; they may follow the first cutting of early grass on a meadow that is running out, or a patchy alfalfa field, that would be plowed up anyway the following spring or fall in the regular course of events; or, where none of these conditions apply, it is usually possible to find a couple of acres or more in pasture or paddock, where the soil is good but the turf is rather thin and spent, that will make an excellent foundation for a good crop of roots if properly prepared. Roots do better on sod than most other crops, and leave the land in excellent condition.

While the root crops are more capable of foraging for their food requirements on sod ground than most other things, they are less capable than most other things of getting a good start in a seed bed that is poorly or only moderately well prepared. Small seed like turnips or carrots, or hard, thick-husked seed like beets or mangels, requires a very carefully prepared seed bed to assure good germination. Whoever is supervising the work should pay special attention to this point.

In the garden, of course, the seed bed for vegetables of this kind is usually finished off by hand. It is not necessary to take the hand labor to do that for field planting, but unless one has a Meeker smoothing harrow, or some similar tool to take the place of hand work, the smoothing harrow, roller, and drag should be kept busy until it is not possible to get the ground any smoother and finer with them. Where

desirable or necessary, each row may be prepared by applying the fertilizer, ridging with a potato planter or a corn planter, and then rolling and drilling in the seed on top of the prepared ridges. This does not take much extra time, and is often the best method on new, untractable soil.

While there are no particular kinks in the cultivation of the root crops that require special knowledge, nevertheless it is possible to cut down considerably the important work of first weeding and thinning, compared to the way it is done ordinarily. As this is the greatest labor-consuming operation in the growing of the crop, help in this particular is of great importance. For carrots—which are the most difficult to weed and thin of the several crops under consideration—the mechanical weeders, already mentioned, are now used successfully by many market gardeners, and will be utilized more widely as they become better known. For thinning the other crops, where the individual plants should be left standing several inches apart, procure a number of the very small, narrow bladed hoes listed in the implement catalogues as "onion hoes."

Your local dealer may not have any of these on hand, but he can procure them from his jobber or wholesale house. A wide-awake man with one of these small, light hoes can go along the row and cut out a very large part of all the surplus plants and small weeds, without doing any hand work at all. If this hand hoeing (which should be done so as to leave the most promising plants even if they are not spaced with exact regularity) is followed by hand weeding to put on the finishing touches, the work can be done as thoroughly as if all done by hand, and much more quickly.

Cultivation should, of course, be clean, thorough, and frequent enough to maintain an efficient soil mulch through the growing season. A light top dressing of nitrate of soda during the early growth will under most conditions be a good investment. If in doubt, try it on a few rods of a couple of rows first, as early as possible.

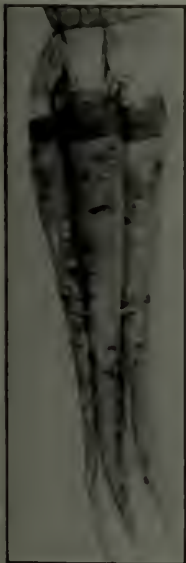
Perhaps the most common mistake in the after care of root crops (which are not exacting in their after treatment) is stopping the late summer or early fall cultivation too soon. Don't feel that the crop is made as soon as the danger of weeds getting ahead of the plants has been passed. *Keep up cultivation as late as possible.* The plants will need moisture as long as they continue to grow, and continuous cultivation is the only way of keeping it for them.

In addition to the root crops, there is one other thing of great importance that can be planted late, on sod or after many other crops. That is late cabbage. While the seed should be sown within the next two weeks or so, the plants will not need to go into their permanent quarters until four to six weeks later. Therefore it is an excellent crop to make a second use of ground that otherwise might lie idle for the latter part of the season. The cultivation, once the plants are set, can be done almost entirely by machinery.

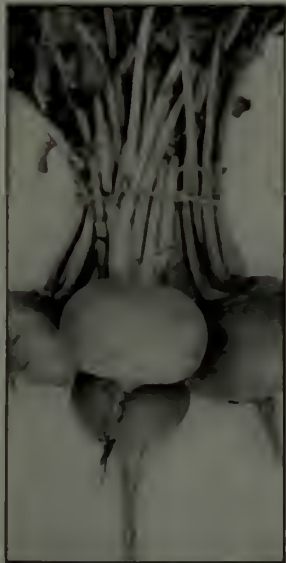
The crop is very easily saved for winter or spring; and while it is not as high in food value per unit of product, the yield under favorable conditions is so great that it is one of the most economic things to grow.

There are, of course, other things which can be produced to help swell the tide of food production between now and freezing weather, but the ones mentioned above are the most important under the average conditions, and every farm owner should plan to take on, in addition to his regular schedule, as much as he can safely handle of one or more of them.

To one whose thoughts are fixed on doing something spectacular to help win the war, or even in comparison with some of the things that had been planned for the place, raising a crop of turnips or cabbage may appear a commonplace and plebeian undertaking. But, even if we have to let something else more interesting wait for the present to make room for them, that is a small sacrifice for the common good in these days when so many are giving up the things that vitally affect their entire lives.



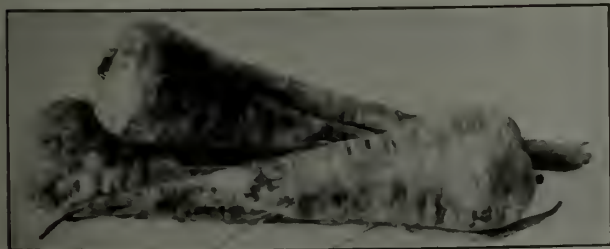
Salsify vegetable (oyster) can be left in the ground all winter, thus saving storage.



Ground from which early crops—either garden or field—have been harvested can be planted to turnips up to the last of July.



Rutabagas planted with seed drill after a crop of early potatoes had been harvested, and wheel-hoed by hand until large enough to be tilled with a horse plow.



Another vegetable that makes no demand on fall labor for harvesting is the parsnip.





Aside from its beauty, the Verdun design is of unusual interest as something created on the famous battlefield

WAR'S REACTION *in* DECORATIVE ART

By RENÉ T. DE QUÉLIN



The *Croix de Guerre*, so called because of the incorporation in the design of the coveted war cross

New printed linens and
cretonnes, some of them

designed by artists billeted near the Front, and
brought from the mills of England and France



ART, as in other peaceful pursuits, we are reacting to the spirit of the war. Its very implements, together with various insignia of its honors and rewards, the flags of the Allies, *et cetera* have been converted into designs for fabric decoration by artists in the trenches in France, and come to us upon the newest printed linens and cretonnes from Paris.

One which we call the Verdun pattern displays the coat of arms of that city supported on either side by exploding shells. In the adjoining diamond panel are the metal helmet; the rifle and sword bound together with oak leaves, symbol of strength, fortitude, and courage; and the initials of the *République Française*. Another panel shows the Roman fasces surmounted by the red cap of the Republic, the tricolor to the left, and a branch of the oak to the right, with the dates 1914 and 1916, the latter being the date of making the design. In the panel which completes the quadrille of repeat are grouped the seventy-fives that have been such a terror to the Huns, with the lusty *coq de France* crowing defiance to the Boches.

In color, this piece is very gay and attractive. It has an old ivory background, the ribbon, with intervening rosettes, being formed by the tricolor of red, white, and blue, bound on either side by laurel leaves in green and brown. The panels also are in these colors, the whole well balanced and of unusual interest, especially as something actually created on the renowned Verdun battlefield.

Another war design very decorative in its composition and in color, and having an additional one, yellow, has been named the *Croix de Guerre*, owing to the much coveted war cross being incorporated as one of its motifs. The medal hangs

from the top of an oval, dropping from a well composed bunch of flowers. On one side of the oval is a small flag of the United States, in compliment to and respect for what this nation had done for the Allies at the time the design was originated, which was before we declared war. Had the United States been at the time one of the belligerents, the flag would have been included with the battery of the flags of the Entente, which is supported by flowers and the tricolor ribbon. Alternating panels show the seventy-fives in the oval, with the rooster defying the brutal aggressors to overcome it. This oval is surrounded by flowers symbolical of the different countries engaged.

This design is hand block printed upon linen, and both this and the Verdun cretonne are already the vogue in Paris, which greeted them with high favor. For a refreshing change, with timely interest, they may be used for the decoration of dens, trophy rooms, yachts, and public places, having exceptional decorative value for wall coverings, draperies, or cushions.

Whether it is that the pervading fighting spirit finds expression only in vivid hues, or that the sombre influences of the war's horrors make us turn to the most colorful things for stimulation, the keynote in the decorative arts to-day is brilliancy—sparkling effects both in color combinations and animation of design, color being the vital thing. Nowhere do we find it in richer profusion than in some of the newest non-war patterns, that is, those with motifs of the usual type.

A Chinese design of real beauty shows a

charming scene in a garden, with the inevitable but exquisite pagoda, a tea house, and several figures. Notwithstanding all that is said of the strict formality and reserve of the Chinese as regards anything approaching romance, there is really much that is of this nature in many of the legends depicted in the old scrolls, one of which suggested this Oriental pattern.

The colors of this fifty-inch piece are displayed upon an ivory background. There are deep putty tones, and the tea houses and various figures are in blue, green, gold, and red, the flowers in the stripes being in the same lively tones. This linen is adapted to various uses in the decoration of the town or country house.

A Bird of Paradise creation affords a remarkably bold, strong pattern, meeting in its color combination the present demand for the fashionable mixtures of black, gray, white, and old gold—a stunning thing in the right place. It has a swing and “go” to it that is captivating, and is, in addition, delightful in its composition and drawing.

The Pine and Pheasant is a beautiful printed linen, rather daring in design, but most effective for wall panels and draperies where a narrow width of thirty-one inches will suffice. The background is in a light putty tone, with the tree in forest browns of several shades. The foliage shows blues and greens; the flowers are in soft mulberry, old gold, brownish gold, and cream tones. The birds display a concentration and focusing of all these colors. For richness this pattern is unexcelled.

South American flora supplied the motifs for a piece exquisite in both design and color. Its subdued violets, blues, and reds predominating,



The Heavenly Flower, a cretonne of Chinese design



The Pine and Pheasant, printed linen, daring but effective



South American flora supplied the motifs for this design



A charming Chinese garden scene, with the inevitable pavilions and tea house, printed on ivory colored linen

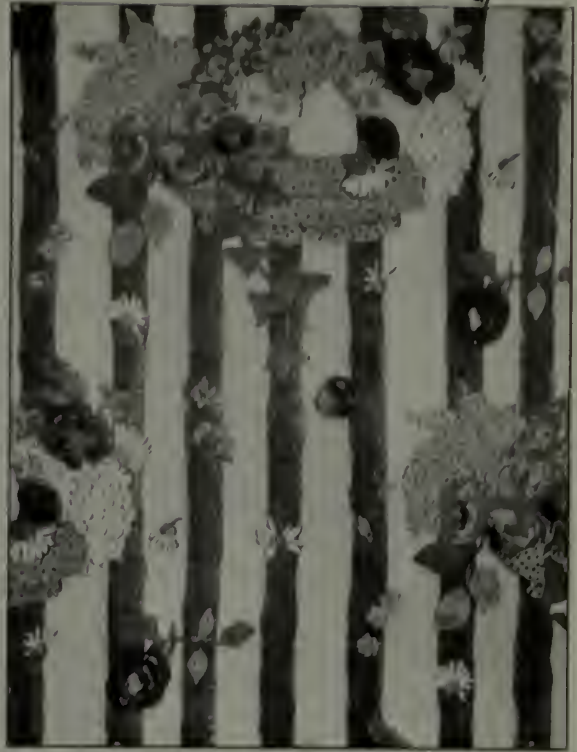
form, and separated by a black stripe. It is very striking and effective.

For hangings and cushions of the modern type, this piece is particularly well adapted for use in country houses.

The Heavenly Flower, a cretonne of Chinese design, exhibits blue scrolls, the symbol of heaven, with flowers emanating therefrom, and upon which is supported a sacred vase, from which flowers grow.

This fantastic arrangement is well set off by a black background, a combination much used in the present mode. Owing to the well covered surface, charm of design, and pleasing color, this cretonne can be successfully employed for almost any purpose, and would form a very decorative note in any sort of a room for which this material would be considered appropriate.

The stripe and diamond pattern, an outcome of the present mode for adaptations of primitive art, is cleverly and interestingly composed. It is in black and burnt orange, with touches of red and green, and green-lemon

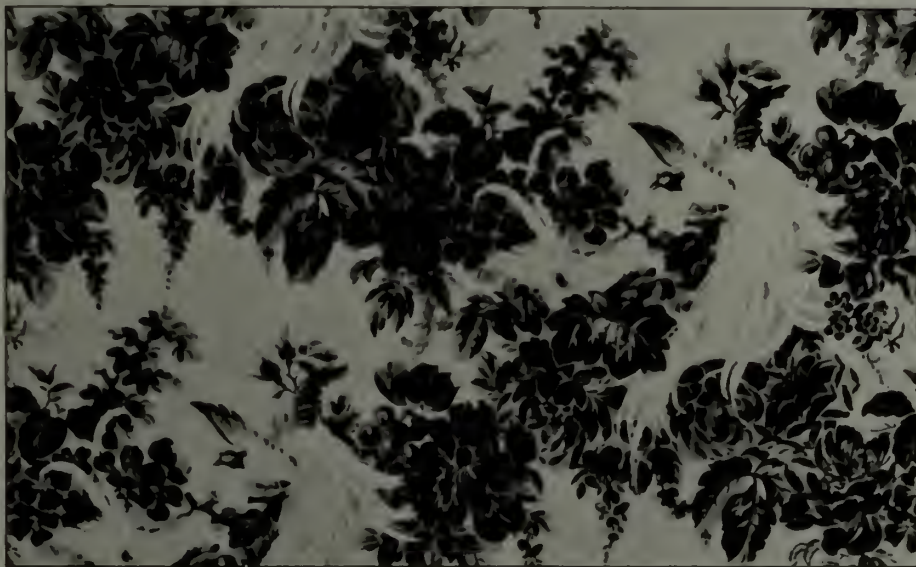


Strikingly decorative is this arrangement of baskets and flowers against an orange-striped buff background

are offset by contrasting greens, with just enough soft old gold to give the right value to the violets. The brown tints stand as a foil for the more pronounced colors, giving each one its proper value. As a piece of color to relieve an otherwise monotonous interior, this would strike the right note.

This pattern could be used to great advantage for panels or hangings, and for upholstery for the better grade of willow furniture.

A full width cretonne is the Fifth Avenue Stripe. The design is composed of richly colored flowers on an ivory ground, hanging in pendant



tones, and minute white accents. This peculiar style is just now creating much interest, and this particular pattern is one of the popular ones.

A cretonne with orange stripes outlined with blue on a buff ground, shows an alluring basket of flowers at recurring intervals. The varied colors are subdued but rich. There are scattered flowers, as if falling from the baskets, that break the monotony of stripes in a very happy manner. The arrangement and color effects, striking but subdued, are such as appeal to those who appreciate that which is truly decorative.

The Bird of Paradise, a bold, strong pattern, delightful in composition and drawing

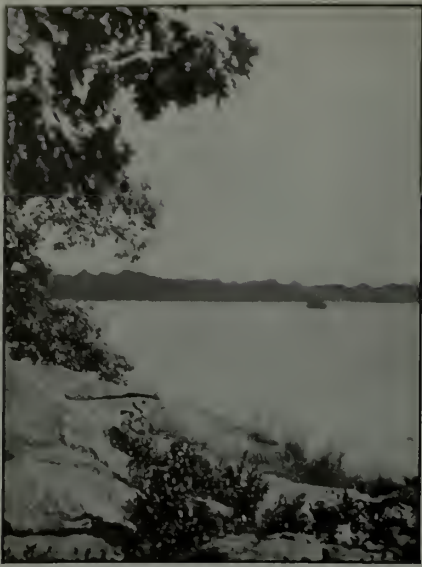


The stripe and diamond design is an outcome of the present mode for adaptations of primitive art, which is just now creating much interest



A design particularly well adapted for use in country homes is the Fifth Avenue Stripe, consisting of clusters of pendant flowers separated by black stripes, on an ivory ground



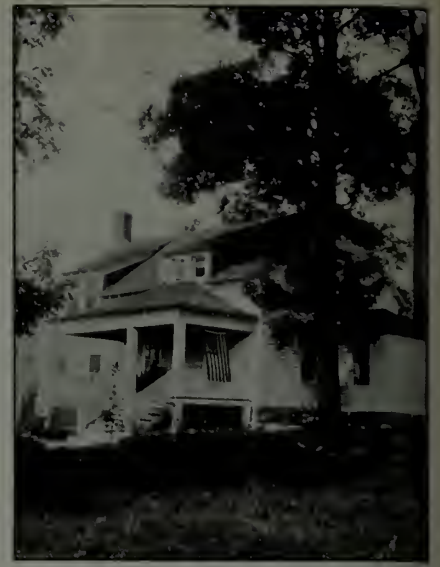


The beautiful glacial lake in the midst of the bird rendezvous

A RENDEZVOUS for BIRDS and their FRIENDS

By HERBERT K. JOB
Photographs by the Author

The new field headquarters of the National Audubon Society at Amston, Mass., where whoever cares to do so may profit by the Society's teachings in the attracting and propagating of wild fowl



The Audubon House, provided by Mr. Ams for the housing of a small museum and working library

EVER since the National Association of Audubon Societies officially took up the matter of encouraging practical measures for attracting and propagating wild birds and game on estates, farms, or preserves, culminating in the establishment of its Department of Applied Ornithology, in charge of the writer, there has been persistent inquiry from the public as to where such methods in successful operation could be seen and studied. This has now been met in the establishment of the Audubon Experiment Station at Amston, in eastern Connecticut.

Ten miles from Willimantic, at the southern end of the town of Hebron, bordering Colchester, is a large tract of land formerly known as the Turner project, then called Turnerville. A few years ago this was bought over by Mr. Charles M. Ams, and it has been rechristened "Amston." The property includes a small village, a tract of three or four square miles of fine rolling country, part wooded, and a beautiful glacial lake with bold, picturesque shores, besides ponds and streams. It is natural bird and game country, and abounds in wild life. The ordinary birds are unusually plentiful. It is a grouse and quail country. Wild ducks, geese, and other water fowl flock to the lake in migration, and some species remain to breed. Mr. Ams, who is a very busy man, felt the need for outdoor recreation, and bought the property mainly for the lake, which affords the best of opportunity for boating, bathing, and fishing, amid ideal scenic surroundings. He had been getting interested in wild bird life, and became a Life Member of The National Association of Audubon Societies. One thing led to another, and he has now generously given the Association the free use of this great property, representing an investment of more than a quarter of a million dollars, as its Experiment and Demonstration Station, to conduct research work in practical methods of increasing wild birds and game, as the basis for such plans and methods as it might see fit to employ for interesting and educating the public in these things. In order to secure adequate protection, this land has been made a State Game Preserve and Sanctuary, one of the largest in Connecticut. Practical work with birdlife has now been under way for more than a year, beginning on a modest scale, along the following initial lines.

The first thing undertaken was to begin experiments in the breeding of various kinds of native wild ducks other than the common semi-domesticated mallard. The ideal requirement for this is a small pond, preferably with swampy margin, bordered by swamp and low cover, with



Bob-whites mothered by a Bantam hen. Eleven little quails are feeding from the hand

a good flow of water through it, and free from dangerous vermin. There was just such a pond available, maintained by copious flow from the large lake. We surrounded this and nearly twice as much area of the adjacent swamp and pasture land with a vermin-proof wire fence seven feet high, making an enclosure of three to four acres, which is an ideal size, not crowded, nor yet so large that the birds are beyond control. A scouring of the game dealers of the country has now resulted in placing there fifteen kinds of pinioned wild water fowl. Fourteen of these are wild ducks, perhaps the most interesting of which is a good stock of the canvasback, that celebrated dream of the epicure. My own previous experiments had resulted in the breeding of these, in cooperation with Mr. William Rockefeller, for the first time in history, and we hope now to work this out further. The other species which we have secured are the redhead, ring-necked, greater and lesser scaup, wood, black, pintail, wild mallard, baldpate, gadwall, green-winged and blue-winged teals, and mandarin ducks, and the coot or mud-hen.

One great difficulty in breeding wild ducks of certain species, especially the diving ducks and the more delicate varieties, has been the wintering of them in the colder parts of the country. Open water is almost essential, but it is a problem how to maintain this under zero temperature conditions. We have solved the problem in the building of a simple aquatic house out in the pond. It is near the north shore, facing south, with four large frame windows south and one west, admitting all the light and sunshine that there is. Two thirds of the interior is the swimming pool; the remainder a platform for feeding and resting. Our house is 24 x 16 feet and just high enough for a man to stand erect in the middle on the platform. Ventilators supply air as needed, but they can be shut up tight on very cold nights. It is seldom that any ice forms, and even then not enough to do harm. For two winters now this has worked perfectly. The ducks come through the winter without frozen feet and in good condition to breed, and as soon as the ice goes they are let out on the pond. The first season captured wild ducks seldom breed, but after that they should gradually begin. The eggs, laid in the swamp or adjoining cover, are taken and set under hens, the young being put in the pond when well feathered. Such work is a most fascinating undertaking for lovers of wild fowl who have or can make a small pond, or who can enclose a piece of land with a brook running through it.

Another interesting line is the propagation of upland game birds. Pheasant rearing is well known, successful, and even commercially profitable for those who manage it carefully, following the instructions gained from the experience of the past. As this matter is beyond the experimental stage, we simply rear a few for instruction and demonstration purposes. The quail breeding proposition we are working out carefully. Already we raise them successfully on a small scale, and are working out further problems, especially in reference to holding them on land in a free wild state after they are matured. Last season we began with the common bob-white and the California quail. It was an enthralling sight to our visitors to see the broods of strong young quail flush and whirr off vigorously across the rearing field.

A new line of work which we are adding this year is the breeding of wild pigeon species. We have a wire enclosure built in the woods, and have now stock of the common mourning dove, and of the band-tailed pigeon of the West, a handsome, large species, much like the lamented passenger pigeon. The former is known to breed readily in captivity. At the New York Zoological Park, from which Mr. L. S. Crandall has kindly



The aquatic house for ducks in winter. Without artificial heat, the water stays open inside, so that the ducks can swim all winter

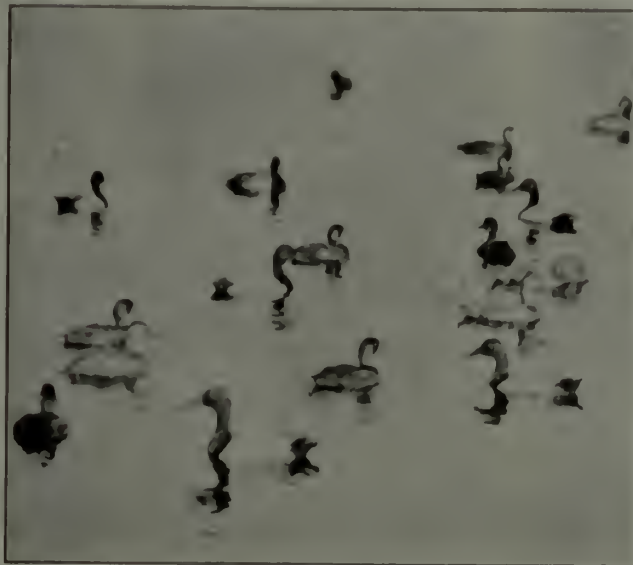
furnished our initial breeding stock, they are regularly bred, and the young are given the liberty of the Park, but do not attempt to migrate away, seeing that food is provided for them.

The attracting of the smaller song and insectivorous birds is another interesting line of effort. Winter feeding is one effective method, as is also the growing of vegetation bearing foods of which birds are fond. We have set out in suitable locations a considerable number of nesting boxes to attract those kinds which normally nest in hollows. Many interesting bird tenants resort to our boxes, such as bluebirds, wrens, tree swallows, and others. The best location for these nesting boxes, I am finding, is on posts, out in the open. Posts of fences around open fields make excellent sites. The box is nailed to the end of a pole or timber, say about six feet long, and this is spiked or screwed to the post, bringing the bird house eight to ten feet from the ground. The birds fairly flock to these, and we hope to build up some interesting nesting colonies.

Though the results of these experiments will be published, another part of the plan is to make it possible for people to see such work in actual operation, and this is being done. Persons who wish to see and learn are welcome to visit the Experiment Station. In order to receive and assist them, the following arrangements have been made. Mr. Aus has generously provided a furnished residence, known as the "Audubon House." Here the Association maintains a small museum and working ornithological library, of which visitors are invited to make use. We shall try to make this a social centre for bird lovers during the coming summer season. Mr. Aus has also equipped the Amston Inn near by, where accommodations can be secured at moderate prices.

Beginning on July 6th, there will be held a Summer School of Ornithology, continuing for

three weeks, with courses of instruction and evening lectures by visiting specialists. The study courses will be on bird study and field ornithology, attracting birds, propagation of game birds and water fowl, and nature photography, both still and motion pictures. These courses are to be conducted by the writer, with



Canvasbacks and scaups at the Audubon Experiment Station, where so far there are fifteen different kinds of pinioned water fowl, fourteen of which are ducks

field demonstrations and excursions, with Richard Edes Harrison as Field Assistant. Mr. Harrison is a keen young ornithologist, son of Prof. Ross G. Harrison of Yale University. These courses are planned to be popular ones, helpful to lovers of birds, teachers, those who wish to learn propagation methods for pleasure or profit, and amateur photographers who wish to improve their camera technique on wild bird subjects. Students will be accommodated

at the Inn, or arrangements can be made for them to camp by the lake.

The plan in general is to make Amston a rendezvous for lovers of wild birds and game by providing within easy reach various features of wild bird life and game propagation, amid beautiful natural surroundings, with conveniences for visit or stay, where, more and more, enthusiasts along these lines can find others like-minded, and join with them, if they desire, in observations afield. For such things the location presents unusual opportunity. It is decidedly unique to be able to avail oneself of a great private estate, with a lake as wild and sightly as in the Adirondack wilderness, and opportunity for aquatic sports. A good elevation makes it practically free of mosquitoes or other pests, and usually of comfortable temperature in summer.

Though the National Audubon Society has its business headquarters on old Broadway, in New York City, and welcomes there many friends, it is by no means averse to trying to build up a field headquarters, where some of the practical fruits of its teachings may be enjoyed by its large and ever-growing following. Information and descriptive literature will be sent on application to the writer at West Haven, Conn., or to the New York office of the Association. As part of the work of the Association, I am glad also to give information and publications about methods of attracting or propagating wild birds and game, through The Department of Applied Ornithology.

Application for Summer School enrolment should be made as soon as possible, as accommodations are limited, and will be assigned in the order of receipt of applications. I would also suggest, for other parts of the season, beginning with the opening of the Audubon House in early June, that organizations and parties interested in birds or game arrange for vacation outings or field days at Amston.

The PIG as a WAR BRIDE

By J. E. DODGE

THE United States Department of Agriculture informs us that there were five million less hogs in this country last year than there were in 1916; this means that if five million less animals were slaughtered, more than a billion pounds less of pork products were available for consumption in 1917, and it is easy to see why we have 60-cent bacon and ham that rivals game birds in price. In view of the fact

that, because of their keeping qualities and ease of transportation, pork products are among the army essentials, the importance of greatly increasing the pig yield of 1918-19 becomes evident.

Owners of both large and small estates can, with surprisingly little trouble, contribute greatly to the nation's fat and meat supply by raising hogs either in large or small quantities. The quickest way to do this is by means of the bred sow; each sow should farrow and raise, at the

lowest calculation, five pigs from each litter, which means that when the pigs are six to nine months old their owner has from 1,250 to 1,500 pounds of potential pork. Multiply this by two, for the sow can be bred to produce two litters per year, and the yield of ham, bacon, sausage, scrapple, lard, and headcheese becomes 2,400 to 3,000 pounds. Can one do anything more patriotic or beneficial to the country than to start at once the raising of pork?



Pigs in clover. It is now commonly accepted as a fact that, given half a chance, the maligned pig is as cleanly as any domesticated animal



A prize Duroc-Jersey pig. This breed is red in color, large in size, and of the lard type. It matures early

The Berkshire is attractive in appearance and furnishes the choicest of hams, loins, chops, and bacon



The Chester White, another of the lard type, is similar to the Poland China in size, but is pure white



The Tamworth is essentially a producer of bacon of exceptionally fine quality, with fat and lean well mixed

The lard type. A bunch of Poland Chinas that averaged 230 pounds dressed at ten months of age



The popular impression that the pig is a synonym for filth is a fallacy, for he is really one of the cleanest of animals if he is given a fair opportunity, as the colony system has proved. This is the best method of raising swine; one colony house will take care of the sow and her litter, and when weaning time comes the house will provide a home for the entire litter until slaughtering time. Several of the sows, after the pigs are weaned can be grouped together in one house, or a number of houses can be put in one large lot or field, where as many pigs as convenience dictates can run together.

There was a time when it was thought that the hog could be well and profitably grown only on grains and in the great grain producing states. Time and experiments, however, have proven that other sections of the country can grow hogs almost as cheaply and just as well as these states; in fact, even in the corn states the successful hog man does not depend on grain alone, but supplements it with forage crops.

The forage crop is one of the most valuable assets of the hog breeder, and the estate owner, by planting small fields or subdividing large ones, can keep enough crops growing largely to maintain and grow the hogs until the fattening period. Fortunately we are not confined to one or two crops for this purpose; pigs like and do well on very many

cereals. Winter rye, one of the best of these, should be kept fed down to a height of four to six inches; or, if there are not enough pigs to keep the rye short, remove them when the rye begins to head out, turning them back again when it is ripe, and they will in this way harvest the grain crop.

Barley sown early in the spring, and pastured when six to eight inches in height, can be followed by peas and oats to be used when they are ten inches to a foot high; alfalfa, if conditions are favorable, and all the clovers are also good. For Massachusetts we have found dwarf Essex rape to be the best and most profitable of all the forage crops; starting in early spring, it can be sown at periods of from ten days to two weeks apart, and pastured when it is about a foot high.

If the hogs are removed before it is cut down too short it will grow up again, for late fall and early winter forage; a field of rape from fifteen inches to two feet high and another of barley sown in August will furnish a large amount of pasture.

Pasturing hogs in this way means harvesting crops without man labor, and it does not destroy the fertility of the pasture fields. For best results it has been found necessary, with growing hogs, to supplement the forage crops with some grain or mill feed. The least expensive way to feed the pigs is to provide self-feeders and drinking fountains of easy access. With these and forage crops provided, one man can handle a very large herd of hogs; even without them, a few hours per week will enable him to care for several head.

The usefulness of garbage in the feeding of pigs needs mentioning, for it is the best possible food on which to maintain and grow hogs; supplemented with grains, it will produce the best quality of pork.

In view of the tremendous labor shortage and the vital lack of sufficient fats and meats, the pig is one of the most important means of meeting our national food deficit. The quickest and best way to increase the production of fats and meats is by way of the hog, for he multiplies faster and is ready for food more quickly than any other animal; moreover, he can be raised on land now idle, on home grown foods, and with little labor.



No breed excels the Poland China in early maturing qualities. Twenty such hogs, at nine or ten months of age, would supply a whole company of infantry its pork and lard ration for a month



Berkshire pigs feeding on rape. The forage crop is one of the most valuable assets of the hog breeder, and fortunately there are any number of such crops which pigs like and thrive on

WHAT *the* WAR is DOING for the MOTOR BOAT

By LAWRENCE PERRY

Photographs by EDWIN LEVICK

SOWHOLLY engrossing is the war, not only with those who are directly engaged in the great strife in Europe but with all who are carrying on in whatever way the work of the world, that there is no general tendency toward looking ahead to the time when peace shall have come and affairs have regained the normal. The problems arising from day to day are all sufficient to occupy mind and physical energy, and the morrow is more or less left to abstract theory.

This is no less true of motor yachting which is both a sport and a business than of any other activity; but at the same time the yachtsman who has followed current trends as related to boats and motors cannot have failed to discern conditions which must inevitably exert a revolutionary effect in ways many and various.

One fact which is especially patent is that with thousands of young men who never before had had experience on the water, and who are now in our Navy and Naval Reserve, the yachting roster of this country is going to show an unprecedented increase. This, beyond all question, is a fact; for these young men, with the war over, are going to retain a strong and abiding love for the sea and will continue their newly acquired art of navigation, or at least boat handling, in the way of sport and recreation.

They will come to the sport with well-formed ideas as to the desirability of wholesomeness in their craft and self-reliance in the conduct thereof. As a result of long, stormy days and nights of convoy service, with dashes after U-boats and hours of lying to off rocky inlets amid the wintry waves, those who go in for motor boating will have formed a keen and critical judgment as to what constitutes a real boat, and in planning their own pleasure craft they will be found to have evolved a boat that can weather a storm without running for the nearest shelter.

In other words, we shall see the bulk of our motor yachtsmen converted into a band of shellbacks who meet wind and sea at their worst, and jam through weather which is prohibitive to the average pleasure craft of the present day. The shallow draft, high-topsided vessels with sterns that cause stem pieces to attempt a conjunction with the rudder when a sea follows, and whose only excuse for existence is that they can win a cruiser race when pitted against real, wholesome cruisers, will be a comparative rarity.

For in every Naval Reserve man who returns after the war from weary patrol of the North Sea or the coast of France we shall have another good judge of what constitutes a sea boat; and in the fact that at the present time he may not have a boat of that sort under his feet, will be born a strengthening of determination to have such a craft when he goes in for yachting on his own hook.

He will not only sail and handle his own boat because he knows how and wishes to do so, but in large measure he will be obliged to do it because of the absence of paid hands.



The swift, weatherly boat which can be handled by one man will have the cill when peace comes

There is no doubt that for years to come commercial demands will exact a large toll of seamen. Our transatlantic shipping, for example, is practically certain to expand enormously after the war, when the lanes are open to commerce, and the question of sailors to man our craft is certain to be an extremely important problem.

Wages will be attractive and employment steady, so that the yacht berth with its winter lay-off at half wages will not in any way appeal to competent yacht hands, who will find on the deep sea and coastwise lanes lucrative work year in and year out. The result, of necessity, will be that the sport-loving yachtsman will go into a class which he may manage single-handed, or at most with the assistance of one paid hand.

This seems to argue that the prevailing size of motor craft will range from thirty-five to forty feet over all. The thirty-two-foot "cruisette" or a forty-foot bridge deck cruiser permits the steersman to be sufficiently far forward to handle both wheel and motor satisfactorily when making a landing or picking up a mooring, and that this will be a popular asset in motor craft seems to be undoubted.



Thousands of our Naval Reservists will enter yachting after the war, having had experience on submarine chasers of this type

Such a craft, with a multi-cylinder, high-speed motor coupled to a reduction gear, with self-starter and everything of the best, will probably equal the cost of the average sixty-footer of three years past; and it will require more outlay to purchase and maintain this smaller craft than it cost to buy and keep the sixty-footer of 1916.

All of which causes some wonder as to what will be done by the retired sailors who, as already set forth, may be expected to enter motor yachting. Basing estimate on the present situation, it is no exaggeration to say that the young man of average means will have to be content with the humblest sort of craft—a skiff with an engine in it, perchance—unless designers and engine builders find it worth while to direct their energies to the production of desirable craft which may be purchased at a reasonable sum. Whether the cost of labor and materials will render this possible after the war, and whether or not the demands of commerce will cause designers and builders to bestow much interest upon the pleasure

side of yachting, are questions for the future to decide.

At the present time, designers, famous for their pleasure craft, are engaged in commercial and war work, and there is more than a chance that the commercial side in times of peace will offer financial attractions not to be resisted. Certain it seems that there will be a vastly reduced output of the larger types of power yacht and that the smaller types will be comparatively rare. All of which has its roots in essential phases of the industry of boat and engine building as it existed up to the time of the entrance of the United States into the European War. In order that an adequate understanding of the situation may be had, it will be necessary to consider somewhat closely conditions and trends as they prevailed previous to hostilities and in fact, for some time antedating the year 1914.

It may not have been generally recognized, but it is a fact that the greater portion of the marine motor and motor boat industries was founded upon the unstable basis of cheapness. Hailed as the real and vital creative influence in the upbuilding of motor-boating, it may now sound as rank heresy to say that far from being so, this jerry-built aspect of the industry was distinctly harmful, inasmuch as it tended to the construction of houses of cards rather than structures that would endure.

It is a fact that the marine motor sold at a lower price per horse power than any other type of engine. And in its early days it operated upon the cheapest fuel known; a fuel which but for the inception and development of the internal combustion motor would continue, as it once used to be, a practically valueless by-product—gasolene.

Not only was the gasolene motor cheap in its first cost and in fuel consumption, but it involved extraordinary economy in maintenance.

Primarily it eliminated the necessity for the services of a licensed engineer. Even the landsman will

recognize what this involved in the way of economy. As a matter of fact, in the case of smaller craft which sprang into existence within a few years after the marine motor had been developed to workable state, this saving more than paid the cost of motor and fuel for an entire season.

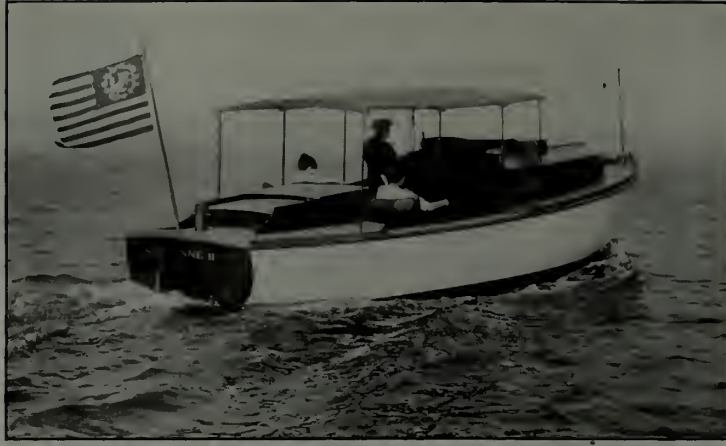
With cheap fuel, a motor that was inexpensive, and no attendant nor license examination necessary, the bars to sport on the water were down, and with one fell swoop the entire water-loving public, as it seemed, was in the market demanding hulls and motors. As was naturally to be expected, the supply was quick to meet this demand. Factories for the building of gasoline engines sprang up like mushrooms, many of them owned by men fresh from the bench and the forge who were first-class mechanics, but in many cases the poorest sort of business men, who lacked at the outset one great essential—a conception of what overhead means.

To these manufacturers, cost of material plus cost of labor constituted the entire expense of producing their output—which they seemed to believe would sell itself. Thus it was that unwholesome conditions were born, and newer motors were priced at figures which were appreciably lower than the none too secure margin of profit at which the older engines had been listed.

Almost any mechanic could turn out a two-cycle marine motor, and apparently almost every mechanic did—at least this was the impression gained by the thick and fast appearance of new engines. Where one concern failed and went out of business another came into the field, and the industry, broadly speaking, seemed to degenerate into a sightless endeavor to see who could sell the most motors for the least money.

Sad to say, the idea of quantity production was carried out, but the theory of quantity sales was not realized, for the reason that it did not, has not, and probably never will exist in the boat engine field. So here was the fatal weakness. Your automobile manufacturer could place an order for blocks of several hundred, or even a thousand car engines, but each and every marine motor called for an individual sale, and it cost about as much to sell motor No. 100 as it did to sell motor No. 1. It will thus be readily grasped how materially the problem of the marine engine builder differed from that of the automobile motor man.

And the average boat builder fared little, if any, better. He was as likely as not to be a ship carpenter who did his own work with as little help as he could possibly hire, and his business intellect was no more developed than that of his engine building confrère. So he would build at a loss and finally succumb, another entering the field to take up his burden of turning out low-priced hulls at a loss.



A fine type of cruiser which, because of its facilities for single-handed operation, will be popular after the war

While small individually, these builders were sufficiently numerous to prove embarrassing competitors to the few boat-building concerns whose managers understood business methods—including a knowledge of the meaning of overhead. Embarrassing, because these little builders were as a rule splendid artisans who turned out fine craft, albeit at a loss. And naturally the prospective boat owner patronized them until the sheriff arrived and barred the doors.

The one person who benefited was the yachtsman. The prices of course suited him to the ground, and even the rise in the cost of fuel did not affect him greatly.

All this before the war. To-day the entire aspect of the engine and boat building industries has changed. For one thing, the little engine builder is now making more money as a paid hand than he ever made in his own shop, while the big manufacturer is turning out contract work that pays not only an excellent profit but has opened his eyes regarding quantity orders and close measurements. If either returns to his original enterprise it will be with the idea of achieving better products and receiving more pay therefor. And so with the small boat builder. He will not again return to his philanthropic calling of paying for another man's sport on the water.

Thus, it seems likely that, as already stated, the motor boat owner of the future will be obliged to pay more for hull, engine, and equipment. Unlike the motor car, which started at the top of the price list and worked downward, until almost any man may have his car, motor boats—or the great majority of them—are likely to be restricted to a more prosperous class than went boating a few seasons ago.

There will unquestionably be changes in the type of motor. With fuel cheap, the matter of waste was one of small moment. The principal consideration was economy in motor cost; saving in the two-cycle motor was out of the question.

Had it not been for the low cost of fuel there is no telling what might have happened to the sport. For the two-cycle motor represented a waste not alone in the quantity of gasoline consumed per horsepower developed, but in the fact that at low rates of speed the engine would not operate with any degree of certainty. The yachtsman thus was forced to run his motor at a much higher number of revolutions per minute than otherwise he would have found necessary.

It is now a fair assumption that the easily controlled and more economical four-cycle engine will be the prevailing type. It will cost more, but in results it will be worth the increased outlay.

Again, the war has reduced manpower available for agricultural purposes, and has developed a strong market for tractors. There is no

doubt that they have come to stay, these tractors; and they will, of course, involve a further reduction of the fuel supply, so that even the so-called low-grade fuel oils will be in such demand that economy in their consumption will necessitate further improvements both in carburetion and ignition. Even so, these factors to-day are much more efficient and costly than those with which the motor boat of but a few seasons ago was equipped. The adjustments of the one and the spark of the other would have caused wonder ten years ago. Yet they are absolutely necessary in order to obtain from our present grades of fuel the combustion which we accepted as a matter of course in the good old days of 11-cent gasoline.

The marine motor after the war will most certainly bear the influence of the work that has been done in developing the airplane engine, the worker in which has become accustomed to a standard of accuracy of measurement previously undreamed of. From the Italian and French planes will be adapted an accuracy of fitting, a delicacy of finish, and a critical selection of material which will make the marine motors of peace times to come as far ahead of present types as these types are in advance of the crude motors of eighteen years ago.

The coming marine motor, with lessons of the airplane engine in mind, will be infinitely more powerful; it will hold compression better, and will be more enduring under continued speed. It will also be more expensive. Put that down as a prophecy.

No doubt the reduction gear will be largely utilized to permit of tremendously high speed motors being coupled to propellers revolving at moderately fast revolutions per minute. Bearings now lubricated will be water-jacketed, and the reciprocating parts will be so nicely balanced as to reduce vibration to a minimum.

Until the fighting airplane was developed it was the proud boast of the marine engine builder



A snug single-handed arrangement of control factors



Clever bridge detail arrangement making for one-man control of boat and engine

that of all hand-worked motors, his must bear the brunt of greatest continuity of strain and sustained effort. Thus he sought no excuse for turning out motors of weight and bulk greatly in excess of those produced by the car engine man. But now that the airplane engine manufacturer has beaten him in the essential matter of endurance under stress, he will have to devise a marine motor that will combine lightness with rugged strength, else he will have to retire, leaving the field to the airplane motor designer.

We shall, beyond peradventure, see radical changes in the design of motor craft—one of the very excellent war influences. For the advent of the motor boat was all too sudden. There were, to be sure, a few men who brought to the new business a knowledge, gained through years of cruising experience, of just what a boat should be. But they were in too great a minority to exert anything marked in the way of influence on makeshift types. In truth, to keep in the market they were compelled to compromise with prevailing ideas as to model. As a consequence it is a matter for wonderment that we went as far as we did in the way of hull design. We had, to be sure, advanced up to the time of the war; after it, however, the advance will be far more marked, with the probability of standard types and fewer variations therefrom.

The auxiliary will surely be high in favor—an able sailing craft with just enough motor to navigate narrow channels handily and come home to anchor in a calm at about seven miles an hour.

There would seem to be a future chance for the steam engine, of the sort, say, as those now adapted to two types of automobile. They will represent fuel saving and have the advantage of eliminating the twin perplexities of ignition and car-



A type of auxiliary which is popular now, and will be still more so after the war

buretion. Other elements in favor of the steam engine for craft of moderate size are the direct drive, elimination of reverse gear, and the possibilities of reserve power through increase of steam pressure. There is also the advantage of single control by throttle.

As to steam yachts, it is of course a fact that at the present time nearly all the important craft are owned by the Government. One well may wonder whether we of this age will ever again see as large a fleet of steam propelled leviathans as we saw before the war. Men who owned them have had their incomes materially cut through taxes and other war revenues as well as living expenses, and recovery after the war will not be sufficiently rapid to warrant the average man of means to indulge in the enormous yearly outlay which ownership of a big steam yacht

involves. This is saying nothing about the cost of obtaining new craft. Again, there will be the scarcity of crew material, as set forth in a foregoing paragraph. All in all, the steam yacht will be a luxury of the sort which gave pause to our millionaires of forty years ago.

Which brings us to the sailing craft. There is no doubt that here yachting will see its great impulse after the war; it is to the wind jammer that the returned Naval Reservist who is unable to afford motor boating, will turn. He will fill the waters with craft of every length and type, and the millionaire yachtsman will return to the first love of all yachtsmen—the big sloop, or more particularly the fast, weatherly schooner.

The motor boat, as said, will cost more money than it used to, but it will be of a splendid type, able to go anywhere and do anything. Ocean races will boom. The Bermuda and other long distance contests will know a popularity that they never before have known, simply because the boats will be of a type to make the jaunts

safe and comfortable. Engines will be lighter, more powerful, and more generally efficient and enduring than they are to-day. Saving of engine space will allow designers greater latitude in the way of providing comforts and conveniences. The average boat will be of moderate size, thirty odd to forty odd feet, designed to meet all weathers and to run with great efficiency at a minimum of cost.

We must hold ourselves in readiness for such application as may be made of the Diesel motor to pleasure craft, while experiments now in progress relating to fuel oils of various sorts may eventually result in the production of a new kind of marine engine. As to this the future alone will decide. At present we may only view present trends and have our theories and facts thereon as best we may.

A COURSE in ESTATE MANAGEMENT for WOMEN in WAR TIME

II—Developing timber land and water power

By ELMA LOINES

N CONSIDERING the development of any large estate which comprises timber land, water, and arable land, the woman who wishes to develop it to the best advantage, both for her own sake and for that of her country in war time, must naturally inform herself at the outset as to what are the essentials to know in regard to each department of it.

In taking up that of timber land she cannot do better than to read and study that excellent little volume "The Book of Forestry" (Appletons, 1916), by F. F. Moon, Professor of Forest Engineering in the State College of Forestry at Syracuse, N. Y. I quote but a few words from it to show the true import of forest land: "Who can over-estimate," he says, "the value of a nation's forests? They supply timber, control the runoff of spring flood waters, temper the climate, and in countless ways add immeasurably to the comfort and happiness of the people. In the words of John Muir, 'They are truly foundations of life.'" Improper treatment of the forests of China hundreds of years ago has caused her people untold misery and poverty in the present day.

So she who would manage a forest tract to the best advantage should know the value of it in its entirety; as the home of game and wild life, as that which holds the winter and spring rains in the soil and releases them gradually when

needed; as the moderator of climate, and the source of valuable timber and its by-products.

Most important is this relation of forest to water supply. The humus or top soil of the forest can hold water many times its own weight. It acts as a sponge, and when it becomes saturated the overflow finds its way from the hollows formed by tree roots, down to the neighboring brooks.

The forests also form windbreaks which diminish the evaporation from plants and soil. These are of especial value to the grain fields in the Middle West, protecting them from the parching winds which may otherwise ruin the crop over night.

The manager will find it advisable, too, to learn to recognize the different trees. And she will find it useful to know something about the general properties of wood, that she may better appreciate the value of her own woodland. The principal characters of wood are color, hardness, durability, grain, etc. Construction work requires timber which is strong, durable, cheap, and of large size; cabinet work and furniture, that which is hard and will not shrink and which has a beautiful grain. Masts for ships require wood of great strength. Resin and turpentine are valuable by-products. Wood pulp for paper is generally made from spruce or poplar. Spruce is also used for constructing airplanes, for violin backs, and for sounding boards for pianos; chestnut for telephone poles,

railroad ties, and fence rails; its saplings or shoots to prop up grape vines. Locust, because it does not rot, makes excellent fence posts and rails. White cedar is used for rustic fences; red cedar for boxes and for lining closets to keep out moths; it also gives a valuable oil. Hickory, maple, oak, and even white birch are used as cord-wood for burning, while maple and oak are among the very best of our furniture woods. The sap of the hard maple is taken at a certain time in the spring when it thaws by day and freezes by night, and made into syrup and maple sugar. Chestnut, oak, and cedar contain tannins which are antiseptic and retard bacterial action. Hickory, because of its hardness and toughness, is valuable for making wagons, etc.

As trees when left to themselves in a forest take a very long time to grow, the forester tries to assist nature by thinning the younger trees which shut out light and moisture, and so cuts down the time of growth by forcing the selected trees. And sometimes he finds it advisable to prune the lower branches of whole groves in order to let in more light. By proper thinning, sprout chestnut will yield railroad ties in thirty-five years, when if left to nature it would take forty-five or longer. In cutting for fuel, much judicious thinning may be done at the same time. This will allow the desired trees which are left to seed themselves and so start a new growth.

Coppicing is another method of starting the

forest growth. This can be done with certain species which have the property of sprouting from the root collar, such as ash, chestnut, maple, oak, and basswood. If this is done, a dense thicket of rapidly maturing sprouts will spring up and produce a fine crop of timber. But it must be done judiciously and not too often, or the vitality of the trees will become too greatly reduced.

Much waste land can be reforested with plantations of nursery trees, which may be had at low cost from the state nurseries. We ourselves had a sandy meadow bordered by a brook which occasionally overflowed its banks and deposited more sand. None of the crops which we tried would grow successfully. Not far off was a fine white pine growth, but for some reason it had not seeded itself in this meadow except along the edge of the road. Two years ago we put in a thousand three-year-old trees of white pine, and started some cuttings of poplar, intending to plant them among the pines. Poplars get their full growth in about twenty years and yield a crop while the pine is still maturing; they also shade the young pines. Our cuttings did not root very well, but oddly enough some full grown ones near-by scattered their seed in among the plantation, so that now we have more than we expected. In two years these tiny trees have made a most satisfactory growth. They cost \$4.50 a thousand and it took two men a day and a half to plant them. They were well watered at the start and then were left to take care of themselves. All that the state asks in furnishing them at this low cost is that they

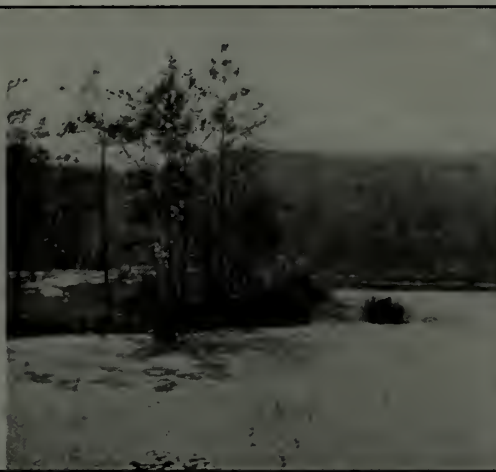
including the cost of cheap land, labor, and trees should be from \$15 to \$20. Professor Moon says that, reckoning the cost of cheap land and planting, the investment should yield 4 or 5 per cent. compound interest, based on 1916 stumpage value; and the value of timber is increasing.

Besides reforestation, there is the sanitation of the forest to be considered. Trees, like crops, must be kept in a healthy state. It really needs an expert to determine how far blights, fungous growths, and rusts are extending, although the state laboratories are sending out to forest owners pamphlets describing in detail the worst diseases which are likely to affect a large tract, such as white pine blister and rust, the chestnut blight, and ravages due to the gypsy moth, etc., and one may always send suspicious specimens to the laboratories to be examined. Professor Moon believes white pine blister to be under control now, but too much care cannot be taken to prevent wholesale destruction to one of our most valuable trees. White pine blister is a fungous disease and passes part of its life cycle on currant and gooseberry bushes. Any of these within three or four hundred feet of a pine plantation should be removed and burned. The affected trees, too, should be burned. To kill the gypsy and brown-tail moths, their food should be poisoned by spraying a solution of arsenate of lead upon the leaves, or by putting creosote on the eggs, etc. Most of the chestnuts of New York State were ruined ten or twelve years ago by a fungous disease which develops in the inner bark and kills the tree by girdling it, thus

So even if the plan is made for her, a knowledge of the elements of the subject will be of especial value to the woman managing an estate. It is well to know how to size up the value of trees on an acre, to know that a "board foot" means the contents of a board one foot square and one inch thick; that a "market" means a log nineteen inches in diameter at the small end and thirteen feet long; to know what weather conditions (such as deep snow and winter) are best for lumbering; how wood roads can be most effectively built; how the logs are dragged to the roadside or shore of stream or lake; what are the seasons for peeling, transporting, sledging, etc.; the most valuable kinds of timber and their uses, and the cheapest and best way of marketing them.

The board foot is the common unit of measurement in this country, because it gives a good though not exact idea of how much sawn lumber may be obtained from a given pile of logs.

Trees are usually cut in winter. They are felled by making an undercut with an axe on the side on which the tree is intended to fall, and then sawed with a cross-cut saw starting from the opposite side of the notch. When felled they are trimmed and sawed into the desired lengths; then skidded by means of a chain attached to the traces, and drawn by a horse to a convenient place where they can be hauled on sledges to the lake or river shore, or else hauled direct to the saw mill. If the final stage is by water, they are transported either in rafts towed by a boat or in scows, or are driven down rivers in the spring floods. If the distance is too great for the



Fifty acres of arable land, with 2,000 of woodland, a waterfront of two miles or more on Lake George, and a couple of ponds, constituted the raw material with which the author and the women of her family have demonstrated woman's ability in estate management

be put in a plantation in rows six feet apart and six feet apart in the row. If the question arises as to whether it is better and will cost

less to transplant young trees, such as pines from one's own forest, or to buy from a nursery and set out, I should say the latter by all means. The nursery bred stock has a much better and larger root growth than the forest grown trees, and therefore better resistance to drought or insufficient food supply. The labor cost is less, too. To prepare the ground for reforestation it should be well pulverized, and if it is not sufficiently fertile well rotted leaves and old manure should be spaded in and thoroughly mixed with the soil. The drainage must be good, for the trees should not stand in the wet.

Hard woods require deep, fertile, and well drained soil. Conifers need less fertility and moisture, though spruce and hemlock require more than others of this species. Early spring, as soon as the frost is well out of the ground, is the best time to plant. If nursery trees are bought, immediately on arrival the bundles should be loosened, the roots dipped in thin mud and heeled in until they are gradually planted. One man should go ahead with a mattock or grub hoe, slice the sod, if the field has not been plowed, and the other follow behind carrying a pail with a little thin mud in it to keep the tiny tree roots moist. As the holes are dug, the second man plants the trees, and firms the soil first with his hands and then with his feet. The trees should be six feet apart and the rows the same distance. The planting of an acre of pines

cutting off the sap supply. Now, fortunately, the disease, although no remedy has been found, is not spreading so rapidly.

Fire prevention is another important thing to consider. The American people must be educated not to be careless in the woods, either in building and leaving fires or throwing about matches and cigarettes. Lightning does a good deal of damage, but not so much as the careless man. And the states must provide an adequate force of guards: lookouts, patrolmen, and rangers. Prevention is the greatest economy. Fire lanes are good on forest boundaries, but uncertain safeguards in high winds, and always expensive. There is nothing like prevention through care and watchfulness.

The general subject of forestry may be divided into three parts: first, the determination of the present and future product of the forest; second, the preparation of working and planting plans for reforestation and the best use of a forest; third, the determination of the money returns from forestry. The first and second, which require very special knowledge, can best be done by a regular forester. One may be obtained through the Federal Department of Forestry. It took about three months for a forester and his assistant to go over our tract of nearly 2,000 acres. The owner pays all expenses, but no fee for the technical knowledge, and the carrying out of the plans is left to him.

lumbermen to go from their homes by day, some provision for housing them in lumber camps has to be made. In hill

country great care has to be taken in laying out the wood roads, otherwise loads may be overturned on horses and driver.

The discarded brush should be carefully burned while the snow is still on the ground and not left to be ignited by lightning and carelessly thrown matches.

Before cutting the trees to be sold a contract is usually made. Sometimes this is made between private owners and lumber companies, to cut trees at so much a "market," the company to furnish the labor and haul the logs. If the owner furnishes the labor (which may be temporary and therefore high priced) and the contract be made for logs delivered at the shore of a lake or stream, the chances are that the owner will be the loser. Coöperative methods of cutting and marketing timber must be adopted to insure the individual owner any profit worth considering. In New York State a large coöperative society already exists, known as the Empire State Forest Products Association.

When lumber companies provide their own labor, the owner must be careful to see that the trees in the neighborhood of those cut are properly protected, for carelessness in cutting may ruin much valuable timber. It is always well to have some reliable person supervise such cutting. The trees must not be cut under a certain size, or there is waste.

Such a study of forestry as here indicated will more than repay any woman who intends to develop her timber land on however small a scale. And now we come to the question of developing the available water power.

The relation between forest land and water power is an intimate one, for it is the forest which holds the winter and spring rains in store and releases them gradually later on, when they are particularly needed.

One of the most fascinating things in the development of an estate is the varied uses to which water power may be put. A large tract of land in the East, and especially in New York State, is pretty sure to have some water on it. Hitherto valuable power has been allowed to run to waste in thousands of brooks, ponds, or creeks throughout the country, and yet with a comparatively small expenditure, much comfort and enjoyment may be had if the water power is suitably developed according to the needs of the place. Now, especially, should power be substituted for manual labor, both as a great saving of time and energy and as a source of profit.

In the utilization of such power, the amount of the *flowing* or the *falling* of water determines the amount of power available. One who has made a study of the subject says: "It requires about one cubic foot of water per second, falling through a height of ten feet, to make available one theoretical horsepower." There is great fluctuation in the yearly flow of most streams, and the smaller streams are subject to greater

of cups into which the water flows, and is used more generally for a rather high head or fall and a rather small amount of water.

Once the power plant is installed, the maintenance cost of a small one is very low. It requires little attention and few repairs. It saves coal, wood, and gasoline. And the power may either be stored behind inexpensive dams or taken from the stream as it runs. Its uses are many, for besides light and heat for cooking, it furnishes power for boats and electric vehicles, for sawing wood, for doing the dairy chores such as milking, churning butter, and running separators; for sewing machines and vacuum cleaners; grating, grinding, and pressing apples; threshing oats, grinding corn and feed; running an ensilage cutter and blower, and countless other things.

Recently I read of an ingenious man who utilized a fifteen-foot drop of water from an old mill-dam half a mile away from his house. The pond was about an acre in extent. He installed a nine-inch upright turbine in a wooden case, belted it to a three kilowatt, or four horsepower, 125 volt, direct current generator, and installed a water wheel governor to insure a steady flow of electricity. It took 7,500 feet of copper wire to carry the current to his house and farm buildings and the house of a neighbor. The neighbor lived nearest to the plant, and as he was most obliging, the man cleverly rigged up a device with a counterweight and valve and wire, so that the neighbor, by pulling a wire at his bedroom window at five in the morning, caused the cur-

rent to flow; and by releasing the wire at night caused it to cease. For this service he was given lights for house and barn free of charge. The plant takes care of seventy-five metal filament incandescent lamps, runs a small electric motor in the dairy, furnishes power for running the grindstone, feed-cutters, hay fork, and fanning mill, for milking the cows, cutting ensilage, and doing various odd jobs about the place. The cost of the whole plant, allowing \$40 for labor for installing the water wheel (the man himself did a large part of the work), was slightly more than \$500. That was fifteen years ago.

Our own plant, I regret to say, cost from six to eight times as much, but included a house, and was much larger, furnishing twice as much horsepower. Unfortunately for us, the electric company which built the first plant did not have sufficient vision to allow for future needs and was inaccurate in its estimate of the amount of pressure. So one plant was built in 1905 and abandoned for another in 1908. For the first plant, the dam of a pond of eleven acres was raised two feet. A four-inch galvanized iron pipe leading into a three-inch and then a two-inch, ran alongside the brook for about 1,200 feet. The fall to the power house was about 110 feet. The pipe was connected to a twenty-four-inch impulse water wheel, and about three horsepower developed. The wheel was belted to an electric generator. It furnished thirty-five 16-candle power, carbon filament lamps. A wooden house 7 x 10 feet and ten feet high was built, with a tiny porch made to hold a circular saw. The saw was connected by means of a leather belt to one of the pulleys of the countershaft. This countershaft was erected on one of the inner walls of the house and had three counter pulleys, by means of which the speed of the wheel could be doubled or trebled. If used continuously the saw would cut twelve cords of wood in eight hours.



Two views of the eleven-acre pond whose dam was raised four feet to provide for the electric plant; and the sandy meadow (left of road) where no crops would grow, which was reforested with poplar, and white pine from the state nurseries

variation than the larger. If the power is required to be constant, the minimum flow must be considered, and if not large enough, arrangement must be made to store the water in the form of a reservoir. Sometimes an auxiliary is used instead in the dry season.

The cheapest form of engine for the smallest amount of falling water is the hydraulic ram. This works on the principle of the impact due to sudden stoppage of flow of a column of water. Hence a ram may be used with water falling a very small number of feet, to raise a portion of a comparatively small amount of other water to an elevation considerably higher than the supply. The minimum fall under which it will work effectively is two feet. Under the best conditions a ram will lift water 120 feet. With a two-foot fall it will elevate about one thirteenth of the supply to a height of twenty feet.

About ten years ago at Lake George we put in a small ram for a three-foot fall and dammed a brook which was only four feet wide, so as to form a tiny reservoir. This supplied a farmhouse of six rooms very nicely; and in this case the brook was below the house. The ram cost, second-hand, about \$20.

One of the most extensively used and best adapted to a low fall and comparatively large volume of water is the turbine type of wheel. This is usually constructed of metal and consists of a series of curved vanes or runners arranged similar to a screw and attached to a shaft. The action of the water causes the vanes and shaft to revolve. The impulse type of wheel consists of a series

gear and chain drive to a carriage on which the roof is supported. By throwing a switch inside the observatory, the roof may, in two minutes' time, be rolled back on to a framework adjoining the house. When the power is disconnected in winter a hand crank is used.

The power house is of stone masonry, 9½ x 15½ feet, and about nine feet high at the eaves. It has two rooms, one containing the cells on shelves, the other the wheel, generator, switch board, meters, etc. The house has a concrete foundation and floor and a support 3 x 5 feet for the wheel and generator. The support rises six inches above the floor, and a trough 8 x 18 inches carries off the water from the wheel through the floor to a point outside.

The supply pipe enters through one side of the building about a foot above the floor. Here the size of the pipe is reduced to two and a half inches and is fitted with a gate valve by means of which the water may be turned on or off. The nozzle of the wheel is adjustable to secure various speeds. Any one who wishes to develop a small water power plant will read with interest a little pamphlet by David R. Cooper, entitled "Water Power for the Farm and Country Home," which is now incorporated into the Sixth Annual Report of the State Water Supply Commission of New York, published in 1911.

Any woman who attempts to develop both her forest land and water power to the full will find her occupation a most absorbing one.

The SEALYHAM TERRIER

By WALTER A. DYER



THE other day some one asked me how I came to be interested in two such widely different subjects as dogs and antique furniture. Off-hand I was unable to think of a better answer than that chance had thrown me in the way of them. Since then, however, it has occurred to me that these two interests are not so widely separated, after all. Or perhaps one might better say that the same slant of mind is appealed to by both of them.

In general, I find two types of people who are interested in antiques. One is the collector, the connoisseur. His mind is somewhat mathematical. He desires completeness and perfection. He seeks accuracy of information. It is a positive joy to him to analyze, to classify, to compare, as well as to possess.

The other type (I must admit that the two are not infrequently blended) is of the sentimental sort. He is more romantic, more imaginative. To him a piece of old furniture or china suggests the life of other days and calls to his mind pictures of a home life now gone. To him there is a charm connected with mere age and tradition. I think it was Charles Lamb who said that he loved everything old—old books, old wine, old friends. He, too, wrote of old china, but not as the connoisseur writes. To such a person it is the atmosphere that appeals, rather than the thing; the suggestion rather than the object.

It is, in short, the old distinction, sometimes too sharply drawn, no doubt, between mind and heart, the concrete and the abstract, the objective and the subjective.

What has all this philosophizing to do with the terrier called Sealyham? Well, I'm coming to that.

My point is that people who are interested in dogs appear to fall roughly into these same two classes. There are the fanciers, the breeders, the bench-show fans. They store up facts about the winning dogs of many breeds. They are the ones who have composed our Standards. They must classify and analyze, and they must have a formula to work toward. Perfection in accordance with a Standard is the end of all dog breeding, and the differentiation of varieties in accordance with set rules and principles.

I admire these people. Without them our dogs to-day would be a sorry lot of mongrels. Without them there would be no fancy, no dog shows, no knowledge of the breeds. They have helped nature to raise the whole plane of canine life to a higher level.

But there is also the great mass of dog lovers in the world to whom physical perfection means less than canine companionship. With them it is the heart and the brain of the dog that count rather than the shape of his muzzle or the distribution of his markings. They think of a dog as a personality to be loved, not merely a type to be measured and charted. The connoisseurs of dogdom are sometimes, I fancy, a bit scornful of these ill-informed amateurs, but it is a question whether either the dog or the fancy could get along without them.

On second thoughts, I believe I should add a third type—the sportsman—to whom a dog is a means to an end and with whom working efficiency is the criterion.

Now at last I come to the Sealyham, for if there was ever a dog fitted by nature to appeal to the enthusiasms of all these sorts of people, it is he. Never was there a dog who responded more promptly to scientific breeding than he, never a more intrepid hunter in his allotted field, never a bright-eyed, rugged, cocky little rascal better fitted to wriggle his way into the hearts of the masses.

I am attempting no invidious comparisons



A pair of Miss Jean Work's Sealyham puppies, sired by Brockholt Bacchus



Mr. W. Ross Proctor's Ch. Hadley Hoodwink, first winners at New York in 1917

with Airedales or Great Danes or toy poodles or any other favorite breed. I am simply asserting that no one who likes a typical terrier can look upon the Sealyham with indifference.

You don't know the Sealyham? Well, that is unfortunate, but it is not surprising, for he has not been long among us. If you like, I will tell you what I know about the breed, and then the next time you have the good fortune to encounter one you will not pass him by with unseeing eyes. And I think these things will interest you, whether you are a fancier or a sportsman or just an ordinary dog-loving person like myself.

I first made the acquaintance of the Sealyham at a dog show a few years ago, and the Sealyham bench has ever since offered a strong attraction to me. Never has a Sealyham failed to respond to my advances with alert interest and understanding; never has a Sealyham failed to establish between himself and me that half-humorous, compelling sense of kinship and sympathy of which the true dog lover needs no detailed analysis. And since I have become accustomed to his physical characteristics, I have thought the Sealyham beautiful.

I naturally wanted to know what manner of breed this was, its ancestry and origin and the environment that had helped to make it what it was. I learned that it was a fairly old strain of working terrier, bred in southern Wales for badger hunting—the sport for which the dachshund had been developed on the Continent. By selecting dogs well suited to their work, a typical conformation was obtained not unlike

that of some of the terriers of Scotland, with short legs, a longish body, and a powerful jaw—a very gamey and workmanlike terrier, in short. The breed was of long standing, it was said, but for years had been forgotten or overlooked by the fanciers and by Englishmen in general, and had only recently been revived. The name, I was told, came from the seat of the Edwardes family near Haverfordwest, Pembrokeshire, Wales.

Beyond that I could learn but little. The books were uniformly silent on the subject—and still are, for that matter. I consulted James Watson, then our leading American authority, but though he was ready with theories on the subject he could throw little real light upon it. He did, however, make some inquiries and he secured an interview with Mr. W. J. Nichols, an English show judge who was officiating at Mineola that year. The results of this interview were published in a short article in *COUNTRY LIFE* and the matter is interesting and valuable enough, I think, to bear repetition.

According to Mr. Nichols, the Sealyham terrier was first bred by Captain John E.

Edwardes, some sixty-five years ago, in the town of Sealyham, near Milford Haven, in South Wales. Captain Edwardes was an enthusiastic sportsman who was fond of badger hunting, and for this sport he desired a shorter-legged dog than most of those he was able to obtain. He therefore crossed likely terriers of unknown breeding with what was known in Pembrokeshire as the Welsh cur—a heavy-bodied, smooth sheepdog with short, crooked legs, weighing up to about thirty-five pounds, and commonly employed in that country for driving cattle. These curs, so-called, were not merely cattle dogs, but enjoyed a reputation also as gamey sporting dogs that would often, of their own accord, go after fox or badger.

The first results of this crossing were rather too long in the legs and lacked substance in body, but Captain Edwardes kept persistently at it, wrought marked improvements, and succeeded at last in establishing a strain to his liking which became locally famous. After his death, some thirty years ago, the strain was not as well kept up, but it was not allowed to die out, and a dozen years ago it was discovered or revived by Mr. Fred W. Lewis and other fanciers, who undertook to breed back to the original Edwardes character. Mr. Lewis exhibited his first Sealyhams in 1910. From that time on there was steady improvement and an increasing popularity for the breed.

Mr. Watson accepted Mr. Nichols's story as being in the main correct, but he doubted the Welsh cur theory. He believed that the Sealyham's only ancestor was a terrier, and that the strain was developed by selection from certain common, unclassified wire-haired working terriers of England and Wales, the preference perhaps being given to a low-bodied sort, chiefly white, that was sometimes miscalled Scotch.

More recently I have consulted American fanciers who have gone in for Sealyhams, and though I do not find any great amount of certainty among them, I find that there is generally current the belief that Captain Edwardes began his breeding nearly ninety years ago and that he made use of the Dandie Dinmont and a small bull terrier, seeking a short-legged dog for his badger hunting. These fanciers are inclined to discredit the Welsh cur theory.

For my own part, I should say that Watson's theory was the more plausible. I can see but little trace of the bull terrier in the Sealyham, and less of the Dandie Dinmont than of the West Highland white or some other Scotch breed. The most direct method, certainly, would have been to select nondescript working terriers possessing some of the desired charac-

genetics, and breed from them. Whether Scotch blood was actually introduced, or whether the selective breeding for badger hunting produced independently a terrier that reminds one somewhat of the long-bodied, short-legged, strong-headed Scotch breeds, I cannot say. Perhaps the fanciers are in possession of evidence which has not come to my attention; perhaps we shall never know anything more definite about the Sealyham's actual ancestry.

It has been said that wire-haired fox terrier blood was introduced by some of the later breeders. If so, it was a mistake, for if there is any one thing that the Sealyham fanciers are firmly agreed upon to-day, it is the avoidance of all marked fox terrier characteristics in the Sealyham.

I presume the Sealyham himself does not care a jot who his ancestors were, certainly the lack of authentic information regarding his origin has not stood in his light, for his popularity has increased marvelously during the past fifteen years or so.

As I have said, the Sealyham was first exhibited at the Crystal Palace, London, by Mr. Lewis, a Welshman. The breed caught hold at once and was sought for both bench and field in England. It was increased in number as fast as was possible, with a fairly constant improvement toward a standard type. With the appearance of Roger Bach, success was at last fully attained.

The breed was introduced into this country under rather unfavorable circumstances. The first specimens shown here were far from being the best that England could produce. They lacked type and scarcely gave the novice an idea of what the breed should be like. That was in 1912, when only five Sealyhams were entered in the New York show and only three or four were actually shown.

In two or three years, however, the breed made a much better showing, with more than twenty entries in New York, including such good ones as Mrs. Tyler Morse's Ch. The Varmint, Mrs. Samuel Willett's Star, and Master Archhold Van Beuren's Dibble. After them came Mr. W. Ross Proctor's Ch. Ivo Caradoc, Ch. Gessina, and Ch. Birkdale Bess, Mr. Effingham Lawrence's Ch. Braefield Temperance, Ch. Braefield Dazzle 'Em, and Ch. Braefield Green Lass, and other point winners. One of the best at the present time, and indeed one of the best ever owned here, is Mr. Proctor's Ch. Hadley Hoodwink. The first American-bred dog to win a championship was Mr. Albert Geiger, Jr.'s Ch. Hemlock Hill Ivo Clyde, a son of Ch. Ivo Caradoc, who won his title before he was two years old. The second American-bred champion was Ivo Clyde's litter brother, Ch. Hemlock Hill Boy Scout, an all-white dog.

At the New York show of 1917 the entry had increased to forty-three, a remarkable advance for six years, and the Sealyham was no longer a stranger to show-goers. This year the entry dropped to thirty-



Ch. Hemlock Hill Ivo Clyde, the first American bred champion Sealyham. Owned by Mr. Albert Geiger, Jr.

three, the winners being Ch. Hemlock Hill Boy Scout and Greentree Hyland Gamble. As for the common run of American dog lovers, they have one by one been falling victims to the Sealyham's charms, and the demand for puppies constantly outruns the supply. The tide in the affairs of the Sealyham terrier is decidedly on the flow.

Breeders should keep in mind the essential Sealyham type and not be led astray by any artificial ideal. Fitness for his traditional work should be the foundation of all Sealyham breeding. It should be remembered that the fox terrier's business is ratting and fox bolting; the quarry of the Sealyham is the underground badger. Hence, we want a rough, hard-hitten dog, neither too small for tough work nor too large to get in after badger. We must avoid fox terrier type, but we must retain a distinct terrier character. The coat and expression must not remind one of a clumber spaniel.



Ch. Brockholt Bridget winner of seven English championships, and a winner at New York, Philadelphia, and Belmont Park in 1917. Owned by Mrs. Byron Rogers



Ch. Ivo Caradoc, the first Sealyham of the finest type to be shown here. Owned by Mr. W. Ross Proctor



Mr. Effingham Lawrence's champion Sealyham Braefield Temperance

This is the way the compilers of the Standard have stated these requirements: "The Sealyham should be the embodiment of power and determination in a terrier. Of extraordinary substance for his size, yet free from clumsiness, the ideal being the combination of the Dandie Dinmont with a bull terrier of twenty pounds; otherwise, any resemblance to a fox terrier in either make, shape, character or expression should be heavily penalized."

In case you do not belong to the class of fans and fanciers, you may prefer to skip the next three paragraphs. They contain the more or less technical descriptive particulars of the Sealyham, based chiefly upon the official Standard.

It must be borne constantly in mind that the Sealyham is not a short-legged wire-haired fox terrier, but something quite different. The approved head is fairly heavy. The skull is unusually wide between the ears, is slightly domed, and there is practically no stop. There must be gripping strength in the jaws, which are long, powerful, and level, wider and heavier than those of the fox terrier, the upper finishing in a large black nose with wide nostrils. The ears are of medium size, set on low, and carried closely against the cheek—an important point. The eyes, set somewhat wide apart, are of medium size and very dark. The teeth are strong, large, and square. The expression should denote courage rather than mere alertness.

The neck is of medium length, but extremely muscular. The body is rather low and fairly long, though great length is not desirable. It is very deep, with well sprung ribs. The chest is fairly broad and well let down between the forelegs, giving ample heart and lung room. There is practically no cut-up of loin. The shoulders are sloping, the forelegs set on not straight, as with the fox terrier, but at an angle, giving greater chest capacity. The legs are not needed for speed so much as for digging in; hence the forelegs are short, heavily boned, and muscular, and as straight as is consistent with the chest formation. The hind quarters, fashioned not for galloping but for fast digging, are much more powerful than those of the fox terrier, with an entirely different movement. They are wide and massive, with strong second thighs, well hent hocks, and out-turned pasterns. The feet are of medium size and round, with thick pads and very strong nails, the forefeet being larger than the hind feet, though not quite so long. There should be good bone and substance throughout. The tail is docked and carried gaily.

There should be a dense under coat and a hard, wiry outer coat, considerably longer than that of the wire-haired fox terrier, especially on the head, throat, and neck. It should not be trimmed. The hair on the top of the head is silky. Formerly Sealyhams were all white, or white with

black or brown markings, or both brown and black. Now, however, black is considered objectionable, even on the head and ears. The approved colors are all white, or white with lemon, tan, brindle, or badger-pied markings on head and ears. For working purposes, several sizes are required, from twelve to thirty pounds weight, but the points and conformation must be proportionate. The show Standard calls for dogs standing between nine and twelve inches at the shoulder, bitches somewhat smaller, but does not specify weight, as a thirteen-inch dog might weigh only fourteen pounds while a ten-inch dog might weigh twenty-four.

So much for the Sealyham's physical make-up. There remains to be mentioned what interests the average dog lover rather more—his racial character. And he has a character as distinctive as that of the Irish terrier or the bulldog. Like most working terriers, he is gamey, but he adds to that quality an unusual amount of grit,

determination, endurance, and dogged courage. He is as solid and dependable as a mastiff, and though not lacking in playfulness and spirit, he maintains a certain dignity that is foreign to most fox terriers. Add to these characteristics affection, devotion, intelligence, and an altogether engaging disposition, and you have a dog calculated to appeal strongly to the predilections of most human beings.

"The Sealyham is, above all, self-reliant," said Mr. Proctor when I interviewed him on the subject. "That he is gamey goes without saying. He is, furthermore, affectionate and gentle, and, though showing a mild interest in strangers, is devoted to one master."

Mrs. Albert Geiger, Jr., writes: "We find the Sealyham a most satisfactory dog in every way—a thorough terrier, a good pal, a most wonderful companion for children, and an ideal house dog, obedient and easily trained."

Mrs. Byron Rogers writes: "I find the Sealy-

hams splendid dogs for the country and awfully game. They are very gentle and faithful to children; I have raised all my dogs with the boys and have seen some striking examples of their patience under great provocation. They have a keen sense of responsibility with the children and become greatly attached to their particular playmates.

"They are a level-headed breed and are not aggressive with other dogs, though I am sorry for any one who tries to interfere when once a fight is on. They are reliable, very affectionate, and extremely intelligent. They are quick to learn and, with patience, can be taught to do almost anything. Everyone who owns one endorses the opinion that they make perfect pets and splendid sporting companions. They are essentially country dogs, in my opinion, and are seen at their best when hunting or hiking in the open."

Now wouldn't you like to own a Sealyham?

HONEY BEES *to* SAVE SUGAR

By SUSAN E. HOWARD



HE one thing that can relieve the world-wide sugar shortage is honey, hence the Government's appeal to beekeepers for increased honey production this year,

not only by the old established apiarists, but by the aspiring amateur, whose humble beginnings comprise a lone hive in the back yard. So great indeed is the need for the protection and encouragement of bees and beekeeping that, even with the present scarcity of sugar and with its consumption restricted as it is, the Federal and State Food Administrators have responded generously to requisitions for sugar to save starving bees, being prompted thereto by a knowledge of the necessity of the case, and of the future need for the bees in helping to provide for the wants of the people. Being able to buy ten pounds of sugar for each colony of bees in February and March, enables the beekeeper to contribute sixty to a hundred pounds of honey per colony to the war needs on or before October 1st, if the sugar is used for feeding when necessary, and later for stimulation.

Aside from the fact that the country



Forcing a swarm. During the honey flow bees are so intent upon gathering nectar that they are comparatively indifferent to intrusion and manipulation

needs every pound of honey that can be produced, the man (or woman) who this year carries out his long-deferred purpose to keep bees—and who of us has not had that idea in the back of his mind?—is doing the most profitable thing possible for himself; prices of bee products are the highest ever known, and indications are that they will so continue, as even in normal times the demand for honey exceeds the supply.

To make easy the path of the beginner, state and national publications are available, offering advice, encouragement, and aid as to methods of beekeeping. Beekeepers' societies are of help, as the monthly meetings and field day outings bring out speakers of national repute who give valuable information. The various agricultural colleges have short courses in beekeeping and offer help to the investigator.

A few suggestions may serve to simplify and dispel some of the imaginary difficulties that beset the road to success. In the first place, any one can handle bees if due care is exercised, and the right time is selected. Time of day, season, and condition of nectar flow are important factors



Buckwheat in Mrs. Howard's recently planted orchard. After it has served its purpose as bee fodder it will be plowed under for fertilizer



Comb in the process of making. It is easily seen how much the re-using of the wax cells would cut down the time required for filling a hive with honey.

Foundation after bees have begun drawing it out into comb. This foundation is made by running thin sheets of beeswax between rollers having indentations shaped like honey comb cells, and is used as a starter for new comb.



of safety. During the honey flow, bees are so intent upon nectar gathering that they have little or no inclination to notice intrusion or manipulation. The opposite effect is apparent when there is a cessation of food supply from the flowers, as then the bees are all attention, and will guard their stored treasure even at the sacrifice of their lives.

The beekeeper is not limited to his immediate vicinity for food, as the bees will seek nectar even at a distance of three miles from the hive, yet like humans they follow the line of least resistance and will gather the honey that lies nearest.

Bees are also indirect producers of food, as they pollinize the blossoms and induce perfect fertilization, which insures abundance of production. I have counted six honey bees in a squash blossom at one time, and the same blossom under observation for an hour received twenty-eight visits from honey bees, many of them perhaps repeaters returning from their hive for another load. A bumper crop of squash was a revelation to near-by farmers, and all with one accord gave credit to the activities of my honey bees. There was but one answer to a physician who inquired the reason for the abundance of fruit in the orchards in the vicinity of my apiary, while in other sections of the town there was a noticeable scarcity of fruit. The favored district profited by the work of the honey bee.

If extensive beekeeping is anticipated, the location must be studied as to honey flowers and their dependability in affording crops. This is of prime importance. Even the back yard offers a location for a limited number of hives; and lacking a back yard, one may keep a colony in the attic or on a flat roof of house or shed.

Having the desire to keep bees, and no home facilities therefor, you may be able to place a colony in the orchard or garden of a suburbanite who will welcome the addition, especially if he realizes the value to him in in-



Where the apiary is large, bees are able to find their home hives more readily if the hives are arranged in small isolated groups rather than in long rows.

creased crops from fertilization of blossoms by the bees.

Great economy of production is effected by producing extracted rather than comb honey. By the use of the extractor, the shallow brood frames are relieved of the liquid honey and the empty combs are put back into the hive for the bees to fill again. It has been estimated that bees can make fifteen to twenty-five pounds of honey with the same effort required to make a pound of wax. It is a conservative statement to make that a beekeeper can double his honey pro-

duction if working for extracted honey instead of comb honey, and some exceed this estimate.

Disregarding the economy of production, there are many features in favor of extracted over comb honey which are bringing it into prominence and favor. It is convenient to serve at the table, and in eating it there is no waste matter to discard, nor is it necessary to swallow a mass of wax which is insoluble in the fluids of mouth or stomach. In cookery, extracted honey admits of accurate weighing or measuring and combines readily with other ingredients in the cake or dessert. It is used in preserving, and as a syrup for cereals, puddings, etc. Confectioners and bakers use it extensively. Extracted honey has the advantage of keeping indefinitely in any climate, in fact, I have a sample ten years old which is delicious. Extracted honey can be kept or

shipped in tin or glass, and if it solidifies it can be brought back to the liquid state by gentle heat, while comb honey is frail and liable to granulate, a fault less easily rectified. Also, age and condition make the comb and package unsightly.

The initial investment need not be more than \$25 and the expense can be extended over a period of time. I always advise the beginner to purchase a single colony of bees and to increase his holdings by dividing. A start may be made with a one- or two-pound package of bees with a tested queen, or with a small colony (nucleus) of two or three frames of comb with adhering bees and queen.

The amateur may possibly possess a colony in an old box with combs built by the bees. In such case, with the help of an expert, he can transfer the bees into a modern movable frame hive and be ready to extend his holdings.

The money remuneration and the satisfaction of doing your bit in the war is an end worth working for. The income from a colony under right management and normal conditions should average \$10, and at present prices it far exceeds this sum.



Showing an old-fashioned hive opened and part of the bees transferred to a new hive, of which they are quietly taking possession.



HE trout game is the easiest of all true angling for the beginner, the outfit is comparatively inexpensive, and right within three dollars' carfare of New York City there are dozens of famous streams, where a day or so of pleasure with trout tackle may be had. No better solution of a week-end holiday than a trout trip can be thought of. Only, as you love your peace of mind, keep away from the small stream, where patience, not skill, is the first desideratum.

You hear much from your angler friends of the dry fly method of angling for trout, and glean that it requires the most expensive of tackle and is an upper heaven, reserved only for veterans.

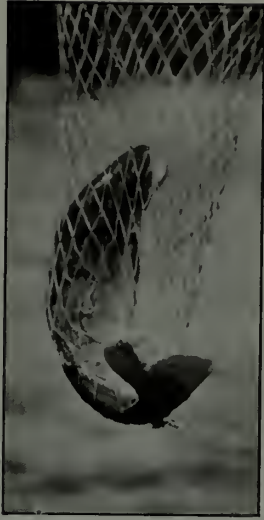
In point of sober fact, I have fished the dry fly for years, and use a nice little rod costing but \$5, taking as many trout with it as the next man. The difference between the wet and dry fly methods is simply that the latter uses but one fly, tied to imitate some natural insect and cast to float naturally downstream like a spent insect, retrieving when submerged, unless taken before that happening. With the old wet fly method, three flies were cast in likely places and the angler hoped that some unwary trout would fancy one of them and pounce on it down in the depths.

But our Eastern trout are exceedingly wary. If they see you or your waders moving along through the stream, or if your fly does not look natural or is not naturally presented, they make for their hiding places and will not venture forth again until you have departed. And, strange as it may seem, I have never found a stream, even in the wildest parts of the Rockies, where a neglect of the few simple rules of trout angling did not put the fish down to stay.

To keep these few rules one must bear in mind (1) that trout lie in the stream with their heads upstream and cannot see back of themselves more than thirty degrees on each side of their big back fin; (2) that they are amenable to a distant cast at any point, since the angle of reflection from the water's surface is such as to return all rays of light beyond a certain angle; (3) that one's legs in the water are plainly visible and therefore one refrains from wading in where he expects to fish, but stands somewhere else and casts there; and (4) that the drag of the leader will submerge your fly after a certain run, drawing it under water and destroying its natural appearance. When you find yourself doing anything that transgresses these rules, you can cease to wonder why the fishing is poor.

Let us go for a day on the Esopus and observe the taking of a few trout, and how the campaign of their undoing was planned. On first crossing this stream on a bridge I stood awhile, as do all anglers, for a look-see, to size up the stream. It is about 300 feet wide, millions of gallons of clear, cold water rushing on down to the great Ashokan Dam, where it is impounded for the drinking water of the thirsty millions of New York City. Two thirds of the way across the bridge is a huge submerged rock, with the torrents of water swirling smoothly over it.

Down in the dark depths in front of the rock I envisaged a sort of trout country grocery store, where the old timers gathered to swap lies and be on the lookout for whatever might float downstream over their lair. Sixty feet away was a rock, jutting up out of the water, and an angler gaining that rock would be in strategic position to cast a dry fly so that it would float naturally down over the submerged rock and fool some of those rural loungers. A way to wade to the rock was soon traced out, and, when I jointed up the rod I noted that it was four in the afternoon, wherefore a Pale Evening Dun fly would probably prove an attractive morsel. Gaining the rock after much careful wading, I began getting out line, making false casts—that is, keeping the fly always in the air, never letting it touch water—



until I could see that it was ready to fall, sixty feet away, and bob dancing downstream over the trout lair. I let it fall on the next cast, and, as it floated gaily over the spot, there was a sudden *pop!* and a plump brown trout had my fly. I led him away from there, and soon played him to net, a fine eleven-and-a-half-inch glistening beauty. Again I tried the same trick, and this time a fifteen-inch fighter took the fly and put up such a desperate struggle that the rest became uneasy, and

after he was creel'd no more rose.

A mile farther up stream there is a big rock hanging over the stream side, with a shallow about fifty feet out in the stream from it. I knew very well that a trout must live under the shadow of that rock, and so gained the shallows, where I cast until I dropped the fly right on the rock itself. A gentle pull, and it dropped down into the dark waters alongside. Instantly there was a flash, and, after four spectacular leaps an eighteen-inch rainbow trout was being lifted out of the landing net and admired before being consigned to the creel.

A little farther up was a quiet pool, with tree roots hanging down in it from the bank, under whose dark depths undoubtedly lurked trout. I worked over across the stream beyond a bank of rocks, and, judging the distance so that I had room to cast into the pool without getting my back-cast entangled in the bushes, I worked the fly over until it dropped like a feather on the still surface of the pool. Nothing happened for a while, as it drifted slowly downstream. Then, like a flash the trout rushed out from under the roots and took it. I was upon him in an instant, and, after a short fight had him to net—another eleven-and-a-half-inch brown trout.

Up the stream a piece was a chute, where the whole Esopus roared down in torrents of foam. Many trout must live here; all one needed was a position to cast it, for such waters render the angler invisible unless he wades in them. I found such a spot and again and again the little dancing dry fly whirled down, heavily paraffined with dry fly oil to enable it to withstand the wetting foam. Two more trout were taken here; and so home to Susie Winchell's angler's retreat, a hostel overhanging the Esopus, with the rush of the stream constantly in one's ears.

Susie is "Mine Hostess" of Izaak Walton—she of the lavender sheets—brought down to the twentieth century, for she knows anglers and their ways; that they love to come in of a sunset, leave their dripping waders on the porch, hang up their rods on her rack, and lounge in comfortable moccasins with chairs tilted back and feet on the posts while waiting for her bounteous supper bell to ring.

You will observe, from all this, that to take trout bespeaks tackle that can drop a fly some fifty feet away, and skill to place it in the exact spot selected. As it is the line that is cast, this must be heavy enough to shoot through the guides on the rod, and, to give propelling force to the line, the rod must be

GOLDEN DAYS *with*

By WARREN H. MILLER

Editor *Field and Stream*

long enough to take hold of sufficient line. A nine-foot rod is about right, and the weight of it will be five to five and a half ounces.

The line, however, is the main point; heavy and double tapered, so that the casting part of it comes in the rod guides, and of dark green color. Such a line will cost from \$3.50 to \$7 for thirty yards; size E is the one generally chosen by anglers for a nine-foot, five and a half ounce rod. The requirements of camouflage call for an invisible six- or nine-foot gut leader connecting the fly to the line, for the latter is too gross and ponderable to be anything but obvious to the intelligence of the trout.

The rod to cast this line must be long, light, resilient, and stiff—the stiffer the better for the weight. To make a stiff rod requires the finest of workmanship and the best of bamboo, and that is why a fine rod for tournament use and long distance casting costs around \$30. Such a rod will cast ninety feet, while your \$5 rod will have a limit of sixty feet, regardless of your skill and strength. But, as sixty feet is ample for most trout streams, it is plenty good enough until you have become a crank on trout fishing and will be satisfied with nothing but the best. For leaders, the veteran uses the nine-foot, but the six-foot length will be found much easier to manage by the amateur.

In the matter of flies you have the choice of eyed or snelled, the former a plain eyed hook with the imitation fly tied on it, and the latter with a fine gut snell. I use the former entirely as being less mussy and easier to tie on the leader, but if you are fishing where many bushes and trees are likely to catch your hook, the snelled fly would be preferable, for, in the eventuality of being snagged beyond recovery, a pull on the leader will break the snell before the leader snaps and you will thus lose only the fly instead of both fly and leader.

For sizes of flies in the East I have found that the small fly—Coachman, Cowdung, March Brown, Parmachenee Belle, Pale Evening Dun—tied on a No. 10 or 12 hook is the best. I have seen an angler's whole trip spoiled from using large flies, tied exactly like mine in every detail, but the trout would have none of them! Flies as large as No. 6 do well in some parts of the



Our native brook trout can now be found only in certain mountainous districts, but the European brown trout is plentiful, gives abundant sport, and is nearly as toothsome

the BROWN TROUT

Photographs by A. RADCLIFFE DUGMORE
and ARTHUR G. ELDREDGE

Rockies, but small ones are again best in the cañon streams of Colorado and Arizona.

Other essential equipment comprises waders, a creel, a bottle of dry fly oil, a fly book, a box, and a landing net. For waders I use the hip rubber boot, also available for surf fishing and duck shooting, and on them leather wading sandals with hob nails. These are essential to get a good grip on the slippery rocks while the stream pulls at your legs, and to prevent many a painful and ludicrous sit-down in midstream. The regulation high waders seem to me to be too much of a temptation to wade out into the deep waters where the trout are, thus putting them all into their hiding places.

The creel is a most useful basket, not only preserving your trout cool, wet, and straight, but affording a place for your lunch in its waterproof rubber lunch pocket, and your gum raincoat to put on in case of sudden showers. The dry fly oil bottle hangs on one of your breast pocket buttons. It has its cork with feather brush to dab your flies withal, for, while a few false casts will dry your fly sufficiently in fishing quiet waters, there is nothing like oil in the ripples and rapids if your fly is to remain in sight. When using snelled flies a fly hook with spring hooks to hold the snells out straight is the thing, but with eyed flies a small tin box, carried in the hip pocket, with a cork bottom in which the flies are hooked in rows, is a great convenience. The landing net you cannot do without, for there is never more danger of a trout getting away than when spent at your feet and you attempt to lift him out without first slipping the landing net under him. And, as a rule, the quicker he is got to net, the better, for he is the last fish in the world to tire out, and many are the wiles he will try on you to get rid of that hook! In fact, he will fight until either he gets away or you succeed in landing him.

All these impedimenta must find a place on you, as you wade along, nor can you set any of them down anywhere, so some study in lightness and handiness is needed. For that reason I discard a coat, preferring to fish as the Westerners do, in olive drab flannel shirt, with a blatant pair of white suspenders holding up boots and trousers, which one's belt can never be expected to

do. A hunting knife on that belt is one of the needfuls, not only to cut off frayed flies and those that you want to exchange for others, but humanely to kill your trout before creeling, and to cut a forked pole to twist off some stubborn branch that has apprehended your hook.

The trout is usually played by "stripping" the line, seldom on the reel, which is a single-click, rubber-plate affair costing about \$1.50, and used merely to hold line not being cast. One watches the fly as it dances downstream, and strikes the instant the trout rises, as he is so quick that you cannot take it away from him if you try; but he is equally quick to discover the fraud and reject the fly, so it will not do to be caught napping and not have your eye on the fly. Once hooked, the line is stripped in with your right hand, the rod being transferred to your left, with the left forefinger covering the line. If he pulls too hard for the rod, release the left forefinger and let him take out line; if not, keep on stripping with your right hand, holding with your left forefinger to get a fresh grip on the line. It is well to wade up on the trout as far as you can in doing this, for the quicker he is brought to net the surer you are of him.

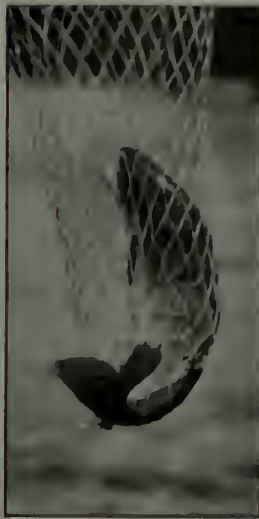
When finally landed, you find yourself surrounded with yards of line, with a fish in one hand and a rod in the other, and nowhere to put anything down. As you need both hands to unhook the trout, the best disposal of your rod is upright along your left arm with the butt resting in your boot top. Otherwise it, too, will be swept away with the current. The trout is now unhooked, killed with a blow of the back of your hunting knife, and slipped into the creel through the square hole in the cover. Next you wind up your line on the reel and look to your fly, which is probably frayed and at least needs dubbing with the brush in your oil bottle. Then you will want a smoke, and now is a good time to reload the pipe, put back the pouch, and get a match. The back of your hunting knife will, most likely, be the only dry place on which to strike it. Then you are ready for fresh adventures!

As to casting, the knack of it is quickly learned. Before you can make a forward cast your back cast must straighten out in the air behind your rod tip, and to get the most leverage out of your rod it must be about perpendicular when you begin your forward cast.

Keep these two facts in mind when learning to cast. Strip out about fifteen feet of line, with leader and fly attached, and drop them out in front of you on the water. Take the line in your left hand and strip about a yard of it off the reel.

Now, with right elbow close to your body, raise the rod smartly with wrist and forearm. The line will lift off the water and fly back of you.

Wait long enough to give it time to straighten out behind (which you can feel by the pull on the rod) and then whip it smartly forward. As the line shoots out in front, release the extra line in your left hand, and



the whole thing will roll out flat on the water, the leader with its fly cascading on ahead of the end of the line, dropping the fly finally like a feather at the extreme end of the cast.

Strip off another yard of line and repeat, lifting the rod smartly and never allowing it to go back of the perpendicular on the back cast.

That is all there is to it, and the veriest tyro can pick up the knack with a few tries, finally achieving a cast of about forty feet, which is an ample cast for anyone to begin trout fishing on.

The rest comes with experience on the stream. False casts are done by simply aiming your forward cast up in the air considerably and beginning your back

casts before the fly commences to drop.

Some little practice is needful to acquire finesse in false casting, but it is a very necessary accomplishment, for it will not do, while working your fly out to a desired spot, to allow the fly to touch water at each cast.

Such slovenliness would simply put down all the trout in the neighborhood. And take care, in beginning your back cast, first to lift the line off the water with a full-arm lift before your wrist snaps it off the water. To snap it up as it lies stretched out on the surface is to cause a streak of disturbed water on the pool that will alarm any trout that sees it.

I have confined this dissertation to fly fishing. Early in the season, around the middle of May, before the trout are rising to flies, the worm and the minnow are the only taking bait, and to try to force them to rise to the fly is a sheer waste of time.

Worms and minnows are carried in a crescent-shaped tin lure box on the belt and are cast with a rather different motion, as their weight is so great that they do not allow the line to respond quickly to the rod. About thirty feet of line is got out and cast by snapping the rod with full-arm sweep against the inertia of the minnow. As it floats downstream submerged, you endeavor to give it a life-like motion, and, at the end of the cast, lift the line from the water with high rod and switch it back of you the full length of the cast. While this is still straight out, the rod is brought forward again, switching the minnow overhead to land in front of you and go its way downstream.

Many arguments are waged among anglers over fishing upstream and fishing downstream. In small brooks the former is preferable, for in fishing downstream the trout are looking right at you and can see you plainly unless a considerable distance away.

In large streams, fishing across the stream is what is really done in practice, the angler slowly wading upstream and casting ahead and across at what he considers likely spots while the current takes his fly down at the full distance of the cast.

When it gets far enough down so that the drag of the leader pulls the fly under, it is lifted for another cast, and, after a couple of false casts to dry the fly, is dropped again where the water looks promising.

Such is trout fishing, an easy, joyous sport for the lover of the outdoors, giving plentiful yet not too strenuous exercise, and affording countless delightful sidelights. Try it sometime; the Beaverkill, Willowemoc, and Esopus in New York; The Broadhead and its tributaries in Pennsylvania; the trout streams of northern New Jersey, Connecticut, and New England, all are waiting for you; and in the West, Wisconsin, Michigan, Minnesota, Montana, Wyoming, Idaho, Colorado, and California all abound with rainbow and cutthroat trout; while Canada, Maine, and the Adirondacks have their thousand streams, still flashing and jumping with our native speckled trout, *Salvelinus fontinalis*, the prince of them all!



Half of trouting is in the angling for him. One of the easiest feats of skill in the whole outdoors is to cast a distance sufficient to take a trout.



The casual charm of the English countryside cottage, which eludes most attempts to capture it, is the quality which makes this house a delightful bit of architecture

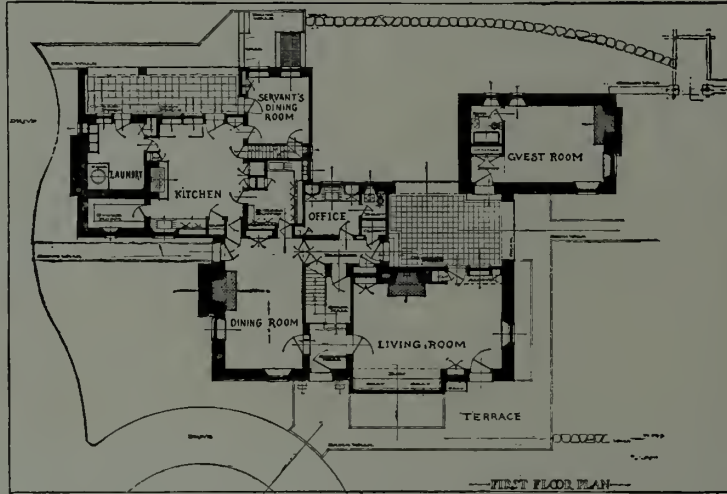
The HOME of JOSEPH and ELIZABETH CHAMBERLAIN

MIDDLEBURY, CONN.

Theodate Pope, Architect



The living room doorway, with a seat beside it for sunning oneself against the wall



The plan of the house is English, too, in its agreeable disregard for the American watchword "compactness." The wastefulness in space given over to useless passages, cubbyholes, and attics, which characterizes English domestic architecture, is what gives the informal, rambling air that is not obtainable by any other means



The guest room window and above it the pleasantest kind of alarm clock for late risers



The garden has the same planned inexactness which characterizes the house, and a garden shelter which is an urgent invitation to outdoor living



A closer view of the front of the house, showing in more detail the arrangement of windows and doorway, and the flat roofed dormers.

The dining room from the entrance hall. The broad, flat surfaces of the paneled woodwork give the rooms an atmosphere of spaciousness.



The gable end which houses laundry and storeroom is as pleasing as the garden side.

Looking from the covered porch, through the passage, and out the dining room door.

Books and the sunny living room alcove in which to read them in luxurious comfort.



HERE AND THERE

Reindeer Meat Available Alaska will soon be in position to supply reindeer meat, according to the *Seattle Post Intelligencer*, which gives figures from the annual report to the Federal Bureau of Education for Alaska. The first reindeer were imported from Siberia in 1892, and in June 1916, Alaska had eighty-five herds of reindeer, numbering 82,151. It is now thought that there are nearly 100,000 available, and the exploitation of reindeer meat will be undertaken on a larger scale the coming season. Reindeer have given the Alaskan Indians an industry and made many of them prosperous. An Indian serves one year as an apprentice with a herd of reindeer, and then receives six reindeer for himself. White men have lately entered the industry at Nome. Reindeer fairs are held annually, like cattle shows.

The Honor Ration The idea of a special honor ration, to be adopted by those who are not doing manual labor in each community, is being taken up all over the country by women's clubs and other organizations, and people are pledging themselves to the following honor rationing for a person a week:

All meat and meat products	2 pounds.
Cooking fats	7 ounces.
Butter for table	7 ounces.
Wheat flour for cooking	7 ounces.
Bread, made of mixed cereals	3 pounds, 8 ounces.
Sugar	12 ounces.

Use all desired of potatoes, vegetables, fish and sea food, poultry, game, non-wheat cereals, fresh fruits, vegetable oils, and milk.

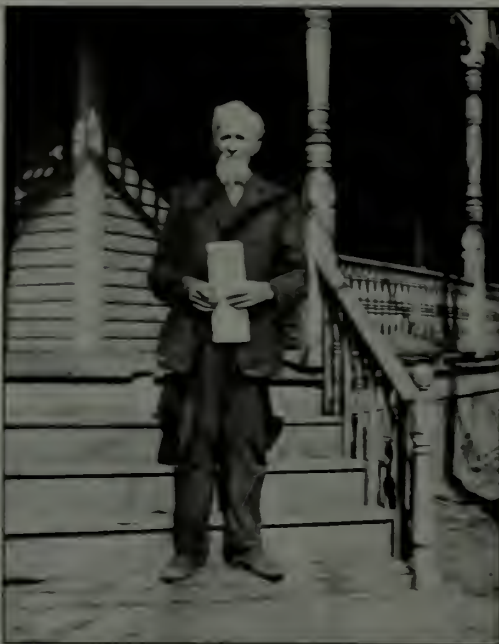
An Opportunity to aid the Cavalry Coöperation in their work for the soldiers of the United States Army is being asked by the ladies of the Cavalry branch of the Army Emergency Committee, an organization formed for the purpose of meeting the immediate needs of our troops for knitted garments. The wear and tear of active service creates a continuous demand, especially for socks, which are urgently needed at all seasons. Preparations must also go forward unceasingly to meet the greater demands of the coming winter. Among the prominent women interested in this Committee are Mrs. Carter, wife of Major General W. H. Carter, and Mrs. Mills, widow of Major General Albert L. Mills.

The readers of this magazine will undoubtedly be glad of this opportunity to aid in providing for the comfort and welfare of the horsemen of the Army. Contributions of money, wool, or knitted garments may be sent to Mrs. Charles C. Walcutt, 1869 Wyoming Avenue, Washington, D. C., the Chairman of the Cavalry branch.

The Legion of Loyal Women Wives, widows, and daughters of Civil war veterans are making feather pillows for soldier convalescents. These women, many of whom are between sixty and eighty years old, are sewing the seams and filling the cases with feathers. The work is done in the name of the Legion of Loyal Women, who have made the supplying of feather pillows for military base hospitals at home and abroad a part of their war work. The American Red Cross Hospital at Neuilly, France, has been provided by them with hundreds of these pillows.

Mrs. Mary Logan Tucker, daughter of the late General John A. Logan, and President of the Legion of Loyal Women, states that last year the women made up about two thousand pounds of feathers which had been donated for the purpose by women all over the country. After the feathers were renovated they were made into hundreds of pillows, not only for beds, but for train pillows and little comfort pillows to be used for resting broken arms and wounded limbs. The Legion of Loyal Women will now provide pillows for the military hospitals wherever desired, and this offer has been accepted by the Surgeon General of the Army. Quantities of three-pound feather pillows, made in conformity with Government hospital regulations, each provided with a pair of white muslin slips, have been delivered for use in the camps.

Mrs. Tucker requests that contributions of feathers to be used for hospital pillows be sent to her address, 1236 Euclid Street, Washington, D. C.



At this time, when the demand is for wheat and more wheat, the achievements in this line of Mr. Henry C. Randolph of Silverwood, Ind., are worthy of notice—and emulation. He planted his first wheat crop in the fall of 1857, which he harvested in 1858, and has planted and harvested a crop of wheat every year since. In June of this, his eightieth year, he will harvest his sixtieth wheat crop, of 105 acres.

Deep Sea Boots For a good many years the proportionate number of cattle in this country has been decreasing; that is to say, the toll of the animals has not increased as rapidly as the human population which uses them. This has been the fundamental cause behind the progressive rise in the price of meat, of leather, and of the other products derived from cattle. As soon as the World War got firmly into its stride, increasing abnormally the consumption of certain articles, this tendency toward increased cost of animal products was tremendously accelerated. Leather, to cite a notorious instance, is heavily used by the great armies in being to-day and is quickly worn out, necessitating frequent replacements. The result may be noted in the price cards displayed in the show window of any boot shop.

Now comes the ingenious Bureau of Fisheries at Washington to the rescue with the suggestion that the skins of certain deep sea animals—

whales, sharks, porpoises, and a few others—may be utilized for making leather. The Government officials have brought together representatives of the fishermen and of the leather trade for a conference, which laid the foundation for future coöperation. So perhaps the term "deep sea boots" may come to have a wider meaning than the conventional one.

The Annoying Sweet Potato The adjective "annoying" may seem a trifle misplaced as applied to a vegetable, yet the prolific tuber commonly

known as the sweet potato comes pretty close to earning it. This vegetable has a high food value and may be grown on land that is practically worthless for any other crop. It is an old saying that sand, sun, and showers are all that are necessary for a crop of sweet potatoes. But unfortunately these very real virtues are nearly counterbalanced by the poor keeping qualities of the tuber. There are annually raised in this country some sixty millions of bushels of sweet potatoes, but it is doubtful if much more than half of this total ever finds its way down human throats. The difference is pure loss through spoilage in transit to market or in storage. Last year the Department of Agriculture took up the problem of trying to eliminate or at least decrease this loss. Experiments demonstrated that by storing the sweet potatoes in specially constructed storage houses, instead of the pits and bins commonly used, the loss was reduced from 32.62 per cent. to less than 4 per cent. If these results are confirmed by subsequent experiments, here is a chance to add materially to our food resources at a time when every ounce of food weighs heavily in the scales of justice. If we can be sure of bringing relatively the whole of our sweet potato crop to consumers, there is no reason why great areas not available for more exacting crops should not be put into this production, adding perhaps as much as a hundred million bushels of a nutritious and valuable food to our table resources.

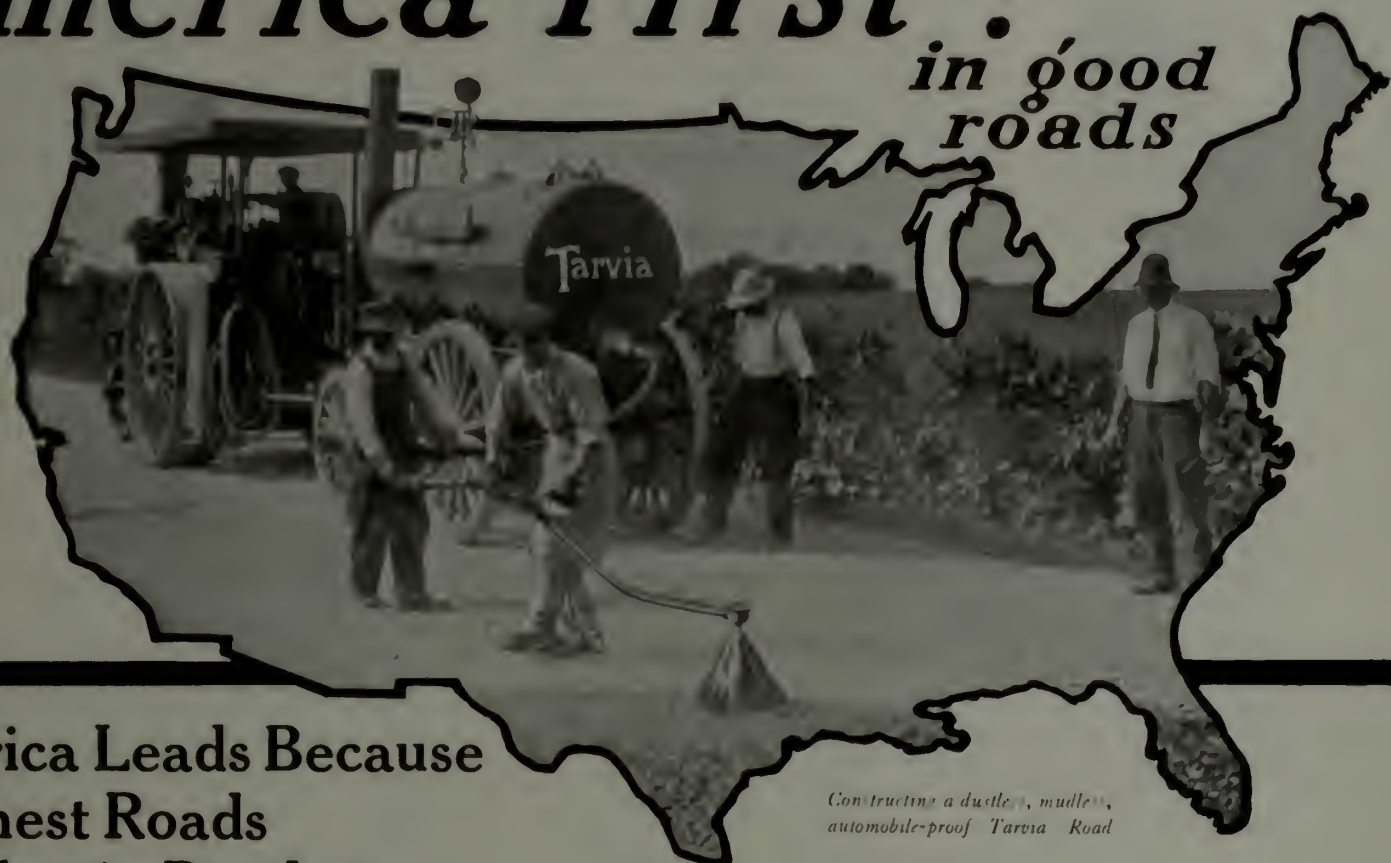
Machine Made Forests The United States Department of Forestry has recently announced the perfection of a machine which bids fair to deprive the great

Pan of his immemorial job. It is a tree planter, which it is claimed will set out from 10,000 to 15,000 seedlings in a working day. Just what this means may be gathered from the fact that the best record for a man working with his hands is 1,500 seedlings. The machine is about the size of a horse-drawn mowing machine and is pulled by two horses, while a force of three men are necessary to operate it. A disk device makes a furrow, and an automatic attachment, which is set beforehand for any desired distance, marks the places where the trees are to be planted. Two further attachments supply water and a pinch of fertilizer to the roots, after which along come two little wheels which push the dirt around the roots and pack it firmly. It is claimed that the machine may be used on any cleared land that will take an ordinary plow and harrow. For many years we have been busy deforesting our country, until the demolition has taken on the aspect of a problem; it is a relief to see a step in the other direction, and if this new machine is all that is claimed for it, it may play no inconsiderable part in the forest planting which is going to be a very essential operation of the not distant future.



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America Leads Because Its Finest Roads Are Tarvia Roads—

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The highways had not been constructed to bear this kind of traffic, and unless protected by modern methods they promptly went to pieces.

Europe had to start even with America in developing roads that could withstand the gruelling test of these new conditions.

Now America leads.

The finest roads the world has ever seen are now constructed in this country and a very large part of these roads are built and preserved with Tarvia.

Tarvia roads are dustless and mudless, durable and automobile-proof. They give the maximum of wear at the minimum of maintenance expense.

Tarvia roads are an asset to any community because they make intercourse easier and increase property values.

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With plenty of good roads, motor-truck traffic can take care of thousands of tons of food, fuel, and munitions, and relieve the railroads to a very great extent.

Every highway authority, every government official should be interested in this problem *because good roads will help us win the war.*

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In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department which keeps up to the minute on all road problems. If you will write to the nearest office regarding road conditions or problems in your vicinity, the matter will have the prompt attention of experienced engineers. This service is free for the asking.

If you want *better roads and lower taxes*, this Department can greatly assist you. Booklet free on request.

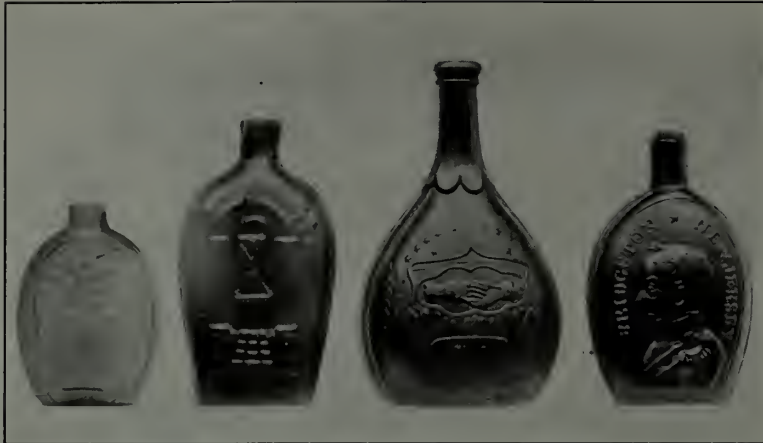
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American glass bottles. At left is a common form of barrel flask; at right, Liberty flask, made at West, Wellington, Conn., after 1850



From left to right: flask made at Coventry, Conn., about 1830; Masonic flask made at Keene, N. H., about 1830; Union decanter-shaped bottle probably made at Louisville, Ky., about 1855, showing the improved mouth; and General Taylor flask made at Bridgeton, N. J., about 1848



Decanter shapes. At left, Union bottle, Masonic, made by A. R. Samuels about 1855; bottle at right made by S. Huffsey, Philadelphia, about 1850

PICTORIAL FLASKS and CUP-PLATES

By WALTER A. DYER

Photographs from specimens in the Metropolitan Museum of Art



HAVE a friend who is a dealer in antiques in New York, and from him I often gain interesting sidelights on the vagaries of collectors. While there are some collectors who are always on the lookout

for good things in their favorite fields, there are others who seem to be guided by nothing but the ebb and flow of fashions, and sometimes this current is very faintly marked. One might almost say it existed solely in the imagination of the collector.

Whatever may be its source and nature, my friend the dealer is ever awake to this movement and shrewdly takes advantage of it. If I observe in his window old prints of ships, I may safely assume that there is a passing vogue for old prints of ships. If the window is filled with Sheffield plate tea services or old chintz, I may be sure that there is an increasing demand for Sheffield plate and that there will be purchasers of the chintz.

For some time now this dealer has been featuring American glassware—not merely the finer things, like Stiegel glass, but also the pressed glass, both plain and colored, of a later date. A good deal of this is interesting, though it is not all strictly beautiful. For my own part I always find a certain fascination, partly because of their historical interest, in the glass flasks and cup-plates of the middle of the last century. A bit crude they are, but their whole suggestion is something human.

Bottles were made at the first American glass works near Jamestown, Va., as early as 1609, but they were plain and primitive. In 1639 coarse bottles were made at Salem, Mass. Between 1739 and 1781 bottles were made at the glass works at Allowaytown, later Wistarburg, N. J., and in Philadelphia about 1683.

This early glass was greenish blue or pale green, coarse, and full of sand and bubbles. During the eighteenth century the process was improved, the glass becoming clearer and the shapes of



An early form of flask with eagle and shield design made at Kensington, Pa.



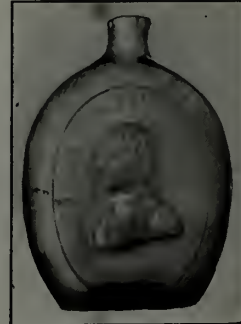
Seven of the popular subjects in glass cup-plates, including the log cabin, Wm. H. Harrison, Henry Clay, and two Bunker Hill monuments

the bottles less crude. Dark blue, rich brown, and other colors were added. A better quality appeared in bottles made at Quincy, Mass., in 1760 and at Kensington, Pa., from 1771 on.

The demand for ornamental pocket flasks was first felt soon after the Revolution, and bottles



At left, early form of fancy flask; centre, "Success to the Railroad" flask, probably made at the Kensington Glass Works about 1830; and at right a plain flask from Westford, Conn.



General Taylor and Washington flask from the Dyottville Works, about 1850

bearing the heads and busts of famous men were made in Baltimore about 1790. It was not until the nineteenth century, however, that the idea of making bottles bearing American political and historical subjects received widespread attention. The earliest ones of this type that have been found were made in Philadelphia in 1808. This industry thrived until about 1870, though few examples now in existence were made before 1825. The factories were most active in producing these bottles between 1840 and 1860, and most of those which are now to be seen date from that period.

The pressed-glass industry dates from about 1827, when the first tumblers of this sort were produced at Sandwich, Mass. The bottles of which we are speaking were made in metal molds which were the work of professional cutters. Examples of these molds are to be seen in the collection at the Pennsylvania Museum. The ordinary shapes were oval, nearly round, high-shouldered or arched, and gourd or decanter forms. These bore the raised patterns on their sides. There were also special shapes of which we will speak presently. The ornamental designs were largely of patriotic political, or Masonic significance.

Such beauty as these bottles possess lies largely in their color; there is a bright, gay look about a collection of them that is highly decorative. Among the more attractive colorings were sapphire blue, emerald green, olive, claret, brown opalescent white, light green, and pale blue.

The best clue to the age of one of these bottles is the subject of the design, which usually has some connection with current events. Other

wise it is not easy to determine the age. Not many of the bottles were marked with date or name of maker. After 1800 color gives no indication. The appearance of the glass suggests the age within certain broad limits. The earliest bottles were crude in every way. After the Revolution they showed marked improve



How regrettable would have been a formal pebble walk accompanying the informal rose-climbered rustic pergola. How interesting, how altogether in keeping, the nature-shaped stones, their lack of formality further to be enhanced by the growing grass between them.

A Real Roehrs Garden Is The Lovable, Likable Kind

YOU have been in flower gardens where the accessories, the definitely defined walks and boundaries, and the formal severity, were so *dominant* that the beauty of the flowers became a mere incidental.

They are not so much Flower Gardens, perhaps, as "Show Gardens."

We do both these kinds, but if you want what we call "A Real Roehrs Garden," it would be one of the lovable, likable sort. The sort that whether big or little, fairly

breathes friendliness and contentment. The sort that, all the season through, gives a joyous welcome, alike to you or your friends.

Some have called such gardens "intimate." Mayhap they are, if "intimate" means unhampered happiness of possession.

Do you want "A Real Roehrs Garden?" Or some Roehrs care-grown flowers, shrubs or other planting things for the garden you have?



Not a rock garden; nor a sunken garden; nor an Italian garden; but just a little joy spot of a garden, with grass between the stones and woody things growing around the edges, caressing the low wall that binds it. A garden neither too "intimate" nor too formal. Just a lovable, likable Roehrs kind of a garden.

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showing many other styles.*

James McCutcheon & Co.
Fifth Avenue and 34th Street, New York

ment, but for half a century the mouth showed a rough, irregular edge, where the neck had been cut off with shears when the glass was in a plastic state, and there was no rim or other finish to the mouth. Also, the base shows a rough scar or pontil mark. Later the bottom was finished smooth and a rim was used to decorate the mouth.

The chief interest, however, lies in the subjects of these old bottles. The late Prof. Edwin A. Barber, who made the collection for the Pennsylvania Museum, has given the best published list of these subjects in his little book, "American Glassware."

Taking the matter chronologically, we find, beginning about 1800 and for some time after, pocket flasks in a number of odd shapes, such as books, animals, fishes, shells, violins, and pistols. Political and historical subjects were first produced in Philadelphia in 1808, and there are still in existence crude busts of Washington and Lafayette made about 1810. The idea seems to have caught the popular fancy about 1825, when several factories produced portrait flasks commemorative of the opening of the Erie Canal, many of them bearing the likenesses of Lafayette and Governor Clinton. The so-called railroad bottle dates from about the same time.

By 1840 souvenir bottles and flasks of all sorts were in great demand. Most common were emblems of the presidential campaign of that year—the bee-hive, the cider barrel, and the log cabin. One well known example is a tall log cabin bearing the words "E. G. Booz's Old Cabinet Whiskey." In 1848 came the bottles celebrating the heroes and events of the Mexican War, particularly the General Taylor and Captain Bragg bottles, and in



Six glass cup-plates, including two eagles, the steamboat *Challenge*, and the bee-hive

1850 Jenny Lind, Louis Kossuth, Henry Clay, Fulton, and Jefferson were popular subjects. Others were the Pike's Peak and Charlie Ross flasks, and bottles bearing various Masonic and national emblems. Of eighty-odd patterns listed by Barber, twenty-nine bear the American eagle, nineteen the bust of Washington, and thirteen the bust of Gen. Taylor.

Rather less commonly known are the smaller bottles of this period, which were used chiefly for perfumery. I recently examined an interesting small collection of these. They are like little flasks, two or three inches high, in various colors, decorated with various patterns, and usually bearing a small flat space where the perfumer or apothecary placed his proprietary stamp.

Not much is known about the makers of these old bottles, but Prof. Barber gathered a few interesting facts concerning them. In 1813 a factory at Coventry, Conn., manufactured ornamental flasks, some of which were marked with the initials T. S. or S. & C. Lafayette and Washington bottles were made at Coventry, at Bridgeton, N. J., and elsewhere. About 1830 the Kensington Glass Works made "Success to the Railroad" bottles, and later bottles associated with the 1840 campaign and the Mexican War. The Dyottville Works at Kensington, established in 1771, produced a number of Mexican War subjects about 1848. One of the commonest of all the flasks is one made by them which bore on one side the head of Washington and the words "The Father of his Country," and on the other the bust of Zachary Taylor and the motto "Gen. Taylor never surrenders."

In 1840 Whitney Bros. took over the old works established by Stanger Bros. at Glassboro, N. J., in 1775, and made brown whiskey bottles and ink stands shaped like log cabins. About 1850 they made a number of bottles with globular bodies and long, slender necks, dedicated to Jenny Lind. About 1850 Samuel Huffsey of Philadelphia made Jenny Lind and Louis Kossuth bottles, some of which bear his name. Log cabin bottles were made by the Spring Garden Glass Works in Baltimore, and Washington and Taylor bottles by the Baltimore Glass Works.

Though of considerable interest to the collector of Americana, these bottles and flasks have neither a high artistic nor a high money value. I have heard of some rare ones that have brought \$10, but that is a very unusual price. They may be picked up at prices ranging from 50 cents to \$4, according to age, rarity, and popularity of design. Most of them sell for about \$2. The highest priced one that I have seen in a shop recently was a large Masonic bottle valued at \$3.50.

Contemporary with these bottles and almost equally interesting are the little molded-glass cup-plates, a collection of which is always fascinating. Up to the middle of the last century, and for some years after that in more backward sections, it was not considered bad manners to drink tea from a saucer. In fact, that was the common procedure. Sometimes the tea was cooled in the china saucer and then poured back into the cup again. In either case it was fashionable to provide little plates upon which to set the cup while the tea was in the saucer. Cup-plates were made in various kinds of china, particularly blue Staffordshire, and also of glass.

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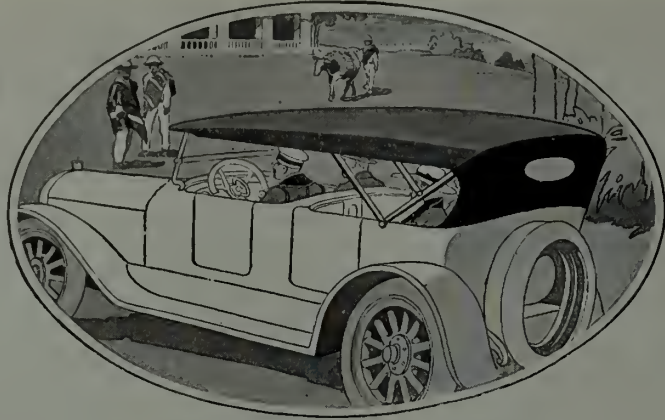
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Top Material

Pantasote—often imitated but never duplicated—costs more than any other top material on the market.

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New York

Glass cup-plates were made in this country and in England during the first half of the nineteenth century, some of those of English make being especially designed for the American trade. Most of them were of plain, transparent glass; a few were opalescent or milky. They went out of fashion about the time of the Civil War, after which they were not infrequently used as butter plates.

The earlier ones were ribbed and decorated with floral designs or conventional patterns. Then special patterns came into vogue as local souvenirs, and such subjects as monuments, busts of notables, steamships, campaign emblems, state coats-of-arms, historical scenes, the American eagle, etc. This sort of thing, like the historical and political bottles, was particularly popular between 1840 and 1850.

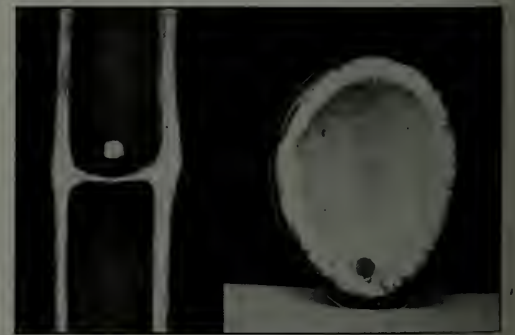
One of the most common subjects was an obelisk representing Bunker Hill Monument. Another was the campaign plate of 1840, with the log cabin, cider barrel, and portrait of William Henry Harrison—"Tippecanoe." About 1844 a portrait bust of Henry Clay was very popular. Somewhat less common were the steamboat plates, bearing the names of Benjamin Franklin and Chancellor Livingston.

Prof. Barber gives a list of twelve subjects in his collection as follows: the American eagle with shield and stars, two different renderings of the Bunker Hill monument, the Livingston and Franklin steamboats, Henry Clay, Fort Pitt with an eagle, the Harrison bust, hearts and forget-me-nots, bee-hive, and two log cabins, one with a flag on the roof and a cider barrel under a tree. Several of these are to be seen in the collection of the Metropolitan Museum of Art, and also Fort Meigs, several eagles including one dated 1861, the steamboat *Challenge*, acorns and oak leaves, and other fancy patterns.

These glass cup-plates have been bought at prices ranging from 25 cents to \$5. A dollar apiece is a fair average value.

STONES IN PLANTS

Now and again, growers of bamboos, if they split up the canes, will find little rounded stones just at the joints. Similar processes are at times discovered in cocoanuts. In appearance these stones are not unlike dull pearls and they are always excessively hard. As a matter of fact they represent an excess of mineral matter taken up by the plant. In the case of the bamboo the stone is formed of silicate substance and is as hard as flint. Stones



Stones about the size of small cherries are now and again found at the joints of bamboo stems (left). In cocoanuts (right) a stone that is pure carbonate of lime, not unlike a dull pearl, is sometimes found

found in cocoanuts have been declared to be almost pure carbonate of lime. In some of the East India islands the natives regard these stones in the light of lucky charms, especially when they are extra large or of a remarkable shape. Generally speaking such stones will not be bigger than a small hazel nut, and frequently they are not so large as this.

S. LEONARD BASTIN.



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Housekeeping is becoming more and more a business. Why not help your wife run her home in an up-to-date business fashion?

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WHAT A SUBURBAN COMMUNITY CAN DO FOR THE BIRDS



IRDS, with the exception of the English sparrow and a few other bold varieties, do not love the city, and most suburban towns are rather too near the city to make it possible to expect bird residents

in large numbers or variety. We may plant gardens and even simulate the wilderness in our parks, but the gay throngs of songsters which gladden our woods and farms will, in large measure, be missing. Suburbanites have become accustomed to this condition and perhaps have forgotten to miss the bird neighbors, but there are some of us who would do much to entice them back.

But the case is far from hopeless. If dwellers in suburban towns will not expect too much, and are willing to go to a good deal of trouble to secure moderate results, they may yet hope to see the wonderful flash of the bluebird's wings and hear the clear warble of the robin. It is simply a question of preparing the proper invitation, and eliminating the enemies of the birds.

Forest Hills Gardens, that uniquely attractive community near the western end of Long Island, has taken up the cause of the birds in a scientific and constructive manner, and though the enterprise is not yet old enough to make it possible to



Pool of the bird fountain (right) in the tea garden

record remarkable results, enough of interest has been aroused and enough visible success achieved to serve as an encouragement and guide to other suburban communities that may seek to do likewise.

Forest Hills Gardens is near the city of New York. All about, the region is fairly well built up, and conditions are as unfavorable there as anywhere to the success of a bird campaign. There are only about 200 acres in the community, and a good part of this is in houses or lacks the trees and shrubbery cover that the birds require. Gardening is being developed rapidly, however, and every year sees more luxuriant vegetation.

The residents of this community started their campaign in the spring of 1914, and they started in the right way. They first invited Mr. Herbert K. Job, the ornithologist, to make a survey of the place, and they based their initial efforts on his report. In part Mr. Job's report read as follows:

"Though the parts of the property where all trees and shrubs have been removed would not be attractive to the birds, there are many parts of it which are very well suited to them. The birds which may be expected to come may be divided as follows:

"1. Summer residents building their own nests, such as vireos, orioles, warblers, song sparrows, blue jays, and various others.

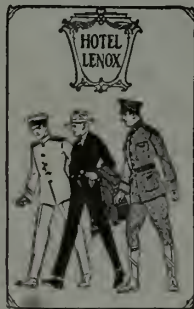
"2. Summer residents using boxes, of which the following might come: bluebird, flicker, chickadee, white-breasted nuthatch, house wren, tree swallow, purple martin, phoebe, robin, and possibly crested flycatcher, kingbird, etc. The robin sometimes uses an open box.

"3. Winter visitors, such as woodpeckers, nuthatches, chickadees, kinglets, brown creepers, blue jays, tree and song sparrows, etc. These are best held by feeding.

"4. Migrants, transient in spring and fall. To attract birds to nest, besides putting up boxes for some kinds, material for building nests should be provided for all, such as yarn, string, or rags cut in lengths of a few inches, also wool, cotton, hair, waste, etc.

"Another desirable general provision to attract

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Home-Like Rooms—Choice Cuisine
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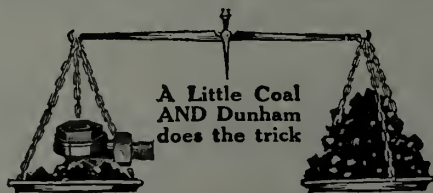
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YOU may get your car in or out of the garage before the wind slams a heavy door on it—but is the chance worth the cost of replacing a lamp or straightening a fender if the wind should beat you to it?

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insures you against just such expensive accidents. It is an arm of steel which locks your garage door open, preventing it from slamming into and smashing your car.

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birds is drinking water. A rustic bird fountain of rough stone and cement, with water trickling from a pipe and lodging in shallow pools, would be attractive on the grounds. In addition, or as substitutes, residents could place shallow dishes, such as good-sized flower-pot saucers, in shady, quiet spots, and keep them replenished with water less than an inch deep.

"Cats should be minimized on the estates. There is no greater menace to bird life. Where cats abound there will be few birds. Cats should be shut up and controlled during nesting time particularly.

"In all small groves or patches of trees, even at the back of yards, I should place two deep, upright nest boxes of medium size. Probably the bluebird size would be the best. For the house wren, a tin can, with a small hole an inch and an eighth in diameter, would do just as well as



Feeding station and shelter made by boys of the journeyman's class of the Audubon Society

a box. On the estate, in each of the more retired spots, I should have one large box, flicker size. In addition it would be well to have a few of the open style boxes, adapted to robins and phæbes, which are simple platforms with covers.

"In putting up boxes, those for the flickers, large size, should be in the midst of the grove. The others are best put near the edge, yet not too close to traffic. All boxes should be nailed to the tree, facing about southeast, the top projecting a little forward, which helps to keep out the rain. Ten or twelve feet from the ground is a good height. A little sawdust should be put in the bottoms of the deep, upright boxes. Bluebirds, robins, and nuthatches begin to nest about the middle of April, so boxes should be put up early.

"Out in the middle of the common I suggest the placing of an ornate compartment house, on a pole, for the purple martins. These are uncertain, but a colony might be started. This should be about twenty feet up. If martins do not appear, tree swallows are liable to occupy it.

"It would be well to hang a piece of suet near the proposed sites for boxes, which might hold certain stragglers. In winter, suet should be provided, and also a few covered feeding counters."

It was also urged that special trees and shrubs bearing edible fruits and berries be planted, and that millet and sunflowers be generally cultivated in individual gardens to give the birds an extra supply of food.

Following the receipt of Mr. Job's report, the Forest Hills Gardens Audubon Society was formed by a committee of citizens, who chose as their president Mr. E. A. Quarles, of the American Game Protective Association, at that time a



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resident of Forest Hills. At his suggestion the society was made a branch of the National Audubon Society.

A campaign was then set on foot to interest the whole community in the enterprise and increase the membership of the society. Circular letters were sent out, enclosing Mr. Job's report, and two lectures were given—one for children—by Mr. Ernest Harold Baynes, the naturalist.

One of the bulletins sent out by Miss Mary E. Kneivils, the secretary, contained the following pertinent suggestions of "ways you can help the birds to come to Forest Hills":

"1. Put up bird houses for bluebirds, chickadees, nuthatches, downy and hairy woodpeckers, flickers, tree swallows, purple martins, and wrens.

"2. Keep a large, shallow dish filled with clean water, accessible to the birds. In hot weather birds injure fruit endeavoring to quench their thirst.

"3. Rid your place of homeless cats.

"4. Plant a clump of Japanese millet, hemp, sunflowers, and buckwheat in your garden. Remember that Russian mulberry, sweet gum, bayberry, Virginia creeper, elderberry, and other berry-bearing shrubs and vines furnish food for our winter birds.

"5. Teach the thoughtless boy with the beanshooter or air gun that we need the birds to destroy insects."

A Junior Branch of the society was founded and a journeyman's class started which makes



A colony martin house designed by Mr. Grosvenor Atterbury, architect of the gardens, to harmonize with the prevailing architecture at Forest Hills. Erected in Greenway Terraces

bird boxes that are sold to the members for 75 cents, \$1, and \$1.50, according to style. This class meets once a week during the winter and has turned out a large number of handsome and substantial boxes. They have also made and set up several weather-vane type feeding stations.

A course in elemental ornithology was also started in the public school, and public lectures and field excursions have been arranged for the children. Even the very young children have been organized into neighborhood groups.

Not only have large numbers of the nesting boxes been erected in the community, but bird fountains of all sorts have been installed, including flower-pot saucers, simple cement basins sunk in the ground and shaded by shrubbery, and more elaborate fountains with running water, designed as features of the landscape gardening. On Community Day at the Gardens, a handsome bird fountain in one of the parks, named Olivia after Mrs. Russell Sage, was dedicated to the people with appropriate ceremonies.

A constant educational campaign has been kept up by means of the free circulation of federal and state bulletins relating to birds, and the sale at cost of various bird books and pamphlets. The public library has also cooperated. Finally, a bird newspaper was started in the form of various bulletins which were posted on ten ornamental iron-framed boards, designed by Mr. Grosvenor Atterbury. These were placed on lamp posts at different points and supplied each week with timely items of bird lore.

The attempt to induce the birds to return to a suburban community near a large city is bound to meet with discouragements, but it is worth trying, and will produce results if continued persistently. In two years the community at Forest Hills had succeeded in adding to its bird population, and had also taught both children and grown-ups to notice bird neighbors which they never saw before.

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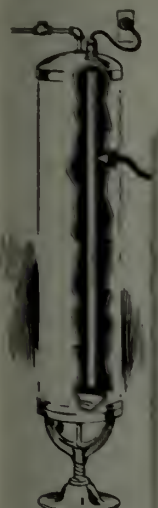
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By
Marion C. Taylor

THE selection of a summer wardrobe is perhaps the happiest task a woman has these busy days, for while conservation has entered even the realm of country clothes, it is fortunately easy to conserve here with satisfactory results.

There are perhaps but two rules to which one should adhere, and, in these days when everything in the world is run by rules, that isn't many. Buy only what you need and choose this carefully so that you will be satisfied with it when you get it. They are both bromidic it is true; but they are nevertheless worthy of consideration and one dare not overlook them, or unfortunately much that starts out as economy will end up as extravagance.

With patriotism uppermost in her mind, many a woman has determined early in the season to wear her last year's clothes and to buy next to nothing new. Perhaps she has remained true to her resolve for a time, but sooner or later there has arisen that all important occasion that somehow always has a way of arising suddenly, and nothing she possesses will do. The result is generally a hurried shopping trip and an ill-timed purchase. It is so much better to realize at the start that true economy applied to clothes is nothing so much as it is successful buying.

As regards summer clothes it is comparatively easy to economize, for not only is there a far greater choice offered than at any other season of the year, but there are so many pretty and well made clothes that do not run into money.

Certain clothes that are the backbone of a country wardrobe must be purchased from only the most reliable sources, and on these one dare not attempt to economize, for they depend for their success upon their correct design and cut and upon their quality, but they are not subject to rapid changes in fashion and consequently may be worn more than one season. What could be worse, for instance, than a cheap country suit? It is neither cut well nor made well, and it never looks well nor holds its shape; while a good one lasts several seasons and is always distinguished and thoroughly satisfactory until it actually wears out. On the other hand, one may find charming frocks of simple wash materials beautifully made at surprisingly reasonable prices which will launder well and often last two seasons.

Suits, coats, shoes, hosiery, gloves, and separate tailored wash skirts are never wise selections for economy. Good hats and blouses may sometimes be found for really very



2. A white flannel skirt (\$12.75) and a hand made batiste blouse (\$10.50) are topped by a double brimmed milan hat with a gros-grained ribbon band (\$12.75)

THE purpose of this department conducted by Country Life's Readers' Service, is to give information of any sort regarding country clothes.

It will gladly furnish the names and addresses of establishments where correct country clothes may be found, as well as those from which the clothes in the accompanying articles are chosen.

Write, telephone, or consult this department personally on country clothes problems.

COUNTRY LIFE

120 West 32nd Street New York City

little money, and cotton wash dresses are quite often most reasonably priced.

The white suit illustrated (1) is the origination of a New York establishment, well known for years for its excellent habits, and rapidly coming into an equal prominence because of its splendid showing of country suits. Smart women have



1. The new plaited skirt gives a white country suit an added distinction (\$125.00). A novelty in a midsummer hat combines Georgette crêpe and lemonade straw (\$25.00)

realized for some time that the expert tailoring required for habits is applicable to country suits as well, and this establishment is to-day making the smartest suits of this character.

The one shown has the only really new country skirt of the season, a modern interpretation of the old sunplaited skirt, not so full and flaring but plaited by machine. It is immensely becoming worn with a coat or with a sweater.

The coat which accompanies it in this instance is a softly tailored model with a rather new sleeve and a sash belt which may be drawn in tightly or left to make the coat semi-fitted. Made in a soft white tricolette, the suit has a

distinction plus an all round usefulness that admits to even a conservative summer wardrobe.

Very new and very smart is the hat illustrated with this suit. The crown is made of a basket weaving of white Georgette crêpe and natural lemonade straw—the brim of the Georgette—and a new French ribbon, called web ribbon, ties about the crown. This is one of the first of the new midsummer millinery ideas to appear.

The selection of separate wash skirts unfortunately seems so easy, that many women fail of any distinction in their choice. Hundreds of designs are offered, but few are really smart.

It is possible to achieve distinction in two ways. If one has use for a great number of wash skirts to serve varied purposes, some for tennis or golf, others for casino or beach use, one may indulge in extremes such as white and black foulard skirts, or some of the pretty new patterned pussy willows; but if one has a more limited supply one must have each skirt irreproachable in design, cut, material, and workmanship. Choose simple models and let their quality lift them from the crowd of cheap, poorly made wash skirts.

The two shown are of quite different types. The first (2) is of an excellent heavy white flannel with bound buttonholes and pocket slits and the best quality of large white pearl buttons. The wide, soft belt fastens with two buttons at each side of the front.

The second (3) is quite new in design with a single wide tuck at the knees and a pretty novelty in the way that the pockets are attached with a loop of the material and a big pearl button. A good quality of dependable white cotton

gabardine, which launders well and does not wrinkle easily is used.

The waist worn with the flannel skirt is refreshingly new in design with its square bib effect finished by a plaited ruffle edged in blue or rose, or in all white. The material is a sheer batiste and the waist is entirely hand made. Narrow grosgrain ribbon ties across the front.

The one worn with the gabardine skirt is also of batiste beautifully decorated with hand draw-work in an odd cross-barred design. This appears on the back as well as the front and on both the plaited collar and the pretty frilled cuffs. The waist is hand made, and succeeds in being one of those delightfully cool-looking blouses that are the only choice on a really hot day.

Another is hand made and of batiste and has as its chief trimming a hand-scalloped edging of



3. The tucked cotton gabardine skirt (\$7.95) the hand drawn blouse (\$12.50) and the gay hemp hat that comes in sweater colorings (\$5.95) are all a part of a summer's day

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the material, and a narrow line of *entre deux*. The collar is of an excellent shape and the cuffs turn back, which makes it a good choice for use with sweaters.

The two sweaters shown represent the accepted types of the season, for while it is true that many sweaters and so-called "sport coats" appear at the beginning of each season, but one or two receive the approval of the well dressed woman, and they are invariably simple and practical, with a bit of novelty as to texture, weave, or cut.

The slip-on sweater shown (4) is a soft, fine ribbed zephyr yarn, its claim to novelty lying in the deep V shaped opening of the neck. It comes in a soft, lovely periwinkle blue, a good tan, and a becoming rose, as well as black and white.

8. The real old-time spirit of the calico morning frock (\$18.75) is repeated in the lemonade straw hat, with its bouquet of field flowers (\$28.00)

The other (5) is the light weight alpaca veiling sweater which is semi-transparent and is easily the most successful sweater of the season. It is made with the new narrow collar which ends in revers, has the usual patch pockets and a narrow tailored sash. Turquoise blue, sand, and a lovely coral are some of the best colors it comes in, as well as black and white.

Organdie and calico may be said to be the high lights in a season of crisp, unpretentious cotton frocks. The former is most successful when its crispness is given full sway as in the model (6) which is devoid of all trimming. The spirit of the wide *fischu* is carried out in the deep hem, which gives a splendid body to the skirt, and a black satin bow and sash add just the right contrast. Old blue, flesh, corn a delicate lavender, and white are all lovely, and the price is more than ordinarily reasonable.

The other model (7) has a white organdie collar, cuffs, and tucker which are edged with an organdie frill; the skirt is just a succession of tucks, wide and narrow. It may be had in the same colors and white.

The revival of calico has been widely commented upon. It is quite logical coming after the gingham vogue of the last two seasons, and when the calico is treated simply and in a model in sympathy with the old-time spirit of the material, it has a homely charm that is distinctly likable. The model illustrated (8) is prettiest in dark blue with a white figure and white organdie collar, cuffs, piping, and sash and tie. For those who can wear it, the old yellow calico is also made with yellow organdie trimming.

At this season the shops usually specialize in petticoats designed particularly for summer use and although it hardly seems possible in these days of rising prices, it is nevertheless true that not only are the designs increasingly interesting

and well thought out each succeeding season but the values seem to be more and more remarkable. Of course the increased demand for clothes for country wear has given the designers an impetus that has led to many an innovation and it is in these innovations rather than in the regular standbys of other years that one finds the more interesting offerings.

For the last few seasons, *crêpe de chine*, pussy willow silk, and a firm wash satin have been growing in favor and in flesh and white have been displacing the petticoats of other days. Their increased popularity is quite justifiable for they give in every particular far greater satisfaction. They not only wear better, but they are less transparent—shed dust and dirt more easily, do not cling to the outer skirt as the lingerie petticoat is all too apt to do,

at the remarkable price of \$1.00 to really lovely skirts for use under afternoon frocks, in fine nets over silk, in chiffons, delicate laces, etc. A very smart and pretty model in *crêpe de chine* is *accordeon* plaited, it comes in street shades as well as flesh and white at \$5.95. An excellent value is in *crêpe de chine* with two pointed chiffon flounces on all *accordeon* plaited *crêpe de chine* flounces for \$4.95.

But nothing could be more generally useful than a model of white tub silk with a scalloped edged flounce, trimmed in three shirrings and having a double panel back and front for added protection under sheer things. This sells for \$2.95 or \$4.85 in flesh or white wash satin. In taffeta in street shades comes another specially priced skirt made with a deep ruffle headed by three rows of shirring and edged by a ruching put all on scallops. This is priced \$3.95 and is particularly good for use under foulards, georgettes or similar street dresses such as one wears in to town during the summer and under which it is always advisable for comfort as well as appearance to wear a skirt that has some body and crispness to its material.

As stated before, shoes and hosiery are never wise selections for economy, especially during this period when even the best boot-makers are having trouble in obtaining a high grade of leather. For a summer wardrobe two well-selected pairs of white shoes, made from a leather which cleanses with warm water and soap, will fit any

dainty or practical costume of the lighter shades. A light-soled pump with an attractive enamel buckle adds a finish to frocks of organdie, calico or sheer materials, while a well-turned Oxford, either a high or low cut model gives both trigness and comfort to a white tailored suit or sporting skirt and sweater. The tendency is toward low heels which is carried even into the realm of low French or Cuban heels on slippers and pumps.

The vividly colored novelty hose of last season is being replaced by plain shades to match different shoes. There is an effort to make the texture of hosiery finer and of a more delicate mesh as the prevailing colors need a fine mesh to set

off their tints.

Owing to the dye situation dark hosiery does not always hold its color, which makes the exclusive wearing of white footwear both practical and attractive.

Parasols are always a pleasant accessory to a summer wardrobe. A dark color affords more protection and guards the eyes from the glare, while mauve or buff casts the most becoming tint over the face. Long enameled handles with rounded top match the parasol in color, while a narrow ribbon or leather band to attach it to the wrist is a convenience.



5. The well liked Alpaca veiling sweater (\$16.75) is accompanied by an odd Panama hat, its brim of ribbon interlaced with the straw (\$14.50)

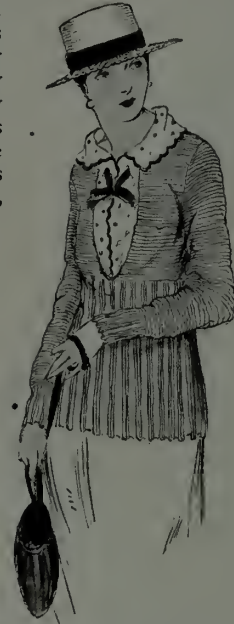


7. Georgette *crêpe*, plain and knife plaited makes a cool light midsummer hat (\$15.00) and colored and white organdie combine attractively in a simple frock (\$17.50)

and they are much more attractive when simply trimmed with deep tucks or ruffles not needing the fine embroidery or trimming necessary to make a cotton or linen skirt attractive.

Pussy willow is perhaps the ideal material for wear under country clothes for it is cool as can be, light in weight and its dust shedding qualities make it especially desirable. One cannot choose a better model than one that is a specialty of one of the better class shops. It is a straight cut skirt finished with two small tucks and a hem at the bottom and sells for \$6.95. It is not a new model—quite a year or more old but it is one of those things that seemingly cannot be improved upon and consequently achieves a definite and enduring place in the wardrobe which it retains until something comes that is better.

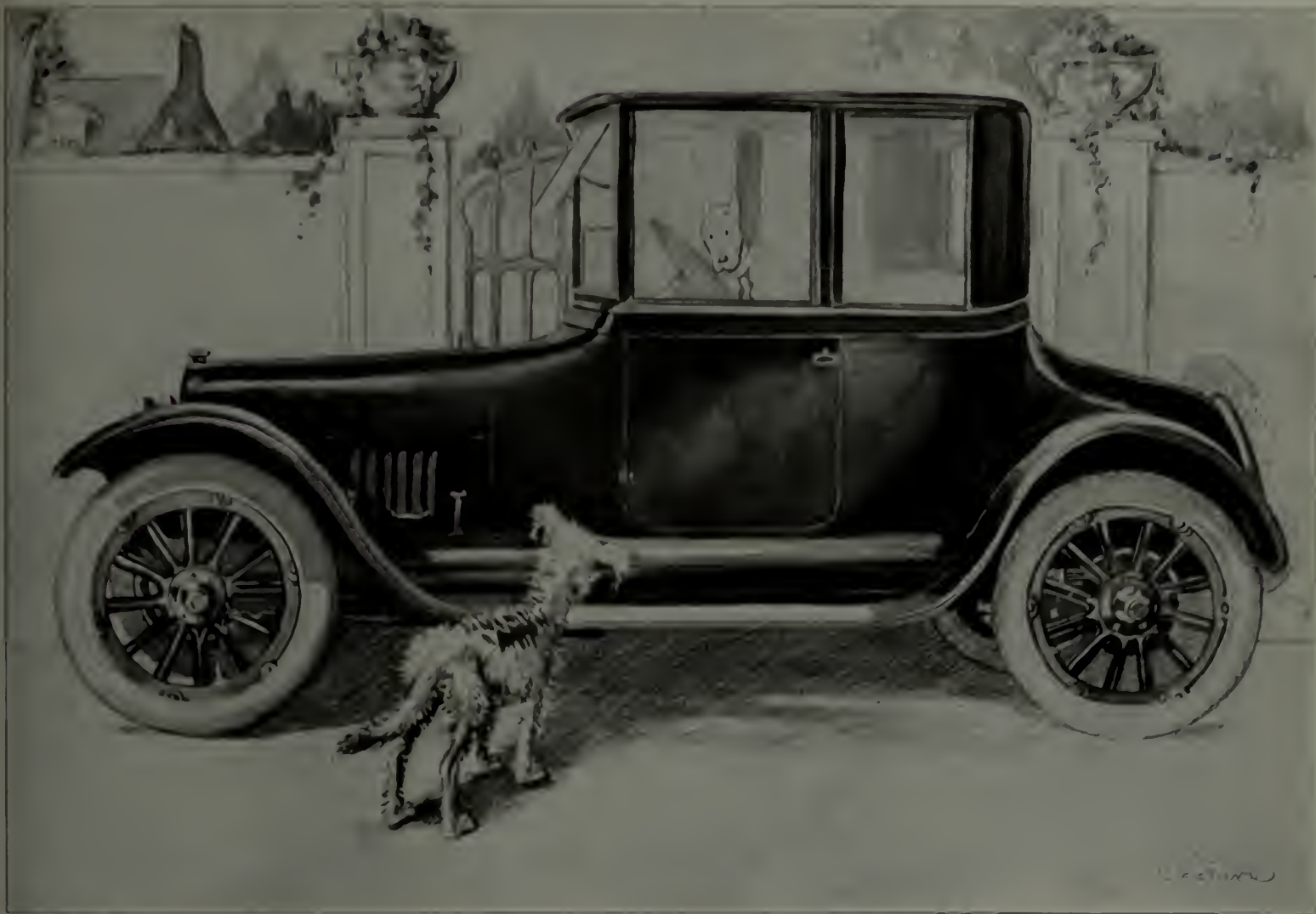
At this same shop they are offering a collection of skirts for the same purpose that are distinctly notable for the care with which they have been assembled. They range in price from the simplest tennis and golf skirts of piqué and cambric with buttonholed scalloped edges



4. A deep neck opening improves a slip-on woolen sweater (\$6.75) worn with a good though inexpensive sailor hat (\$5.00)



6. Very new, and very becoming is the double brimmed georgette *crêpe* hat trimmed with silk fringe (\$15.00) and perfectly suited to the simple organdie frock (\$16.50)



Copyright, 1918, by Judge

BOTH: "YOU LUCKY DOG!"

IT'S FUNNY how everyone of us wants what the other fellow has. The anaemic man with a million, pines for the husky physique and care-free mind of the longshoreman; the chap with the digestion of an ostrich, an inadequate income and the biceps of a Hercules wants a satin-lined limousine, Russian caviar and a box at the opera. Why? Oh, Lordy, don't ask us. It's just human nature—the way we poor mortals are built. Human nature is a wonderful and complex thing, God bless it. But some understanding of human nature is the one thing necessary to success in the publishing world. We don't for a minute pretend that we fully understand the workings of the human mind—who does? But we spend our lives in putting into the pages of *Judge* what we think will appeal to intelligent people all over these United States, the kind of text and pictures that warm the heart, tickle the fancy or evoke a broad grin.

That *Judge* has achieved a large measure of success seems to indicate our labors have not been entirely in vain. The big thing about this publication is the fact that it's a bubbling, cheerful, stimulating friend; a friend who rides no hobbies, except happiness; who cherishes no enmities, except a supreme hatred for the Common Foe of Civilization—Militaristic Germany; who parades no fads and imposes no personal eccentricities; a breezy, rollicking comrade with a vein of tenderness, a sparkling wit and exhaustless "pep." This is the kind of a visitor one likes to have in one's house. These are the qualities which make *Judge* beloved of the nation.

The war? Yes, it is the banshee that dogs our heels, day and night. But why brood over war-time conditions? They are trying out our souls, have jolted us out

of our self-complacency, and yet how much better off we are in this country than the people of any other nation on this torn-up old globe. We are going to win the war—don't doubt that for a moment. And we are going to win it through American pluck and American stamina and our ability to fight, sacrifice and *smile*, all at the same time. The American soldier or sailor is no grouch. He sings no futile hymns of hate. The boys in the thick of it "over there" haven't forgotten how to laugh; the lads in our home camps and aboard ship are the merriest, fun-loving crowd of youngsters anywhere in the world. And they all read *Judge*—love it.

Recently the librarians at the various cantonments throughout the country took a vote among the soldier readers to ascertain what periodicals were most in demand. *Judge* stood right up at the top of the list. "Every copy received is read to a frazzle" writes one officer. Why? Because *Judge* is human, entertaining, enormously amusing. It is all American and nation wide in its sympathies. It is a smiling visitant to the home during fifty-two mirth-provoking weeks of the year.

Why not Hooverize your rebellion against the high cost of living by becoming a perfectly good optimist through the influence of *Judge*? Don't allow yourself to be Zeppelined by unfounded fears, or submarined by false economy. Get behind *Judge's* super-long-range gun of humor which punctures the dugouts of doubt, dullness and despair. Come into the camp of the wide-awake ones, those who are doing their bit by radiating cheerfulness in the face of depressing conditions. Put on the khaki of mirth and shoulder the rifle of merriment. You owe it to yourself and your neighbor to wear a frownless counte-

nance. Acquire "the smile that won't come off" by reading *Judge*—the happy medium.

Do you know that with one paltry little dollar you can wallop the willies completely out of existence? You can, with a copy of *Judge* in your hand, defy all the hordes of boredom and bury the blues so deep that they'll never return.

Don't you hear that whistle? Toot! Toot! Toot! All aboard for the Land of Laughter! The train is pulling out. Don't get left behind! Jump on and take your seat in the Pullman. Your ticket for a three months' trip is attached. Snip it off and mail it now while the mailing's good. Help your Uncle Sam to win the war by lending him your smiles.

By the way: Did you know that everybody is calling *Judge* the "Nation's Perpetual Smileage Book"? That description fits like a glove. *Judge*—for yourself.

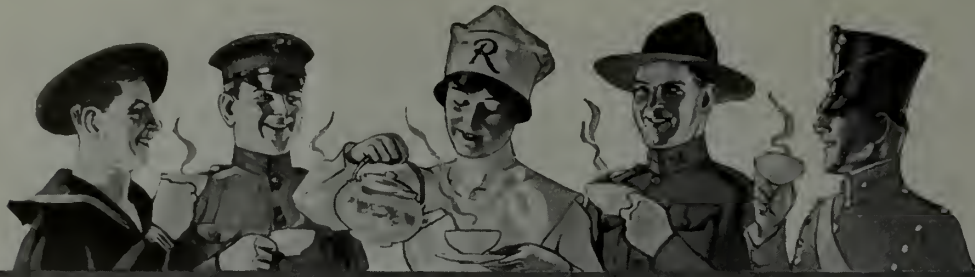
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Published by
Doubleday, Page & Co., Garden City, N. Y.

Practical Garden and Farm Clothes

I WISH it were possible to illustrate the woman gardener of say 1910 or '12 in her garden costume of those days, a delectable smock of rose, orange, or purple perhaps, a big, flappy, simple shade hat, a gaily painted watering can, and, of course, a checked oil cloth kneeling pad; and by her side to draw this woman farmer of 1918 with her simple working clothes of some practical material, her collapsible weatherproof hat, her stout boots, and her real spade or hoe or rake. For I don't think anything shows more clearly the strides that women in general have made in this line of work.



Most of the shops in New York are offering some variation of farming costume and each model has a feature or two to recommend it. In fact it is very largely a question of individual taste, for becomingness is quite as much a part of this work costume as it should be of every costume that a woman wears.

The one illustrated is one of the very simplest models, consisting of a coat blouse and breeches of a durable khaki-colored wash fabric. The blouse may be opened in the neck for comfort or be worn closed, with a tie for protection against sunburn. There are two capacious pockets and an adjustable belt. The breeches sell for \$3.25 and the blouse for \$5.75. In a cooler blue jean the blouse is \$3.95. Of course one may use a shirt with the breeches instead of the coat blouse, but this shop recommends the latter. Here are also sold puttees at \$1.25, excellent shoes with a patented "health" construction at \$5.75 and a collapsible hat at 95 cents. The outfit complete is offered at \$15.

Another combination offered by a different shop consists of a looser, more smock-like coat held in by a fairly wide adjustable belt, pockets button closed; this coat comes fully to knee length. Well cut breeches and a similar collapsible hat complete it; the whole is sold complete for \$7.75 in khaki color jean cloth in sizes up to twenty years, an additional 10 per cent. being charged for larger sizes. The hat is \$1, the smock \$4, and the breeches \$2.75 if each is bought separately.

The same design is also made up in cream cotton crepe or blue Trouville cloth for \$9.50, with the additional 10 per cent. for sizes above twenty years.

At this same shop they sell excellent heavy tan cotton rib stockings with a turn over top for \$1.15 a pair, cotton canvas gloves with a ribbed wrist for 22 cents (by the way these are excellent for any gardening work), and a standard make of blue denim overalls for \$1.75 a pair.

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Jacobean Art Model



ENGINE LUBRICATION

By ALEXANDER JOHNSTON



ONE of the most famous American automobile engineers once said: "Give me a perfect system of lubrication and I will produce an everlasting car." The good gentleman may have exaggerated a

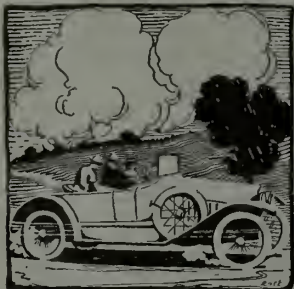
trifle in the exuberance of post-prandial eloquence, but substantially he was stating a truth. The motor car is a vehicle embodying innumerable frictions. Lubrication reduces this all-pervading friction, though it cannot eliminate it, to the point where the mechanism may run. In theory, lubrication consists of interposing a thin film of oil or grease between moving surfaces, generally metal, which would otherwise meet. The efficiency of lubrication depends on how nearly it maintains this oily buffer continuously. Let the lubrication fail and the moving metal surfaces meet, quickly generate excessive heat, and disintegration of the metal follows. Just remember that the motor car consists of many mechanical units, each one the seat of intense movement within itself, as well as in relation to the mechanism as a whole, and you have some grasp of the vital importance of lubrication.

There are a number of types of lubrication systems in use to-day, each of them having certain definite advantages and demanding certain attentions to keep them in proper operating condition. We shall endeavor to describe the various systems that are found in present-day cars and to suggest the care needed in each case to keep the system in efficient working order, as well as the maintenance attentions that are common to all the systems alike.

In the first place it should be understood that when we refer to the lubricating system of the car, we mean to indicate the oiling system of the engine. The other parts of the mechanism requiring lubrication are generally separate units, whereas the engine's oiling apparatus takes care of a number of different parts. The commonly used types of engine lubricating systems are of three sorts, splash, force or pressure, and force and splash, a combination of the two former.

The splash system utilizes the lower half of the crankcase as a reservoir or sump for holding the lubricating oil. The lower ends of the connecting rods are equipped with miniature dippers. When the connecting rods are in action, the scoops or dippers are plunged below the surface and gather up a certain amount of oil on each revolution, scattering it over the surfaces that require lubrication. From this simple explanation the car owner will get the first and most important rule as regards the lubrication of his vehicle. This is the vital necessity for keeping the oil in the reservoir at the proper level, so that there shall be no question that the scoops find the lubricant waiting for them at the end of their downward journey. Obviously, if the oil is allowed to get so low that the dipper does not reach it, the moving parts of the engine are not going to get the lubrication necessary for their continued operation.

The oiling system of the engine must also take care of the bearings, and



to this end small holes are provided in the bearing holder, into which the lubricant is supposed to drain. Now this method of oiling the bearings is not positive in action. If the oil gets below the proper level, there will probably not be enough to give

the bearings adequate lubrication. When the car is running up or down hill, one end of the engine may get more than enough lubricant while the other end is not getting enough. It happens not altogether infrequently that the small holes designed to conduct the oil to the bearing get clogged up, in which case the bearing will get no lubricant at all. The result will be a burned out bearing, if the condition continues for more than a short time. Even if the stoppage is not entire, so little oil may reach the bearing that it will be underfed, with excessive wear as a result. Whenever opportunity occurs, that is to say whenever the engine is sufficiently disassembled, these bearing oil holes should be carefully cleaned out.

Many engines using the splash system of lubrication permit the oil from the reservoir to seep back into the clutch and other parts, the flywheel being utilized as a sort of centrifugal pump to throw lubricant into a pipe leading to the timing gear, after lubricating which it finds its way back into the reservoir again.

The system which we have been describing is generally known as "straight splash" and it is the simplest form of lubricant distributor available. There are certain modified forms of splash systems in use, which are worthy of brief mention. One of these is known as the "displacement system," which acts in much the same way as the inverted bottles of spring water, commonly ornamenting many of our best public places. A small, upright tank is placed at the side of the engine, a pipe leading from the lower end to the crankcase at the point of correct oil level. Oil being poured into the tank immediately flows downward into the crankcase until the correct level is reached, when obviously no more of the lubricant will flow. All the car owner has to do is to keep the tank full; then as the oil in the reservoir is used up, enough oil flows down from the tank to bring the level up to the correct point. The idea is to give a device that will, with minimum attention, automatically maintain the level of oil in the crankcase at the proper point. The theory is excellent, but in practice there are certain factors that contribute to prevent the achievement of perfection. To begin with, the oil tank must be absolutely air-tight; otherwise the oil will flow continually, emptying the tank and filling the reservoir beyond the proper level. Again, the pipe leading from the tank to the reservoir in the crankcase is liable to clog, so that no oil flows, and the car owner looking at his gauge thinks he has plenty of oil in the system, when in reality the crankcase may be nearly drained. This is not so much criticism of a lubricating system that has many virtues, but rather suggestion as to what the owner of this type of oil distributor must watch.

The second modification of the splash system in present-day use is known as "circulating splash," which bears some resemblance to the force and splash system to be considered later. Circulating splash employs a pump, usually driven from the camshaft, the function of which is to send the oil through the engine time after time. The lubricant is drawn from the reservoir, which is simply the bottom of the crankcase, and is driven by the pump along troughs to certain places at which it is needed. In the meanwhile the conventional scoops or dippers are splashing oil on the cylinder walls, the pistons, the rods, crankshaft, and camshaft. In some circulating splash systems, the valve mechanisms and the timing gears have leads or troughs from the pump, but the commoner practice is to provide for these parts by splash. With this system, of course all oil splashed or circulated is returned to the reservoir for recurrent use. The pump, however, is fitted with a strainer, so that the

lubricant is kept from excessive fouling. It will be noted that in the circulating splash system, while the oil is sent on its way by a pump, it does not reach the parts under pressure, which makes the distinction between this system and those employing pressure.

It may be mentioned in this connection, that there was formerly a type of splash system in which a pump was employed, which an extra reservoir divided off from the main supply. When the lubricant in the main reservoir fell below its appointed level, the pump came into play, replenishing the supply from the subsidiary compartment. This practice has been abandoned in favor of those mentioned above.

Before we abandon the subject of splash lubrication, suppose we examine the troubles that may occur and the maintenance attentions that such a system needs. As we suggested some paragraphs back, the first consideration of the car owner must be to keep the oil in his engine's reservoir up to the proper level. Also (and only less important is this), he must not overdo it. If there is too much oil in the reservoir, some of it will work its way into the combustion chamber, inducing rapid carbonization, not to mention smoking from the exhaust, which in certain places will bring the car owner into conflict with the authorities, to the disadvantage of his pocketbook. The pump commonly used in the oiling system of the force and splash type is a piston pump, though gear pumps are not unknown. Trouble occasionally develops in the pump, wear of the piston being the most usual. Replacement of the piston will cure this malady. The gauge sometimes gets out of order and fails to register. Priming the pump through the oil line will generally restore this part to usefulness. The leads carrying the oil should be taken out and cleaned at least once in three months, and the oil strainer should be removed and thoroughly cleaned every month. These simple attentions will usually keep the lubricating system "up on its toes."

The second major type of lubricating system is that known as "force and splash." This is simply our old friend splash with a pump added, to force oil to the main bearings under pressure. This part of the system comprises a pipe extending along the side of the crankcase and having extending out from it smaller pipes which directly feed the main bearings with oil. In this way the supplying of lubricant to the bearings is positive. A very moderate pressure is enough to force the oil to the bearings and, obviously, the pipes are not likely to become clogged. In some systems the main pipe is carried on to the timing gears, giving these parts a positive lubricant supply. The oil passes through a screen or strainer on its way to the pump, insuring reasonably clean lubricant. A gauge is provided in all pressure systems, to let the driver know just how the oil line is working. The pump, being geared to the camshaft, works faster and forces through more oil as the engine speeds up. This is absolutely necessary, as the faster the engine runs the more oil it requires. The fault generally charged against this type of system is that it does not allow for load. The engine may be pulling hard and yet be slowed down by the excess work it is doing. This is the time when it needs oil as never before, but doesn't get it because its rate of turnover happens to be slowed down. However in spite





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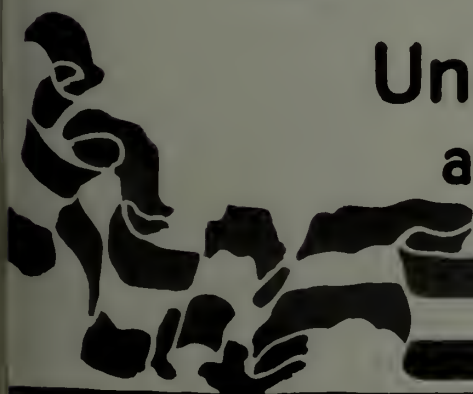
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of this failing, perhaps because designers generally allow something for unusual conditions of operation, the force and splash system has achieved general popularity and is to-day in use on more passenger cars than any other.

In a general way the care of a force and splash oiling system differs little from that which is given the ordinary splash system. The oil level must be maintained and the pipes should be cleaned at three-month intervals, the oil strainer once a month religiously.

The final type of oiling system, which is commonly enough used to be of interest to us, is the pressure or force feed system. The backbone of this system is the drilled crankshaft. This means simply that a hole has been bored through the crankshaft lengthwise and through this the oil is pumped. Into this main canal open subsidiary borings leading to each of the bearings. No troughs are used. The oil is carried in a crankcase reservoir, whence it is drawn through a screen or strainer by the pump and forced through the crankshaft to the main bearings, as noted above; from here it flows to the rod bearings. At the rod bearings are holes, which register with other holes in the connecting rods. From each of these latter holes a tube leads up to the wrist pin. At each revolution the oil is forced up through this tube, which lies alongside the connecting rod, finding its way to the hollow wrist pin. From the wrist pin the lubricant flows out to lubricate the piston and cylinder wall. Pipes or leads are also provided to carry oil to the camshaft bearings, timing gears, and other moving parts.

The brief description given above covers the general structure of the force feed oiling systems that are most popular to-day. In the main this type of lubricating system is used only on the more expensive makes of cars. There is another pressure feed design in use at the present time, which dispenses with the bored crankshaft and utilizes a pipe along the inside of the crankcase, with leads running out from it to carry oil to the main bearings, with ducts to feed connecting rod bearings. From here the oil is forced up through a tube to the wrist pins, whence it flows to cylinder walls and pistons. The camshaft bearings generally have a separate supply pipe.

All pressure feed oiling systems embody a gauge to keep the driver informed as to the condition of his system. Probably the commonest form of trouble in the force feed system is failure of the gauge to work. In this case the driver should disconnect the oil line attached to the gauge, while the engine is running; if the oil continues to flow, the trouble is certainly in the gauge and not in the oil line. In some of these pressure systems is included a regulator for controlling the rate of flow of the lubricant. This device is usually attached to the screen in the base of the engine and is connected with the throttle, so that more oil is fed as the speed of the engine increases. It is also possible to adjust the regulator within certain limits.

In the main the force feed oiling system needs the same care as the other types. The oil supply must be kept up to the proper level and the pipes may need an occasional cleaning. Obviously, there will not be the same trouble with clogging as in some other systems, as the oil is under pressure and sweeps away minor obstructions. However, clogging sometimes occurs, so that the system must have a periodic cleaning.

While we set out to discuss particularly the lubricating system of the engine and adjacent parts, we may be pardoned for devoting a brief notice to the lubrication of the units that do not derive their lubricant from the main reservoir. Of course, the engine's oiling system is by all odds the most important part of the entire lubrication system of the car. A failure to keep the lubrication system of the engine properly filled with oil and working brings almost instant disaster. The lubrication of some of the other parts may be neglected for a considerable period without absolute failure; but though slower in coming, trouble will arrive in the end. The car owner who desires to get the best out of his vehicle, will study the whole lubrication system from steering gear to rear axle and will religiously give every part the quantity and quality of lubricant recommended for it by the maker. For the benefit of such owners we subjoin a table of lubrication attentions demanded by the various parts of the motor vehicle, which conscientiously followed, will bring the nearest

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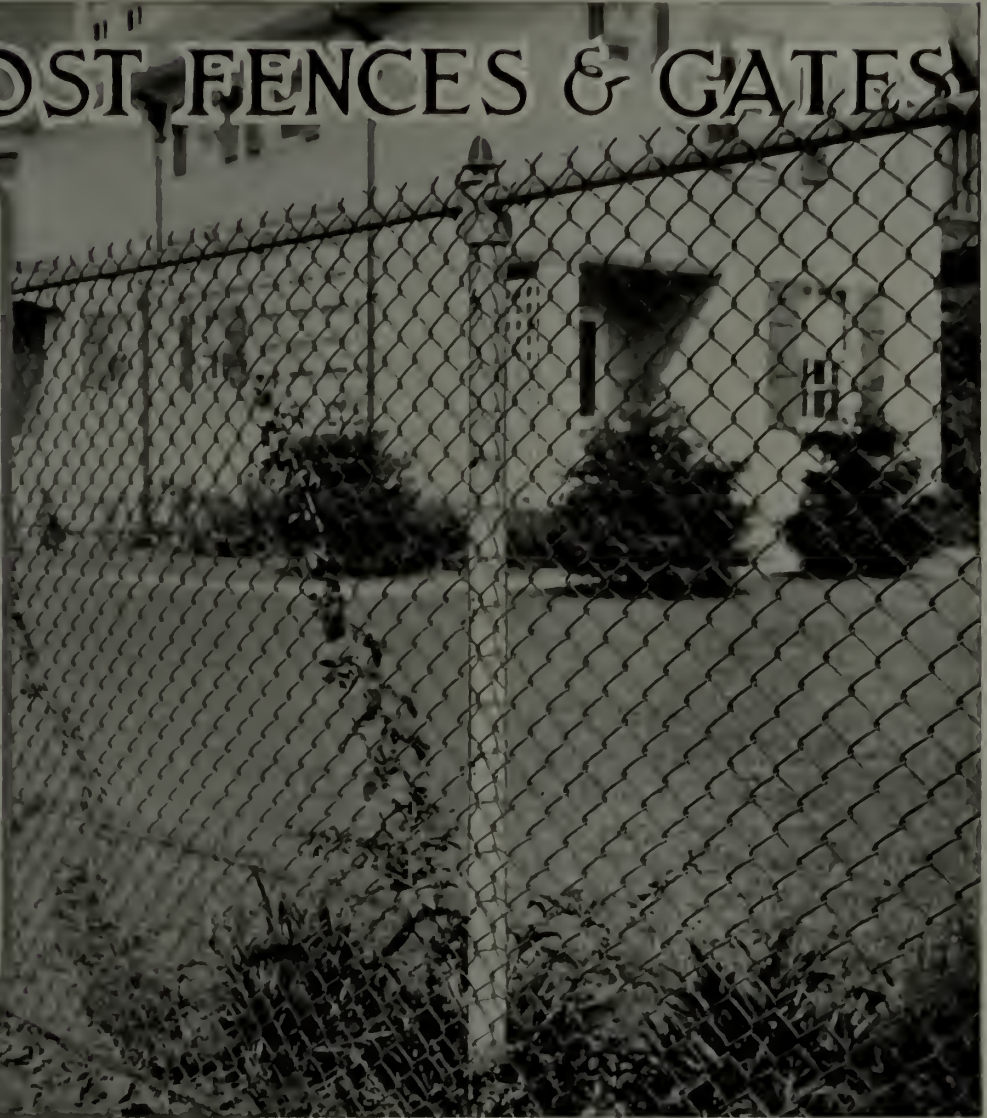
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approach possible to maximum mechanical efficiency. This table may be accepted as generally accurate in its recommendations for lubrication attentions to the various parts of the mechanism, though there will be variations in regard to certain cars and models.

Daily lubrication

Clutch collar and thrust bearing: grease or graphite.

Spring bolts: grease or graphite.

Drag-link joints of steering gear: grease or graphite.

Tie rod and king bolts: cylinder oil.

Lubrication every 300 miles

Steering gear case: grease or graphite.

Brake levers and clevises: cylinder oil.

Commutator: cylinder oil (few drops).

Steering post: cylinder oil.

Brake shafts and pedal bearings: cylinder oil.

Lubrication every 500 miles.

Spring leaves: graphite or heavy oil.

Crankcase: cylinder oil, drain, flush out, and refill.

Magneto-distributor: drop of cylinder oil in holes.

Lubrication every 1,000 miles

Gearcase: oil, light in winter and heavier in summer.

Wheel bearings: grease or graphite after thorough cleaning.

Universals: grease or graphite.

Torsion tube, radius rods and similar parts: grease or graphite.

Gearcase: drain, flush with kerosene and refill with oil, light for winter, heavier for summer.

A SWIMMING POOL WHILE YOU WAIT



ON MY farm where I have my summer home, is a live stream that runs about eighty-six rods across my farm. At some time it has evidently been ditched out to straighten the stream. It is about thirty feet wide, with a depth when full, of about five feet. When the grandchildren broached the subject of a swimming hole, I told them that they should have one. It, however, took me about six months to develop the very simple method which I am about to describe. I could not dam the stream to fill the banks without backing up and also filling the ditch on land of my upstream neighbor, nor without his consent. If a permanent dam were built, filling the stream in dry weather, it would overflow the stream in time of heavy rains and might be objectionable to my own farm and to my neighbor, so I did not want a permanent dam. I did not want the expense of putting in gates, such as are used in mill races. After thinking the matter over for several months, questioned frequently by the grandchildren, who could not see the swimming hole, the following simple method occurred to me which I at-once put into execution, and which is a success in every way.

I built a footbridge having two piers in the stream besides the abutments upon each shore. This then left four openings each substantially forty-two inches wide. In each of these piers I made grooves such as would be in the openings of a corn crib or of a coal bin. I then cut six-inch planks which were two inches thick, the right length to slide down these grooves, and enough of them to fill all the grooves, so as to overflow the stream if desired. In this way the children in a very few minutes can build up the dam to any height desired, and can with equal celerity remove from the grooves all of the boards, and the stream is again normal.

Pillars could be built and provision made for the dam without the bridge if so desired. In my case I wanted the bridge, I built a little house with two rooms as dressing rooms, one for the boys and one for the girls; made concrete floors, a concrete walk to the bridge, concrete steps down into the water, and a porch in front by extending the roof. So all in all it makes a rather interesting feature and is very much enjoyed by the grandchildren and their little friends. In fact, even the older people seem to enjoy sitting under the trees near the bridge, watching the little folk in the water. None of these facts will be of special interest except possibly the simple method of easily creating and again speedily retiring the dam.

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For several seasons Mr. Farr and his associates have given their entire time at this period to their visitors. As the season will vary somewhat, intending visitors should write the last week in May for information; we will then advise you of the most favorable date and arrangements will be made to meet you at the station.

If you are unable to get here don't hesitate to write for any information you desire about Peonies, Irises, or other plants in your hardy garden. If you do not possess a copy of *Farr's Hardy Plant Specialties*, send for it at once and it will be sent free of charge.

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"*Thursday*—Valsparred the front door this morning. Found it easy to use Valspar. In the afternoon tackled the dining table. Wonderful results! Valspar is certainly great stuff.

"*Friday*—Big rain-storm woke me up in the night. Thought 'there goes my Valsparred front door.' But this morning I discovered that rain doesn't affect Valspar a particle. Today I Valsparred the hall and stairway, and the linoleum on the kitchen-floor. Valsparing is really great fun.

"*Saturday*—Had heart failure at breakfast time when the maid upset a cup of boiling-hot coffee on the dining-table. But—did it faze Valspar? It did *not*! Evidently Valspar is fool-proof. Wound up the week-end by Valsparing some of the woodwork and the baby-carriage.

"*Sunday*—Took the baby out for an airing. Met some friends and they said 'Oh! doesn't it look cunnin' in its new carriage!' But it wasn't a new carriage: Valspar did it."



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Eggs can be produced at a good profit, even with feed at present prices, if the matter of rations is carefully studied

WAR TIME POULTRY RATIONS

By E. I. FARRINGTON



WAR time poultry rations are now in order. The same methods of feeding cannot be followed in all parts of the country, but satisfactory feeding systems have been developed for each section. All of the approved rations contain little or no wheat. The ration recommended for the Middle West by the Poultry Department of the Missouri College of Agriculture to meet present needs is composed as follows:

Scratch feed—10 lbs. of whole or cracked corn, 5 lbs. of oats.

Mash—3 lbs. of bran, 3 lbs. of shorts, 1½ lbs. of meat scrap.

After a conference between the poultry experts representing the State Experiment Stations in Massachusetts, Connecticut, New Jersey, and New York, the following rations were agreed upon:

Scratch feed—5 parts cracked corn, 2 parts oats, 2 parts barley, 1 part low grade wheat.

Mash—equal parts of middlings, bran, ground oats, corn meal, gluten, and beef scrap.

A recent test has proven that a simple ration gives as good results as one which is more complex. Two pens containing seventy pullets each were used. One pen was fed a ration consisting of ground oats, bran, corn meal, flour, alfalfa, beef scrap, gluten, and oil meal. The other pen received only ground oats, bran, and beef scrap. About the same number of eggs were laid by the hens in each pen, but it cost 3 per cent. more to produce those laid by the hens fed the complex ration.

The writer has been using only oats and corn for a scratch ration since last fall. Many farmers are trying to get along with corn alone, and they can do this if they feed a mash made up largely of bran, ground oats, and beef scrap. Of course if they use corn for a scratch feed and a large percentage of corn meal in their mash, the rations will be so poorly balanced that the egg yield will fall off.

Two examples are shown by neighboring farmers, one of whom has been feeding nothing but corn to his chickens, while the other has fed a mixed ration including corn, oats, bran, shorts, and beef scrap. During the month of November, the first farmer got only six eggs from his eighty-four hens. The second farmer, with a larger flock, received at the rate of 262 from the same number of hens. Neither man fed any wheat, which is not necessary for egg production.

Beef scrap has become abnormally high, and yet it is almost indispensable unless some other protein feed, like fish scrap or milk, can be substituted. In a Government test fowls not fed any animal protein laid only ninety eggs during their pullet year, compared with 137 eggs from hens given beef scrap. The eggs of the no beef scrap pen cost 2.2 cents per dozen more to produce. Moreover, the fowls not fed beef scrap laid very poorly during the winter. Fish scrap is much cheaper in many sections, and just as satisfactory. There is a belief among some poultry keepers that it imparts a fishy taste to the eggs, but this is questioned by experts. Professor Graham, of the Massachusetts Station, has had considerable experience along this line, as the big fish companies along the coast are putting out commercial fish scrap. He says that in following up complaints, he has found that the fishy taste did not result from the feeding of fish scrap, but from outside sources. He has found, for example, that farmers have thrown fish heads into the pens and that the fowls have scratched among them, the fish odor being taken up by the feathers and imparted to the eggs while the hens were on the nests.

Cottonseed meal is being used to a certain extent now in sections where the beef scrap is hard to get. It is not very satisfactory, however, because it has a tendency to produce brown or greenish spots on the yolks of the eggs, making them unfit for market. This trouble is more likely to be experienced in warm weather than in winter. Often this substitute can be used safely for one half the beef scrap ration.

Skim milk or buttermilk makes an excellent protein feed. It may be used in part or wholly in place of meat scrap, allowing about twelve quarts to a hundred hens a day.

Some form of green feed is very necessary. A green range of alfalfa, clover, or grass is ideal. Otherwise sprouted oats, mangel beets, cabbages, or green clover will be needed. There is no reason why lawn grass clippings should not be dried and packed in barrels for winter use.

It has been found best to feed the mash dry except for stimulating egg production late in summer or to hurry along the development of late hatched pullets. It is not advisable to feed a moist mash to breeding stock at any time. While the hens are confined, they should be fed



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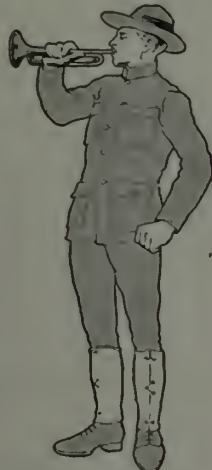
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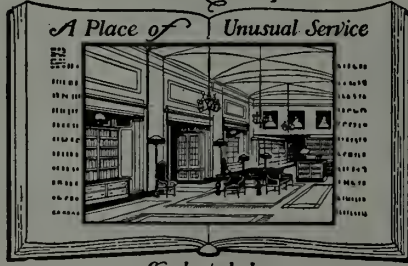
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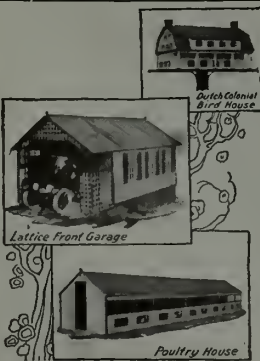
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in a deep straw litter in order to give them plenty of exercise. The mash can be fed in an open hopper kept before the birds at all times.

Of course it may be necessary to vary the rations given above in different sections, although in a general way they provide all the proper elements for egg production, while making use of the cheapest and most abundant feeds in the West and in the East.

It must be remembered that even with good feeding, hens will not lay well unless they are supplied with water in abundance. A dozen eggs contain about a pound of water, and it is necessary, of course, that the water should be fresh and clean.

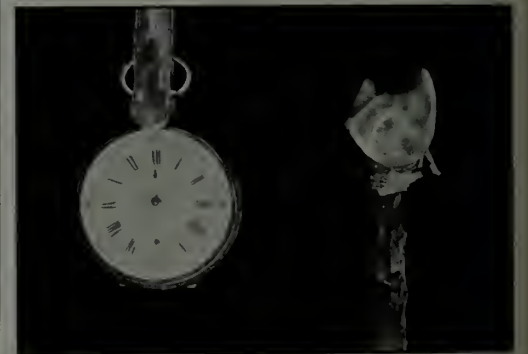
Even at the best it is impossible to produce eggs cheaply as conditions are at present. Professor D. J. Lambert, of the Rhode Island College, estimates that it costs 7 cents per week to feed a hen, and 27 cents to produce a dozen eggs. Accordingly, it is very important that careful culling be carried on, so that there will be no drones in the flock.

THE UPRUSH OF THE SAP



WITH the coming of the spring the sap starts to rise in the trees. Although we do not fully understand the direct cause of the movements of the vital fluids in plants, these seem to be in response to the call of the new season. Even before the leaf buds start to unroll, the sap is traveling upward, and doing so with astonishing energy.

In the accompanying photographs is pictured an experiment carried out with a grape vine. The stem of this plant was severed and a bladder



A bladder was tied over the end of a grape vine stem that had just been cut



Two hours later the uprushing sap completely filled the bladder. An hour afterward it burst from the pressure

was immediately tied over the cut end. This was about midday. The sap continued to stream upward to such an extent that two hours later the bladder was fully distended. Still more amazing, at the end of another hour the pressure of the sap proved to be so great that the bladder was quite unable to stand the strain and it burst! In this particular case the cut stem continued to pour out sap for several days. This was especially interesting as disproving the old idea that the sap went upward because of a certain "pull" exerted by the foliage of the plant.

S. L. B.





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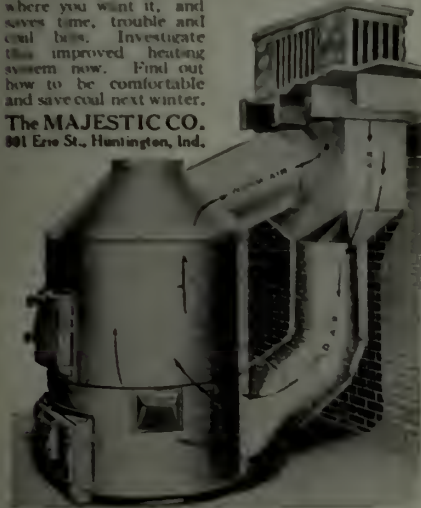
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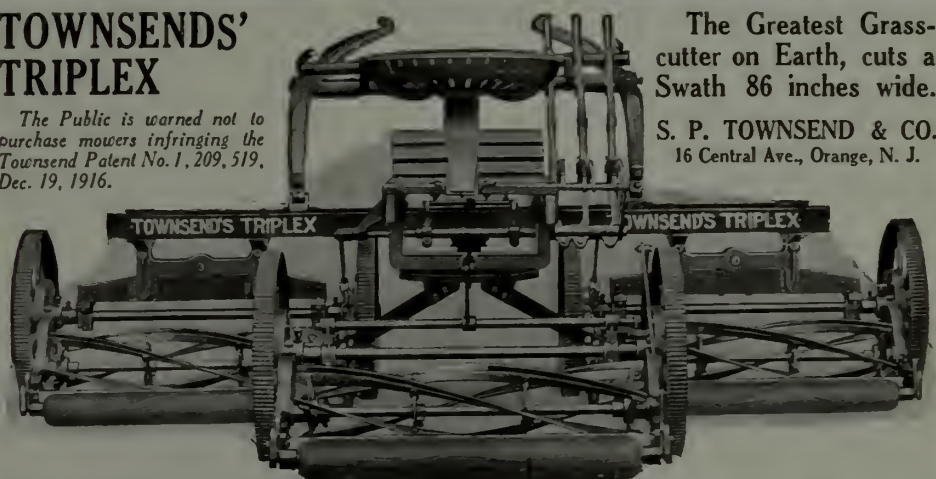
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WAR DOGS IN THE U. S. A



RECENT communication from the French War Department states officially that about 5,000 dogs are now actually in service in the French army or back of the lines. They are used for the following

purposes:

As assistants to sentinels, in the listening posts, in detecting enemy patrols.

As patrol dogs, reconnoitering for small detachments, attacking and holding an enemy on the order of their leaders.

As courier and despatch dogs for carrying messages, in saving the scouts the fatigue and very great dangers of going and coming between the posts of command on the first line in the sectors bombarded or beaten by the machine guns.

As carrier dogs, supplying provisions and supplies to the first line.

As draft dogs. Two divisions of Alaskan dogs and their sledges are used in winter to carry provisions and military stores and also to carry out the wounded in the Vosges. In summer they are harnessed to small cars on narrow-gauge tracks.

As guard dogs in the storehouses and factories, thus permitting reduction of the number of sentinels.

As ratters, for the destruction of vermin in the trenches, cantonments, and storehouses.

As sanitary dogs, connected with the ambulance service. They bear first-aid kits and lead the stretcher bearers to wounded men.

In addition to this official statement, we have the evidence of numerous photographs which have appeared in this country, showing dogs in military service in France, and a good many Americans have been wondering whether anything is being done toward equipping our American forces with these canine helpers, for their usefulness in France is no longer open to doubt.

I have reason to believe that, while doubtless not as much is being done as should be done in this regard, a beginning has been made and more has been accomplished than is generally known. I know of two or three cantonments where dogs are actually being trained for military service, but it is impossible to secure much information regarding these activities on account of a strict censorship. In only one instance have I been able to secure any facts of particular value, but I am inclined to think that this instance may be typical of others.

Nine Airedale terriers are now being trained at Camp Funston in Kansas. They were bred at the Fairholme Kennels in Kansas City, and many of them are dogs with bench-show records. Seven of them were donated to the Government by Dr. J. T. Crosby and Mr. Herbert M. Wolf of Kansas City, one by Mrs. W. G. Dilts, Jr., and one by Mr. Pete Larsen. The training is being conducted under the direction of Lieut. William L. Butler, whose experience as a dog and pigeon fancier has equipped him for this task. The dogs are said to be taking hold of their new work with "pep," and they promise much for the future. On the success of this experiment may depend a broadening of the plan. Lieut. Butler's assistants are Corporals Dale, Sells, Kahoe, and Keller. Corporal Sells is one of the Sells Brothers of circus fame and is an expert in the handling of dogs.

These dogs are destined for actual service in France at no distant date, after it has been determined for which branch of the service they are best fitted. The French plan, in general, will be followed.

Airedales were selected because of their intelligence, courage, and endurance, and because of their character as one-man dogs. Their color and their weather-proof coats are also desirable qualifications. They are fast and about the right size for their work. Each dog has dealings with but one master and is not allowed to fraternize with other dogs or men.

At the same camp experiments are also being conducted with pigeons. The old-fashioned carrier pigeon has been found to be too large and too slow for this work, and racing homers are used. This is the fastest bird in the air with the possible exception of one or two varieties of hawks. They fly very high and it is almost impossible to shoot them on the wing.

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homer always returns to the place of his birth, and it will be necessary to rear in France the birds actually to be employed there. Meanwhile their handlers are receiving important instruction. The value of the pigeon as a messenger has already been demonstrated "over there."

These activities are under the general direction of Major John Franklin, the 89th Division Signal Officer, and Capt. G. F. Plant of the 314th Field Signal Battalion.

WALTER A. DYER.

WHEN THE BEES BEGIN TO ROB



ROBBING is likely to commence in the apiary at any time when the honey flow ceases for any reason, or when the bees are tempted by the untidy habits of the bee keeper.

Much can be done to prevent robbing by taking care not to expose honey or comb when the bees are not busily at work. Sometimes robbing is started when the bees gain entrance to a house at preserving time, or if they find a way into a building where honey is stored. Usually, though, robbing takes place when one or two colonies have become weak, so that the guard are not able properly to defend the entrance. This is especially likely to happen if the queen has died. It is very important to keep the hives tight so that vagrant bees cannot find their way through the cracks or crevices.

On one occasion the writer planned to remove the capped honey in the super on a hive, and placed a bee escape beneath to facilitate this work. Then he went away for several hours. When he returned he found that the bees had gained entrance to the super through a small opening at one end of the cover which had not been noticed, and had removed every ounce of honey.

If robbing gets well started before it is detected, it may demoralize the whole apiary, and keep the bees from the fields even though a honey flow should start. Perhaps the easiest way to stop robbing, especially in its incipient stage, is to thrust a few handfuls of grass into the entrance, taking care not to make it so compact but that a few bees can find their way through. Then the robbers which are inside will hasten to get out, and the guards, taking heart, will be able to keep them from entering again.

Another plan is to transfer the hives of the robber colony and the colony which is being robbed. The thieving bees will find themselves in their own hive when they make their next entrance, and the two colonies will become so mixed that the robbing will cease.

An easy way to tell which hive the robbers belong to is to sift a little flour on the bees as they emerge from the hive which is being preyed upon. Then it is only necessary to watch the bees and note the hive to which they fly. One expert beekeeper says that he has been successful in preventing and stopping robbing by placing a few horse hairs on the entrance of the weaker colony's hive. It is known that bees have a great aversion to the odor of horses, and he finds that even when robbing is going on briskly the bees will cease their attacks rather than cross this line of defense.

One plan sometimes followed to prevent robbing early in the spring or late in the fall when no honey is coming in, but when the bees are flying freely and likely to get into mischief, is to place a plate of very thin syrup about a hundred feet from the apiary. This syrup should be made with only enough sugar to make it taste sweet. Then it will have about the consistency of nectar as removed from the flowers. The bees in the various hives will work upon it in the same manner as when bringing in sweets from the fields, and will be too busy to think of robbing.

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Various Types of Furniture that may be Had for the Summer Home

By JESSIE MARTIN BREESE

Inquiries regarding home decorations—color schemes, furnishings, art objects and interior arrangement—should be addressed to Mrs. Breesse, of the Decorating Service of *The New Country Life's* Advertising Department, 120 West 32nd Street, New York.



THE old saw about love making the world go 'round is not far from true, but it is probably safe to state the same in a large measure for color. Color does make the old world turn more happily and more easily than it otherwise would. For the truth of this, one has only to observe the joy with which people of all times have made it an integral part of their lives. The keen appreciation of its uses that the savage held in his primitive brain is readily understood through study of our own American Indian. It was a part of his daily life, his art, his religion. For him, the colors of nature each signified some particular thing. The paint he used for his face was a *modus operandi* to arouse his passions for battle and to express reverence for the Great Spirit alike. He employed it for his crude bowls and furniture.

Quite the antipodes of the savages, the monks of the early Christian Era were another and different type of man who set great store by color and its effects. Far beyond their time in education, we find too, that they were equally prelearned in its use. Drawing their inspiration from the word of God, they expanded their art from the illumination of parchments to modeling and painting, with the result that their works not only leave us an accurate record of the life of their times but evidence that they assisted in the spread and appreciation of art among the people.

This in turn had its effect when the Renaissance was born. Color abounded during the period. Painting grew to a manifestation of gigantic import. Even costuming became an art, and the gowns of the women, and doublet and hose of the men of this period and successive years are a tradition with us who live in an age of sober covering.

But that during all those centuries color played an important part in the making and decoration of furniture is little known. Except for the gilt of Louis XIV, the lacquer of Queen Anne, and the painted panels of Sheraton, color seems on first thought to have had little enough to do with the making of furniture. Yet as far back as the Egyptian era of culture it ranked high. These early people not only used pigments for decoration, but employed color artfully in the gems with which they set their thrones. The Romans frescoed their couches and garden seats even as they did their walls. Stone was the material of which much of their furniture was made, and this process of ornamentation is another step forward in the appreciation of color. Another peo-



ple who early discovered the decorativeness of paint on their tables, chests, and chairs, were the peasants of eastern Europe. Throughout the centuries their art has remained individual, and even to-day it is considered as charming as that of many more trained artists.

It was among these people chiefly that the taste for furniture painting was kept alive during the Renaissance to find a foothold in Tudor England. Old cupboards and chests vividly painted with contrasting colors, chests whose lids might resemble Joseph's coat of many colors, and coffers upon which were often painted scriptural scenes or heraldic devices, still remain to give us an idea of the work of this time.

In later periods, gorgeous Chinese lacquers were used with great success, and though many styles in furniture have risen and declined since then, lacquers

have never lost their popularity. Something of the mystery of another race seems to pervade them and invests them with all the charm of an exotic fairy tale for the people of the Occident.

Sheraton, Hepplewhite, and the Brothers Adam all knew the charm of color used in its extreme degree of refinement. Often they obtained a contrast in color by the use of many different woods. Satin-wood and mahogany proved a popular combination, with their dissimilar hues of velvety, glowing gold, and deep, heavy rose. Such simple color combinations, of course, were not always used, sometimes as many as seven or eight different woods being employed in one piece with the result that an exquisite color pattern resulted. Such eminent painters as Angelica Kauffmann, Capriani, and Pergolesi did many panels which were used in their furniture. Usually classical or semi-classical motifs were employed much after the Italian style of the time.

Illustrating this is the settee at the head of the page. While not an original piece done by any one of these artists, it is an excellent reproduction faithful to the best of the period. It is composed almost entirely of cane, but the frame and reeded legs are enameled and softly lined in color. A simple motif is used in the design across the apron, but interest is centred in the painted oval panel in the middle of the back.

Another reproduction illustrating the use that was made of color in those days is the pair of sconces showing a design done after the Chinese. These are very plainly reproduced from a Hepplewhite design, for the Prince of Wales plumes overtop-





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ping each one are characteristic of no one else. The flutings, too, show inevitably the Hepplewhite influence.

Both the sconces and the settee are of a type that is most popular for use in the summer home. Something in the lightness of their design makes a pleasing sense of coolness that is sought for by the owner of the summer home. But above all, it is the color which charms. In summer especially do we delight in color, whether it be cheerfully bright or softly restful.

These two reproductions should be placed in the latter class.

Of the other class, is the little enameled magazine stand below. While its colors are not in any way blatant, it has a gayety that cannot be gainsaid.

Almost as compelling a force in this world as color, is originality. In furniture it matters not if that originality be of design or material, or merely mode of decoration. So long as it makes a different background for our little play of life, we are attracted to it.



Our modern age does not seem to be gifted with the art of furniture designing. All we seem able to do is to reproduce or design on the lines of the wonderful old furniture that our forefathers made. Old furniture is put to new uses; china closets become bookcases; powder tables become vanity tables; but they change little during the transition. There is, however, one exception to this rule, which proves that in all probability we will, before long, have a new national style of our own. This exception is the use that is being made of reed, willow, and cane, which, while not wholly unused before, have not until now been used exclusively in the making of a single piece of furniture.

With this new style has arisen the necessity for new designs. Ugly lines have resulted from the combination of old designs with new material, for the limitations of the material in which a design is to be carried out, are the first consideration. Hence, the craftsmen who have made this new furniture have had to plan new ways of making it pleasing. That they have succeeded in doing it is evidenced by the illustrations of the cane furniture shown here.

One of the essential characteristics must needs be simplicity. Long, swinging lines prevail, and the beauty of the individual piece, for the most part, is obtained through the difference of style in the weaving. This is not to say that a great difference of line cannot be had, for each piece is individual. Illustrating this fact are the three pieces of cane shown on the preceding page. The lounge is quite different from the other two, being built on straight lines throughout, but an apparent similarity of line between the settee and the chair is quickly discovered to be superficial, for the squared top of the former has been rounded into a full curve in the chair back.

The little cane table is of most interesting design with its convex struts supporting the outer edge of the table and matching in curve the stretcher



supports. This table comes in several different sizes, so that it covers the various uses to which tables are put. In tea-table size, it is quite charming. Cane furniture is admirably fitted for use in the summer home, but it graces the terrace, porch, or English garden equally well.

Another painted piece which exemplifies the charm of colored furniture in the summer home is this unusual davenport. It is painted and glazed carved wood, and the pillows, though shown here with tapestry covers, covered, when this is a summer piece, in attractive linen. Its interesting shape is not only an added attraction to the eye, but a decided comfort to the one who would rest on its soft pillows and resilient springs. Finished with wood stain, with polychrome treatment, this makes a delightful davenport for the town house.

Credit for the interior published on this page last month, should have been given to Leed, Inc., instead of Lee, Inc.

The Story of Hampton Shops

TO those who know best the charm of Hampton Shops' eleven Galleries, the development of this institution is like an ever growing and never finished story. Like all stories, it began with an idea: that beauty is common to the creative art of all periods; that the highest ideal of home decoration is to assemble these beauty forms of the ages—these legacies of the masters—into beautiful home interiors.

The first chapter of this story finds us delving into the art centers of the Old World for authentic treasures of the past—perhaps a beautiful Vase whose loveliness has grown with time—a bit of oak paneling from a French chateau of the age of Chambord—a chair in the perfect spirit of Sheraton or Heppelwhite—or a bit of lovely old brocade.

Here is shown a Georgian wall vase in black and gold with mirror insets and panels.



A fine old pine screen used as chip pendule, with a picture panel of Flemish needle work.



These illustrations are merely another hint of what Hampton Shops' eleven beautiful Galleries offer you in the way of suggestive interiors completely installed.

This table is a beautiful Florentine antique of the Cinque Cento Period. The Torchere is finished in lovely old Italian polychrome.



The resourcefulness of Hampton Shops, as expressed in many distinguished interiors, is found not merely in a trained artistic sense, but also in an inexhaustible storehouse of all that is finest in furniture and decoration, already grouped in our Galleries with subtle appreciation of their romantic associations and the architectural settings in which they belong.

It is those who have seen and loved at first hand these noble old-world rooms in our Galleries, with their blending of furnishing and architecture, who are most given to an appreciation and patronage of Hampton Shops.



A noteworthy Hampton Shops reproduction after the best traditions of William and Mary. Color scheme—black background with carvings in gold relief.

A lacquer cabinet with raised surfaces against a dull green background, mounted on a Queen Anne base—and a long seat or bench from the "Age of Walnut" in the spirit of William and Mary.



Hampton Shops
Galleries of Interior Decoration
18 East 50th Street, New York





BOUDOIR LAMP

"A thing of beauty is a joy forever;
 Its loveliness increases; but
 still will keep
 A bower quiet for us, and a sleep
 Full of sweet dreams and health and
 quiet breathing."

—JOHN KEATS



EDWARD I. FARMER
 CHINESE ARTS AND DECORATIONS
 5 West 56th Street, New York

A Porch Breakfast Room in Willow

STRONGER and stronger is coming the call of the outdoors to us to-day. It is not long since we outgrew nightcaps and bed-curtains. And only a few years past saw us move our beds out upon the porch.

We have discovered what a joy it is to take our indoor activities more and more out of doors, and are gradually spending a greater part of our lives in the open.

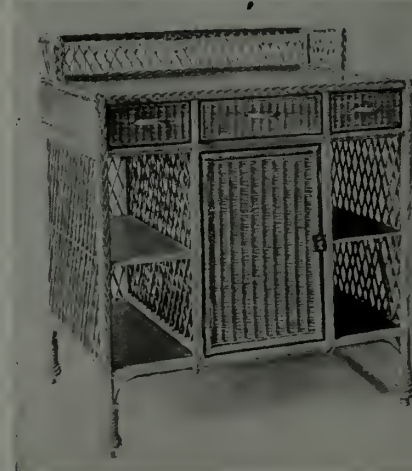
Probably the latest activity to come under the rule of the new régime is eating. Memories of camping trips and the joy of eating under great arching trees or in some cool nook beside a sparkling stream have come to haunt us time and time again until we have finally



fallen under their spell. The result is that solariums first were altered to fit the new scheme of things. Then dining rooms were built so that they were practically porches and the enclosing windows on three sides could be dropped at will.

These porches have now become quite as common as the sleeping porch, and even though one dines indoors, he is more than likely to take the first meal of the day in the cheerful atmosphere of the outdoor breakfast room. He may even breakfast on the terrace.

To be in keeping with this atmosphere, the furniture used should be of simple, light build, and radiate coolness. The very fact that it may be used to furnish the terrace necessitates the use of such a style. While furniture of sorts is coming into being to fill this need, the design shown in these pictures would seem to be best suited to the all-round needs of the porch and terrace.



The joy of using willow furniture stained in soft blue or cool green, or enameled in more brilliant fashion, is easily to be understood. As can be gleaned from these illustrations, the very material itself suggests great comfort in the summer heat while the design is such as to invite the aid of the winds in keeping cool.

Table and chairs are designed after the style of the card table set which is so popular, with its quaint little chairs, which, when not in use, are securely hidden beneath the table, their back fitting beneath the table top. For greater convenience, the top is of wood stained to match the willow in color. Gayly

colored cretonne covers the chair cushions.

The willow buffet is something of a novelty. It is conveniently built with three drawers across the top and a large closed cupboard with open shelves on each side. The side table is built on the same lines, but a more varied weave has been employed to lend interest to the design. Many different designs of tea wagons are to be had in willow, but the one shown is the latest to prove popular. Its rounded form and graceful handle make it decidedly attractive.

What breakfast, among such furnishings, of a sunny morning, would not be an auspicious beginning for the day?
 J. M. B.



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Furniture in the Garden

SO SELDOM does the really classic enter into our syncopated modern lives, that when we have the opportunity, during our short summer season, of wandering about in our Italian gardens, we seize upon it with avidity. Babylon and her hanging gardens are dust, Rome a ruin,



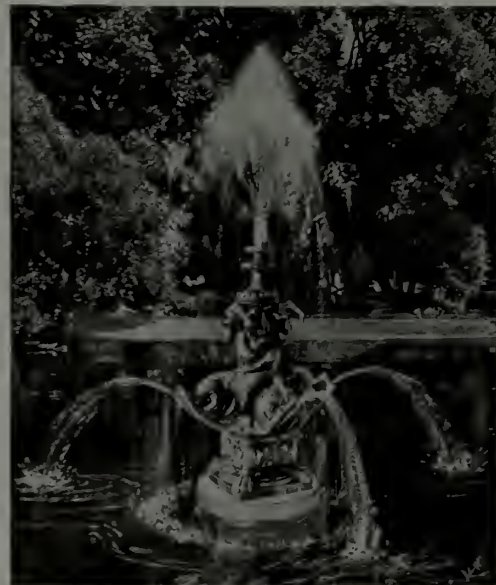
and the glory of Versailles a fading memory. But we still have a little pool where the fountain splashes merrily, around which we may wander and thence on past the stately sun-dial that marks the quickening feet of the day, to settle ourselves at last on the cool stone bench beneath an overhanging willow tree.

All the simplicity that was the glory of Greece in the age of her art is exemplified by this classic sun-dial. Its very simplicity is its beauty, and



is no bar to its placement in elaborate surroundings. Simple, too, is this Carrera marble bench. The plain hewn blocks of marble on which rest the carved supports of the seat give an added sense of solidity. In keeping with the almost severe design of the whole piece is the egg-and-dart molding which has been used on the edge of the seat itself.

Again, in this iron fountain do we find that an older art has been appealed to for inspiration. Four iron dolphins of the Renaissance are seen



here spouting water gracefully into the pool. While all their characteristics have been kept, there is a modern boldness in the conventionalization of them that is distinctly enjoyable. Their tails, intertwined about the standard, end in the familiar acanthus leaf. The great pouting mouth of them seems to have been made so by many centuries of water-spouting. And so that the

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This illustration shows the interesting tea cart on covered with a round table—the legs extend, it is hand-dropped flush with the top.

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Again, in this iron fountain do we find that an older art has been appealed to for inspiration. Four iron dolphins of the Renaissance are seen here spouting water gracefully into the pool. While all their characteristics have been kept, there is a modern boldness in the conventionalization of them that is distinctly enjoyable. Their tails, intertwined about the standard, end in the



familiar acanthus leaf. The great pouting mouth of them seems to have been made so by many centuries of water-spouting. And so that the water fall gracefully, and not swerve to one side, their beady little eyes are fixed on it with a stern intentness that somewhat frightens timid folk who are not used to the ways of dolphins. It should be known that dolphins are really most delightful to know, and much more gentle than their gaze would indicate. This is especially true of iron dolphins.

Mention must be made of the fine claw standard. This, with the upper spray, is in perfect harmony with the conventionalized dolphins.

Quite a different type of fountain is illustrated on this page instead of the four direct side

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sprays, with the one up-shooting spray of the other, this fountain has but the one spray, which drops the water into three basins, one after another. The pool in this picture is outside of this basin, but of course, if one preferred, this lower basin could be easily used as but another pan in the descending flow of the water. A little elf sits on the top of the fountain blowing the water upward through his horn.

Live news or live Sammies— which do you prefer?

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It would be most unnatural if American parents did *not* feel that way. But they forget that in the end censorship is for the safety of the men themselves.

An American officer—and this is a true story—indiscreetly mentioned, in a letter home, the name of the French village where his regiment was billeted. This slipped by the censor and the letter was published in his local newspaper. Shortly afterward the Germans launched a particularly destructive raid against that town, which had not hitherto been attacked. The officer was a loyal American, as

were the proud and happy home-folks who innocently gave his letter to the loyal little newspaper. But good American lives were needlessly jeopardized.

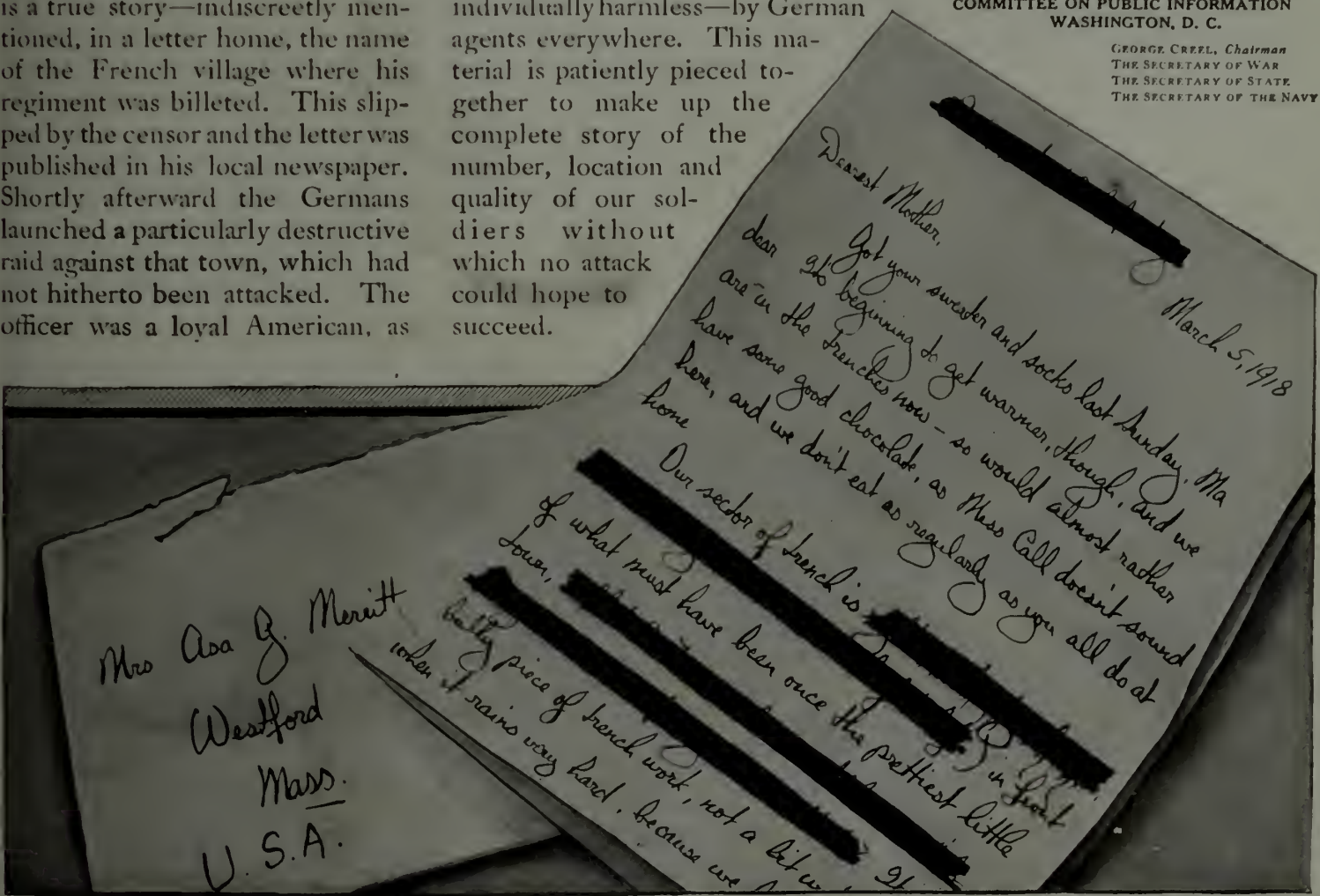
Soldiers will die the victims of our carelessness before we fully learn this lesson—but we are learning fast.

There is nothing mysterious about the German spy system. It is simply the quiet, ceaseless collection of fragments of fact—often individually harmless—by German agents everywhere. This material is patiently pieced together to make up the complete story of the number, location and quality of our soldiers without which no attack could hope to succeed.

The German studies the position, customs and even the mental state of our men as a hunter studies his game—and for the same purpose. His object is to kill. It is not possible to prevent his getting some of this information, but he cannot get it all unless we help. The almost superstitious belief that he knows it all anyhow, is not well founded. Already he has to work hard for what he gets, and his task is daily becoming more difficult as Americans begin to open their eyes and shut their mouths. We must not *help* him to kill. Indiscreet statements are too easily translated into terms of death for American soldiers—perhaps your boy.

COMMITTEE ON PUBLIC INFORMATION
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His Conclusions

may be summed up in a few words of intense significance. He says "the American people still need the vivid realization that **GERMANY'S OFFENCE** was not accidental manslaughter, but that it **WAS MURDER IN THE FIRST DEGREE**, that is, it was premeditated."

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"The Linen Chest" Bound for Cuba

THE "White House" of the Cuban Republic—the Palacio Presidencial, in Havana—is being furnished by New York firms. One large house alone here is supplying the linen, and New Yorkers are fortunate enough to be able to see in the windows of this shop some of the handsome pieces which are being prepared for this "royal house of a republic."

Five thousand pieces are required all together.



There are seventy-five rooms in the palace, the linen for which had to be supplied with completeness, and without over-supply and unnecessary expense.

In the State diningroom, the most important room in which the linens are required, on state occasions a table five and a half feet wide and fifty feet long is used. Between meals it is to be covered with a beautiful lace set consisting of two scarfs, each fifty-two by eighty inches, and a centrepiece to match, fifty-two inches in diameter. At one end of each scarf, and at opposite edges of the centrepiece, the full Cuban coat of arms is to be embroidered. This lace set is being made to order in Italy.

As shown in the illustration, the Cuban coat of arms is a shield, surrounded by oak leaves, acorns, and laurel leaves, and superimposed on the Roman fasces. Above is the cap of liberty, bearing the Cuban star. On the face of the shield is shown the rising sun of Cuba and the key that opens up the commercial opportunities of the



Island. The lower portion bears the Spanish coat of arms with palm trees and mountains. The whole forms a really wonderful example of hand embroidery.

The main table is made in three sections and requires three six-yard cloths to cover it. On the less pretentious occasions, only the centre section of the table is used, and a very generous quantity of eight-yard cloths has been supplied for use at these times. The table in the private dining room is the same size as this centre section, and had to have its own supply of linen. All these dinner cloths, with dinner napkins and breakfast napkins to match, are to be embroidered with the Cuban coat of arms. Incidental to these linens, are embroidered, hemstitched and lace doilies and napkins in a number of different sizes.

Bedroom and bathroom and kitchen linens were supplied in great number and great variety. A most extraordinary part of the order, however, was for linens for the police and guard, besides the servants' quarters.

J. M. B.

1918
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Printed in U. S. A.

The New Country Life



Capt. Bone downing a Boche

Eagles of War and Doves of Peace

Illustrated with paintings by
LEUT. HENRI FARRÉ

By WILLIAM B. STOUT

Our National Parks

Illustrated in sepia

By ROBERT STERLING YARD

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EMPHASIZING this is the fact that it *remains* quiet!

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PERSONALITIES

EARLY in May, Mr. Arthur H. Spencord of Spencer, Mass., one of the most prominent breeders of Ayrshires in New England, and also a breeder of Black-faced Highland sheep, suffered a loss in which he will have the sympathy of his many friends and of all farmers and breeders in general. This consisted of the destruction by fire of three large barns, their silos, the dairy, an icehouse, and about a hundred acres of timber on his Alta Crest Farm. Fortunately, the direction of the wind kept the flames and sparks away from the main cattle barns; fortunately, too, the property destroyed was almost completely insured, best of all, however, the livestock in the barns, consisting of about forty Ayrshire youngsters, about a hundred sheep, and a number of hogs, was gotten out in safety.

BREEDERS of Shorthorn cattle in America are to be congratulated. (This, they may tell you, assuming that you refer to their choice of a favorite breed, is nothing new; for the followers of the roan-and-whites are a loyal crew, thoroughly alive to the merits of their animals and ever ready to sing their praises.) The particular reason for applause just at present is the fact that the directors of the American Shorthorn Breeders' Association have selected to conduct its extension work, Professor W. A. Coehel, until recently head of the Animal Husbandry Department of the Kansas Agricultural College. In addition to extensive practical experience in cattle feeding and breeding, Professor Coehel had done college work at Purdue University and Pennsylvania State College before going to Kansas; he is an ex-president of the American Society of Animal Production and of the Federated Meat Producers' Association; he is a member of the Executive Committee of the Kansas Live Stock Association and of the Advisory Committee of Beef Cattlemen for the United States Food Administration; and it was largely through his efforts that the Bureau of Animal Industry cooperated with the Kansas College when the latter founded a high-class herd of Shorthorns to be used in a twenty-year breeding experiment.

In each of these, as in many other similar connections, he has exhibited a combination of knowledge, ability, influence, and personality that fits him admirably for his new line of work. His selection augurs a greatly widened field of useful service on the part of the Association, and the possibility of tremendous progress in efficiency and practical success on the part of Shorthorn breeders throughout the country.

THE modern, successful livestock breeder is a man who works not alone in the interests of his herd, but for the common cause of his favorite breed and his profession in general. Such a breeder is Mr. Oliver C. Cabana, Jr., of Elma, N. Y., who has recently taken time from his many varied activities to compile the experiences of breeders of Holsteins, and publish them in a booklet entitled "Do Purebred Holstein Cattle Pay?" Each of the letters quoted therein and each of Mr. Cabana's inspiring, analytical comments supply a vociferous answer in the affirmative; and after all, what stronger proof can we ask than actual facts and cold, hard figures? Of course there must always be the factor of personality, the ability of the breeder himself to see and seize and better his opportunities. The important thing about Mr. Cabana's pamphlet is that it shows the kind of opportunities that are offered in the purebred livestock business. Many an owner of scrub stock with nothing to lose and everything to gain by a change to purebreds, will find a revelation of new ideas and possibilities within its covers. Through the courtesy of Mr. Cabana we can arrange to have a copy sent to any reader who cares to write us for it.

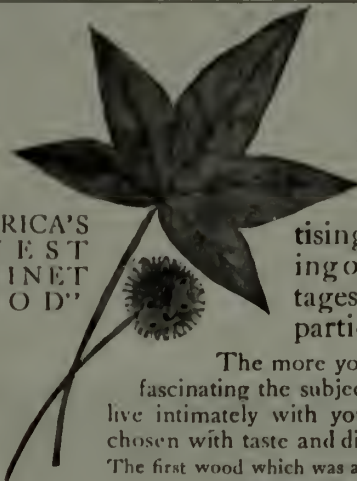


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The more you study the subject of wood values, the more fascinating the subject becomes, and this is as it should be, for you live intimately with your doors, trim and panelling, and if these are chosen with taste and discrimination they are a constant joy.

The first wood which was advertised to the general public was

RED GUM

and the public has responded most understandingly. There are scores of America's finest hotels and literally hundreds of office buildings, apartment houses and charming private residences in which the doors, trim and panelling are made of RED GUM ("AMERICA'S FINEST CABINET WOOD").

When you are looking into the subject of wood, as you must sooner or later, write to the

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and ask them to send you interesting RED GUM booklets and graphic RED GUM samples. There is no charge for them (even though they are worth quite a lot of money).

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Gardener and Wife Wanted

Man wanted to take care of garden which is about 2 acres; this includes cow lot and a corner for hogs and chickens. Desire woman for indoor work either as maid or housekeeper. Box No. 904, care of Country Life, Garden City, L.I., N.Y.

HOUSEKEEPER—Intelligent woman, expert housekeeper, at present in secretarial work, desires position in country where she can have her two children with her.

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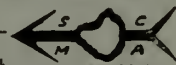
Manager, having about completed extensive improvements and built up one of the largest estates in the South, desires similar position. Practical, absolutely honest, capable worker, experienced in agriculture, horticulture, building and all construction work pertaining to large estate. Manager, care of Country Life, Garden City, N. Y.

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LUMBER—BECAUSE IT'S "THE GENUINE WOOD ETERNAL" & LASTS & LASTS & LASTS & LASTS

Look for this on every board—
Accept no Cypress without this mark

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Shows the latest practical development of the garage, farm barn, horse stable, cow stable, sheep fold, kennel, ice house, dairy, chicken house, piggeries, etc. No part of the detail of these buildings is neglected, and there are many pleasing photographs showing their artistic side. SECOND EDITION JUST OUT.

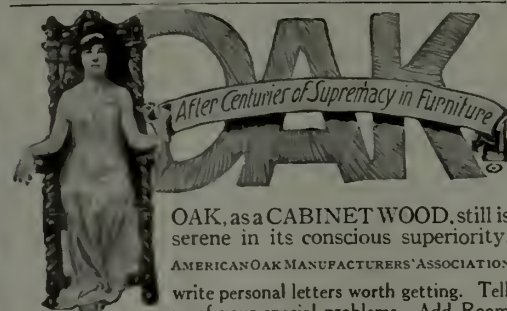
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Summer is the time to make up your planting lists and lay out the Fall planting—our Booklet "Suggestions for Effective Planting" will help you.

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NEWS of the BREEDS and the BREEDERS



LATE addition to the forty-pounds-of-butter-in-a-week class, making that illustrious group of Holstein cows total thirty-one, is Leafy Veeman De Kol who exceeded the required two score figure by one tenth of a pound. Her milk yield for the week was 589.7 pounds, and her age at time of freshening, within a month of eight years. She was bred by Mr. Byron Barstow of Earlville, N. Y., is a daughter of Duke Wayne Veeman De Kol, and is now owned by Messrs. Abbot & Clark, Cortland, N. Y.

THE question "Can any one pig be worth \$10,000," which has been the subject of much discussion, will in all probability never receive a unanimous answer either one way or the other. But certainly each individual is entitled to his own opinion, and it is interesting to note that Mr. R. A. Long, owner of the famous Longview Farm of Lee's Summit, Mo., not only thinks such a price justifiable, but has actually paid it, for the Duroc-Jersey boar Jack's Orion King 2nd. This noteworthy animal was bred by Mr. Ira Jackson of Tiptecanoe City, O., which statement tells about all that is necessary as to the thought, skill, and experience that have been involved in producing him; he was farrowed in September, 1916, so is in the very prime of a mightily promising career; his pedigree not only carries some of the brightest and most famous names in Duroc history, but also represents a remarkably intensified degree of inbreeding of the renowned families so represented. Of the 124 names appearing in the first five generations of this pedigree, thirty-one appear twice and three of them, three times.

In these strenuous times we note but few indications of a desire to spend money recklessly or for mere luxuries, least of all by experienced, far-sighted business men. Therefore it is clear that Mr. Long looks upon his purchase of Jack's Orion King as a real investment, from which he can confidently expect a profitable return. The successful realization of this expectation will not only put the seal of approval upon the opinion of those who think that a proven, productive sire is worth at least as much as a work of art or an imported motor car, but also it will signify another effective advance in the food production drive against the Prussian peril.

ONE of the first claims always made for the tractor as a source of power in everyday farm work is that it does not get tired as does a team of horses. Strictly speaking, this is, of course, a sound and logical contention, but resourceful farmers are not without means whereby they can meet the argument and turn out no less work daily than a tractor can be expected to accomplish, while benefiting at the same time by the ownership of colt-producing teams. As an illustration, consider the following paragraphs from a letter received by the American Percheron Society from one of its farmer friends, an "old-timer who sticks to and by the horse."

"We have just finished seeding 170 acres of oats, and we did it in three and one half days' time, with one drill and eight registered Percheron mares. One set of four mares started at day-break and worked until noon, being replaced by the other four, which stuck to the job until dark. As we always seed down our small grain land to timothy and clover, you will see that we have two years' crops from the one operation, from 170 acres. We are through with that piece of

land until harvest time this year and haying next season. Before the hay is put up next year we hope to have sixteen colts out of those mares.

"We use a ten-and-a-half-foot drill, which four good mares handle nicely at a good stiff walk. We found we were doing an average of approximately three acres an hour, or between forty-five and fifty acres in a sixteen hour day. Three of the mares weigh better than a ton, the other five between 1,800 pounds and a ton. They are all good walkers and seemed to handle the big drill with ease. Three of the mares have just dropped good, strong colts and the others are due shortly."

PERHAPS the brightest star in the Guernsey Roll of Honor at the present time is Imp. Rose des Howards 59th, 44975, who was imported and is owned by Mr. W. W. Marsh of Iowa. Not only does her reentry record, recently completed, of 14,265.4 pounds of milk,

was the experience of a practical farmer, and so-called fancy prices were not involved in any of his transactions.

THE wisdom of the American Guernsey Cattle Club in deciding to hold an occasional meeting elsewhere than in the East, was clearly proven on May 15th, when more than 150 persons attended the 1918 event at the Auditorium Hotel in Chicago. To this goodly and enthusiastic audience, Secretary Caldwell read a report that aroused even greater enthusiasm, since it testified to one of the most successful years in the Club's history. Especially striking was his comparison of conditions the past year and those of a quarter of a century ago, since when the number of registrations has increased from 1,019 to 15,505, that of transfers from 859 to 14,777, and the total year's business of the Association from \$1,588 to \$118,812.

At the elections, Robert Scoville was again chosen for President, and Ex-Governor W. D. Hoard and Gage Tarbell for Vice-Presidents. S. M. Shoemaker and E. T. Gill were elected to the Executive Committee.

The discussion of a new score card presented for adoption reflected the modern opinion that the black nose, although less desirable than the lighter muzzle, should not be discriminated against in the show ring, except in the case of two animals otherwise equally matched, in which case the black-nosed individual should receive second place. Breeders who did not attend the meeting should apply to the Secretary for copies of the new scale of points, which seems notably fair, sane, and effective in purpose and conception.

The matter of formulating guarantee rules for purebred animals sold either privately or at auction was referred to the Executive Committee, which will doubtless issue a report upon this important subject with little delay.



Jack's Orion King 2nd, the Duroc-Jersey boar for which Mr. R. A. Long paid \$10,000. Though shown in very thin flesh, his splendid type, fine bone, excellent conformation, and exceptional vigor are apparent

664.09 pounds of fat, give her second place as a fat producer, but also her production of three heifer calves within a year sets a pace that will be hard to better or indeed to equal. On March 30, 1917, she dropped twin heifers, after having made an A. R. record with her first calf of 13,522 pounds of milk, 643 pounds of fat; on April 30th she was put on test; on March 9, 1918, she dropped the third calf, and a few weeks later she completed the test with the splendid figures given above. Here certainly is the kind of cow that is paving the way to a victorious peace and a future, permanent prosperity.

IT HAS been a somewhat mooted question whether the average dairy farmer will materially improve his condition by turning his attention to purebred cattle. Generally speaking, experience answers the question in the affirmative. A case in point is the experience, during the past eight or ten years, of Mr. Ward C. Loomis of Bainbridge, N. Y. From a good grade herd at the beginning, he gradually changed to purebred Holsteins, spending about \$4,000 in making the change. A short time ago he found himself, in consequence, in possession of ninety-five purebreds of various ages. Forecasting the approaching labor shortage, he turned nearly half of these into cash, realizing fully \$8,000 from his sales. Naturally he did not try to sell his best stock, and for some fifty-five head that he had after making the sales, together with a few young calves recently dropped, he was asked if he would consider an offer of \$15,000! This

NELLA JOY 4th, one of the star performers in the Guernsey herd on Pencoyd Farm, Bala, Pa., has evidently set out to establish a monopoly in class leaderships. As a two-year-old she displaced Dolly Dimple at the top of Class G, by making a record of 14,772 pounds of milk, 726.32 pounds of fat; put on test again as a three-year-old she made 16,039 pounds of butter, 769.33 pounds of fat, and landed among the leaders of Class D; now, in view of a test of 20,709 pounds of milk, 1,019.25 pounds of fat, she is led by only two cows in Class A. Indeed, although outdone by Murne Cowan and May Rilma in fat production, her record for milk production has been exceeded only by the first of these. It is no surprise to note that she is a daughter of Golden Secret of Lilyvale, a sire of sixteen A. R. daughters.

THE adaptability of Milking Shorthorns to Eastern conditions has received another vote of approval in that the Massachusetts Agricultural College at Amherst is establishing a herd of the dual-purpose cattle on its experimental farm. Private herds have recently been started by Messrs. C. B. Eastman and W. A. Mather, both of New York. The former purchased from Flintstone Farm, Dalton, Mass., its junior herd bull Flintstone Bell Boy, as part of his foundation stock. Mr. Mather has bought, also from Flintstone Farm, the calf Flintstone Jeweler.

Manager F. J. Curtin of Flintstone reports excellent progress in all departments. Several

What They Are

AYRSHIRES HOLSTEINS

Where to Buy Them

"Cows is Cows"

is not true. There is a difference between just "cows" and purebred Holsteins, and that is the difference between loss and profit

The average of the 22,000,000 dairy cows in the United States is

1823	166
Quarts of Milk a year	Pounds of Butter- fat a year

The S. O. average of

PURE BRED **HOLSTEINS** is

7000	504
Quarts of Milk a year	Pounds of Butter- fat a year

Write for free information about this profitable breed.



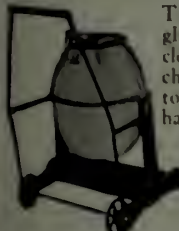
THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA
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HARGROVE & ARNOLD

Breeders of Holstein Friesian Cattle

We have the only herd in the world from which you can buy blood of the greatest of all dairy animals, Fierdine Mutual Payne, who produced over 1400 pounds of butter in a year as a two year old. If you want the all-year kind, write HARGROVE & ARNOLD HOLSTEIN COMPANY, Norwalk, Iowa

Superior Sanitary Churn



The barrel of this churn is finely glazed stoneware and the cover is clear annealed glass. The whole churn is strictly sanitary. Very easy to operate. Made in six sizes both hand and power.

Write for prices and circulars.

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Creamery, Dairy & Dairy Barn Equipment
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On the Firing Line

Aberdeen-Angus Cattle are best meeting war-time demands for putting every acre to producing the highest class of food with the least outlay for labor under estate, farm, ranch and plantation conditions. Their values are founded on the rock foundations of the packers' markets for finished heaves. Aberdeen Angus steers have set records at St. Louis, St. Paul, Omaha, Sioux City, St. Joseph and Chicago markets this year. When herd meets herd at the world's greatest show, the International Live Stock Exposition, Aberdeen-Angus have won over all breeds 15 out of 16 times for fat carcass, 14 out of 16 times for fat yield, 11 out of 14 times for steer head, and 10 out of 16 times for single steer.

Ask for list of breeders and literature. Field representatives will assist in making selections of pure-bred herds and individuals.

American Aberdeen-Angus Breeders' Association
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They'll Help Win the War!

You know the dangers of neglecting painful lameness, bruises and swellings. Put Sloan's Liniment on the job and let it relieve those poor dumb faithful beasts from suffering. Just apply a little *without rubbing*, for it penetrates and keeps the animals efficient.

Buy a \$1.00 bottle to-day. Six times as much as you get in a quarter size bottle. Bear in mind, Sloan's Liniment has been the World's Standard Liniment for thirty-six years.



Sloan's Liniment
The World's
KILLS PAIN

Always Warm To The Touch

Mr. C. L. Whiting, Rochester, N. Y., writes: "On the coldest days we have had, I could place my hand on any one of the Cork Brick and could feel no moisture whatever, and after I had held my hand there a moment or so it became warm, which, in my mind, is one of the greatest necessities to the health of the cattle so confined."



Dairy barn of Mr. C. L. Whiting, Rochester, N. Y. All stalls are paved with Circle A Cork Brick.

Circle A Cork Brick

For Stall Floors

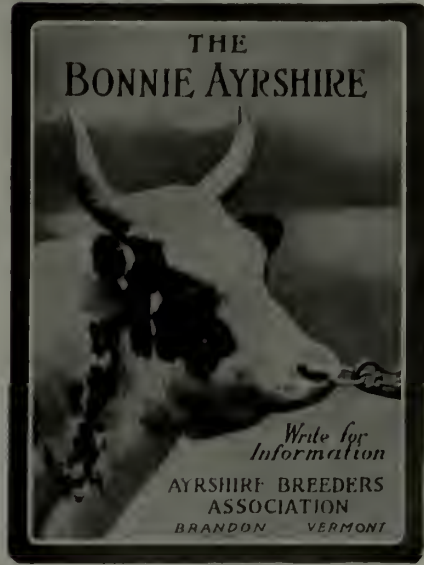
contain 70% of clean granulated cork and 30% of refined asphalt (by volume). Cork is one of the best nonconductors of heat and cold known; hence, Circle A Cork Brick never feel cold to the touch. Much less bedding is required than with concrete, and even when the cows stand or lie upon the bare surface of a Cork Brick floor there is little danger of garget or rheumatism. Furthermore, Circle A Cork Brick floors are sanitary, comfortable underfoot, non-slippery and easily installed in old or new barns.

Write for a copy of the 32-page, illustrated book, "Better Stall Floors," and a large sample.

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The Henderson Ayrshire Farm OFFERS TEN HEIFERS

12 to 18 months old

Fine Type Best Breeding

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Wm. Frazier Harrison, breeders of Registered Percheron Horses & Ayrshire Cattle BREEDING STOCK FOR SALE

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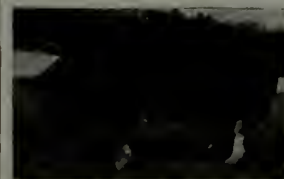


We have several young bulls for sale, one exceptionally good one by Rena's Champion and out of an imported heifer bred by James Wallace.

We are also offering a few Berkshire pigs of good blood lines

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HILL TERRACE FARMS, Morristown, N. J.



Large Berkshires at Highwood

Bred from thousand pound boars. Bred sows, service boars, pigs all ages.

H.C. & H.B. Harpending
Box 1 Dundee, N. Y.

Registered Duroc Jersey bred Sows and Herd Boars. Special prices on Foundation Herds this month. Our large herds in the west are headed by 6 champion Boars weighing up to 1100 lb. each. We ship on approval. Satisfaction warranted.



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American Hampshire Sheep Association

Hampshires are the best mutton sheep in the world. A Hampshire ram sold at the National Wool Growers' Auction Sale, 1917, for the highest price ever paid for a mutton sheep in America. Write the secretary for information. We have a dandy little booklet for you.

Robert Blastock, President, Donerail, Ky.
Comfort A. Tyler, Secretary, 36 Woodland Ave., Detroit, Mich.

Pinehurst Shropshires

BEST BREEDING FLOCK IN AMERICA
FOUNDATION STOCK FOR SALE

Send for illustrated catalogue to

H. L. WARDWELL, Box A, Springfield Center, N.Y.

fat tests of better than 6 per cent. have been recorded in its Milking Shorthorn herd, and sales of registered Berkshires to different parts of the state and to Rhode Island, New York, and Connecticut have been frequent.

As these notes go to press, we learn from Manager Curtin that the heifer Lady of Meadowbrook has completed a record of 10,916.6 pounds of milk, 426.38 pounds of fat. This breaks the world's two-year-old record for the breed, formerly held by Imported Bessboro Orphan 2d of the Otis herd of Willoughby, O., and, naturally, justifies a considerable pride and satisfaction at Flintstone Farm.

IN THESE days of warfare and high pressure work it is not only what is done but also how promptly the results are obtained, that counts. Measured by this standard, Shorewood Farm of Crystal Bay, Minn., has surely won its stripes by qualifying for class leadership in the Guernsey Roll of Honor four cows within three months. The animals, their records in milk and butter fat production, and their respective classes are as follows (as is probably understood, Class AA includes mature cows, Class GG two-year-olds, and the other classes, animals of intermediate ages): Cora of Gerar, 11,127.8 pounds milk, 530.15 pounds fat, Class EE; Imp. Althea of Sarnia, 10,309 pounds milk, 548.68 pounds fat, Class AA; Pearl's Dot, 9,820.8 pounds milk, 531.66 pounds fat, Class GG; and La Verne of Birchwood, 11,301.6 pounds milk, 545.38 pounds fat, Class FF. By the time this note appears in print, the list will probably receive the additional name of Pearl of Pomeroy who, in April, finished an even larger record than any of her stable mates, and who, upon freshening, will automatically enter the Roll of Honor and bring new fame to the Shorewood herd.

THERE has been issued by the Holstein-Freisian Association its annual list of special prizes to be offered at the 1918 shows. The list includes eighty-seven separate expositions to be held in forty-four states and Hawaii, and also the National Dairy Show for which \$1,500 has been appropriated. The pamphlet includes also a list of fifty official Holstein judges from among whom, it is desired, judges will be chosen to act at any event in which one of the above mentioned prizes is offered.

SENSING the insistent and rapidly spreading desire for information concerning the possibilities of beef cattle in the East, Mr. C. W. Eckardt, owner of Ardson Farm, Armonk, N. Y., has prepared a little booklet on the subject which he will be glad to send to any one requesting it. In view of the excellent record that his Aberdeen Angus herd has made in the show ring within recent years, Mr. Eckardt can speak with knowledge, no less than with conviction. Similarly, Eastern farmers and estate owners can afford to give the matter their careful consideration, not only as a phase of the increased food production campaign, but as a sound business venture as well.

WHEN it comes to generosity, there are mighty few cows that can excel Canary Paladin Vale, 84403. This purebred Holstein matron on her twelfth birthday presented her owner, Mr. J. W. Vaughan, St. Johnsville, N. Y., with twin heifer calves. She then proceeded to roll up a world's record for both butter and milk production in the seven-day and the thirty-day divisions. She produced 810.3 pounds of milk in seven days, yielding 35.22 pounds of butter, and in thirty days she produced 3,100.2 pounds of milk yielding 131.31 pounds of butter. All of these records are by a wide margin the highest ever made by a cow of her age class. Canary Paladin Vale's sire is Brightest Canary, 37170, and her dam is Paladin Vale, 76331. Her twin heifer calves are by King Pontiac Pelham De Kol.

SOME day, apparently, the list of forty-pound Holstein cows will grow so lengthy that it will be impracticable to note each addition to it. Until then, however, we are glad to award a "citation" to each individual that attains that honor. The recipient at this writing—the thirty-third cow so honored—is Idleaze Pontiac Lass,

238652, who recently made 715.5 pounds of milk, the equivalent of 42.48 pounds of butter in a week, and then continued at this remarkable rate until she had completed a thirty-day record of 2,811 pounds of milk, 141.08 pounds of butter. In addition to the fame she has won for herself, Idleaze has also added new lustre to the name of her sire, King of the Pontiacs, who is now the only bull with three forty-pound daughters. Incidentally, her owner, Mr. J. W. Vaughan, St. Johnsville, N. Y., is pretty well pleased.

IF WE are to respond with complete efficiency to the insistent and thoroughly justifiable demand for increased food production, we must not let it drown out certain other appeals upon which success very largely depends. For instance, large crops call for thorough, careful soil handling; this requires power, either horse or tractor; but tractor manufacturers must to-day devote much of their energy to the production of war machinery, so that the burden falls full weight upon the horse. But, reports Secretary Wayne Dinsmore of the Percheron Society, draft horse production has fallen off greatly within the past two years. In Europe, of course, it is practically at a standstill; in Great Britain alone, draft geldings such as would bring around \$300 over here are selling, when obtainable, for \$800 to \$1,000 apiece. On the Continent, conditions are fully as serious, and the tendency is already reflected in increased American prices. It appears that only nine states—Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, Nebraska, and the Dakotas—produce more draft horses than they need, and that only four of these turn out a really effective surplus. Consequently, since the city trade continues brisk, and since farmers are constantly looking for work horses with weight, power, and action, the outlook for the meeting of exportation demands that will be inevitable after the war, are not over bright. Every farmer, therefore, who can possibly do so, is urged to help increase our stock of heavy horses, to raise purebreds if he is equipped to do so, certainly to use and buy mares rather than geldings, and to breed these regularly to registered draft stallions.

ACCORDING to a recent report, there are 325 Karakul sheep in the United States, of which 295 were owned by companies of which F. E. Dawley of Fayetteville, N. Y., is president. Not long ago six good Karakul sheep were sold to a newly formed corporation for \$17,000. It is the Karakuls that furnish the Persian lamb fur, most of which, up to recent times, has been imported, the value of the importations having exceeded \$14,000,000 yearly. The use of the fur will probably increase, and there seems to be a good field for breeders of these interesting sheep.

A WORTHY but not widely known breed of cattle is the Columbia, which has been promoted largely by Mr. F. L. Gregory of Mt. Vision, N. Y., and which is proving of good type. A Columbia Breeders' Association has been formed with eighteen members, 310 registrations, and Mr. G. O. Gregory as secretary. Columbias are hardy, and fair producers of milk testing about the same as that of the Jersey. The production of fat is reported as somewhere around 500 pounds per year for the better individuals.

QUITE a little has been done the last year or so to encourage sheep husbandry in New York and other Eastern states. Mr. F. A. Welch, Agriculturist of the New York Central Railway, has assisted largely in the work; he has secured for the Empire State some twenty carloads from the West, and has sent many carloads into Michigan and a few other states. Prices have now advanced so far that the introduction of sheep is a slower process. In New York, however, there have already been introduced something like 10,000 head.

THE sheep meeting held some time ago in Utica, N. Y., under the direction of the State Agricultural Society, was so successful that Mr. Calvin J. Huson, one of the promoters of the enterprise and formerly commissioner of agriculture in the state, suggests that a similar meeting be held in the interests of swine. Mr. Huson is a prominent breeder of Berkshires, and regards that breed as unexcelled for practical

purposes. At the time of speaking he was a bit boastful over three yearling sister Berkshire sows that had farrowed thirty-one fine, strong pigs.

ACCORDING to a statement made by R. H. Reynolds of Rochester, there is a very insistent demand for milch goats. There are several breeds of goats of Swiss descent in this country, but the supply is far below the demand. Their milk is somewhat expensive, but it tends to flocculate in the stomach (even in the case of infant or invalid) instead of coagulating as does cow's milk, which gives it its easy digestibility, and often renders it a life-saving food. Purebred sires crossed on well-chosen native stock usually bring about excellent results for the breeder, who in raising the animals is also serving in the capacity of a public benefactor.

NOT to be outdone by the other breeds that have already made 1918 a noteworthy year in sales-ring history, the American Guernsey Cattle Club staged, on May 15th, the day after its annual meeting, the greatest Guernsey sale ever held in this country or in Europe. Not only were the sixty-seven animals consigned by a score of the country's best breeders of the highest quality; not only was the \$102,925 paid for them (at the rate of \$1,536 a head) a remarkable record; not only was the \$10,000 paid by John C. Haartz of Boston, for Don Diavolo of Linda Vista, 23565, the highest price ever paid for a Guernsey individual; not only was \$20,750 donated by those present to the American Red Cross; but on the whole, the tone of the affair, the smoothness with which it was run off, the interest and spirit with which the bids were made, all combined to make it a proud occasion for those concerned.

The highest priced cow was Langwater Luxury, sold by Mr. F. Lathrop Ames to Mr. F. D. Stout of Angus, Wis. This state, by the way, consigned twenty-one of the animals sold, and purchased twenty-two of them. The Red Cross donation was obtained largely by the repeated sales of a two-days-old calf out of Tricksey's Glenwood Girl, who, herself, sold for \$1,000.

Handsome silver trophies were won by Dr. G. C. Parnall for the highest average received for two animals (his figure being \$5,525), by Mr. F. Lothrop Ames for the highest average on animals of an individual's own breeding (\$5,150 for two animals), by Mr. Louis McL. Merryman for the best price received for a heifer, (\$2,500) by Dr. Parnall for the best price received for a bull (\$10,000), and by Mr. Ames for the top price received for a female (\$5,300). These prizes were presented by Messrs. Leander Herrick, C. L. Hill, F. L. Ames, and W. W. Marsh, respectively.

FOLLOWING close upon the declarations of the National Dairy Council, the National Milk and Dairy Farm Exposition, held in New York City during the week of May 20th, was decidedly effective in directing the attention of the consuming public to the essential rôle of dairy products, and the immense importance of the dairy industry. In the first place, the throngs that visited it, though for the most part city folk, were there less to be amused than to see and learn and understand. In the second place the exposition itself was a serious, conservative, accurate, and convincing demonstration of facts; a simple but striking explanation of the conditions that influence the dairy business between cow and consumer. In the third place, the special features of each session—addresses by Food Administrator Hoover, President Schurman of Cornell University, Doctor McCullom of Johns Hopkins, Secretary Houston of the Department of Agriculture, Governor Whitman, and other notables, meetings of state and national organizations allied with dairy interests, educational motion picture shows, etc.—all were chosen with special reference to their ability to drive home the lessons of the day and the hour.

Of the individual exhibits it is impossible here, and probably unnecessary, to speak in detail. They took the visitor behind the scenes of every step in every phase of dairying. The College of Agriculture, the Bureau of Markets, the Dairyman's League, and the individuals who cooperated to bring the exposition about, deserve much credit for their successful realization of a timely and happily conceived idea.

Give it to His Mother

"Keeping Our Fighters Fit—For War And After" is by Edward Frank Allen, who wrote it in cooperation with Raymond B. Fosdick, Chairman of the War Department and Navy Department Commissions on Training Camp Activities, and it contains a special statement written for the book by President Wilson. The book tells what is being done by the Government and done for the first time in its history for the comfort, safety and happiness of the soldiers and sailors called to the training camps to prepare to serve their country. It is a book of reassurance and information—information that should have unusual value in helping those back home to cooperate, and to cooperate not wastefully, in the interests of a great work. The book is interestingly illustrated from photographs. It is published by The Century Co., New York, and is sold by all booksellers for \$1.25

(Give it to his mother)

IF you know of a home with a service flag in the window, see to it that a certain little war tale filled with the spirit of Lincoln finds its way into the heart of that family. They need its message there. It costs only fifty cents and is called

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THE TALK OF THE OFFICE



"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*.

CAPTAIN BOTT WOUNDED AND A PRISONER

WORD has just come from England that Captain Alan Bott, holder of the Military Cross, fighting pilot in the British Royal Flying Corps and author of the first (and, we think, the best) of the flying books, "Cavalry of the Clouds," has been reported severely wounded and a prisoner of the Turks in Palestine. How it occurred the dispatch does not say, but probably his airplane was brought down behind the Turkish lines.

It was only a few weeks ago that inquiry in London as to the whereabouts of this gifted young flier and author brought word that he had been ordered to Palestine. We can only hope that his imprisonment will be short and that when he does come home healed of his wounds, he will be none the worse for his experience. Certainly he will have many great things to write about on his return.

Captain Bott was a young newspaper man at the outbreak of the war and enlisted as a dispatch rider. He went from that into the air service. He started flying on the Western Front as an observation officer but lately took his license as a fighting pilot.

GERMAN PLANS FOR WORLD CONQUEST

A few months ago the *World's Work* printed an article by J. B. W. Gardiner pointing out the portentous meaning of events which give clear evidence that Germany, even now, is preparing for her next great war. This article created such widespread interest and brought down such an avalanche of letters upon the magazine that Mr. Gardiner was persuaded to develop the theme of the article further. Therefore, he has written a book on the subject entitled "German Plans for the Next War," which we rushed into print only a few weeks ago without the usual preliminary announcement and advance sale. In this book Mr. Gardiner presents indisputable proof that Germany, convinced that she cannot attain her aims completely now, is planning a war of world-conquest for the next generation.

His explanations throw an entirely new light on the German aims in seizing the coal and iron lands of France and Belgium, the granaries of Russia, the oil fields of Rumania; her

thefts of materials and money from conquered territories; her enslavement of enemy non-combatants; and the unthinkable means she has taken to increase her population.

A NEW NOVEL BY GENE STRATTON-PORTER

We cannot help but feel that in this year of world conflict Gene Stratton-Porter's new novel comes at a time when it will be welcomed most heartily by the very wide public who have enjoyed her nature books and her novels, not only as a relief and a recreation from the cares and duties we have all assumed as a consequence of the war, but also as a story in harmony with the spirit of the times. The title

lean winter months the products which nature furnishes so bounteously during the summer. In addition to giving modern and scientifically tested formulas and equipment for the canning, preserving, and drying of all fruits and vegetables, Mrs. Andrea gives recipes for canning in honey, a scheme which is designed to outwit old General Sugarshortage. She also gives recipes for canning meats, fish, poultry, and soups.

"THE WAY OUT OF WAR"

Dr. Robert T. Morris, the noted surgeon and writer on scientific topics, whose "To-morrow's Topics" series of books set people thinking all over the country, has now turned his mind to the war microbe and its vanquishment in a new little book just published, called "The Way Out of War."

This is no mere political discussion of possible peace terms—for Doctor Morris has as little use for such intellectual juggling at this time as, for instance, General Pershing has—but a biological view of the death that Prussia has decreed for herself. Says Doctor Morris, in effect, the Germans, like the doctor who turned two leaves of his book instead of one and killed his patient, have turned two leaves of this book of philosophy instead of one and have killed their country.

The Germans, in laying stress on Darwin's doctrine of the struggle for existence, have completely forgotten his other doctrine of mutual interdependence. Instead of cultivating the good-will of other nations, the Prussians are now trying to smash them. Prussia, says the Doctor, is "protoplasmically senile."

A NEW ROCK GARDEN

Whenever we make an improvement at Garden City in the way of a little attraction, we like to have our friends come and see what has happened. In the midst of war and labor troubles we have taken these old stones and, turned them into a rock garden—with a clear conscience since we have made a new combination of old material. When our visitors come, we would like to have them see this garden at the end of the long path to the south of the building; also the evergreen garden, which has pulled through a hard winter.



A new rock garden—one way of disposing of stones from a cleared field

is "A Daughter of the Land," and is perhaps more stimulating in its traditional appeal than any of her previous books.

Kate Bates, the heroine, is as American as the Goddess of Liberty and, through fighting for her freedom against long odds, she learns the lesson which America is learning now—that only through sacrifice and sorrow is character builded and happiness attained. The story is essentially patriotic in spirit and emphasizes the tremendous importance to the nation of the lives of those who till the soil.

EMPTY JARS ARE SLACKERS

Such is the slogan of Mrs. A. Louise Andrea, who has written out of her wide experience as teacher, lecturer, and scientific expert in home economics, a suggestive and informative little book on "Home Canning, Preserving, and Drying." The book tells in a simple and direct way how the housewife may preserve for the

The New Country Life

CONTENTS - JULY, 1918

Subject Index

Airplanes, 27
 Antiques, 72
 Automobile, 88
 Automobile Camping, 88

Baby Nieuport, 41
 Biplanes, 27
 Bombardment, 26
 Breeds and Breeders, 9,
 10, 12

Camping, 45, 88
 Captain Bone, 37
 Caudron Biplane, 28
 Collector's Hobbies, 72
 Country Life, 41

Devastated District, 40
 Drawings by Glynis
 Williams, 41

Eliminating the Mid-
 dleman, 70
 Essays, 40
 Estates in War Time, 41
 Exterminating Rats, 85

Farm Labor, 70
 Flying, 27
 Flying Field Illumina-
 tion, 39

Glassware, 72
 Gyronet, 35

Hobbies, 72
 Home Comforts in an
 Automobile, 88
 Hydroairplane, 29



Photograph by Charles H. Flood

Subject Index

Illumination, 39

Lincoln Highway, 70

Millefiori Glass, 72
 Motor Morals, 70
 Mountain Scenery, 45

National Parks, 45
 News of Breeders, 9, 10,
 12
 Night Bombardment, 26

Personalities, 9

Rat Catching, 80
 Rhododendron as Ther-
 mometer, 80-b
 Rumpler Airplane, 31

Scenery, 45
 Scent Bottles, 72
 Seaplane, 29
 Shadowgraphs, 74
 Silhouettes, 74
 Soldiers for Farm Work,
 70

Tea Caddies, 72

Vacation Grounds, 45
 Voisin Airplane, 33, 39

War Economy, 70
 War in the Air, 27
 Western Scenery, 45
 Wonderland of the West,
 45



Article Titles and Authors



Cover Design From a painting by Lieut. Henri Farré		Glacier - - - - -	56
Eagles of War and Doves of Peace William B. Stout	27	Yellowstone - - - - -	60
From a Country Window - - - - -	40	Rocky Mountain - - - - -	63
The Field Marshal; In the Devastated District; The Little World		Mesa Verde - - - - -	66
Country Life in War Time Jesse Lynch Williams	41	Hawaii - - - - -	68
The Picture Story of Our Principal National Parks - - - - - Robert Sterling Yard	45	Here and There - - - - -	70
Mount Rainier - - - - -	46	One Collector's Hobbies - - - - -	72
Crater Lake - - - - -	46	Helping to Solve the Rat Problem D. Z. Evans	80
Yosemite - - - - -	50	The Rhododendron as a Thermometer S. Leonard Bastin	80-b
Sequoia - - - - -	54	Home Comforts in an Automobile K. H. Hamilton	88
		Personalities - - - - -	9
		News of the Breeds and the Breeders - - -	10

HENRY H. SAYLOR, EDITOR

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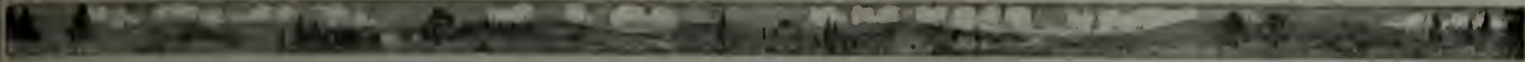
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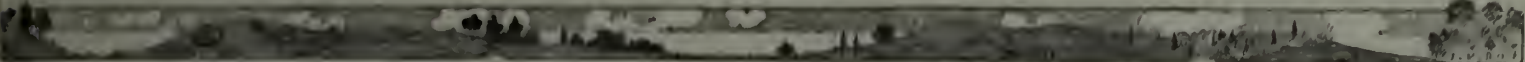


A night bombardment of the railroad station at Sablon, near Metz. Far below, on the ground, can be seen the station lighted up by the continuous explosions. Above, the machines are illuminated by the beams from the searchlights and the exploding shells of the defending guns. 1915

From a painting by Lieut. Henri Farré



The New COUNTRY LIFE



VOLUME XXXIV

July, 1918

NUMBER 3

EAGLES *of* WAR *and* DOVES *of* PEACE

By WILLIAM B. STOUT

Technical Advisor to the Aircraft Board



HERE has been much fighting of late among the eagles of the air; a maze of rapid flights and quick combats, winged men darting their engines of destruction hither and thither across the vault of the sky, engaging in combat to the death, miles away from the earth from which they came, and to which they must return either as victor or unrecognizable wreckage.

The result of the combat depends on brains: first the brains of those who designed and produced the war eagle and its engine, and second the intelligence and strategy of him who engages in combat.

One thinks much of the courage and ability of these pilots of the cavalry of the air, but the most mortal combat of all in the present strife for aero supremacy is that between the mentalities of those designing aerial craft for this combat, that they may place at the beck and call of the pilot the greatest range of performance and agility of action that is possible to obtain in mechanism. This is not a matter of dollars and cents or commercial development. It is a matter of living or dying; of existence or extinction.

Development in aëro equipment, therefore, is rapid and kaleidoscopic. Before one can accustom his mental vision to one type of plane and one detail of performance, another has taken its place, and a new standard is set. Each day sees a new change, following fast on the heels of its predecessor, and followed faster by another improvement just coming.

Such a development of machine or industry would be impossible under ordinary conditions, and the billions which are being spent on aircraft would not have been spent industrially in development of this industry within a decade or more of ordinary development. War has intensified this growth in tremendous fashion.

It has done one other thing, for try as man will to be destructive, the laws under which we exist seem to dictate that his very destructiveness shall become in the end constructive. With all of the turmoil of combat and the moving about of nations and peoples, there is growing through the interchange of ideas and personality and thought, and through the actual brotherhood and close contact of one nation with another, a feeling of kinship and a fraternity of fellowship and understanding that could have come in no other way than by the actual intermingling of individuals.

As the war progresses and planes cleave the air in all directions—messengers of commerce and combat—we see in the future a greater development, where these eagles of war, by the quickness of their travel from country to country, and their encouragement of commercial intercourse between nation and nation, will become doves of peace, messengers of fellowship between nations, so that each may better understand the other, and others may come to see the



viewpoints which we or their kindred nations represent.

An outline of these developments, and of the great things which aircraft will bring to the nations, when at peace, can picture only the smallest vision of what will be accomplished.

In fact, war needs and war necessities have brought the airplane to a point of perfection beyond what would have been accomplished in twenty-five years of ordinary commercial development.

With the incentive of self-preservation, nations have taken up intensive development of all ideas relating to air travel, spending unlimited money to accomplish their objects, and encouraging

every idea and invention which looked feasible or which looked as though it could be made feasible. All of this is making a great change in our way of thinking and in our sense of distances, and is destined to make a great change in our living.

The airplane to-day is a safe vehicle. It travels at will irrespective of weather or road conditions. It carries ton loads as easily as machines of a couple of years ago carried man loads, with an equal number of units. Whereas the five-man machine was the limit but a short time since, the five-ton machine is now said to be a reality. There is no reason from the engineering standpoint why we cannot build bigger and we shall build bigger if military necessity arises for such a machine.

A military airplane recently made an air trip from London to Constantinople, carrying three men, a complete spare engine, and spare wheels and struts and miscellaneous parts, making the trip in a way that shows the commercial future even of present types.

To say that we are on the eve of a new era is an old bromide; to state a truth that has not yet been realized by the public.

War is demanding fighting ability as a first requirement of air machines. This requires extreme speed, quick climb, agility—that the machine may be put into impossible positions instantaneously in combat—pilot vision, and gun range. All of these requirements have meant that machines have been pushed to their maximum irrespective of danger—which is one reason why such rapid development of planes has been made and why machines now have become so safe.

It is hard for the man on the ground to visualize things of the air. He has been so long used to thinking in two dimensions that to imagine himself as partaking of three-dimension travel is almost beyond the conception of one who has not experienced it. On the ground we think of a church steeple as high, the Washington monument or the Eiffel tower as a wonderful construction. To the man of the air, a mile of altitude is but a beginning for travel, and



A twin-motored Caudron signalling the position of the infantry at the Battle of Verdun. The plane is at an altitude of about 3,000 feet. By means of flares the observer determines the exact line of the infantry crouching in the trenches, and also, through the intense illumination, the changing situation of the attacking troops. He transmits by wireless the information to the artillery, by which it regulates its barrage fire



A hydro-airplane in distress attacked by an enemy land machine. The German airship is circling at a height of but 300 feet over the pilot and his gunner. The scaplane's machine gun having jammed, its gunner had nothing but a revolver for defence. Fortunately he succeeded in wounding the Boche, who retreated to dress his wounds. Relieved from attack, the pilot repaired his motor and returned to Dunkirk under his own power. 1915

his mental horizon, for the play of his imagination, is increased as is his vision to the literal horizon. On the ground, as we drive our motor car at speed over a country road we imagine ourselves as flying and we enjoy the sensation. It is impossible, however, for the man who stands on the ground and watches an airplane in the air, to visualize what he would feel were he up in that very plane which he is watching, unless he has experienced it.

This same fact is true as concerns the engineer and his design work for airplanes. He may sit on the ground or at his desk and theorize as to what engine requirements will be once he gets off the earth and in a plane, but the spirit of the design cannot really come to him until he has had experience in flight, and felt the inherent difference of the requirements of an airplane engine as against a motor car power plant. We even compare a racing automobile engine to an airplane engine, yet its requirements are not nearly so severe during the race as are those on the airplane engine in flight. The racing engine may be wide open for a few minutes at a time, but on the turns one must let down the throttle for an instant, thus allowing the oil to get up around the pistons again through the suction of the intake, so that one is ready for another burst of speed with plenty of lubrication. The airplane engine must run all out for continued periods and without let-up. The comparative conditions between the two engines are somewhat as follows:

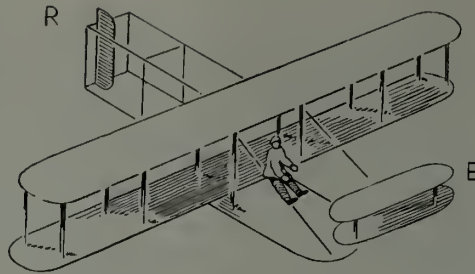
AUTOMOBILE	AIRPLANE
Full power less than 25 per cent. of the time.	Full power 75 per cent. of the time.
10 to 15 pounds weight per horsepower.	Less than 2 pounds weight per horsepower.
Gasolene economy not fundamental.	Gasolene weight as important as engine weight.
Cheap construction necessary.	Cost of building of small object.
Accuracy of material not required.	To retain smallest possible volume-weight dimensions, accuracy of material is imperative.
Noise a detriment.	No attempt to obtain quietness.
Reliability a small factor of personal safety.	Reliability imperative for safety.
Low compression and low heat in a cylinder.	High pressure and intense heat.
Operates at low altitude.	Must give maximum possible horsepower at high altitudes.

The very best aircraft engines have been developed from the best automobile engines and from practically every other allied industry. Inventions of new types have not resulted as was expected, since the knowledge available on already known and orthodox practice has developed known designs to the standpoint of extreme reliability.

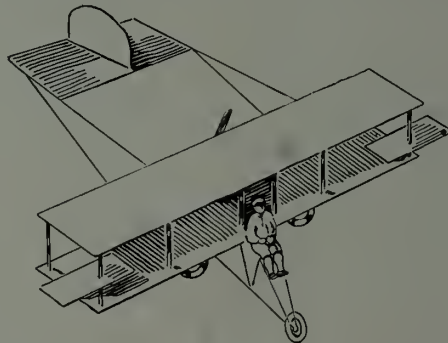
As the man in the motor car visualizes these changes in the requirements on his engine and realizes that, in less weight than in the six-cylinder engine under the hood of his motor car, we are now getting from 300 to 500 horsepower in the aircraft engine—and for days at a time, continuously, without shut down—he realizes what a tremendous work was necessary in engines alone before the airplane was brought to its present state of development.

Not only has this been done, but the engines are "production" jobs; that is, they are so designed that they can be built in quantities with a minimum use of man-hours of labor.

From original engines weighing close to ten pounds per horsepower, from which present experimentation started, we have come to a stage of development where engines are now developing a horsepower for every pound and a half. This has been done largely through elimination and betterment of materials. In this



The original Wright airplane (above) had the elevator in front of the machine, this being the plane which steers the machine up and down. The rudder, R, for steering right and left, was at the rear. The entire wing was twisted to obtain the balance necessary to keep the machine from upsetting. The engine was located on the lower plane and connected with two pusher propellers through the medium of long chains. The engine delivered about 35 horsepower, and though of four-cylinder construction and very crude, was able to fly this machine with two passengers up to a speed of about forty-five miles per hour. Its landing speed was about thirty-five miles per hour. The speed range—from high to low—being very short, made it, in the light of our present knowledge of flying, a dangerous machine. As made later (below), the elevator was fitted at the rear near the rudder. This type of machine is no longer built.



line of development a discussion of workmanship alone could well occupy a whole volume.

In the early days of the motor car, when catalogues spoke glibly of the wonderful workmanship involved in a car, we thought of accuracy of dimension as being that the parts should fit each other with exactly the clearance necessary for the greatest strength and longest wear. We thought of a car whose dimensions were held accurate within a half or a quarter of a thousandth of an inch as the most remarkable possible development, and purchased cars from the salemen's talk of accuracy with only this vision of dimensions and fit in mind.

Accuracy of material to-day has become of far more importance than accuracy of fit and dimensions, since it is harder to obtain. First, however, I should like to discuss accuracy of dimensions and give the methods of obtaining this accuracy so that parts of one machine will fit parts of another machine.

Foreign manufacturers after making parts for motor car engines, for example, before the war, passed them on to what was called a fitting department. In this department workmen took these pieces and assembled them, fitting each individual part to the other by filing, scraping, and other hand work. By this system a perfect connecting rod bearing, for instance, was obtained, fitting exactly right, just loose enough and just tight enough. This might apply to any other part of the car, such as the steering knuckle or spring connections. All parts were hand fitted.

The fitting shop in a British motor car factory used to take up about one fourth of the available floor space of the factory.

This fitting work resulted, as I have said, in a good individual machine, with everything working right. Supposing, however, that an accident occurred on the road and a steering knuckle was damaged. First one had to get a new part. Having received this part, it could not be put into place without fitting—filing and lapping perhaps—so that considerable work was involved; and one could not take a part from one car and have it fit another.

American methods of manufacture do not include a fitting shop, and as a result we have not in America the type of workmen who are skilled in this work.

By machine production methods we in America make parts in quantities, all of a kind being the same in dimensions within less than one half of a thousandth of an inch, so that in case of breakage one can take any part from any car and interchange it with the same part of another car. This is of tremendous service advantage, and makes a better car because of the greater accuracy of the original dimensions. Foreign engineers will not agree with me in this statement, but I believe that our Liberty engine production and performance are going to prove this out to foreign producers and factory managers.

Accuracy of manufacture in America has been arrived at largely by automatic and semi-automatic machines. For a small part, we can set a machine with a rod of steel or brass running into it at one end, and go away and leave it while the machine turns out of this rod part after part until the material is consumed, each piece interchangeable with the last to a fraction of a thousandth of an inch.

If you have a crankcase, for example, with fifty holes drilled on one side, you can set this crankcase on a special drill press, and drill case after case, all holes at once, and all holes exactly related to each other in any one crankcase.

This means that this same piece, whether made to-day or a year from now, will fit any engine of the same type which is turned out between now and the end of the series.

This system of manufacture can immediately be seen to be of tremendous value in the field, in service, and in saving of the hours during which the machine can operate. If an engine can be kept



From a painting by Lieut. Henry Farré

An aerial collision between a Baby Nieuport and a German Rumpier. The German plane had been in the habit of coming over the French trenches for photographs and had always returned safely to its lines. On this day three French airplanes attacked the Boche on his return. Quartermaster de Terline, arriving at the proper altitude, noticed that his two companions had been forced to abandon the pursuit — from motor trouble as it happened. Terline, thinking his two comrades wounded, dashed at his adversary 3,500 feet above the earth and sent the German machine crashing to the ground.

running one fourth more of the time during its life, then three of these engines will take the place of four of lesser reliability. Thus, the facility with which replacements can be made and parts from one engine can be changed over to another have tremendous influence upon the advantage of an airplane engine designed especially for this war.

In quantity manufacture a great number of tools and jigs are required, and special fixtures to guide drills always to the same spot in the casting or to hold forgings in exactly the same way each time for machining operations within a fraction of a thousandth of an inch, and other things which are individual to each design.

While one may design an engine and put through the experimental work within, say, six months, it takes far longer to make the tools for the manufacture of any one important part than it did to make the original experimental engine, for each tool as well must be experimented with to be sure that the resulting machined parts will be duplicates.

The greatest problem we have had in getting our air programme started in every line of production has been that of finding sufficient tool makers to turn out the tools required within the time limit available. Tool makers, above all types of workmen, must be able to work accurately, and it is unnecessary to state that their work is most expensive.

Along with other problems connected with the machining of parts for accuracy, have arisen problems of sheet metal stamping and drawing, which in the solving have made new things possible in light-weight construction. Some of this die work has required months of development before the first stamped piece was successfully produced, but the development of one process sometimes means a saving in weight of many pounds on an engine.

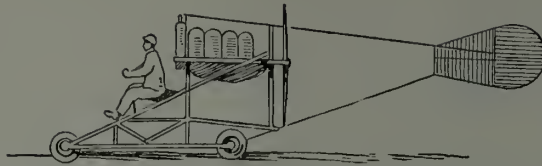
I am trying to visualize by this discussion of accuracy of manufacture just what problems the engineer has had to solve preliminary even to attacking the airplane engine problem, and to give some idea of what went before which made aircraft feasible.

As before stated, accuracy of material has now become of even greater importance than accuracy of dimension. One can take a forging of a certain kind of steel, and machine it accurately to dimension. Under test it may show a certain strength or a certain weakness. By heat treating, this same piece can be made as much as ten or fifteen times stronger than in its original state, without altering dimensions or the original chemical characteristics.

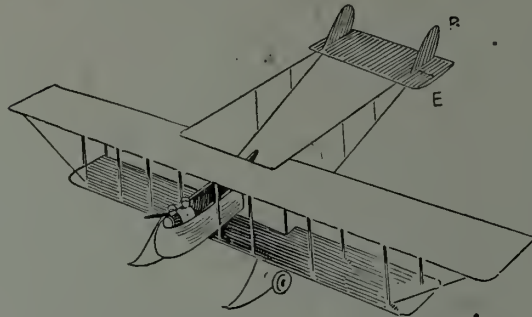
To visualize heat treatment one need only remember the days when he used to fry bacon over an open fire in camp. You might take the same original bacon and by heat treating it in a frying pan get as a result a tough, stringy fibre or a hard, brittle resultant. One might even make of it but a mass of black powdered carbon. Thus, starting with the same original composition you get entirely different characteristics of strength and toughness from the bacon through the way in which you heat it. If you should drop the bacon on a hot pan you could make the exterior skin or surface hard and brittle, while the meat inside would still remain stringy and tough. This would be more or less equivalent to what is known as case hardening in steel, where the surface, by proper carbonizing or cyanide treatment, is made glass hard to certain depths, while the interior of the piece is left in its original tough condition. This is done for bearings and rubbing surfaces.

You can do to steel, especially steel of certain alloys, just what you can do to bacon. By proper heat treatment you can take steel and make it tough and very resistant, or you can make it very hard and brittle.

In these processes, however, hundreds of problems crop up. If the chemical characteristics of the steel vary but slightly the result from the heat treatment might vary greatly, so that the chemistry



The next step was the Curtiss Pusher, fitted with three-wheel landing gear, and is the type that was so successfully used by Lincoln Beachey. The elevators and rudder were at the rear. The engine was mounted on a framework between the upper and lower wings, and operated a propeller just to the rear of the wings and the engine. This machine had a speed range of forty to seventy miles per hour. It was structurally and aerodynamically a great advance over the original Wright machine, though not so efficient per horsepower. Compared with present-day machines, it was slow and, from some standpoints, unsafe. It is fortunate that modern air tricks were not in vogue at the time this machine was in existence.



The next step in design was somewhat similar, but for the first time enclosed the pilot in a protected body. Speeds were becoming so great and hours in the air advancing to such an extent that the comfort of the pilot had to be looked after. This type of machine, as shown in the Voisin of Lieutenant Farré's paintings, was in use for bomb work during the first part of the war. It was not a success, however, as it was too slow for pursuit work, firing forward, while the blind spot at the rear, formed by the propeller, hindered shooting at any plane which might come from behind. This type is now obsolete.

of the steel must be accurate. If we put a large number of pieces of steel in a furnace, and one part of the furnace is hotter than another, you will have an uneven grading, with some of the pieces tougher or harder than others.

If you do not bring all of these pieces to the same maximum temperature before cooling them down again, no two batches will coincide, so that we must develop recording instruments which will register tremendously high heats. We can no longer depend on the eye gauging the color of the flame of heated metal to tell accuracy of heat. Things are far too scientific for that. It took years to develop these heat recording instruments, and even to-day research work is going on to make them more accurate and reliable.

There were other difficulties of warping, which brought up new problems to be solved. It was found that when one heated the steel to its maximum temperature, the time taken to heat it and the time taken to cool it had a certain relation to the amount of distortion the steel had after cooling. There were found to be critical temperatures both in heating and cooling, at which temperatures expansion and contraction relations were not normal. Cooling or setting at

these temperatures had to be watched.

It is now possible to machine completely a nickle steel gear more than a foot in diameter, and with an eighth inch web thickness throughout, and to double-heat treat it with so little warpage that the resulting tremendously strong gear will not vary in dimension one half of one thousandth of an inch. This material if heated and left alone would crack in a thousand pieces as it cooled, just as would a chunk of glass.

Such are but a very few of the material things which had to be developed before the aircraft engine could even be attacked. Years of automobile building gave industry this knowledge and now one can get accuracy of material.

It is easy to see how this accuracy can mean light weight. Take, for example, a connecting rod. One might build an experimental engine and properly heat treat the connecting rod, getting a strength fully up to the requirements. On putting the engine into quantity production with this rod, it might be found that one out of every hundred rods would come through without strength enough, because of inaccuracy in heat treating. There are two ways of solving the trouble. The first and cheapest is immediately to strengthen up the rod with more material, thus, of course, adding weight. The other way, and the more expensive one, is to study for greater accuracy of heat treating, that the rods may all be exactly alike, and that the one rod out of a hundred which is too weak may be eliminated. This kind of research often results in obtaining eventually a piece of double the strength in the same weight and at the same cost.

Aircraft engines have all parts designed for strengths which can be obtained only by accurate materials processes, which is one reason why aircraft engines are so much more costly than automobile engines. To be sure that the rod, for example, is as specified, elaborate tests must be continuously carried out to check production. A certain percentage of these parts must be scrapped as faulty, and all of this cost of inspection and scrapping must of course be put into the cost of the finished product.

To obtain quantity production, also, one must run research to find out how new processes may be accomplished. I know of one case where \$65,000 was spent in developing and building a machine for bending crankshafts for one engine alone. This process of bending, however, when completed added 20 per cent. to the strength of the crankshaft of the same original weight dimensions.

Another example of this is the development of steel cylinders



The return of a night bombardment machine of the Voisin type. A small dynamo at the landing ground provides light for six powerful searchlights to illuminate the surface of the ground at night, making it as easy to land and leave the ground as in daylight. The searchlights also serve as a guide for returning machines, since they are visible for miles in a clear night. Upon approaching the field the machines signal to find out if the landing is clear.

for aircraft work. These were originally developed in France on a Renault engine built for a boat used in the Monaco races. This boat, after making an exceptional showing, struck a big wave, and kept right on going until it reached the bottom of the ocean. The backers of the boat were more or less discouraged, but engineers from the Mercedes factory in Germany, sent to France, bought up the shares in the boat, raised it, took it to Germany, and from this developed the Mercedes steel cylinder, first in a motor boat, then in motor cars, and finally, having solved the problem, and being about ready for war, built it into an aircraft engine. Several thousands of these engines were stacked up in the Mercedes plant when the war broke out, all ready for aircraft war activity.

The steel cylinders as originally designed in this country were made from solid billets or forgings. These required a tremendous amount of machining and drilling before the cylinders could be turned down to their wall thickness of about an eighth of an inch. This made the making of steel cylinders a very expensive proposition, so that experiments were immediately started to develop a method of producing these in quantities at comparatively low cost. This was finally accomplished after nearly a quarter of a million dollars had been spent on this item alone, by making the cylinders from forged tubes.

A description of the process by which the top of this tube is folded over and in, and forged into proper shape for the cylinder head, would take but a few words, but the development of the process and the machines and dies for doing it took months of time of the highest class experts on this line in America.

It is the development of hundreds of processes for bettering manufacture and accuracy of material that has made the aircraft engine of to-day the wonderful mechanism which it is. Coming types of engines will probably be made possible in turn by other new processes and new metallurgical developments, as well as by mechanical research and study. All of this gives one a picture of some of the tremendous things we have gone through in getting to where we are now with aircraft engines, and we have only started.

Having discussed the engine part, we can turn to the plane construction as a separate line of effort, but one with which we are less familiar and experienced.

The airplane itself as a production structure is still experimental. It is made of sticks and cloth and wire, and in spite of the marvelous workmanship and amazing ingenuity which have been brought to play in building these engined kites, they are still kites and have yet to develop into and through the stage where they can be turned out in quantities as "flivvers" for the use of the public. The airplane to-day offers a wonderful field for the engineer, and is of especial attraction to the inventor. It is doubtful if the inventor will get very far in airplane work, as it is too technical for him to grasp. To the engineer, therefore, must we look for real progress in the air.

The inventor is ordinarily a certain type of genius, who, according to his friends, "can get up an idea on almost anything." He thinks in new terms and has small patience with anything that is old or conventional. Ordinarily, he scorns thought of mathematics or laboratory research, preferring rather to scheme than to think. He it is who is responsible for the fact that the inventor dies poor, for although inventors undoubtedly get up a tremendous number of ideas, yet knowing nothing of how these ideas can be made practical or give commercial value, and being unwilling to let any one else take them out of their hands for development, it is a sad fact that in too many cases the inventor must die before the world can use his ingenuity.

Another angle has come into this idea of inventing in the last few years which is particularly true in airplane and airplane engine lines. We might call the rotating type of engine, for example, an invention.

This invention was taken up by a concern which understood research and experiment, and laboratory and mathematical work was started to perfect it. This engine was vastly superior to any conventional type of engine in weight per horsepower and made a great stir on early types of airplanes, which were wondered at when they flew for a few hours without coming down. Millions have been spent on this engine in developing it, but while this one firm was spending its money lavishly in tremendous effort to perfect this at-the-time superior engine to better performance, the hundreds of engineers and concerns acquainted with conventional type construction started developing conventional type engines for aircraft work. The result of these hundreds of engineers working on the conventional type, against a few engineers on a superior construction, resulted in less than a year in a conventional orthodox construction outstripping the other type in weight-fuel-distance performance, so that now the best engines flying are merely a development of the automobile type.

The engineer, rather than try to invent a new thing, spends his time in research and study to better what he has collected at the time or what other engineers are doing along the same line. In this way, all working together, progress is rapid and the result obtained much quicker through rational reasoning rather than through invention of a new type.

It costs hundreds of thousands of dollars to develop a new aircraft engine of new size, even when using orthodox practice. How much it would cost to perfect an unorthodox type we do not know, because it never has been done. My advice, therefore, to those who are concerning themselves with the problems of our aerial programme, would be not to attempt to invent new planes or new engines, but rather to assist in every way in bringing those constructions we now have in production and flight to better performance, better reliability, better production methods, and greater strategy for war.

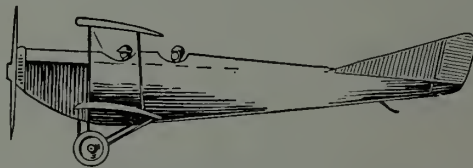
There are two ways of designing air equipment, such as planes or engines. The old way was the motor car way of making a thing so that you were sure it was strong enough and then lightening up where you could. This way produced good motor car engines and boat engines, but they were far too heavy for air work.

At the beginning of the war the best engines of standard type weighed complete about five pounds per horsepower. Now they weigh less than two pounds per horsepower and are far more reliable. This is through the second method of design, which is to make the design so that every part is too light and then by running it to destruction find what breaks first. Fix that weak point and break it again to find the next weakest and so on until the design is reliable. By this method many points thought too light

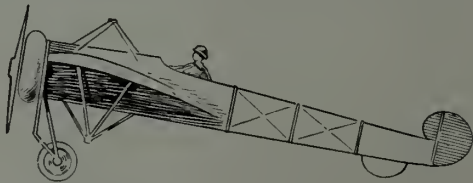
are found to surprise one by never breaking, while the parts that break can often be made stronger, without adding weight, by better material or workmanship at the weak point.

It is by this procedure that the modern lightness of construction in airplanes and airplane engines has been reached. This method was developed by the war bringing into airplane research some of the great engineers from other lines.

When the war started, there was very little incentive for engineers in the aviation industry. Factories were few and sales fewer, and the remunerative attractions to men of known ability were conspicuously non-present. As a result those associated with the aircraft developments of that day were largely of the experimental and research or inventor type. There was but very little of real commercialism. If a real business man were offered an investment in an airplane factory or idea, he would first look into the patent situation and, finding that to start a factory was closely equivalent to buying a lawsuit, would tactfully withdraw. The chief hindrance to American airplane development from the start was the uncertainty of the patent situation.



The next step was the final one, so far as mechanical arrangement goes, the improvements since being largely in detail. This is the so-called "tractor" type of plane with the engine and propeller in front and just forward of the wings, while the pilot sits back of the wings. The rudder and elevators are at the rear. Engine, pilot, and all mechanism are enclosed at a central point called the fuselage. As speeds increased, it was found that the most detrimental factor of any was the parasite resistance to the air of parts and projections, which did not exist in lift. By adopting this fuselage type, all of the parts possible were enclosed, and hence offered as little resistance to the air as possible. Although the weight was a trifle heavier, yet the speed was increased. The Curtiss training planes used by our Army were among the first of the tractor type in America in production, although the first tractor built in this country is to the credit of Captain James V. Martin



The fuselage idea was first introduced on the Nieuport monoplane, and in circular construction about the same time by Deperdussin. At the beginning of the war, monoplanes were frequently seen. Among these was the Blériot, with a rotating Gnome engine as above. The margin of safety in the structure of monoplanes, however, was so low that they were dangerous for stunt flying such as war work requires. On this account, they were quickly superseded by biplanes.



One of the famous Guynemer's exploits. The enemy pilot having been killed his machine dropped out of control, throwing his observer into the air. So close was the falling body to the pursuing Guynemer that the latter had to make a sharp turn to avoid striking him.

The war changed this, and immediately aircraft ideas got attention, and plane manufacture became feasible in America. In the ordinary course of development little could have been done with airplanes and their development until the hindering patents ran out. Thus in both engineering and industrial ability, and in financial assistance, the war has pushed air interests to the fore and made it overnight a new and thriving industry.

Engines to-day, though marvelously light, are not the less marvelously reliable; and though wonderfully powerful are at the same time, and by reason of their clever engineering, wonderfully long lived.

Planes, too, are reliable, with known factors of safety in structural strength, and hence are an almost absolutely safe machine *in the air* in the hands of experienced pilots.

Once in the air and away for a journey, the speed of a plane becomes a factor of safety, making the machine immune from bad weather and gusty winds to a marvelous extent, until now only fogs will keep a plane down—and this will not be for long. The flying of a plane, too, is becoming simpler every day through the greater controllability of the construction.

The remaining danger in airplanes is the landing. This is today's problem, and when this item is solved one may say at last that the airplane is a safe vehicle for common use. Safety in landing will come, however, by development from step to step rather than by any radical inventions. The first step is in speed range in the plane. It must be able to land slowly and in small space. Planes to-day are able to land at less than half of their maximum flying speed. A 100-mile-an-hour machine can land at less than 50, and some considerably faster than 100 miles an hour can land at this speed without trouble. This being true, the next step is to develop to greater speed high, and less speed low, and we will increase safety in like proportion.

Next comes the necessity for landing places. If one has always within reach on a flight a well surfaced landing field free from ditches, wires, and unexpected bunkers, it is of small account whether his engine stops or not, so far as safety is concerned, for he can glide to an easy landing, repair the engine, and return to the air again.

From the air it is almost impossible to pick a good landing place and be sure of it. If the engine is running, one can drop close enough to see and fly about for a time seeking level ground and examining for landing. If the engine has stopped—a rare thing nowadays, however—one has no such opportunity and must land on the spot picked out from the height. This is a danger factor, small but always present, in flying over an unknown route.

Meanwhile a great deal of intercity flying is going on and landing fields between cities are being marked out, while the more progressive larger cities are establishing landing fields to encourage aerial travel their way. When routes are mapped and fields are available where safe landings can be made, then will flying be safer than any other mode of travel, and the fastest method of getting from place to place that has ever been proposed will be available for every one.

As aerial travel develops, cities will realize the advantage of diverting traffic to their direction and will provide better and better facilities for receiving aerial visitors; and eventually certain cities, through the easier flying that will obtain over routes leading to their field, will become centres of aerial traffic, as certain cities through good harbor facilities have become shipping centres at the sea's edge. Those towns and cities which are first to realize the nearness of this type of travel and its quantity will obtain the advantage of an early start by giving municipal landing fields immediate attention, especially if the location be near any of the present military flying camps, or along routes used by students. As to the suburban districts of the larger cities, this will be one way for such communities to divert attention their way, and to

make their village or town or section an aerial entrance to the larger city beyond.

There are a great many other reasons why the airplane will form a tremendous business after the war.

Of the first importance will be the millions of dollars expended in developing the industry during the war. These millions of dollars, when the war is over, will not only leave engines, planes, and parts of real mechanism and performance excellence, but it will leave a vast number of men skilled in aeronautical and aircraft ways of thought. There will be engineers, mechanics, woodworkers, dope and fabric experts, and factories producing special machinery for aircraft product, with their own staffs of experts. There will be propeller specialists and instrument men, all of whom will seek occupation in those lines in which they are best versed. Their preliminary effort will be to keep the aircraft industry going by every encouragement which they can give. With these will be the investors who have helped develop these men; factories built for the production of aircraft must be kept going, and sales departments to handle the problems of disposal of product will be organized along new lines of specialized effort. Already has study begun to be made of such lines of salesmanship. Capital, therefore, will do all that it feasibly can to make aircraft a permanent and lasting success.

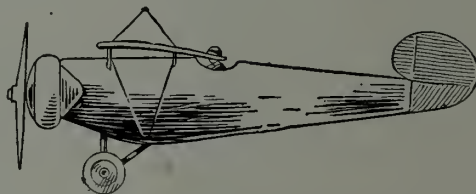
But the major reason for permanency of air travel will be in the time-saving features which it gives to civilization. Distances between cities can be accomplished in one third the time of rail travel. Since trips are made in units carrying fewer passengers, one will be able to go to a station or air harbor at almost any time, and within a comparatively few minutes catch a plane over the principal routes to any of the big cities. Instead of one train carrying four hundred people, there will be twenty planes, each carrying twenty people. This will allow closer connections and easier schedules.

The question of keeping schedule is one of very easy accomplishment. Every plane has its maximum speed, but its cruising speed for greatest economy is generally about two thirds of its maximum. Provided a sufficient amount of gasoline is carried, and schedules are made out on cruising speed, it will be possible with planes to open up to higher speeds when head winds are encountered, so that there will be 33 per cent. excess to call on in order to make this schedule. In a 150-mile plane this will mean that it can travel against a 50-mile-an-hour-wind, and still make its cruising speed schedule. If equal gasoline capacity is to be used for this work, however, it would require an extra landing for refilling tanks between usual stations.

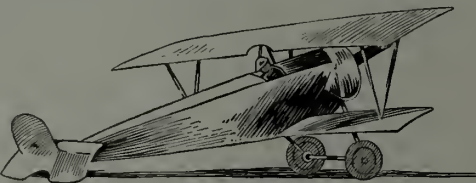
On the ground, we think of 40 miles an hour as speed. In the air, we do not begin to figure speed even to-day until we reach 100 miles per hour, and in the very near future, 200 miles an hour will seem the same to us as 100 miles seems now. Provided one maintains a uniform landing speed when touching the ground, speed, as above stated, is a factor toward obtaining safety in travel after one is in the air.

There is no limit to what can be developed from the airplane. Even to-day we can pick up ten tons and fly away with it with ease, carrying it through the air at more than a mile a minute. In contrast, with light loads we can travel at 150 miles per hour or climb into the air at more than 1,000 feet per minute. What this means in war is well known.

Within the last year and a half, from being a crude, hit-or-miss weapon of war, the aircraft have become as important to strategy and military operations as any other unit of offense and defense. Within but the past few months have air strategy and tactics developed really to a scientific point, limited only by the range of the performance of the machine itself; as these machines develop to greater performance and larger range of action, their methods of use in warfare will be much enlarged. Eventually we shall have battleships of the air as we have battleships of the sea, great armored craft mounting large guns and for definite offensive work.



Nieuport, having been building monoplanes, built at the beginning of the war a "parasol" type with the wing above the fuselage as shown here. This having the faults of all other monoplanes, Nieuport added a small wing below, thus adding greatly to the strength of his structure



This Nieuport biplane retains almost all of the good vision qualities of the "parasol" monoplane, yet with the real strength of the biplane. This was the first real speed scout of the war



A remarkable exploit of Captain Bone, one of the well known British airmen. Perceiving an enemy airplane coming to drop bombs on houses near the shore, he gave chase, overtook it, and sent it plunging down into the sea

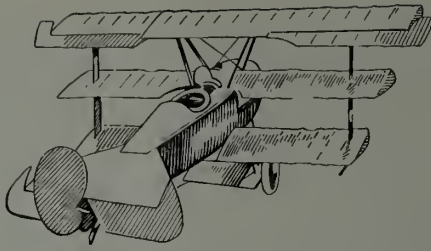
From a painting by Lieut. Henry Fair

All of this war work will have its influence on air travel after the war. The problems of air navigation that are being worked out through the requirements of war will be directly applicable to peace conditions. A transatlantic flight within a few months will be a comparatively simple thing, and it is safe to say that within the next five years, air traffic across the Atlantic will be more or less an established thing.

Chief hindrance to transatlantic flight to-day lies in the tremendous amount of gasoline which a plane must carry in order to make a continuous flight from one side of the ocean to the other. A large part of this gasoline is consumed in so-called parasite resistance, resistance which drags and hinders progress through the air and which does not lift or help in sustaining the load. This is the resistance of structural parts such as wires, landing gear, struts, and radiator. Before successful transatlantic flight can be carried on, much will need to be done toward eliminating a great deal of this parasite or flat-plate resistance. It is very probable that a folding landing gear will be used for transatlantic work, so that once in the air the gasoline needed for dragging this necessary part of an airplane through the air for the entire distance, when it is required only for a few moments of landing, will be saved. This is only one item which is receiving attention.

When these transatlantic problems have been solved, we will enter at once into the great commercial era of air travel. All countries realize that this era is coming; Britain is planning extensive aerial navigation after the war in commercial lines; Germany is known to be planning very seriously for the control of the air industrially after the war. Routes are being laid down and aviators trained, and all of the experience being gained through war work is being analyzed for its possible benefit in commercial use when battles shall cease.

When flying becomes a common thing it will be possible to live 100 miles away from the city where you work, and yet to make the office in an hour from your home. You can get away from the municipal landing field in the evening and drop lightly on to the field of your suburban village green, perhaps, in one third of the time taken by the train for the trip. With the speeds available and the range of power and reliability in the engine, you can fly as many days a year as you would use your motor car, for example, and could use the plane many days when the roads would be too



Following this came triplanes having three sets of wings, one above the other, this giving very good vision, but a disappointing speed. Single seater fighters have now been developed to speeds of 150 miles an hour and climb as fast as the pilot's health will allow

muddy for motor travel. Fogs would keep you down, and rain—at least with present machines unless you want to take war risks—but there are plenty of days when there is only wind to bother, and then if it is blowing your way it is far from a bother. On windy days, too, you can land against the wind at slower speed than on a calm day and hence, from the landing speed standpoint, be in less danger than usual.

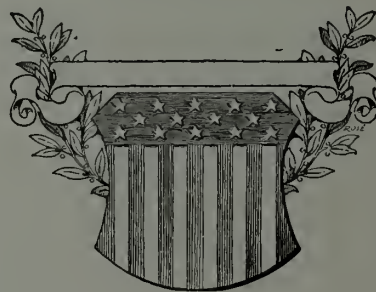
It is hard for one who has not experienced a flight at altitude to visualize how one can speak of safety and flying in one and the same

breath. As a matter of fact, however, flying has come to be wonderfully safe per mile even with the present landing limitations. In the early days, for example, we did not know of such a thing as a tail slide, and when a pilot stalled his engine through trying to climb too steeply with a weak power plant, and the machine started backward tail first, he did not know what to do. In the first place, tails were not constructed for the strains of a tail slide, and some broke off and the pilots were killed. In other cases the pilot did not know what to do, the machine did not find its gliding angle of itself, and before the pilot could learn how to come out of it he had struck the ground. A few got the trick and found how to get out of a tail spin. They have taught others, and designers have designed tail construction to take the stresses of these steep slides without danger. A tail slide to-day is as simple as skidding a motor car on the ice with plenty of room to slide, and no more dangerous if the pilot is skilful and the plane of modern design.

And so through the other accidents of position that may happen in the air: nose dives, side slips, etc., etc. We know how to control the plane now and have designed it so that it can be controlled—hence the term safety in connection with flight.

Before very long we will be able to hire aerial chauffeurs for \$100 a month, and they will care for the machine as well. Later we will think no more of taking a plane to New York or New Orleans or San Bernardino, than we do of taking our motor cars to go on a trip of one fourth the distance.

The airplane's job now is to follow the road to Berlin, but once that is accomplished life in both city and country will take on new pleasures through aerial travel, and new values through the greater pleasure of the journeying.





The problem of illuminating a sufficiently large area for a landing spot having been solved, there are opened up the vast possibilities of high reconnaissance by moonlight. The painting shows a Voisin type of reconnaissance plane passing through the clouds at an altitude of 5,000 feet, surrounded, obscure mark as it is, by bursting shells. 1914



FROM A COUNTRY WINDOW



MY GARDEN is at last ready for the Big Drive. At the commencement of those long months of training which have now reached completion and begun to bear fruit, we first called to the colors the usual modest garden plot that we have had for years—"the contemptible little army." But soon we had mobilized, albeit reluctantly, the reserves of my beloved flower garden; finally, half the back lawn was conscripted into the service. And now, when I, in company with the Field Marshal—shall we say?—review the ordered green ranks, stretching, row after row, in close formation, from the brick terrace way back to the three apple trees which mark the boundary line, a thrill goes through me to think that here, under this quiet summer sky, in a peaceful countryside so remote from the battle line, I am doing something that counts.



Of course, it is the Field Marshal to whom all the credit is due; and this garden army would be as nothing without its generalissimo. He is an amiable brigand by name of Sam Spinelli; and like all good generals, besides his knowledge of strategy and tactics, he has a fine grasp of the economic situation. Early in the spring, when I attempted to explain to him why our garden must be larger this year, he took the words out of my mouth.

"Looka!" He tapped my arm with a finger at once imperious and respectful. "I know! Italy need food—she need *frumento*. We planta great large garden this year. For l'every one grow last year"—with a large wave of his arm he included the garden, then swinging back, shook two fingers excitedly in my face—"for l'every one, TWO!"

Sam has four sons fighting in Italy. "Gotta two boy in tranch, one boy in r-r-roplan." I didn't understand. He swung his arms wildly. "R-r-roplan! Fly 'roun', droppa de bum, bust up l'everything." At this an expression of unholy joy crossed his face. Then he said sweetly, "L'other son—*musica*—play in band, like dis—boom ti, boomp ti, boom ti, boom"—and marched before me, beating on an imaginary drum, and singing "boom ti boom" like a child.

His voice was rather clear and sweet for such an old pirate. It carried me away from my war garden, away from the war, even, for a minute, to a happy, golden Italy. I said, tritely enough, "Oh, music is so beautiful in Italy!"

Sam turned again to his garden, and started to work. "L'everything beautiful in Italy," he said, in mild rebuke, "l'everything."

I CAN well remember the muddy stretch of flower border at the edge of our city brick yard where, at a tender age, I used to construct Japanese gardens. Tiny sprigs of Christmas evergreens, separated from their red-ribboned environment when no one was looking, sprouted mysteriously from the soil. And lithe boards were bent in dangerous curves over pools whose waters disappeared with an unnatural rapidity. I may have regarded these gardens with a biased eye, but they always seemed a relief to stiff rows of pink geraniums which, I blush to admit, were usually uprooted for the oriental invasion.

When we moved to the country, fearing inherited tendencies, I fondly imagined that a back meadow and an apple orchard for my two small sons to play in would leave the garden and lawn quite undisturbed. But I had not reckoned on the war—calling, as it does, for large architectural and constructive feats, even among the younger generation. In short, arriving home the other day I was greeted by a long, muddy trench running like a jagged wound through my front lawn! No English green-sward sung in poetry and bowled upon by nobility was ever more loved than that lawn of mine, with its smooth green unbroken till now save by a crocus here and there. Dick's triumphant an-



nouncement that it was "an exact production of a section in Flanders" left me unmoved. I felt like the gentleman who, muttering, "Why, I motored all through Belgium in 1913," remarked, "This war is coming very near home to me."

Perhaps I should not have scolded Dick quite so ardently. After all it did show a very considerable knowledge of such technical intricacies as parapets and listening posts. And yet I imagine it did not hurt him overmuch. Only yesterday a little range-finding episode left our greenhouse innocent of a single pane of glass, which assisted in giving our neatly tended estate the appearance of invaded territory.

But do not imagine that I begrudge the useful mobilization of my lands. I substituted waving vegetable tops for lilies and dahlias with a glad heart. It is only the disappearance of the few remaining quiet spots that I deplore. I suppose I deserve to be punished for holding anything back. I realize now, sadly enough, that another war garden would have been much more useful to the world at large than that Flanders trench, and undoubtedly it would have been more ornamental.

SO SMALL a place the world, so very small. Just think! A little village here folded away in the New England hills; there a tiny hamlet on the Somme, and both so close together.



We know now that we are not divided at all, because in one of the letters that came to us, letters written just as any boy writes home, never dreaming that his words would ever see the columns of his town paper, we met so many of the people that we knew. Here, at peace, these same soldier lads might have been planning their Junior Prom; there they were standing round an old battered piano in a shabby French *salle à manger* singing college songs, and Memory was of their company. Maybe I'd better quote it: "I played a few pieces and then we started the D. K. E. Marching Song, and we all sang it. Down at the other end of the room was a bunch of officers, and one of them, a major, got up and came up to our table and wanted to know who were the Dekes there." Of the same little town he was, of the same college, the same fraternity! A decade before, when they were small, admiring boys, they must have watched him pitching his skilful balls on the campus. And then—I know this doesn't seem real; that it sounds like a dream—who should come in but an army chaplain, the pastor who had preached to them every Sunday for years in the familiar, white-spired village church fronting that same green campus! How proud Our Town was when we read it!

May I show you another picture? Can you see us, an eager crowd standing tip-toe before the window of the Big Store on Main Street, jostling each other a little because we were so interested, so anxious to look at the gorgeous pillow-sham inside, the first of our trophies from France? It was brave with lace and blue ribbons and pink roses; in the centre the Stars and Stripes and the tricolor crossed, and underneath the embroidered words, "*Unis pour le droit!*" Peasant work, and, yes, a little gaudy, but just the thing to catch the eye of a home-loving country boy *en permission*. Just the thing, too, that his mother will love and cry over and put away in her old bureau with the rose leaves, and never, never use until he comes safely back to her! I am not sure but that the most touching part of it was the way she wanted to share her proud happiness with the whole town. And it seemed so personally ours; for the moment it belonged to all of us.

Ah, can anybody think it a hardship to have those needed meatless meals and wheatless days; to make economy generous, a virtue, not an obligation? To knit and sew and roll bandages and not want to do anything else? So small a place is the world; so very great our love and devotion!



COUNTRY LIFE *in* WARTIME

By JESSE LYNCH WILLIAMS

Illustrations by GUYAS WILLIAMS

THE Harry Townes did not go out this spring to their recently perfected place in the country, which Harry always refers to as "my little farm" (I don't know whether this is because there are nearly a thousand acres of it or because so little farming is done thereon). They are not going to open their cottage at Bar Harbor this summer. For that

matter they kept their town house closed all winter. Their country is at war and they are doing their bit.

He was eager to go over to France and fight, but a bad heart barred him out of active service, so he got a job in the Ordnance Department down in Washington, and is working like the devil at a desk for the first time since he passed his final examinations at college. For this he receives something like \$50 a week, which he turns over to the Red Cross. His wife Isabel is down there with him, making surgical dressings all day and knitting socks every evening, even when they dine out. They are quite patriotic.

The George Fields, on the other hand, when our country declared war, went up to their rather extensive estate in the hills and have remained there ever since, except for a month or two in the winter. George was too old to enlist and he didn't even try to get a job in Washington. He does not wear khaki. His wife does not roll bandages. She seldom knits. So they are not patriotic?

Well, it looks that way to the Townes. Still there are other kinds of service. If the test of patriotism is what you do without, then it must be admitted that the Townes are more patriotic than the Fields. The Townes would like very much to go to the country now that hot weather is here. Harry is building a new concrete swimming pool down by the tennis courts, with an Ionic temple at one end of it for dressing rooms, and Isabel had looked forward to showing off the new peristyle to the numerous house parties.

But if the test of patriotism is not merely what you do without for yourself, but what you do for your country, then there is something to be said for their friends, the Fields.

The Fields have been putting their place upon a war basis. That does not mean a paying basis, but a patriotic basis. They are decreasing the waste, which means expense to all of us, and increasing the productivity, which means a saving to all of us. They don't consider it patriotic to leave a place idle, to eat its head off as a great many other well-meaning patriots are now doing with theirs, including the Townes, who feel blameless, however, because they have offered their house and grounds to the Government as a convalescent hospital for returned wounded. A country place is a living thing and, unless you intend to let it die, requires care—in other words, labor and materials. The up-keep of the Townes' place, while they are conspiring in Washington, costs more a day than these two produce by their combined war work in a week, and what do we get out of it? Nothing. The horses have to be fed and exercised, the new garden has to be weeded and watered whether they are there to enjoy these luxuries or not. Every one of these men and beasts is a potential asset or liability to us, to all of us, the nation. It is the Townes' right to decide, though such rights may not last long, if the war lasts long.

Now Harry Towne is a good fellow but he was never a conspicuous figure in the business world. In fact, he was never in the business world at all, being a scion of one of our oldest and best families, meaning one that has had familiarity with money long enough to breed contempt for making it. So, not being equipped by training and experience for large affairs, he was not requested by the President to fill the positions now held by men like Mr. Schwab, Mr. Ryan, and Mr. Stettinius. But he was determined to get into the game. So he took this humble clerkship. It does him great credit. Incidentally it does him great good. The confinement of office work is irksome to a man accustomed to an outdoor life, but he is going to stick to it, through all the infamous heat of our national capital. Though losing weight he is gaining character. By the same token his wife is going to stick to him, for although beautiful she is a dutiful wife and a true patriot, as any one can tell by the Red Cross sign in one window and the Food Conservation sign in another—not to speak of her patriotic scorn of her friend Mary Field for enjoying the cool breezes of her country place. "And my dear, she doesn't even knit socks for the soldiers," quite in the tone of one saying "pacifist."

The charge is true. Mary does not knit, except occasionally in the evening after she has finished the bookkeeping and card cataloging which she has assumed as her part of putting the place on a war basis. But she has organized two Red Cross units among the country people of her rather remote neighborhood, and is thus indirectly producing about twenty pairs of socks to Isabel's one. You see, Mary is a veteran suffrage-worker and is now utilizing for war service the organizing ability and the wide personal acquaintance among the natives gained during two hard suffrage campaigns. Liberty Bonds, War Savings, and Home Service—that latest valuable branch of the Red Cross work, which keeps up the morale of our soldiers abroad by looking after the condition of their relatives at home—all have been promoted by Mary in a part of the country which otherwise might have been neglected.

She has built up a well-oiled organization now capable of disseminating quickly and thoroughly any orders or ideas that the Government wishes to have advertised and explained.

I admit that it is a pretty picture and a patriotic one, no doubt, to see Isabel Towne conscientiously knitting as she drives along Pennsylvania Avenue to the Red Cross in her Rolls Royce with two men on the box and a Pomeranian pup beside her, thus setting a good example to the wives of Government clerks who might not otherwise understand this war for democracy; but I can't see that Isabel has much on Mary in the way of patriotism.

True, the Townes in Washington are putting up with a great many discomforts. As it is war time they are roughing it in a shabby old house with only six servants. They have no children. "But then we must all learn to live simply now," as was well said to me by a gracious hostess one evening last winter at dinner in extenuation for not serving the customary cocktail. We were merely served with Pol Roger 1904 all through dinner. *C'est la guerre.*

It may seem unkind to cavil, but there is nothing polite about war. It is a time to be practical, and the plain, practical fact is that the Townes' patriotism, admirable as their motives



"Conscientiously knitting as she drives along Pennsylvania Avenue"

are, is rather expensive to the rest of us. By paying \$30,000 a year for a house, which rented in the days of peace for \$8,000, they have helped to swell the unpatriotic prices for lodgings which greet other young patriots who have flocked to the capital to serve their country in its hour of need, and are rewarded with prohibitive expense. Six servants, some of whom might be shunted off into useful war work, employed merely to dress, serve, and transport to and from their respective bases of war operations two patriots whose combined efforts produce less than seventy-five dollars' worth of war work a week—that is really too much like giving men and money to the Kaiser. There are hundreds of youngsters all over the country eager and able to take Harry's place in the Ordnance Department, who could and would live in a boarding house. (If you don't believe it consult your congressman.) But there is no one to put Towne's country place on a war basis unless he takes it in hand himself.



"They are roughing it in a shabby old house with only six servants"

Putting a place on a war basis does not mean that you can make it a valuable asset to the nation in one day. It may merely mean making it less of a liability to the nation in one year. It is not like a battleship, the decks of which can be cleared for action at once by throwing the boats overboard, stowing the awnings below, and whatever else they do when they clear for action.

It isn't even like converting a yacht into a coast-patrol boat, as was quickly done with the one that Harry Towne so generously turned over to the Government. Country estates are less mobile.

The Fields' place, like most country places, was not originally planned or planted to be patriotic or even profitable. It was designed to produce healthful diversion and beautiful surroundings for the owner and comfortable hospitality and amusement for a great many guests. The Fields always had plenty of fresh vegetables in season, but they seldom raised grain enough even for their own horses and cattle.

When the world cry for food went up—this was before we got into the war—George, recognizing his magnificent limitations as a man of affairs, decided to try at least to make his family and the people on his place more or less independent of outside sources for food and fuel. He has a great deal of land, most of it neglected. He set out to raise grain and meat as well as vegetables and poultry, whether it paid him personally to do so or not. And all this with a minimum of labor—for labor is needed by the Government—and in such a way that the soil would be better than it was before.

A large order for an amateur, but he thought it would be worth trying. He was not a scientific farmer; he was not even a "gentleman" farmer. His upland had never interested him much except as cover for quail. The only crop he had been particular about was buckwheat for the covies. He had neglected his timberland because he found that the partridges, as ruffed grouse are still called in that part of the country, liked the woods better neglected. The brook, aside from its esthetic effect as seen in the afternoon light from the terrace at tea time, was valuable to him chiefly as a trout stream. He kept it well stocked.

So, being virginally ignorant of all matters pertaining to the soil, he had to learn farming from the ground up, so to speak. He took to reading up on the subject. He read books

like Bailey's "Cyclopedia of American Agriculture," the "Handbook of Timber Preservation," and a treatise on farm animals. These gave him a rudimentary knowledge of soils, fertilizers, climate, labor, and implements. He joined the County Farm Bureau for a dollar a year. He got the Bureau agent to come out and go over the place. He attended state lectures and listened gravely to addresses on "Grading up the Dairy Herd" and more or less thrilling monographs on "The House Fly, the most Dangerous of Animals." All of which amused his wife, who did not believe (as yet) that this return to nature would last.

"Oh, but I find farming quite interesting," he told her.

"You haven't tried it yet, my dear," she reminded him.

They were walking through the woods. He plucked a leaf of a blighted tree. "I'm going to send this specimen to the Department of Agriculture," he said with enthusiasm. "They will give me advice for treatment free. It's a shame the way we've neglected these forests," he added. "Judicious cutting would improve the trees and help save the nation's fuel supply."

"Why don't you get the Federal Department of Forestry to send up a man and look the woods over?" she asked him. "It will cost nothing but the man's traveling expenses." George's wife is the kind who would know of such things.

The man came and made out a report. He told Mr. Field what the latter had vaguely known all along, but had been too uninterested to heed, namely, that he had some fine timberland but continued neglect would ruin it. It needed careful cutting. George, appropriately dressed in a north-woods costume, had a lot of fun blazing diseased and overcrowded trees, but when it came to cutting them out, he was confronted by the labor scarcity. He cut down a few himself and sawed them up with a portable buzzsaw. Excellent exercise, recommended by Gladstone and Roosevelt. But what was he among so many trees? Well, as this was the dull season on the neighboring farms, he organized an old-fashioned "wood-bee." That is, he borrowed his neighbors' services, and in return, as they were not so long on timberland, he loaned them his tractors later for plowing.

He went long on tractors. He had always been a great fancier of motor cars, so now he blew himself to tractors, not only the big ones for plowing and harrowing, but some of the smaller varieties and a couple of hand-motor cultivators.

"It will be economical in the end," he assured his wife, who smiled at that familiar pretext. "You see, they save time, save labor, save land and feed. We'll sell the horses, then we won't have to feed them or take the land to grow the feed, or the labor to cultivate and harvest it. This year it is going to cost \$500 to maintain a pair of horses, and about \$500 for their equipment. For \$1,000 you can get a very fair tractor that'll do twice or three times as much work."

The knowing farmers smiled at his useless extravagance, and thought it was merely the latest fad of a rich man whom they liked as a neighbor but could not respect as a farmer. He would abandon it as he had so many projects.

But the farmers were wrong about the tractors, as they learned by the time the land was ready for plowing. Owing to the labor scarcity, neither he nor they could have got in their crops without those tractors. He drove one himself. Being a skilled chauffeur it was not hard to learn. And as toil it was not as arduous as many



The idea is to raise your produce with the minimum of labor, not the maximum. The Government needs labor

a day's work he had put in after big game in the Canadian Rockies. To be sure, it did scandalize his cook, who had begun her career as a kitchen maid in an English castle; but alas, even cooks must now learn to live down those quaint, amusing caste distinctions which have survived from the feudal period long enough. Perhaps in time even Isabel Towne will have the door of her car opened by her chauffeur unaided by that spry young footman in livery who may soon be quite as active and perhaps more useful to us in khaki. It will be perfectly safe for democracy: the car won't run away when the chauffeur jumps down.

"Have you thought about where you are going to get labor to harvest these crops?" George's wife asked him one fine spring morning. "You will need a great deal, you know."

He knew that. He had not only thought about it but dreamed about it.

It became an increasing worry after war was declared. Several of his men left and others showed signs of going, some to enlist, others to get into munition works. Under the circumstances he could not very well bribe them to stay, even though this war work also was important. Just when he needed more hands than ever before, because of the war, he would have fewer—for that reason. It seemed ironic.

"If I get you twenty sober, industrious farm hands at \$2 a day, will you take them?" asked his wife.

"You can't do it."

"Will you?"

"Where'll you get them?"

"Oh, I'll get them, if you'll promise to employ them as long as they do \$2 worth of work a day."

George agreed, but of course he demurred when he found that the sober, industrious farm hands were to be twenty young women. You see, by this time George had become a real farmer, and farmers are always skeptical of new-fangled notions. Mary had picked up this one while serving on the Mayor's Committee of Women for National Defense, the patriotic idea being that every girl who worked on a farm would free a man to work in the trenches, and thus save both the crops and the country.

In justice not only to George's class, the ignorant farmer class, but also to the majority of his sex, it should be stated that this was before the head of the National Agricultural Society had publicly backed the experiment as a practical expedient. Experienced agriculturists like Mr. G. F. Powell of Orchard Farm, and Dr. Sargent, the Director of Physical Training at Harvard, had not at that time written letters glowing with surprised approbation of the work which the girls did on their farms. "I had to hire them," said Dr. Sargent, "because I couldn't get men. . . . Neighboring farmers who borrowed some of them . . . hated to admit that they found them more efficient than men workers, but had to."

In fact, at the time that Mary put the matter up to her husband, the Woman's Land Army of America, under which seventeen states are now organized, with 3,000 farmerettes registered in New York State alone, was hardly started. But that was in the old-fashioned ante-bellum days of long ago—in other words a little more than a year ago, when everything was different.

Even in England where the need was dire, the Woman's Land Army movement languished for a year under the blight of masculine prejudice. Then the Government became alarmed and did a clever thing in the way of propaganda. Public competitions for women farm workers were organized all over the country—it was not a question of whether girls could plow and pitch hay, but which ones could do such things best! This ocular demonstration of the skill of the "lassies," as they are called over there, set the stiff British mind to thinking, and the Woman's Army of England, now 300,000 strong, has saved the island from starving.

"But how'll we take care of a flock of females?" asked George.

"We don't have to," said his wife. "They'll take care of themselves. All you have to do is to pay them \$2 a day. They'll do the rest."

"I'd rather pay men \$4 a day."

"Where'll you get men? And if you could, have we the right?"

"But where'll they live? We have no accommodations for women."

"In the Red House" (a vacant armhouse across the links.) "Each unit brings its own cots and a complete equipment."

"What is a 'unit'?" asked George.

"A squad of farmerettes with a chaperon-housekeeper."

"But we'll have to feed 'em."

"Not at all. Each unit has its own dietitian."

"Dietitian? Heavens!"

"Call it a cook, George."

Well, they came.

Few of them had ever worked in the soil before, and the first week was put in at training under their captain, an incongruously young and good-looking person, who proved to be an agricultural expert, and knew three times as much about farming as George did. He picked up many valuable ideas from her.

So did her pupils, rapidly. They made good. They were not so strong as men, but they were quicker and a good deal more conscientious when the boss was not looking. George discovered this by looking through the hedge one day when they did not know that he was near. But he never tested the matter again, because of something he overheard the captain say to another farmerette. He had humbly hoped, as he related it later to his wife, that the incongruously young and good-looking person had thought well of him, but he distinctly heard her say "Mr. Field? Why he struck me as a nice old boob, but the poor thing doesn't know what century he is living in—a hopeless stand-patter, my dear."

"But you are," laughed George's wife.

Here is Mary's list of the various kinds of work that these Dianas of the harvest field performed during the summer: milking, planting and transplanting, cultivating and thinning, weeding and hoeing, potato planting, fruit picking and assorting, mowing and raking, reaping and shocking, fence building and hedge trimming.

George did not have a chance to test them at plowing, but several of them said they could do it, and he believed them. He believes now that they can do anything. As truck gardeners, he says, women are superior to men—in which opinion he has been anticipated by Dr. Sargent.

"Well," said his wife at the end of the season, when the unit and the captain and the dietitian all left, "Are you convinced? Will you employ women again?"

"Yes, if I can get the same women."

And in that he was anticipated by the farmers in Westchester County who had also tried the experiment. Each one secretly believed that he had just happened to secure the only good unit, because of course women as a class can not do farm work. Every man knows that.

You do not see much difference in the place at first as you drive in through the woods, across the brook, and up past the links, except that the edges of the drive are not quite so well trimmed as they used to be and the trees are better trimmed. There is evidence of forestry there, and evidence of future fuel in the wood piles corded up for seasoning along the road. Also the links seem to be a permanent sheep pasture now, and the lawns have become hay-fields, except for a twenty-yard swath on either side of the drive.

In the house you would see fewer unnecessary servants, and when you pass through the broad hall to get the famous view from the south terrace, you might observe that there are fewer gardeners and that the roses are not quite so carefully manicured as in former days.



"She knew three times as much about farming as George did"



"Committed the grave error of trying to make his guests work"

But a closer examination would show that nearly everything in the place is different, including the owner. Deeper in the woods, separated from those portions near the approach by a barbed-wire fence, you would come upon a drove of hogs grubbing in the ground in preparation for next fall's butchering. Beyond the woods, in what was formerly waste land, are growing crops of Canada field peas, soybeans, and cowpeas (which are, as a matter of fact, a species of beans, as George will tell you, with considerable interest—to himself). Some of these crops are for putting the final fattening touches on those hogs later, others for the sheep now grazing picturesquely on the links. He will tell you just how superior this forage is to grain for fattening purposes, and how it is harvested by the animals themselves, thus saving labor. For he will simply turn them into these fields when the proper time comes, and let nature do the rest. Meanwhile (and at this point George becomes as proud and sententious as if he had discovered it himself, instead of having read how to do it in a Government bulletin) these legumes are fertilizing this rather poor soil by depositing therein nitrogen taken out of the air at the rate of 100 pounds to the acre.

In the garage you would see only two cars. The rest of the space is taken up by tractors and trucks.

On the farm proper you would see a great many acres in wheat, and he would explain to you how necessary it is for everyone who possibly can to raise grain. It goes something like this: "We've got to send wheat to ten millions of people in Belgium and France. Last year, despite the urgent call, though we did nobly in the way of vegetables, we increased our national grain acreage only 4 per cent. This does not mean that there was not a considerable increase, but merely that it takes an enormous increase to swell the percentage, because, you see, such vast areas in the West are already planted in grain. Now if everyone in the East with a country home" etc. . . . until the usual smiling protest from his wife: "George, don't be a bore"—which seldom makes him stop but always makes him laugh.

It goes without saying that they have also gone in for many vegetables. They always did have many vegetables—too many. Sometimes when they changed their plans and did not come up in the vegetable season, whole cartloads were hauled off and dumped. But of course there is no such waste of time, labor, seed, and soil to-day. He now raises only what can be used or disposed of profitably—meaning patriotically—and only things that are of actual food value. I do not remember what the valueless ones are, except radishes and cucumbers. I remember those because I am fond of them.

He superintends all these affairs himself now, and that perhaps has wrought the greatest change of all. He enjoys his place, because he has worked for it. Previously he had let his superintendent look after the estate. He still has a superintendent, a new one, but the owner bosses him now instead of the superintendent bossing the boss.

I don't say that he has not made mistakes. He has made many of them. He has found that you cannot farm by guesswork, that everything must be exactly reckoned, recorded, and tabulated. Hence the card-catalogue system which Mary keeps while he is writing business letters or reading agricultural magazines—the hours formerly sacred to bridge! Last year he planted corn that was not examined and passed upon by experts. The result was thirty-two bushels to the acre. Much of it did not germinate.

This year, the weather permitting, he expects to get seventy-four bushels to the acre. The difference in cost is slight compared with the difference in yield. And in these anxious times, he says, it is criminal to waste soil, labor, fertilizer, and time by planting poor seed. The farmers who formerly smiled at him are really beginning to respect him at last.

Next year he may use no fodder corn, he says. He's thinking of substituting millet, which saves labor and runs no risk of being killed by the frost. Most of the farmers in that region keep on planting and harvesting fodder corn at considerable expense because they "always have done so." That seems to be their fetish.

In his vegetable garden he made several cardinal mistakes. One of them was likewise made in nearly all of the million new gardens which sprang up throughout the country last year. He planted three times as many of perishable vegetables as of those for future use. It ought to have been just the other way around. So this year he has reversed the proportion. Last year he did not know what he wanted. He was still in the thrall of his garden's traditions founded by his old Scotch gardener, a conservative, who learned his job abroad where labor was cheap and plentiful. He liked to plant things for exhibition. "Sometimes in Paris," George says, "I would read in the local country paper—I always have it sent to me—that I had won a prize for a big pumpkin or something. I had nothing to do with it, but I got the credit. I don't want that kind of credit any more. It wastes too much labor."

He had read somewhere about the advantage of inter-cropping in the vegetable garden. That sounded good to him, so he planted a row of beets between rows of lettuce. Fine, when your space is limited, but George has more land than anything else. The inter-cropping interfered with the progress of the woman movement as the girls pushed the hand motor-cultivator down the rows like a baby carriage. He has abandoned inter-cropping. The United States, like George, has more land than labor.

He also committed the grave error of trying to make his guests work. Being imbued with fine patriotic fervor he thought every one else ought to be similarly imbued. So he made a new house rule: "Only paying guests allowed." Some of them had plenty of fervor—for an hour or so—but "none of them had any sense," said George. "Between digging up carefully planted seeds and summoning me for advice, it proved too expensive."

There is one mistake of his and another of his wife's which they do not mention even to each other. He told her more than a year ago that he was going to get rid of his entire stable. And she told him on the same day that she was not going to have any more flowers. He had explained in detail how expensive and unpatriotic saddle-horses were nowadays; and she showed him a sketch in color of her beloved parterres transformed into another war garden—and a formal vegetable garden, properly studied, is by no means unlovely. . . . Well she still has her flowers. He still has his horses. These possessions had become personal friends. When it came to scratch, they could not part with them. They referred to the matter but once.

"Guests who come up here nowadays," he said, looking out of the window, "are bored to death. Think I'll keep a couple of mounts for 'em, wouldn't you?" Her reply was, "Convalescent soldiers love fragrance. I really think it's my duty to keep the garden in flowers, so as to send them to the hospitals."

A few days ago Harry Towne and George Field met at the funeral of a young officer, who had died in service. They lunched together afterward at the club. To each the occasion seemed propitious for putting the other right about patriotism.

"You look pretty husky, George," said Harry. "Did you ever think of getting into the game in some way?"

After a pause, George said, thinking of that expensive swimming pool the Townes are building on their deserted "little farm" and of the beautiful silo he himself was anxious to build, "Harry, did you ever stop to think that every bit of unnecessary concrete work done to-day is as unpatriotic as building a gun base for the Germans? Do you realize that every man you employ to dig in your Italian garden is in effect digging a trench for the Kaiser's army?"

"Well," said Towne, pleasantly conscious of his khaki, "has your own experiment at farming paid?"

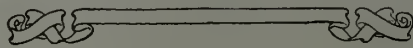
"Paid?" George smiled. "Oh, I've increased the grain supply a little; the wool, the meat and the milk supply a little, but so far I can't say that it has paid me. In fact, I've lost money."

"Then why do you do it?"

"Harry," said George, "why are you giving your salary to the Red Cross?"

"Oh, but we're at war."

"Exactly," said George.





Photograph by G. F. Balda
Courtesy of the artist



A Mount McKinley skyline—caribou



Elk in a ruminative mood

The PICTURE STORY of

OUR PRINCIPAL NATIONAL PARKS

By ROBERT STERLING YARD

Chief, Educational Division, National Park Service

*Mount Rainier
Crater Lake
Yosemite
Sequoia
Glacier*

*Yellowstone
Rocky Mountain
Mesa Verde
and
Hawaii*



AMERICA has discovered itself. That profit, at least, results from the Great War which closed Europe and sent us as sightseers into the mountains and cañons of our amazing West. There, much to our astonishment, we found scenery which, in quality, variety, and abundance, far surpasses the celebrated scenery comfortably accessible in all the rest of the world together. We found Switzerland outdone one time over. We found the Canadian Rockies overmatched. We found wonders of the first order of sublimity whose kind, even, exists nowhere else. And we found these scenic wonders con-

mountain goat



Photograph by Haynes



Photograph by Pillsbury

Yosemite Falls in Yosemite National Park, the most romantically beautiful of our national parks. It is a half mile from the top of the upper fall to the bottom of the lower one



served in national parks which are accessible by road and rail, and are equipped with comfortable hotels and public camps.

In these days of upset railroad schedules it is reassuring to know that the United States Railroad Administration has established a Western Lines Bureau of Service for the dissemination of travel information that cannot be obtained from local ticket offices. Queries should be addressed to Howard H. Hayes, Chairman, 226 West Jackson St., Chicago.

Our greater national parks are highly individualized. Each has a reason and a personality of its own. The pages following describe nine of them in picture and differentiate them.

Mountain sheep





Photograph by A. H. Barnes

The highest volcano in the United States, Mount Rainier, as seen from Tacoma, forty miles away. The Indians called it "Tahoma"—the mountain that was God. From its summit descend twenty-eight living glaciers, between which lie wild flower gardens of surpassing beauty



Photograph by A. H. Barnes

Mount Rainier

MOUNT RAINIER, rising from the Cascade Mountains in west-central Washington, is the loftiest volcano in the United States. It is a frozen octopus, from whose summit descend twenty-eight living glaciers. Between its icy fingers are rolling gardens of wild flowers, and around its base are luxuriant forests of gigantic trees. Of these wonderful wild flower gardens, Walter Prichard Eaton says:

"The least impressionable person alive cannot go to the Rocky Mountains without giving enthusiastic attention to the wild flowers. This is due only in part to the individual beauty of those flowers. In the East we have many as beautiful, and still more that we share with the West. But it is seldom that our flowers grow in such masses and profusion, with so many kinds and colors blended on one small square of ground; and, above all, it is seldom that our

A dissolving view down the Nisqually River from the Nisqually Glacier, which is the river's source. A peaceful scene, in striking contrast to that pictured below on the opposite page





Photograph by Asahel Curtis

Paradise Valley is one of the many luxuriant gardens of wild flowers which lie between the glaciers. Here is the new Paradise Hotel, from which a short walk carries the visitor to the Nisqually Glacier. Climbing parties for the summit start from Paradise.

National Park

flowers have the field so much to themselves, leaving it only with a little sparse grass, and scattered groups of limber pine or firs, and the ice-water brooks from the snow fields. The Rocky Mountain wild flowers often display their colors, indeed, against a background of pure snow, or grow underneath pink and red and purple precipices, and beside lakes of iceberg green. They are a background of delicate beauty for a picture of stupendous impact. No other flowers have such a setting, nor are so intimately associated with landscape gardening in the grand style, the style of Shakespeare and Milton."

Mount Rainier has no peer of its kind in the world. Once it was 16,000 feet high but a prehistoric explosion blew off 2,000 feet from its top. Four hours from Tacoma by rail or motor will land you at a comfortable hotel at the side of the Nisqually Glacier.

The man whose adventurous soul requires an annual scaling of the Jungfrau or Matterhorn will find a thrilling substitute in the crevasses that guard the summit of Mount Rainier



Photograph by A. H. Barnes



© by Kiser Photo Co.

General view of Crater Lake from the rim. To the left is Wizard Island, a small volcano through which the molten lava vainly sought to find new vent after Mount Mazama had slipped down through the rim. The rim rises from 1,000 to 2,200 feet above the water



© by Fred H. Kiser

Afternoon works magic upon these wonderful gray cliffs. To the left is seen the Phantom Ship, a lava formation which sometimes suddenly disappears and as suddenly reappears, the result of mirage on warm afternoons

*Crater
Lake
National
Park*

WHERE Crater Lake, deepest and bluest lake in the world, now lies, once towered Mount Mazama, the giant of the volcanic range of the Cascades. No human eye has seen Mazama. Once a eruption, some underpinning gave way and it slipped



Sketch showing how Crater Lake was formed by the engulfing of Mount Mazama

through its own rim back into the unknown. Crater Lake, which fills the hole it left, has a quality of beauty like no other lake. The grays and blues of its lava rim, which rises a thousand feet above its surface, are daubed with sulphur yellows, iron reds, and innumerable intermediate tints which reflect again from the water, but the lake's foreground blues are deeper than the deepest indigo. It is in central Oregon.



Looking across Crater Lake showing, in the foreground, details of rock carving, and, in the distance, Wizard Island. Trees are seen near the water's edge far below the spot where the picture was taken. Looked down upon from high places like this, the foreground water is a darker blue than deepest indigo

The Yosemite

THE world-famous Yosemite Valley, in central California, is eight square miles of an unsurpassed mountain-top wilderness of 1,100 square miles. The valley was carved out of the solid granite by the Merced River previous to the Ice Age; the succeeding glaciers merely deepened it slightly and squared its corners. Its walls rise from three to six thousand feet, and



© by Pillsbury Picture Co.



Photograph by Pillsbury
 The Yosemite Valley is recognized the world over as without peer in sheer romantic beauty. The picture shows the Gates of the Valley, with Bridal Veil Fall upon their right



Photograph by H. C. Tibbetts
 Vernal Fall, in the Yosemite, has a height of 320 feet
 Tenaya Lake, a gem of beauty, is on the highway trail from the Valley into the upland wilderness, and has a public camp at its head

National Park

Above the Valley's rim a turbulent ocean of snow-capped mountains frames hundreds of trout-haunted lakes resting in noble cañons. This is the natural summer home of the camper-out and the mountain climber. Rain falls so often in the Yosemite National Park between July and October that campers on the trails carry no tents.



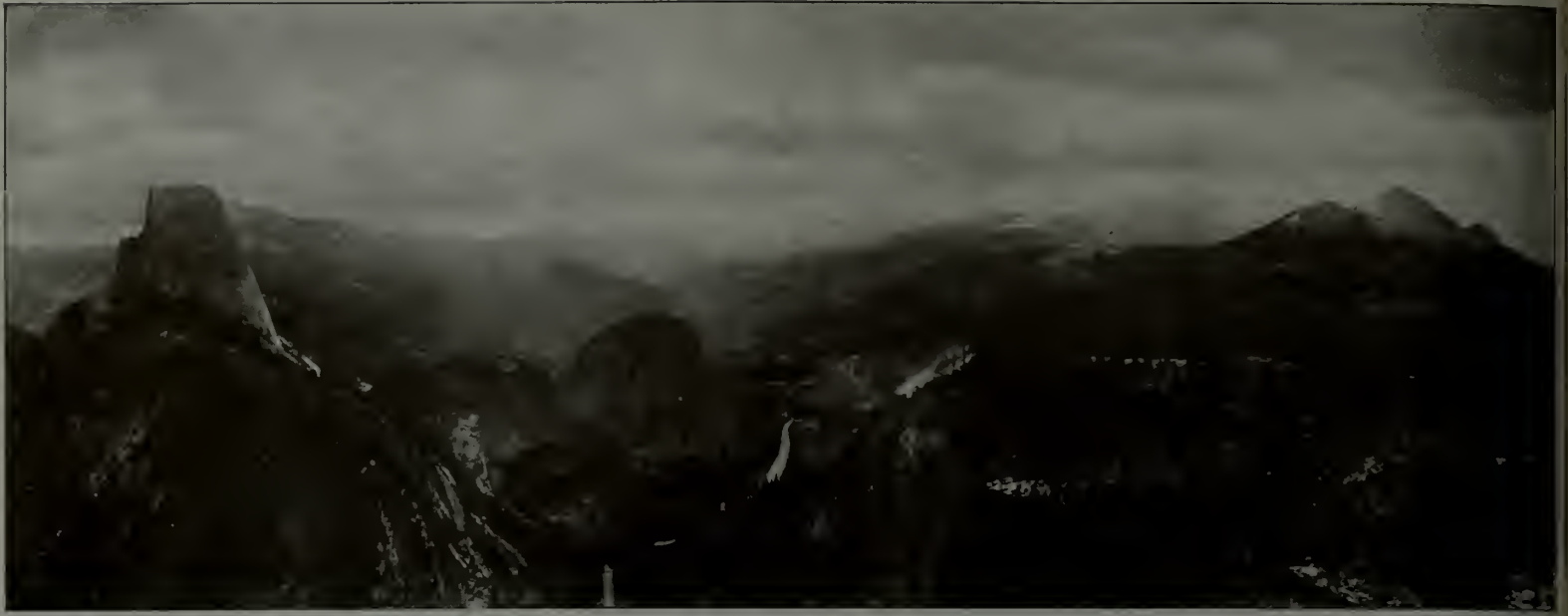
Photograph by U. S. Geological Survey
The west lobe of the Lyell Glacier. Mount Lyell was named in honor of the eminent British geologist, Sir Charles Lyell, who visited this then little known region in 1841 and 1845



Photograph by Dr. C. O. Schneider
A tourist party ascending Mount Lyell. Above the rim of the Valley is a superlative alpine wilderness of 1,100 square miles, containing several hundred lakes



Nevada Fall, 594 feet, nearly twice the height of Vernal



© by Pillsbury Picture Co.

Half Dome from Glacier Point. This is one of the two most celebrated rocks in America. Once it was a full rounded dome, but the glacier carried half of it away. It stands nearly 5,000 feet above the Valley



Photograph by J. T. Boysen



The Tuolumne Meadows, northeast of the Valley, is the principal point of departure for trail travelers through the park. The Sierra Club has maintained a summer camp here for many years

Yosemite

The Yosemite Valley has a few winter visitors who come for the snow sports and to look upon the wonderful snow spectacles, like this of the Three Brothers in February



The mountain climax of the Yosemite National Park is the Lyell group. Mount Lyell, flanked by McClure Mountain and Rodgers Peak, is the core of an elongated row of white-capped peaks.

Photograph by U. S. Geological Survey

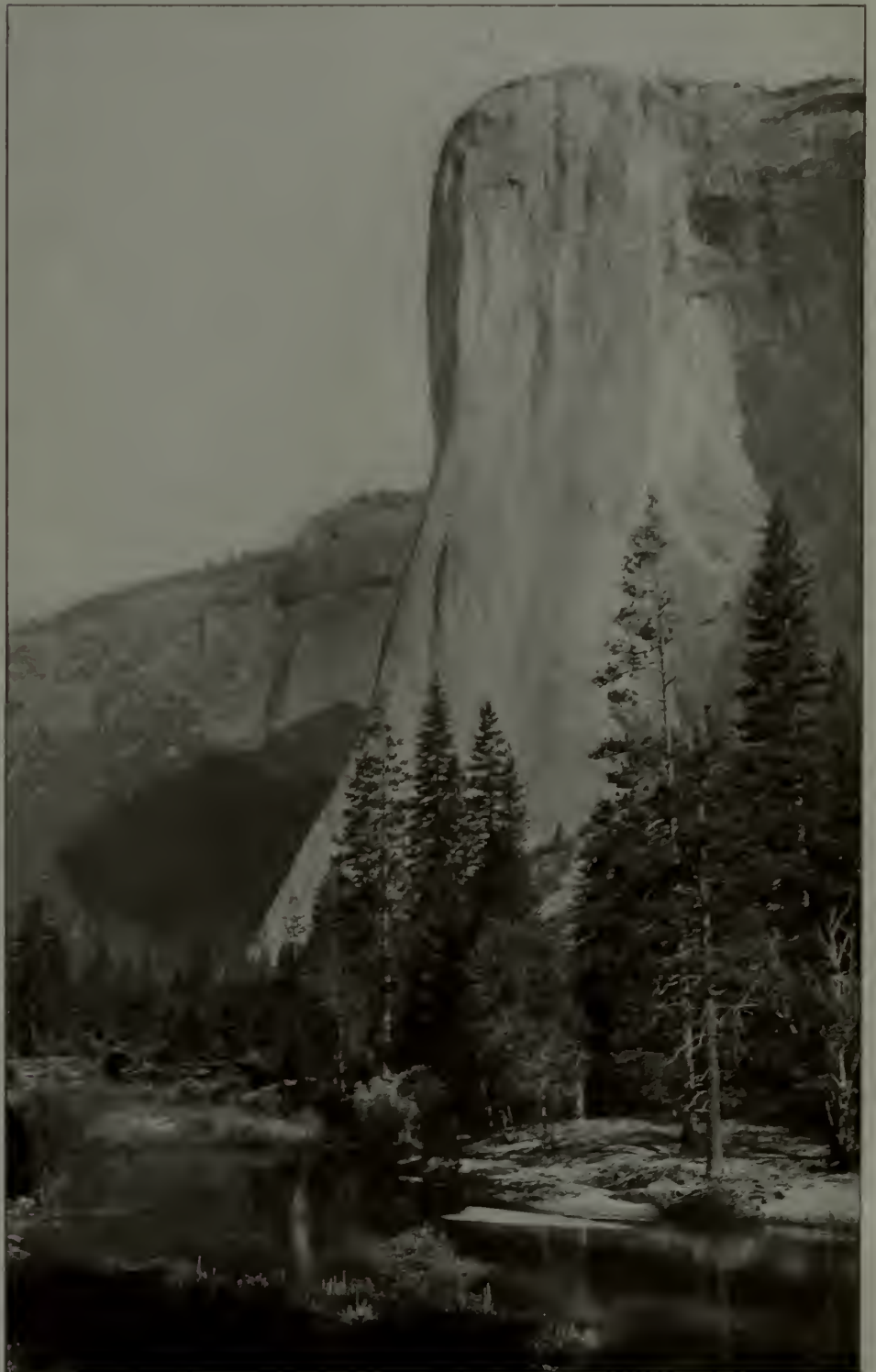


Photograph by R. L. Glisan

Vogelsang Lake, showing Vogelsang Pass in the background. This lake is a sample of the scores of lakes in the higher mountain regions of the park—the heart of the High Sierras.

National Park

El Capitan, rising 3,600 feet above the Valley floor, presents a majestic granite front upon three sides. It pervades the lower reaches of the Valley, as Half Dome does the upper



Photograph by George Fiske



Photograph by S. H. Willard

Lake Reflection is a fair example of hundreds of noble lakes in the supreme region of the Greater Sequoia

Sequoia National Park

IN WHAT is probably the forest of the greatest luxuriance in the world grow more than a million sequoia trees, of which 12,000 are more than ten feet in diameter. The living trees are green-topped, but bare of limbs for two thirds of their great trunks. Some of these trees are the biggest and oldest living things in the world. One is more than thirty-six feet in diameter. Printed descriptions do not prepare the tourist for what he sees here; he walks across an ample platform which is the flat top of a sequoia stump; he sleeps, mayhap, in a house which is a hollow log; he lifts a fragment of bark, and it is two feet thick.

North and east of the park lies the most tremendous mountain area of the United States, containing two valleys nearly equaling Yosemite in beauty, and culminating in Mount Whitney, our loftiest summit. This mountain area, known as the Greater Sequoia, Congress some day will add to the national park system.



The General Sherman Tree, in Sequoia National Park, the largest and oldest living thing in the world. It is 36½ feet in diameter, 280 feet high, and its age is estimated at nearly 4,000 years. It sprouted, probably, during the First Captivity of the Children of Israel

The sequoia is an evergreen, with fluted trunk, and the most majestic of all living trees. The thrill and awe conveyed by these vast red columns can be appreciated only by seeing them



Photograph by H. C. Tihberts

The "top of America" is Mount Whitney, climax of the Greater Sequoia, just east of the national park. Whitney is the highest mountain in the United States—14,501 feet.



Photograph by S. H. Willard

The Tehuac Valley, in the Greater Sequoia, is second only to the Yosemite in majesty.

The Kings River Cañon, just north of the Park, is another valley which must be classed with Yosemite in magnificence.



Photograph by S. H. Willard

Twin Lakes and Mount Hitchcock from the top of Mount Whitney, which latter is the climax of a mountain region unexcelled in the alpine scenery of the world. Such supreme spots as this are easily accessible by trail.



Photograph by S. H. Willard



© by Kiser Photo Co.

Mount Grinnell, in Glacier National Park, pictured in a July snow flurry, is familiar to thousands as the commanding feature of beautiful Lake McDermott. On its right can be seen the lowest of the Swiftcurrent Lakes; on its left, Lake Josephine. Mount Grinnell was named after George Bird Grinnell of New York, the pioneer of Glacier National Park



© by R. E. Marble

Two Medicine Lake, showing Mount Rockwell, with Grizzly Mountain on its left, and Mount Helen on its right

Photograph by U. S. Geological Survey

Mount Gould, familiar to thousands, shown at an unfamiliar angle—from the north side of Lake Josephine

Glacier National Park

Lake McDonald, on the west of the Continental Divide, the largest lake in the park, is seen on an early morning. Mount Cannon has had a coating of fresh snow during the night.

HANGING down from the Canadian boundary in Montana is 1,500 square miles of Rocky Mountain crest, which is practically the Canadian Rockies done in Grand Cañon colors. Geologically and scenically Glacier National Park and the Canadian Rockies are practically identical except that the cirques and cañons of Glacier dig into highly colored rock strata millions of years older than those of the Canadian Rockies. It is a country of enormous precipices, serrated, knife-edged, upstanding walls, tortuous valleys, lakes of indescribably romantic beauty, and cascading rivers. Unlike the snowy Canadian Rockies, every cirque and mountain top is readily accessible to the tourist during the months of summer.



Photograph by A. J. Baker



Photograph by U. S. Geological Survey

The climax of Glacier's Land of the Future is the Kintla Valley, next to the Canadian boundary on the northwest. Immense precipices and lofty glaciers are elements of its remarkable romantic quality. It has been called the Perpendicular Valley. Few have seen it because it has been best accessible by devious trails through Canada. A trail is now building from Brown Pass which may be open by the time this magazine is issued



Photograph by R. E. Marble

The celebrated Garden Wall in Glacier National Park, which practically encloses the whole Swiftcurrent region, can now be mounted and explored by trail. On the left may be seen the Swiftcurrent Glacier. This is the top of the Continental Divide



© by Kiser Photo Co

Just north of famous Iceberg Lake and the other side of its jagged upright limestone wall, lies this stupendous chasm; yet the thousands who visit Iceberg would have to ride forty miles of roundabout trail to enter it. The picture shows the cirques of the Belly River. Lake Helen is in the foreground, 3,000 feet sheer below the Continental Divide. On the right is majestic Mount Merritt here shown to be a shell around a gigantic glacial cirque open only on the south side



Photograph by Fred H. Kiser

A glimpse of one of the most celebrated views of Glacier National Park, that from Granite Park Chalet. The photograph was taken west of Swiftcurrent Pass and shows the Chalet.

Glacier National Park



Photograph by U. S. Geological Survey

Beautiful Lake Bowman, just south of the Kintla Valley, is also in Glacier's Land of the Future, but so rapidly is its fame spreading that it soon will become well known. The cirques at its head are features of startling beauty—a waterfall, for instance, gushing from a hole in a precipice, and glaciers perched upon lofty precipices down whose sides many streams, branching jaggedly like fingers, pour foaming for thousands of feet. Fly fishing for big trout lures many to Bowman's lower waters.



Photograph by S. N. Leek

Thirty thousand elk roam through the forests of the Yellowstone. In winter they gather in enormous herds in valleys where food may be had by pawing away the snow

Yellowstone National Park

THIS celebrated land of hot springs, bubbling paint pots, and spouting geysers was once the scene of terrific volcanic activity. Its soil lies upon lava. It has more and greater geysers than all the rest of the world together, the title to the next in rank being divided between Iceland and New Zealand. Its supreme glory is the Grand Cañon of the Yellowstone. Its waterfalls are large and magnificent; it is the source of three separate

watersheds, and contains innumerable streams, hundreds of lakes, and several rivers. The trout fishing here is unsurpassed, and 30,000 elk besides many bison, bear, moose, antelope, mountain sheep, and deer roam the woods undisturbed and unafraid. No other wild animal area equals it. South of its boundaries, and some day to be included in them, the granite Teton Mountains rise 7,000 feet sheer from Jackson Lake.



Photograph by S. N. Leek

South of the boundary rise the majestic granite spurs of the Teton Mountains. The prominent peak shown is Mount Moran. The Grand Teton is seen at the left. Snake River is the outlet of Jackson Lake



© by Haynes

The Grand Geyser spouts from 150 to 200 feet. There are several hundred geysers in Yellowstone Park



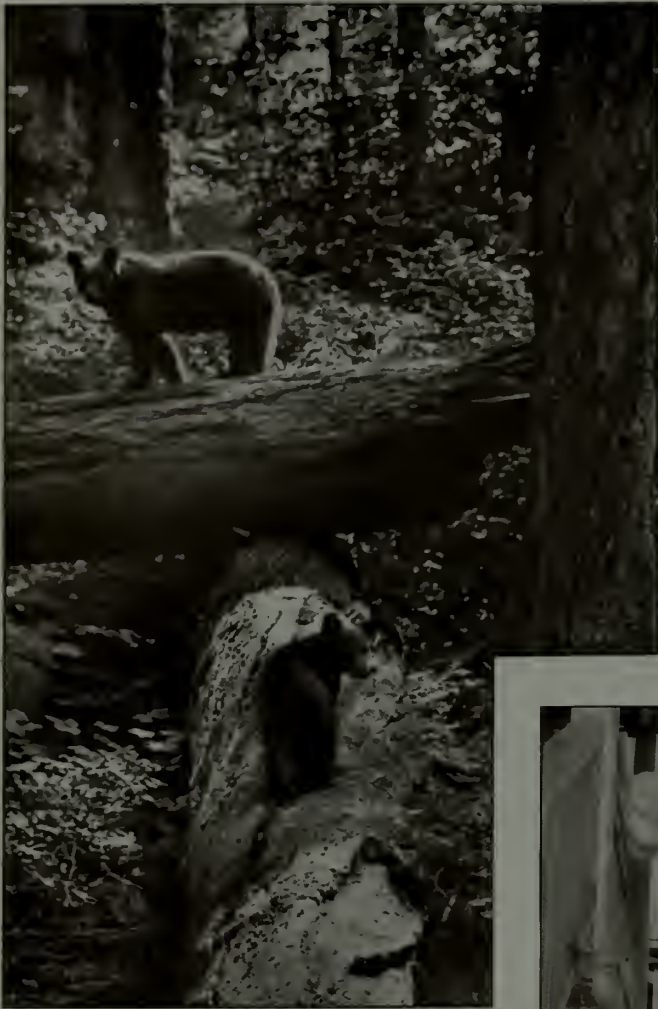
Photograph by Edward S. Curtis

At Mammoth Hot Springs and several other places in Yellowstone Park, lime deposits in the hot water of the springs build up terraces. A vegetable algae in the water paints these terraces various colors



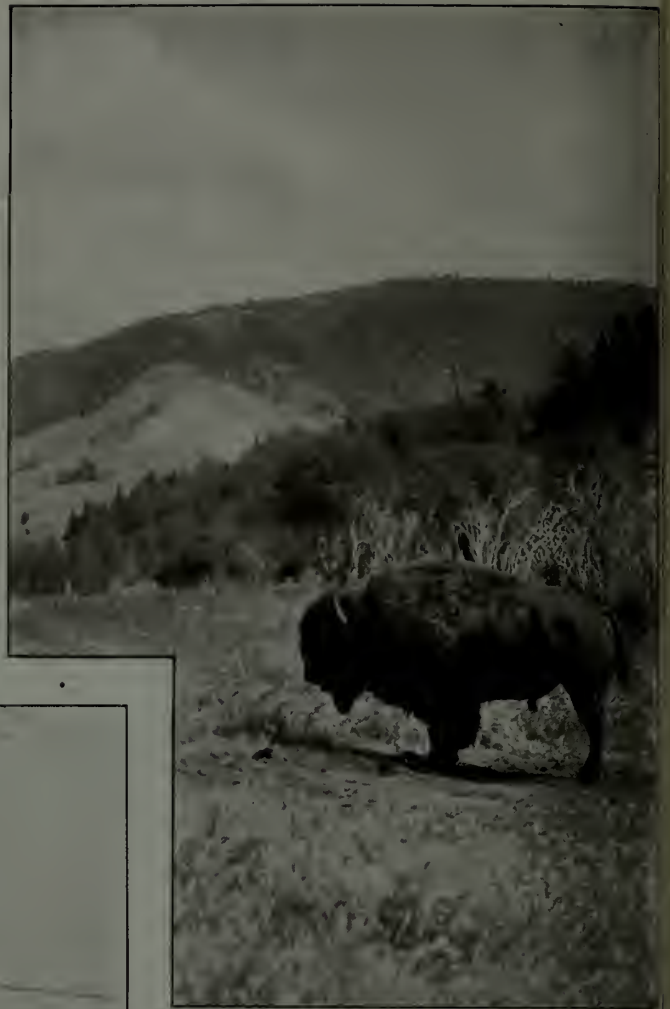
Photograph by Gifford

Grand Cañon of the Yellowstone is unique among cañons. Its sides of lava and volcanic sand, while prevailingly yellow, show on near inspection innumerable colors and tints. The Great Fall in the centre of the picture is 308 feet high



Photograph by Lindley Eddy

One of the F. F. Y. Black bears are numerous, and those in the neighborhood of camps and hotels will feed from the hands of generous visitors



© by Haynes

Two herds of buffalo roam the Yellowstone, and as they lead natural lives and are left undisturbed, they are increasing rapidly in numbers

In the Yellowstone



© by Haynes

National Park

Even the elk are friendly —and hungry

The Clarke crow frequents the higher altitude of all our national parks. Its fearlessness and beauty make it a general favorite



Photograph by S. N. Leck



Photograph by Wiswall Brothers
 The Front Range from Bierstadt Lake, in Rocky Mountain National Park. There are fifty-one peaks in the park whose altitudes exceed 10,000 feet

Rocky Mountain National Park

SEVENTY miles northwest of Denver, Colo., is the region, 400 square miles in area, chosen to represent the Rocky Mountains in the national gallery of nature's exhibits of sublimity. It is extremely high, its snowy ranges rising from 11,000 to 14,000 feet from flowered and forested valleys whose altitude is 8,000 feet. The principal gateway is beautiful Estes Park. Its superb granite peaks hold between their knees gorges of indescribable wildness and beauty and its lakes are many. Its climax is Long's Peak. Because of its accessibility from centres of great population, more than 100,000 people visited it last summer.

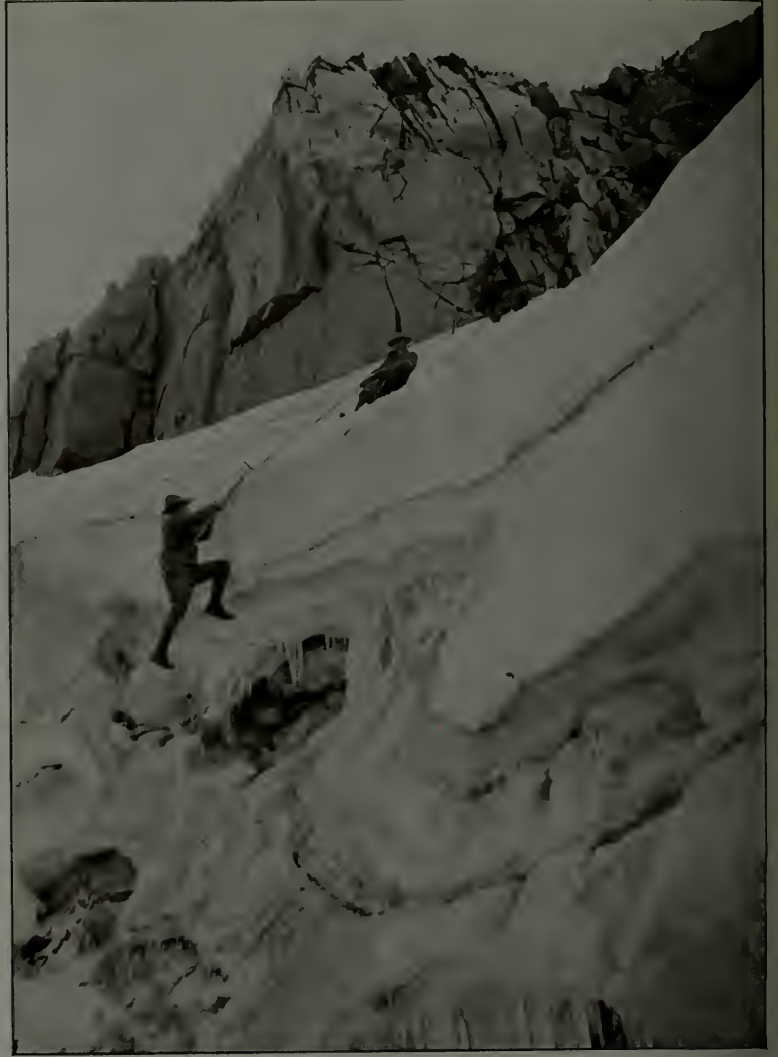
Easily accessible from Denver, the park is a paradise for campers



Photograph by Wiswall Brothers



Photograph by Wiswall Brothers
The fierce winds of winter are hard on the few trees which try to grow at timberline



Photograph by Wiswall Brothers
The glaciers are small but typical and some are complete. Tyndall Glacier can be easily explored



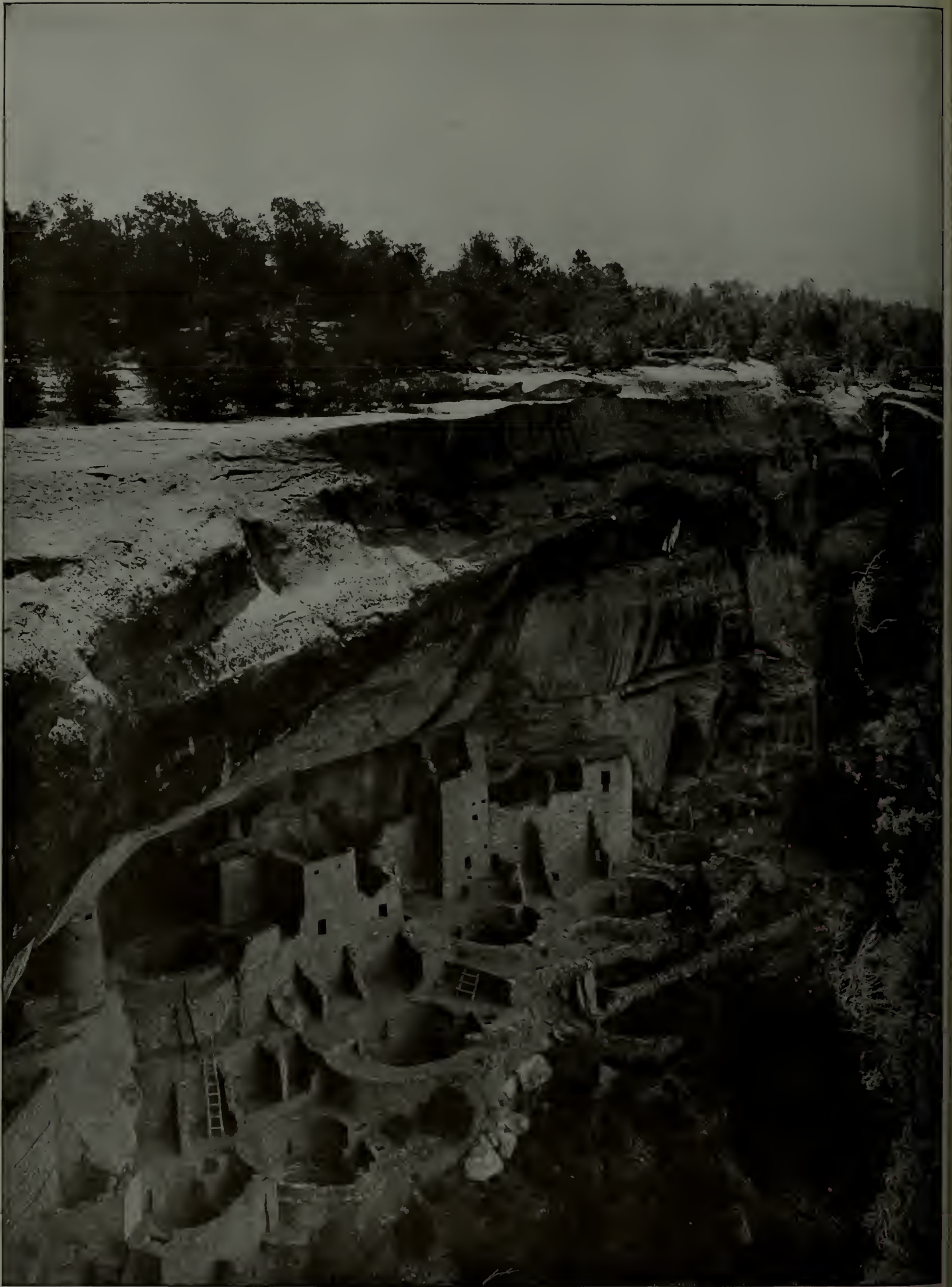
Photograph by Wiswall Brothers
Chief of the range, Longs Peak (at left) rises 14,255 feet. Once it and its supporting mountains, Mount Meeker and Mount Lady Washington, were one vast peak. Glaciers separated them and plucked out the mighty chasm shown in this picture. Chasm Lake lies 2,400 feet below the wall of Longs Peak, in the background. At the right is shown Hallett Peak, and the Tyndall Gorge from Bear Lake. Between the knees of these granite peaks lie gorges of extreme beauty



Photograph by Wiswal Brothers
The glaciers are small but typical and some are complete. Tyndall Glacier can be easily explored



In Rocky Mountain National Park West of the range, beautiful Lake Nanita, one of scores of exquisite mountain lakes, has just been opened by trail. How would a month's roughing it on horseback through such country affect your supply of pep?



Photograph by George L. Beam

Cliff Palace, here shown, is the largest of the famous prehistoric cliff dwellings in the Mesa Verde. It probably accommodated 700 people. The round pits or kivas were ceremonial chambers presumably for religious rites. Note how the overhanging cliff protects the dwelling from attacks above, and it is hundreds of feet above the cañon below. Nothing is known of the inhabitants of these dwellings except that their civilization far excelled that of any other aboriginal people in what is now the United States. They fished in the rivers, farmed on the mesa top, hunted the deer, wove beautiful fabrics, and made artistic pottery. They disappeared suddenly, leaving all their possessions

IN CLEFTS high above the steep cañons of the Mesa Verde in southwestern Colorado, nestle cliff dwellings which tell the story of a past race that attained the highest prehistoric civilization within our borders. These dwellings are wonderfully



picturesque and remarkably well preserved. So cleverly were they hidden that they were not discovered until 1888, though cattle had roamed the mesa top for years. Mesa Verde is Spanish for green table. The region is a remarkable example of erosion.

Photograph by George L. Heam

At the acme of their civilization the Cliff Dwellers emerged upon the mesa top and began to build a temple to their god, the sun. This shows Sun Temple half finished - for suddenly this people disappeared. How? Why? No man knows.

Mesa Verde National Park



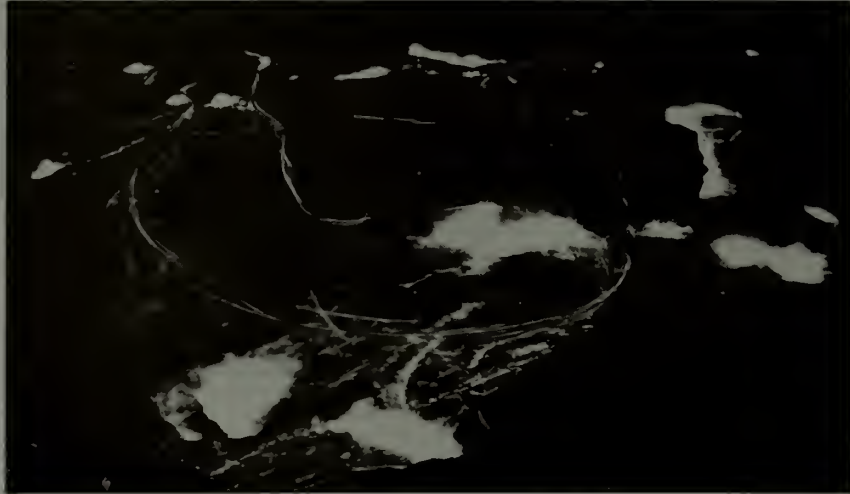
One of the many cañons of the Mesa Verde. The dwellings were built in caves two thirds or three quarters of the way up the cliff from the bottom of the cañon. To-day the remains of this mysterious civilization are comfortably explored by visiting tourists.



General view of the Kilauea Lake of Fire—the House of Everlasting Fire, as it is called in Hawaii. This pit of glowing, seething, spouting molten lava is one of the greatest spectacles of the world. The picture shows the walls and islands and the flaming, surging mass within

The Hawaii

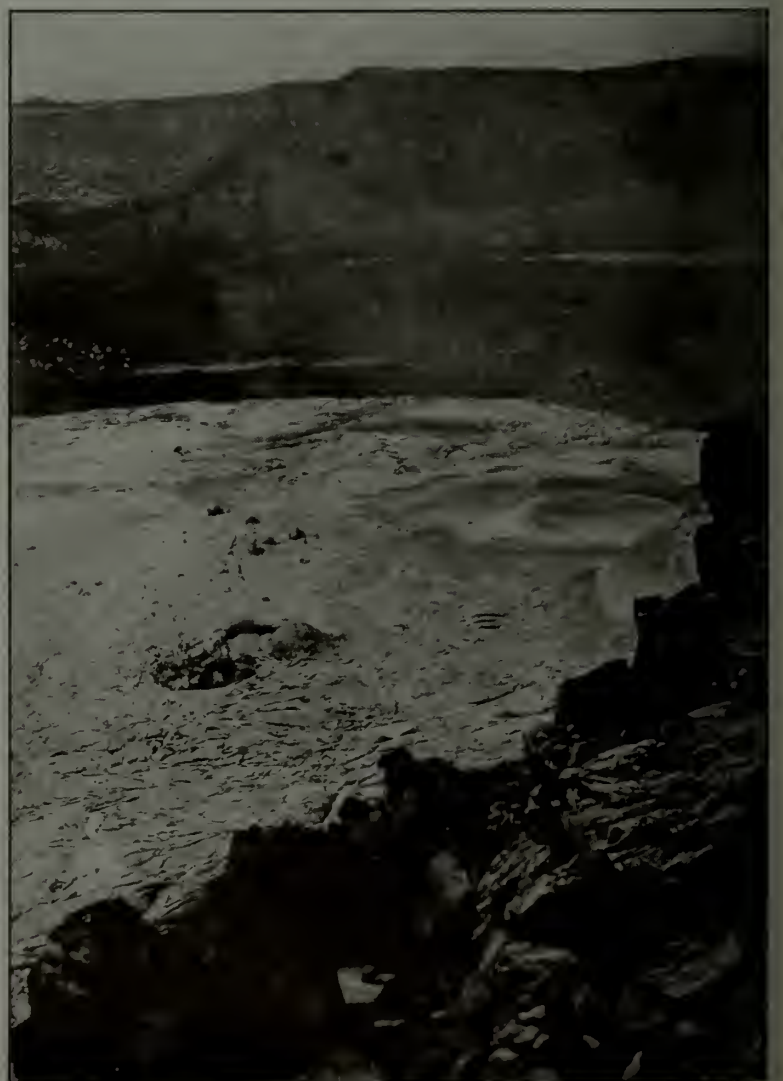
THREE celebrated Hawaiian volcanoes are conserved in one of the newest of our national parks. The famous crater of Haleakala, on the Island of Maui, is the fourth largest in the world—seven and a half miles long by two and a half miles wide. Mauna Loa, on the Island of Hawaii, is the largest active volcano in the



At night the Lake of Fire is sometimes photographed by the light of its molten lava as it continually cracks and breaks through the cooler and temporarily hardened surface

National Park

world. Its eruptions, which occur at intervals of about ten years, are extremely violent. Partly embedded in the side of Mauna Loa is the volcano of Kilauea, whose crater pit is the world famous Lake of Fire, a spectacle of sublimity which draws visitors from every quarter of the globe. Its fiery lava boils continuously.

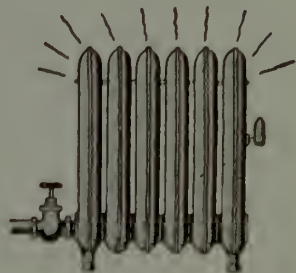


At the left is shown a glimpse of one end of the vast dead crater of the volcano of Haleakala. This crater is seven and a half miles long and about a third as wide. From its floor of sand rise thirteen volcanic cones, six or seven hundred feet in height. At sunrise and sunset the crater is a scene of surpassing beauty. At the right is pictured a detail of the walls of the Lake of Fire. Sometimes the surface of the lake rises within a few feet of the brink, and again it falls six or seven hundred feet below it

Next Winter

-use LESS coal

-get MORE heat



Most house-heating boilers let your coal loaf on the job. They can't help it. Because the ordinary boiler is "surface-burning," its very construction allows a large part of the heat to escape up the smoke flue. You can prove that for yourself. Thrust your hand through the opening in your smoke pipe. *You can feel the heat that is wasting up the chimney.*

More heat with less coal—or money back

We don't ask you to take our word for it when we say that the "Richmond" Down Draft Boiler will use LESS coal and give MORE heat. *We guarantee it to do exactly that or your money back!* Not in some mythical house, but in *your* house next winter and every winter after that.

Because in the "Richmond" Down Draft Boiler, the fire travel is two to three times longer than in any ordinary furnace. Therefore, there is far more water-heating surface exposed to the fire, permitting the absorbing of maximum heat from *all* your coal.

Suppose you can't get hard coal?

The "Richmond" will burn even soft coal without smoke. It is readily adjusted for either soft or hard coal. No other boiler that we know of has that feature.

Now—before cold weather sets in again—settle your heating problem for all time. Of course, we will make a cash allowance for your old heater.

RICHMOND

Down Draft



Boiler

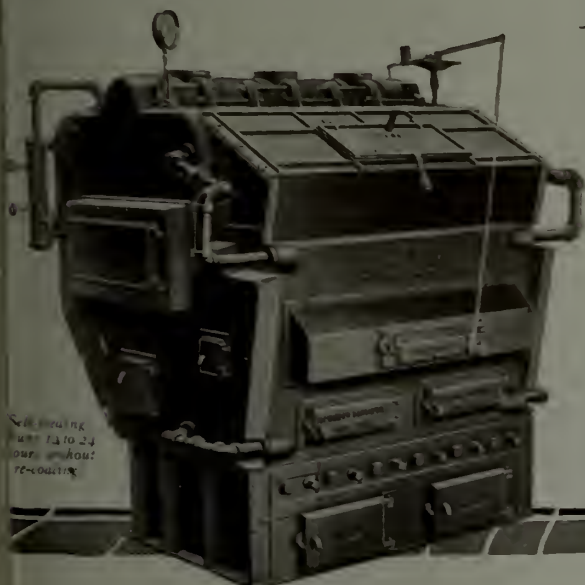
Considers by heating engineers to be the most economical type of house-heating boiler made—Save coal—Practically indestructible—Simple to erect.

Fill out this coupon NOW and mail to—
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1480 Broadway, New York City.

Without obligation to me, please send your free booklet which gives the guaranteed facts of how I can use less coal and get more heat. Last winter I burned _____ tons in a _____ make of heater.

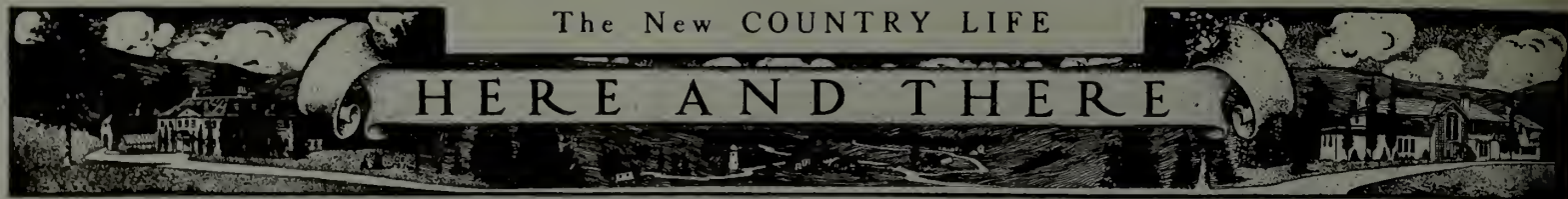
Your Name _____

Address _____



See heading
page 13 to 24
our booklet
re-quiring

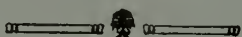
HERE AND THERE



Have You a Soldier on Your Farm? The fact that a man has enlisted or otherwise become part of Uncle Sam's armed forces does not of itself render him unavailable as a worker in the interest of larger crops and greater food production. In some cases men may temporarily be idle in a strictly military sense, during which period they might be decidedly useful back on the farm. Until the labor needs of the nation's farms are met by some selective draft and systematized organization of farm workers, the utilization of farm-trained members of the Army may prove invaluable. A farmer who wishes a soldier furloughed for agricultural work should make application to his local draft board for form 1,035 of the Provost Marshal General's office, which covers this matter.



War Economy for the Motorist It is claimed—and with entire justification—that there should be no curtailment of the use of the automobile during war times except in cases where such use is obviously a non-productive, costly extravagance or luxury. It has become apparent that the motor car, whether of the service or the so-called pleasure type, is a universal necessity and an economical means toward the much-desired end of individual and national efficiency. In consequence there is all the more reason for the practice by every owner of a car, of every possible economy in time, in money, and in materials. One of the most recent of these to be put within his reach is the ability to paint his own machine in his own garage, in the spare time at his disposal, and with the assurance of obtaining a really satisfactory and presentable result. Assuming, then, that the money that was being saved up for a new car has gone into Liberty Bonds, and that the old one, though entirely usable, needs doing over, the logical next step is to make use of one's own skill and one of the newly invented finishing enamels. The difference between the cost thereof and that of the old-time process of burning, sand-papery, and oft-repeated, alternating painting and baking—together with the car and taxicab fares saved by the modern process—becomes available for the purchase of War Savings Stamps, and behold, another sacrifice has been made as easy as it is effective.



The Lincoln Highway It is interesting to conjecture what a part the Lincoln Highway would play in the Allied war programme if it extended eastward from New York instead of westward. But it is more profitable to realize the part that it is already playing and that it is going to play in the months to come. Last November the Council of National Defense, in the course of a letter to the State Councils of Defense, said: "With the constant increase in traffic across the country, the transcontinental highways are becoming increasingly important. Of these, the most advanced is the Lincoln Highway. We ask your help to put it in first-class condition. The Lincoln Highway, running from ocean to ocean, can be made a useful adjunct to railroad transportation. In good condition it is available for the movement of freight by motor truck. In particular, auto vehicles destined for the use of the Government or our Allies can be run over it to the seaboard on their own power, and in so doing carry freight, thus making a considerable saving to the railways. We ask

that you consult with your State Highway Commission and interest it and your local organizations to make whatever immediate local repairs are necessary to put the Lincoln Highway in usable condition and then to keep it so." In response, a constructive programme has been elaborated that contemplates the expenditure of more than four million dollars in 1918, an increase of nearly 100 per cent. over the amount spent the previous year.

The immediate utilization of this and other improved through highways will take place along two general lines. The first involves the shipping of supplies, munitions, and even troops by automobile truck to Atlantic ports. Oftentimes, as suggested above, vehicles themselves destined for the seat of war, can not only reach the coast under their own power, but also in so doing, can carry generous loads. In either case the freight-carrying facilities of the railroads are greatly augmented. In the second place, the transcontinental automobile routes can, more than ever, make possible vacation trips that will in no way tax the restricted railway tourist accommodations. The indications are that the volume of long-distance touring by motor will be much greater for 1918 than it has been for the past two years. If this proves to be the case, it will by no means signify a slackening of interest in the war, or a lessening of effort toward a successful conclusion, but rather the opposite. Those who would work best must relax and recreate; the automobile and the improved transcontinental highway systems combine to offer one of the best ways to restore and maintain the health and vigor that spell permanent, maximum efficiency.

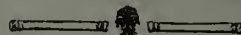


To Meet the Farm Labor Shortage For farm work local labor is usually the best labor. Farm owners in need of additional help can therefore look for the greatest assistance, as well as avoid—and save the Government—unnecessary correspondence, by applying first to those agencies nearest at hand, rather than to the Federal Departments of Agriculture and Labor, the National Food Commission, etc. In most cases, this means first of all the agricultural agent or farm bureau manager of the county, and then the local chamber of commerce, home defense unit, or other definite organization which may have added this type of service to its other activities.



The Growth of Motor Morals We have long maintained that present-day motorists are more considerate and law abiding than their predecessors of a few years back. A bit of concrete proof of the truth of our contention has recently come to hand. Out in Los Angeles County, California, which, by the way, has more motor cars per unit of population than any other section of the country, the police officials have found a motorcycle squad one of their most efficient aids in upholding the speed and other traffic laws. This squad has been in existence about five years, and at the end of the first year of its activities it had collected \$26,000 worth of fines from careless or lawless "Lost Angels." This sum more than paid the entire upkeep of the motorcycle squad. Since that first year, however, fines collected from motorists in Los Angeles County have steadily decreased, until last year the total receipts from this source were not enough to maintain the motorcycle contingent, in spite of the fact that there are more than four times as

many cars within the county jurisdiction as there were five years ago. We are aware of the fact that this little story is capable of being construed in two different ways. We prefer to believe that Los Angeles County motorists have grown enormously in grace and holiness in the past five years; at the same time it is evident that a motorcycle squad properly administered is remarkably efficient as a law enforcer.



Don't Confuse Game with Live Stock Shortly after the vital necessity for food conservation became obvious, the suggestion was made by enthusiastic and well meaning, but uninformed, voluntary advisers that game laws and other measures for the protection of wild life be declared invalid, so that the country's birds might be killed and used to eke out the food supply. Fortunately the penny-wise-pound-foolish proposition was not acted upon—fortunately, because subsequent investigations have shown that even if all the game were thus killed off it would provide but three square meals for each of the inhabitants of the United States. A further inevitable result would be the undoing of all the recent progress in bird conservation work that has so laboriously been effected. And upon the heels of such a mistaken policy would come an unprecedented increase of insect pests whose destruction of good crops, to the extent of far more than three meals per person, would constitute a national if not a universal catastrophe. Let it be hoped that the discovery of the inefficacy of such a measure will serve as a brake upon any future unwise and insufficiently considered suggestion of this sort.

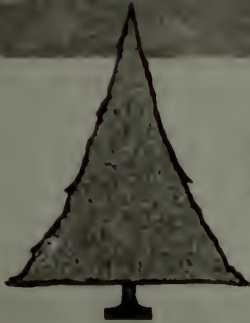


The Motor Car and the Middleman We hear much talk in these days about the crimes of the middleman, he who "toils not neither does he spin," but simply distributes and annexes a goodly portion of the final price of any article, thereby cheating the producer and grinding the consumer. One of the great problems confronting constructive economists is this question of the disproportionate amount added to the price of most articles by the simple act of vending. Consider the final cost of a dozen fresh eggs in any of our cities in relation to the price that the first seller, the farmer obtained for them; the difference is usually 50 per cent. of the whole. This holds true of nearly all classes of farm produce. The agriculturists of Pierce County, Washington, last summer hit on a simple and efficacious method of eliminating the middle profit that plays such havoc with the prices of most commodities. By judicious advertising—newspaper, letter, poster, and verbal—the farmers persuaded motor car owners living in the various towns and cities of the country to go directly to the producers for needed farm products, thus eliminating the middleman's profit and the cost of transportation, and obtaining far fresher and more palatable vegetables than could ever be gotten in any market. The campaign for direct customers began early in the summer. By degrees refinements were introduced, and gradually car owners in town took to ordering produce by phone and finding their parcels waiting for them upon their arrival at the farm. It is estimated that the small truck farmers of Pierce County sold practically all their vegetables, eggs, and other produce at the front gate, to their very great advantage, not to mention that of the customer.

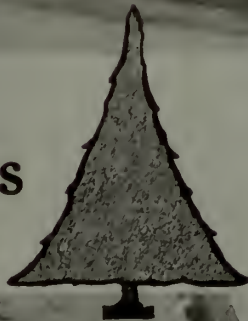




After all, for year-round cheerfulness—what is more effective for entrance planting than evergreens—from those knee-high to sky-high?



Roehrs Evergreens For All Year Round Friendliness



Of all the vines, none can compare with the Boston variety of Ivy, of Back Bay fame.

Just what do we mean by all year round friendliness. We mean that in the endless kinds we grow, there is a variety of shapes, a diversity of foliage and a gamut of colorings that fit your every mood in every season.

Why not have on your grounds, the sunny smiles of the golden Arbor Vitae; the dreamy blue green haziness of the Pfitzer's Juniper; the cool gray green of the Chinese Juniper; and the dense deep green fringiness of the Japanese Cedar?

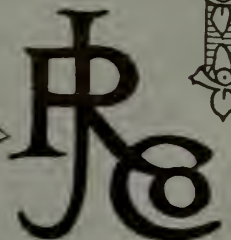
Shapely topped, vigorously rooted specimens we have, that are ready for transplanting all through August or September. Come and pick them out. Or order from the catalogue. Better yet, send for one of us and talk over together, in an unhurried way, your needs.



This Roehrs-grown Evergreen on H. Coppel's grounds at Tenafly, N. J., is a particularly fine specimen of a somewhat rare variety of pine, of which we have a collection of choice ones.

Rutherford is 9 miles from New York. A beautiful auto ride, via Dyckman Street Ferry.

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At The Sign of The Evergreen Tree
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Inlaid mahogany chest containing a complete tea-drinking outfit



Three of Mr. Howell's tea caddies. The one at the left is of straw marquetry; the centre one is wood veneer; and the right, tortoise shell



Inlaid chest containing two tea caddies and a glass bowl for sugar or tea leaves

ONE COLLECTOR'S HOBBIES

By WALTER A. DYER,

Photographs By F. A. WALTER

WHY do collectors collect? I'm sure I can't say, and I have met several of them. One might ask in the same spirit why girls play with dolls. Collecting seems to be the result of a sort of instinct which is more highly developed in some people than in others, and it is done, in the last analysis, for the fun of the thing. If you can't see the fun in it, no one can teach you. But there are many who do, and I know at least one elderly gentleman whose days are happier because of his hobbies.

His name is Frederick H. Howell and he lives in New York in an apartment that is full of overflowing with treasures of a bygone day which are his friends and companions—companions who do not worry him with their troubles or with good advice about his health, but with which he holds constant and satisfying converse.

Mr. Howell's collection is not an ordinary one. He has gone into the byways for the indulgence of his hobbies and he possesses many things not usually seen in the homes of those who profess a love for the antique. Old furniture he has, of course, including some rare and beautiful pieces of Tudor and Jacobean workmanship. He has a collection of trays, lacquered and other sorts, and some old silver, pewter, glass, and china. But the things which interested me most, because they are rather out of the ordinary, were his tea caddies, his silhouettes, his tinsel pictures, and his cabinet of millefiori glass. I will tell a little about these things for the benefit of other collectors who may be looking for new directions for their activities.

First the tea caddies. They form a fascinating field for the collector, for they are of many shapes and divers materials. Tea drinking became popular in England during the reign of Queen Anne, and all through the eighteenth century the manufacture of artistic accessories to the habit was varied and productive. The caddy was merely the box or chest or jar that held the tea leaves, but it was an important part of every complete tea-drinking outfit. Often these caddies were beautifully con-



The full collection of tea caddies, thirty-two of them and all different, arranged on an Early Jacobean serving table

structed and ornamented. During the Georgian period Adam, Hepplewhite, and Sheraton wrought them in chaste designs. All the great cabinet-makers produced them. French naval prisoners made them out of wood and straw, bone and shell. They are to be found in Oriental and Empire forms. Some are shaped like sarcophagi, some are square chests, some are round

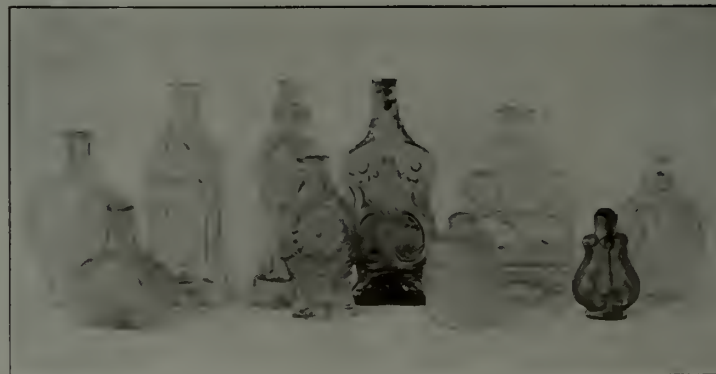
or oval canisters. Occasionally the whole outfit, including two canisters, was fitted into a larger chest. The materials included lacquered wood, mahogany with brass or satin-wood inlay, walnut veneer, tortoise shell, burr walnut, birdseye maple, brass, ivory, filigree work, and pottery. The charm of a collection of tea caddies, in fact, rests largely on its variety of form, material, and decoration.

Mr. Howell owns thirty-two old tea caddies, no two alike. They are of straw marquetry, carved ivory, tortoise shell, lacquered pewter, and mahogany, plain and inlaid. One noteworthy one is covered with an elaborate filigree composed of little coils of paper. There are two or three of the larger chests containing complete outfits. As in the case of his other antiques, Mr. Howell has obtained these from various sources. He has not scorned to frequent the antique shop on occasion.

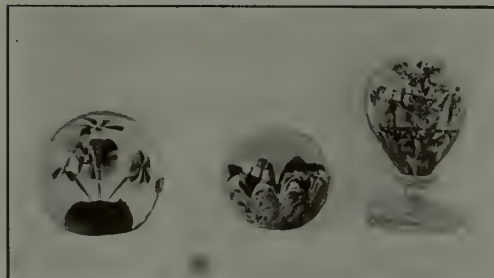
The millefiori glass deserves somewhat fuller consideration, for it is rather a new fad with collectors and not familiar to everyone. Have you ever wondered how those glass marbles of your boyhood were made, with the colored spirals in the centre? Have you ever puzzled over Christmas candy that seemed to be broken from cylindrical sticks through which ran the pattern of a colored flag or flower? They are first cousins of the millefiori glass and the process comes down to us from ancient Rome and Alexandria. Perhaps you are old enough to remember a gay paper weight on your mother's desk, in which colored circles and spirals seemed to grow up marvelously inside like brilliant marine flowers. The Italian word *millefiori* means "a thousand flowers."

Millefiori glass was a mechanically clever product of the last century remarkable for its bright and varied color effects, which was a revival of the ancient Roman art of glass mosaic and which enjoyed a tremendous vogue here fifty years ago and then went out of fashion. In 1915

a loan collection of millefiori or flowered glass paper weights, cologne bottles, mirror knobs, marbles, etc., was exhibited at the Pennsylvania Museum in Philadelphia, and the interest



Mr. Howell's little collection of American glass scent bottles



Paper weights showing variations from the true millefiori, or flowered, glass



Examples of the true millefiori work in a Cologne bottle and two inkstands



Other types of variations from the true millefiori as shown in paper weights



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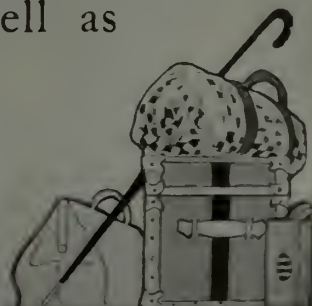
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One of Mr. Howell's silhouettes—Charles Gifford and dog, by Edouart; Hudson, N. Y., 1839



Mr. and Mrs. John B. Joy and son Joseph, by Edouart; Boston, 1841

among collectors dates from that time. A bulletin of the Museum, prepared by the late Prof. Edwin A. Barber, contains the essential information about this glass.

Glass mosaics were made in Rome in the time of Augustus, and existing examples of it are, of course, rare and valuable. The typical glass mosaic was formed by arranging side by side and fusing together small glass rods or filigree canes of different designs and colors, and from the group thus formed cutting transverse sections or slices that were used in a variety of decorative ways. These slices cut from the ends of the fused rods often formed minutely perfect patterns.

This art was revived at Venice and Murano in the twelfth century and again in the nineteenth century. The little decorative slices of varicolored glass were often placed inside of clear glass by the simple process of poufing molten glass over them, and so the little flowers bloomed inside the glass ball or dome.

About 1850 millefiori paper weights were extensively manufactured in Bohemia, in Alsace-Lorraine, and at Baccarat and elsewhere in France, and many of them were imported into this country. Foreign workmen also brought the methods of manufacture with them into England and the United States, and American-made millefiori glass was very popular here from 1850 to 1870.

In the nineteenth-century process, the varicolored glass rods were cast in metal molds, ropes of colored glass being laid in in such a way as to form a pattern in cross section. These canes, when partly cooled, were drawn out to the desired slenderness, making the pattern as small as might be wished. Slices were cut off and patterns arranged with these slices, which were like small bits of highly colored Christmas candy.

Into an iron ring the size of the paper weight was poured a cushion of clear molten glass. While this was still soft, slices of the colored rods were laid on or stuck in, irregularly or in the form of a pattern. An endless variety of arrangement was possible. Clear glass was then poured over the whole and was molded into the desired shape and finally polished.

This was the true millefiori glass, but the name is also given to variations of this treatment. Sometimes the sliced canes were not used at all, but whole flowers, spirals, etc., were made of colored and striped glass and then covered with the clear glass. Sometimes air bubbles and flakes of tinsel were added by way of variety.

The oldest examples we have were imported from St. Louis in Alsace-Lorraine or from Baccarat in France, but millefiori glass was soon being made by foreign workmen at East Cambridge and Sandwich, Mass., and at Philadelphia and Pittsburgh. Between 1860 and 1870 large numbers of paper weights were made here, as well as walking canes, door-knobs, bureau and mirror knobs, marbles, cologne bottle stoppers, glass button hooks, letter seals, inkstands, etc., of a similar character.

Of late these things have enjoyed a considerable vogue with collectors. The Pennsylvania Museum has a collection, Mr. Ross Hall Maynard of Boston owns over 100 paper weights, and Mr. Howell has 120 pieces of this glass. Prices have risen accordingly. The earlier imported paper weights have brought as much as \$20 apiece, and I have seen good ones in shops—probably of American manufacture—priced at \$8. Mr. Howell has paid for his all the way from \$2 or \$3 apiece up to \$60 for an especially fine inkstand, a large piece.

Mr. Howell's collection includes both the true millefiori and the variations—paper weights, inkstands, cologne bottles, fancy balls, letter seals, large marbles, etc. He keeps them in a cabinet with both front and back of glass, and when the sun shines through it, it is as gay as a flower bed.

In the article in COUNTRY LIFE for June, on American glass bottle, mention was made of certain small bottles in which apothecaries used



Mrs. Vining, as Mary, Queen of Scots, published by J. L. Marks in 1839. It is decorated with tinsel, lace, etc.



Mother puts Slug Shot on Cabbage and has me sprinkle the Rosebushes; Gran'pa says it kills Potato Bugs

Present food shortages make it the duty of every patriotic gardener to do his utmost to grow the biggest crops. The garden should not be allowed to fatten bugs. Fight them with the infallible remedy, which, since 1880 has killed injurious insects without damage to either plants, fowls or persons.

Hammond's Slug Shot is used from ocean to ocean in home and market gardens because it does the work thoroughly and economically. It destroys all leaf-eating insects, drives off slugs and caterpillars. It is put up in various sizes at moderate prices. Use it with the handy Slug Shot Dusters, as shown in pictures.

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to sell perfumery. Mr. Howell has a small interesting collection of these little scent bottle divers shapes.

Silhouette portraits have of late been attracted the attention of collectors, and Mr. Howell has several good ones. There is a book on "History of the Silhouette," by E. Neville Jackson which contains the whole story of "the man's miniature," "the uncle of the photograph." It is an interesting story, but one must necessarily be abridged here.

The idea is, of course, ancient; silhouette decorations appear on Etruscan vases. The art was developed in France, flourished in many in Goethe's time, and passed over to England. The first English silhouette portraits on record were those of William and Mary cut in 1699. The name appears to have derived from that of Etienne de Silhouette who became Minister of Finance in France in 1759 and who fostered the craze.

It became fashionable to have one's portrait painted or cut in silhouette, and fancy pic-



Mr. Coveney as Prince Godfrey, embellished with tin

groups, and caricatures were also executed in this way. Some were black and white; others were touched up with gold, pencil, or color. Books were occasionally illustrated in silhouette between 1750 and 1850, and silhouette decorations were executed on porcelain.

There were three principal processes—block work, mechanical cutting, and free-hand cutting. The first was usually done in India ink on cardboard, ivory, plaster, or glass. The technique was very fine, approaching the skill of the miniature painter. John Miers of Leeds and London a well-known silhouette painter. He executed a famous silhouette of Robert Burns and others. He painted usually on plaster and ivory—cut in inch ovals for framing, down to cameos half an inch across for use in brooches and rings. He often added penciling of gold. John Field was a rival of his who became his partner.

Mrs. Edward Beetham of Buxton painted in black on ivory and plaster, and sometimes on cut black paper and used a little brushwork for delicate hair lines. She also painted fine silhouettes on the back of convex glass, which she backed up with white wax and framed. Robert Bury of Bath (1825-69) also did this glass work as did W. Jordan and A. Charles in the eighteenth century. A famous French silhouette artist of that period was François Goussier.

Silhouettes cut out of paper, however, were what interest us most. They were called shadowgraphs, and were very popular from 1770 to 1850. The mechanical process employed a candle flame to throw a shadow on a white card which was traced in pencil and afterward reduced to the means of a pantograph and cut out. Various mechanical aids were invented. Some reduced the shadow through a lens or threw it on ground glass. A book of instructions for the sort of work was published in Germany in 1771 and another in 1780. Edward Ward in London invented a machine and set up a studio at Dorset where he cut many silhouettes and sold portraits for two to seven shillings apiece.

You could dip this house in water




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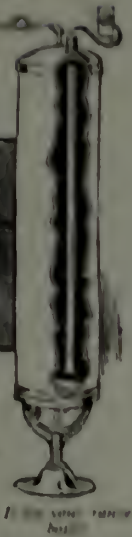
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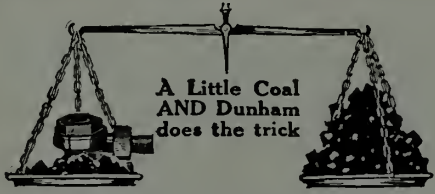


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But the really artistic silhouette was cut with scissors, freehand, and a number of professionals and some amateurs achieved skill in this art. It required considerable talent to catch and reproduce the likeness. It was in this way that Mrs. Pyburg cut the silhouette of William and Mary. Sometimes a straight-bladed knife was used, but scissors were the commoner implement. These silhouettes were cut out of black paper and pasted on a card usually. Occasionally white paper was cut out and pasted on black, as in the case of Leigh Hunt's portrait of Lord Byron, or the likeness was cut in the form of a hole in white paper and pasted on black paper or silk. In general the white silhouettes on black were most popular about 1720. After 1750 they were more black on white, and after 1790 they were touched up with gilt or real hair.

The greatest free-hand silhouette cutter of them all was August Edouart, who was born in Dunkirk, France, in 1788, went as an exile to England in 1815, and visited the United States in 1839. Edouart scorned all machines. He merely studied his subject for awhile and then cut the profile out with scissors, using no other aids whatsoever. In his time he is said to have cut more than 50,000 likenesses. In England, Scotland, and Ireland, he cut silhouettes of many notable persons, including Sir Walter Scott. In France he reproduced Charles X. He preferred to cut full-length subjects. He also cut genre studies and translated Aesop's fables in silhouette.

Edouart was in this country for ten years from 1839 to 1849, during which he cut up of 3,600 silhouettes, including portraits of Mr. Fillmore, Daniel Webster, Henry Clay, Francis Pierce, August Belmont, Gen. Winfield Scott, William Henry Harrison, John Tyler, Henry Longfellow, General Macomb, and many others at Harvard University and in the army and navy. He traveled about a good deal and maintained a studio at Saratoga Springs, where it was the fashionable thing to have one's likeness cut.

Edouart kept duplicates of all these silhouettes in folios, with the signature of the subject on the back. He also wrote the name and date under each. These valuable folios have had a checkered career, once being barely saved from shipwreck. Three or four years ago they came into the possession of Mr. Arthur S. Vernet, New York, and many of them have since been sold. With their signatures and dates they are not without historical value, though they are duplicates and not the originals. Mr. Vernet had the whole lot carefully catalogued by disposing of any of them.

A remarkable boy cutter is known to us as Master Hubard. He learned the art at thirteen years of age, became a professional at sixteen, and cut the Princess Victoria, Robert Browning, and others. He came to this country when seventeen and opened a studio in New York in about 1833. He cut portraits of many known Americans. His regular price was 25 cents. He employed the scissors chiefly for occasionally India ink and the gold pencil.

Mr. Jackson gives the names of more than 100 silhouette artists. Among them is that of Patience Wright, who was born in this country, married a Quaker, went to London, and did her work between 1785 and 1800. E. Haine cut silhouettes of the British royal family; G. G. Kinson cut George III and family; J. Gapp had a big business at Brighton, Mrs. Lightfoot was popular in Liverpool, and there were many others. There were also numerous American silhouette artists of greater or less skill. Prof. Elizabeth, daughter of George III, was one of the most noteworthy. Famous silhouettes of William Pitt and others were done by amateurs. During the Victorian era silhouette cutting was one of the accomplishments taught in fashion schools for young ladies.

The art seems to have died out about 1850 but while it lasted some remarkable silhouettes were produced. Some of the best of them, I think, were produced by August Edouart's, show remarkable expression, a certain touch of character. American silhouettes were often unsigned and undated, and so are hard to identify. But the collecting of the real thing is a fascinating quest. Mr. Howell owns a number of those taken from the Edouart folios, original Edouart, and several others.

Finally, the tinsel picture—a thing which I fancy a good many of my readers have



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heard of. Last fall Mr. Vernay gave an exhibition of tinsel pictures and published a booklet about them, and it is from this that I have gathered most of my information.

During the second quarter of the nineteenth century, a period of general decadence in artistic matters, a few interesting things were produced, and among them were the quaint tinsel pictures of the period. Portraits of royalties, soldiers, and famous actors and actresses, printed from wooden blocks and sold by stationers—"a penny plain and tuppence colored,"—found a wide popular sale in England and America. It became a fad with children and young people to glorify these prints with tinsel, and the art, which flourished about 1820-40, reached a noteworthy development. The figures were dressed up by cutting out and pasting on bits of tinsel, colored silk, feathers, etc. The result, if not high art, was at least interesting and decorative.

Most of the prints bear the names of London publishers—W. West, A. Park, and half a dozen others. The most popular subjects were actors and actresses in character, such as Charles Kean, T. P. Cooke, Fanny Kemble, Madame Vestris, Mrs. Siddons, and Wallack the elder. There were also sailors, soldiers, knights in armor and on horseback, saints, and public personages of various sorts. Mr. Vernay had 216 of these subjects listed which had been embellished with tinsel.

Collectors will find these tinsel pictures no without decorative value, historic associations and quaintness of character. Mr. Howell owns several of them, and they are not the least interesting things in his fascinating collection.

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Immediately above the end of the shingle which overhung the water was suspended a nice bit of cheese, securely fastened, as an ever present but never reachable lure. To prevent the water from showing, we scattered a few handfuls of clover chaff, which would lie a long while on the top of the water before becoming moistened, and on this also we scattered a few grains of whole corn, to add still further to the attractiveness of the lure.

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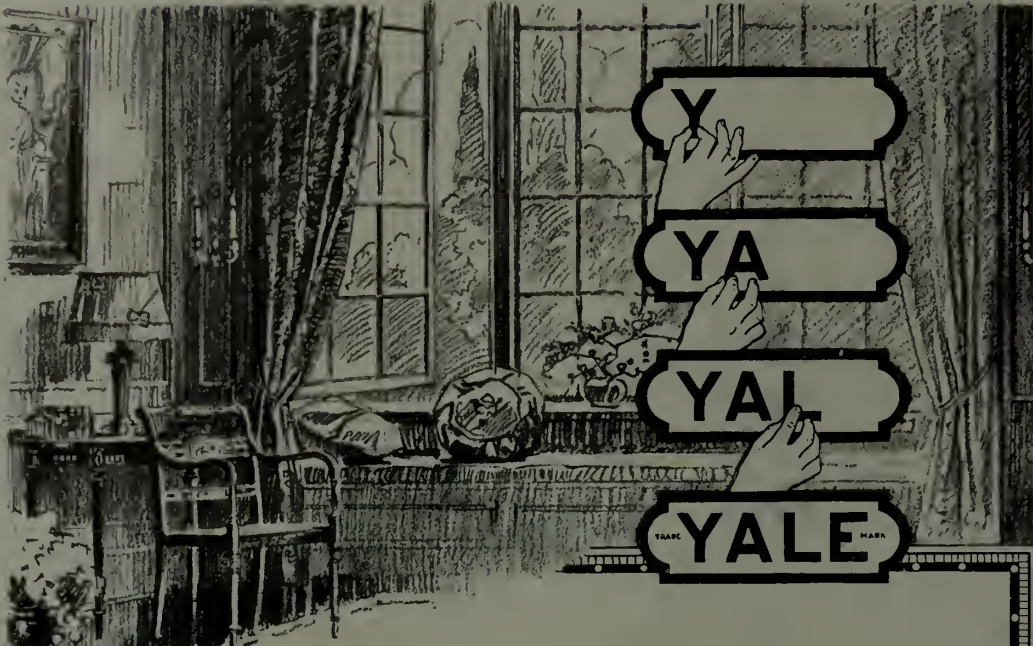
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When the air is comparatively warm, the rhododendron leaves become flat and stretch upward



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When the cold relaxes, even for a few hours, the rhododendron leaves note the change of atmosphere

point the borders of the leaves curl downward. As the degree of cold increases, this tendency becomes more and more pronounced until, with the reaching of the zero point, the foliage is rolled up altogether. When the cold relaxes, even for a few hours, the foliage changes its manner of bearing. Certain color variations also take place. During mild weather the foliage of the rhododendron is a bright green shade, but as the cold increases the color becomes deeper and deeper. With the thermometer at zero the foliage is very nearly black. A study of the bearing and color of the leaves of the rhododendron makes it possible to discover the approximate temperature at any time.

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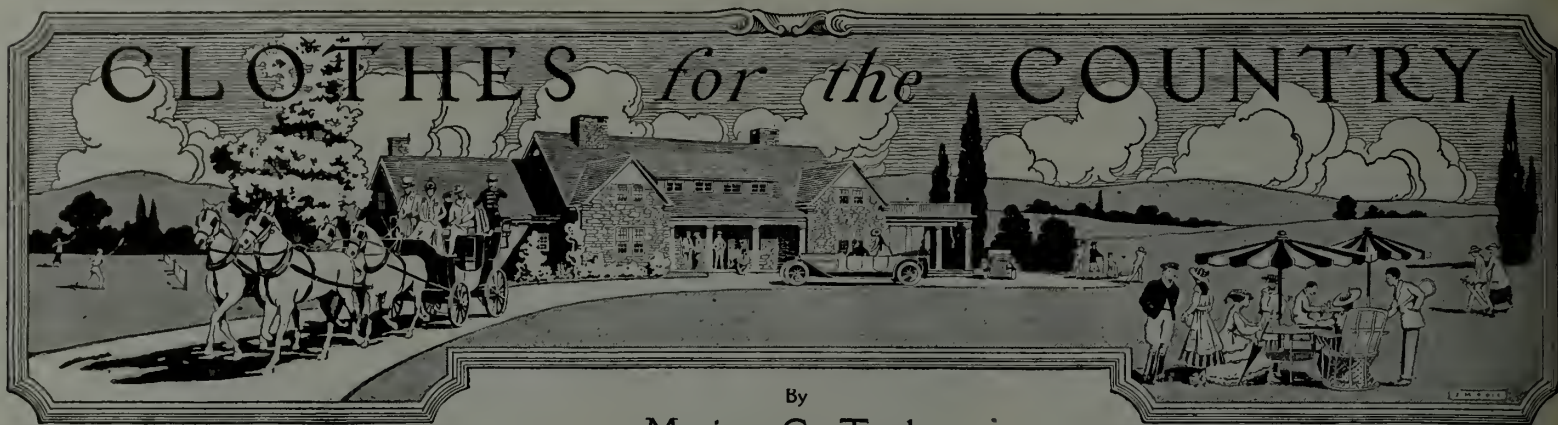


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Marion C. Taylor

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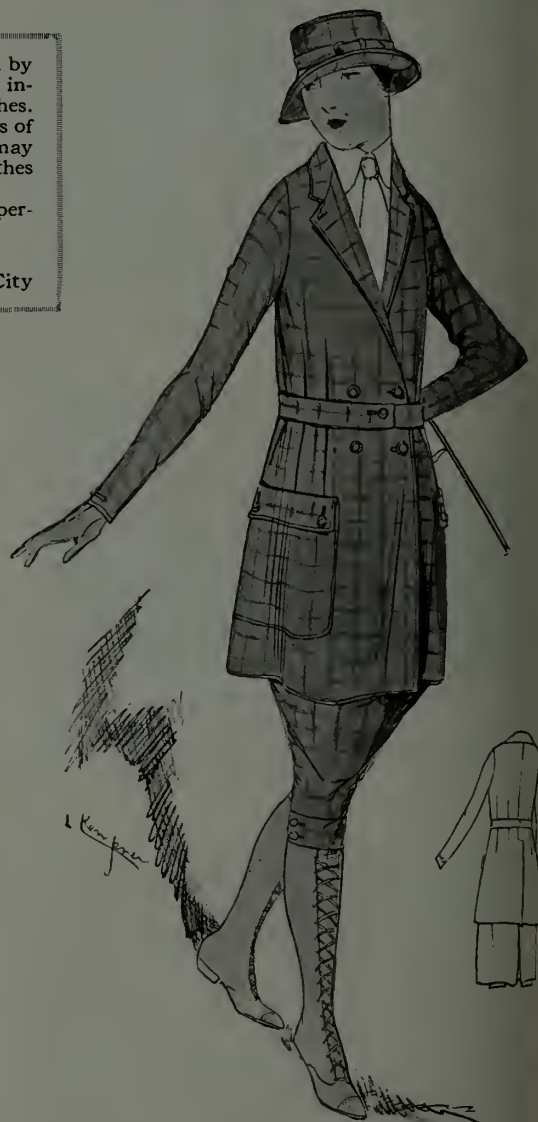
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IS IT because of the increasingly active life we lead to-day that there are no longer any very definite "seasons" for the assembling of a wardrobe? Is it because we seemingly never know to-day just what the demands of to-morrow will be? Or does it work the other way round, and does the modern woman purchase her clothes from month to month, as she needs them, because the shops offer new and tempting merchandise at every season?

Whatever the reason is, the tendency to-day is certainly away from the old method of a shopping debauch at the commencement of each season, when one descended upon dressmakers, milliners, tailors, and shops in general and purchased at one fell swoop one's entire spring and most of one's summer wardrobe, and then endured perfect agonies of fittings.

To-day one purchases the nucleus of a wardrobe quite early and then fills in, so to speak, as the season advances, and this filling in is really quite the most fun of all, for in this way only is one able to take advantage of the last minute thoughts of the designer.

Thus July first, in bygone years a time when shops in general went into a period of linen cov-

ers, down-pulled shades and vacations, finds workrooms busy turning out the sheerst of hot weather clothes and the first of the mountain things, which always hint, be it ever so gently, of the things to come in the autumn.

AUTUMN DESIGNS FOR MOUNTAIN WEAR

One of the leading New York sporting goods houses which has specialized for years on outdoor clothes for women has designed, for mountain wear and general early autumn country use, several most interesting coats and suits.

Their designs generally "grow," so to speak, in the most logical manner; being nothing so much as an anticipation of a demand from their customers, a "sensing" one might call it of the wants of the forthcoming season. Thus the figure in the centre above shows one of their recent models in a camel's hair, or vicuna coat. Camel's hair coats are what one might term a staple in the wardrobe of the sportswoman, but after one has worn the usual belted models season after season, a loose, simple coat of this character is a most welcome change. Cut after a masculine pattern, it flares a bit in back where it has a single deep vertical tuck or fold to accentuate the centre

seam. It is of a most sensible length for general country use and succeeds in being both distinguished and correct.

A soft collapsible leather hat to match may be ordered in suede or in duvetyn, the vicuna being too heavy for the purpose.

THE ART OF CHOOSING THE COUNTRY SUIT

Country suits, as has been stated before in these columns, are really the backbone of the country wardrobe, but because they are of necessity a thing so sensible and so practical as a backbone, is no earthly reason why they should be commonplace. Unfortunately the general run of them fall into this class or go to the other extreme and are actually loud.

The latter need little comment, we all know them; they are marked by eccentricities that have neither rhyme nor reason and their color fight a battle that seems to have no end. But the former, while one cannot seriously quarrel with their general unobtrusiveness, are really quite as bad in their way—so drab, so usual, that one can describe them blindfold. There are the two pockets on the coat, sometimes four, with their buttons, the inevitable belt worn neither

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loose nor tight, generally more buttons down the front of the skirt and two more pockets (whatever one is supposed to put in all those pockets) and a general air of dullness and ill fit that surely has nothing to do with the purpose for which they are intended.

How different from the well-chosen country suit, with clean cut, trim lines and absence of all but the most necessary trimming, quite like a small boat ready for a stiff breeze.

One need not choose a drab color, a dull hard gray, or a difficult mustard brown if those colors are unbecoming. One can get equal service and a far better effect out of a cool, deep green or a soft, dull blue. Gray, mustard, and similar shades are meant for certain types of women who need the contrast they give, but there is no excuse for so general a misuse of such trying shades as one sees on every hand.

Then in the style of a suit, if a belt is becoming, by all means do not pass it by because it is commonplace, but wear it as if it belonged to you. Wear it either pulled tightly to fit the waistline, or frankly loose to give a boyish box coat effect, but do not wear it just between the two or it will surely look as if it still hung in the shop and was nobody's property. Have the shoulders flat as shoulders can be, and snug, and by all means treat the sleeves like the belt; if they are meant

to fit have them do it; and if they are to be really loose—and loose sleeves are a rarity on a country suit—be sure that they are frankly loose.

THE CHIC WHICH LIES IN SIMPLICITY

Many women who realize the extreme *chic* which lies in well-fitted suits of the most austere simplicity have chosen a model of the type shown at the left of page 82 which must be beautifully cut and fitted to achieve distinction, but granting this, succeeds in expressing a sportsman-like quality difficult to improve upon.

It has no trimming but two unobtrusive and very necessary pockets on the coat, which has the true semi-fitted lines that suggest the curves of

the figure. Every detail has been most carefully watched, the width of the collar, the revers, the cuffs, and the straight hanging skirt which has, contrary to its appearance, ample space for comfort. The suit is offered in a variety of fabrics that are English in character and are as scarce as can be to-day—herringbone effects, tweeds, homespuns, and the like, in patterns that one usually associates with men's custom tailored country suits. Bone buttons are used, of course, and the workmanship is of the best, particular care being given to the fit of the shoulders.

A suit of this character is as smart as can be for long distance traveling, may be worn into town, and is the best possible choice for inclement weather the year round. But again let it be said, that to take away from such a suit one of its very necessary attributes of cut, fit, or material is to ruin it completely and to make it hopelessly dowdy.

Very English in effect but growing in favor each season is the tiny hat of the fabric of the suit, which of course is only suited to country or



Fine organdie model, \$15. Hat with organdie crown, encircled by a patent leather band, \$15

Slip-on model in heavy white silk with narrow collar, \$20. Hat of colored leghorn with a soft sash of colored crêpe, \$15

motor use, but if carefully chosen of a becoming shape is decidedly smart. The one in the accompanying sketch has a grosgrain ribbon band in a contrasting shade as its only trimming.

THE NEWEST HUNTING SUIT

For actual hard mountain use, for hunting and tramping the suit shown at the right of page 82 has been especially designed. It has an extra long coat, an extra short skirt, and very interesting breeches which end in a band and fasten with buttons below the knee like golf breeches. The coat is cut to give plenty of swing to the arms and has very deep pockets and a narrow belt of the material. When the skirt is worn, just the band on the breeches shows below it. The material in which it is shown is an imported tweed, particularly effective in a real hunter's green, deep and soft in tone. The hat is made to match it with a stitched brim and high laced hunting boots in an oiled leather are a very necessary adjunct.

MADE-TO-ORDER FROCKS AT READY MADE PRICES

Merchandise which owes its place in an estab-



Three summer frocks made to measure. Prices, reading from left to right, \$59, \$55, and \$35. Hats \$17.50 and \$18.

ishment to a genuine demand, which is designed to fill a real want, is practically sure of its success even before it appears. The public have only to discover its whereabouts.

The three summer frocks shown in the center, below, are illustrations of the soundness of this theory and are three of a most interesting collection of clothes definitely developed in response to two recognized wants of customers—one for simple, unpretentious but *chic* youthful clothes suitable in the various styles for girls from twelve or fourteen up to women of any age, to whom such styles are becoming, at a reasonable price; and second, to a demand for clothes made to one's measure at less than the usual dressmaker's prices, clothes which one might see and choose from and then purchase without any alterations being necessary.

That such demands exist is all too well known; that they have been very largely solved is daily becoming more evident. The shop in question, so often a pioneer in movements of this character, has the coöperation of a really brilliant designer who seems to have perfect understanding of, and to be in complete sympathy with, the elusive spirit of youthful clothes, a spirit perhaps the most difficult in all clothes problems to translate into concrete terms.

But she has caught the buoyancy of youth in materials chosen, which are always of the best quality, often of unexpected character, and always of less common colors, and in the designs which seem wholly original and are always entirely suited to the character of materials used. Complete measurements are taken, one chooses one's color, and in a week or ten days' time the frock is delivered, made to measure.

The collection is most complete, embracing the simplest practical street frocks with always just a touch of the original about them. Tub frocks like the Swiss one at the right of the illustration, with its quaint organdie ruchings, or the ultra smart handkerchief linen one in the middle, which grew originally from a

blouse of French inspiration, to the loveliest of filmy afternoon and evening frocks of tulle, nets, and similar youthful fabrics.

At the left of the drawing is one of the most beautiful things that have been designed for midsummer, a heavy quality of white georgette crêpe has been fashioned into a knife-plaited skirt which is made on a top under-blouse in order to hang properly; over it is worn a modification of a middy blouse which is tied about the waist with a soft, wide sash of the material. The collar is square in back, and a piping at the top of the hem of the blouse gives the effect of being turned back. It is hard to imagine a simpler, cooler midsummer daytime frock or one with more charm. It may be ordered in flesh as well.

The centre dress has self-covered buttons and black grosgrain ribbon at wrist and collar. It is shown in white, gray, and mauve handkerchief linen and may be ordered in flesh or light blue. There are certain tall, slender girls and women who look



Swimming suit with white jersey piping and sash in heavy silk jersey with white lining, \$20. Cap, of colored and white rubber, 60 cents



Satin bathing suit with narrow collar, sash, and diagonal trimming of a matching taffeta, \$22.50. Rubber tam o'shanter, with lattice design head band, 75 cents

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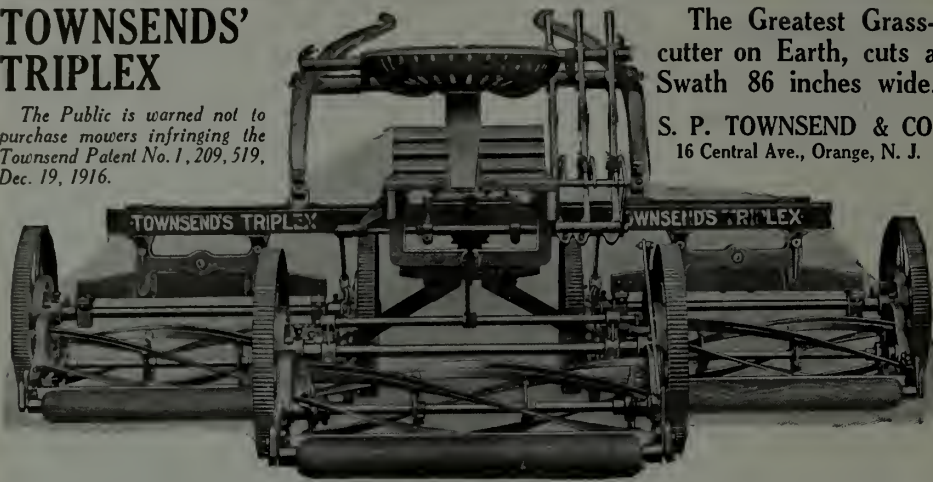
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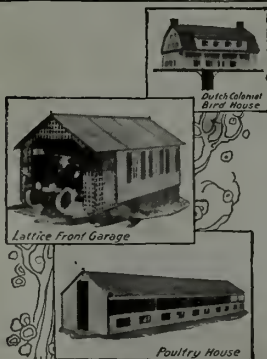
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their best in a severe tailored dress of this character, but its austerity is not suited to all types.

NOVELTIES IN MIDSUMMER MILLINERY

To wear with it the French millinery department in the same establishment have designed the hat shown in the drawing, its brim of organdie to match the dress in color, if one chooses, with an embroidered organdie down-turned edge, its crown of black velvet with a varicolored bunch of field flowers as its trimming, and an all handkerchief linen one with a shirring and then a plaiting edging the brim on top, and a bow of the linen tied about the crown. It may be had in any of the lovely tones in which handkerchief linen comes, and is a perfect accompaniment to such a frock as the one with which it is shown.

When one sees a Swiss dress of this character one wonders at once why there are not more of them shown, for their charm has endured through generations, and yet they are seldom seen. This one needs little description, its fichu ties in front and is of organdie like its belt.

SMART AND PRACTICAL BATHING SUITS

Bathing suits are noticeably more practical in design each season and more diversified in color. The gay colors such as scarlet combined with dark blue, vivid greens, etc., are generally left to young girls; but the soft tones of blue, the darker greens, and such tones as violet and purple are far more generally worn than ever before. It wasn't so many years ago that the sleeveless bathing suit was severely frowned upon, but common sense has changed all this, and since it is admittedly the only comfortable suit for swimming, it seems to be here to stay. The suit shown at left of page 84 is a recent design for a swimming suit that is well thought out. The white satin piping gives a pretty touch and the idea is further carried out in the white lining of the sash, which is in this case heavy silk jersey to match the suit, which comes in black, blue, or green.

The second suit, while perfectly comfortable for swimming, is not an out and out swimming suit. It is of satin with bias folds on the skirt and a narrow shawl collar of a matching taffeta. The wide belt is a becoming feature and its general air of being a frock is a happy thought.

THE PROBLEM OF THE COUNTRY SHIRT

Country shirts are like sweaters, "many are called but few are chosen," and these few show almost always a bit of novelty without running to any extremes. Many women hesitate to spend on their shirts the money asked by first class shops for their smartest models, feeling it an unnecessary extravagance; but shirts are like hats, a first glance reveals no great difference between a good hat and its inferior copy at a quarter the price, but put them both on and no further argument is needed. One is perfectly done, of the best materials available, the angle of the brim just right; the other is but its imitation, with some of its faults hidden but its materials and its workmanship proclaiming the difference at once. And if one once wears a really good shirt, the difference is realized at once. A woman's shirt is really quite like a man's—unless it is irreproachable it is bad; and the wearing qualities of good linen, crêpe de Chine, pussy willow, or similar fabrics need not be dwelt upon.

Shown are two models each the exclusive design of a shop. The first, shown at upper left of page 84, answers the demand for a cool shirt, being of a fine organdie tucked in a crossbarred design. The second a slip-on shirt which is shown at the right of same page in a heavy white habutai silk and in a beautiful quality of satin. Its pretty, narrow collar, and its cuffs are edged with a cording of the silk and its buttonholes are piped.

Both hats are leghorn, which is not usual for this purpose. The one at the left has a crossbarred organdie crown, encircled by a patent leather band which also edges the brim. The other at the right is faced with a colored leghorn and has a soft sash of colored crêpe draped about the crown.



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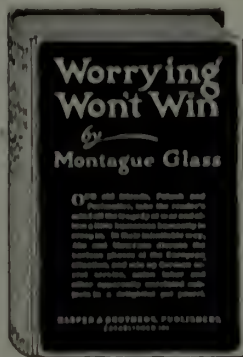
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HOME COMFORTS *in an* AUTOMOBILE

By K. H. HAMILTON



WHILE nations have been waging war one against the other, the minds of inventors have been busily engaged, working out various ideas. One of these has been the development of an army motor car which the necessities of war has created. It is a roadster but recently placed upon the market and is the product of a few foreign ideas improved upon by American genius. What is good for the men of the army is equally good for those out of it, and they now have at their disposal a car complete with every convenience that most modern homes possess.

The complete equipment includes tent, two folding chairs, bed for two persons, cooking utensils, perfect table service, fireless cooker, stove, camp grate, refrigerator, hot water tank and service pipes, toilet tent and lavatory with running water, ice water tank, electric lights, and numerous other articles found in the home of comfort.

In a few minutes, tent and equipment is neatly disposed of within the roadster itself, as all equipment is self contained in the car, packed completely out of sight. The car itself in appearance is rather distinctive looking, and has the smartness of many more expensive roadsters. Its power performance is said to be excellent.

The shelter for the night, as well as day, is made of Egyptian water-proof cloth, light in weight and of exceptional quality. You may be able to hear the pesky mosquitoes hum, but they won't sting you, as all windows are proof against this annoyance. Especially attractive is the cooking outfit designed and made to grace the kitchen of a model housekeeper. Pan handles are detachable; there are



Rear of the car showing construction of the bed frame, which slides out from the floor of the car and is supported in place by folding legs

twenty-five articles in all, which neatly nest in a canvas bag. Besides the regular cooking stove a solid alcohol cooker, with folding handles, is furnished. Hot water is heated from the engine's exhaust, and the tank is located under the front seat.

A comfortable bed is a thing greatly to be desired, not only in an automobile but out of it as well. A bed frame so constructed that it slides from the floor of the car proper to the rear results in a full sized bed furnished with a folding mattress sufficiently soft to insure untroubled sleep. There are sheets, blankets, pillow cases in fact everything one could desire for comfort. In five minutes' time all paraphernalia can be packed into its compartments for traveling.

The casual observer might think that the tank at the rear is the usual gasoline tank. But it is the household refrigerator, a cylindrical tank, twelve inches in diameter and thirty inches long. It is insulated and packed on inch thick with mineral wool. A portion of the tank holds drinking water.

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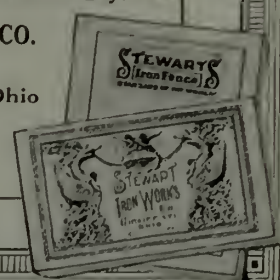
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Animals in Decorative Art

By JESSIE MARTIN BREESE

Inquiries regarding home decoration—color schemes, furnishings, art objects and interior arrangement—should be addressed to Mrs. Breesse, of the Decorating Service of *The New Country Life's* Advertising Department, 120 West 32nd Street, New York



Period of K'ang-hsi



Period of Yung-cheng



Italian coffer of the late 16th or early 17th century

By courtesy of P. W. French & Co.

HOW extensively animals have been used as motifs in decorative art is little realized, though we are somewhat more familiar with them in pictorial representation or in sculpture. The reason for this may be that painters and sculptors of modern times have kept up the traditions of their forebears, who found so much inspiration in the animal world. Designers of potteries, textiles, and sundry other articles, on the other hand, seem not to have found the use of these creatures so advantageous as floral patterns in their various fields of art. Of late we have been seeing more of these motifs in the work of modern designers, and it is hoped that this is not merely a passing fancy, for there is an undoubted charm about the fictitious and symbolic animals of olden times that can well be transferred to our present-day materials. Nor is the field of animal inspiration bounded by these. No less fascinating in their quaint style are the real creatures of the world of to-day who take many strange forms under the hand of the artist to whom they have made an esthetic appeal. So it would seem that a word about the animals which past artists have used century after century would not be amiss. To give all of the many forms of each animal used, would, of course, be impossible; indeed they are of such variety that to give even an adequate description of each would require more space than a magazine affords.

More than with any other creature, perhaps, are we familiar with the dragon of Chinese art. It is one of the most easily distinguished among the hordes of animals that were used throughout the centuries in various countries. No more fantastic creature ever entered the mind of man, but it may be that very quality that has given the dragon its extreme popularity among artists and the patrons of art.

The lion, though a very realistic animal, would seem to have been treated with the same delightful imagery as were the fabulous animals, if we are to judge by the strange form in the Chinese vase shown above. There is the exaggeration of the features of the face and the essential form of the animal, as for instance, in the decorative treatment of the feet and the purely imaginary application of a backbone of excellent decorative quality to the *outside* of the creature's back.

Some degree of similarity exists between the art of China and that of Japan. The Phoenix takes similar form in the art of each country. While this bird played a highly important part in the symbolism of the early Western countries, the form it took in the art of these lands was in no way like the bird of Eastern representation. Indeed, were the inexperienced seeker

among the forms of antiquity to come upon a phoenix from the East and one from the West, he would be much puzzled to know how two "birds of a feather," supposedly, could be so entirely different. No great amount of searching, however, would reveal to him the very natural fact that, the artist being unable to tax his imagination too far, uses, for a model, a real bird which

he has seen for the fabulous creature to which he must give form. In this way the artist of the West took for his model the eagle with which he was familiar, while the artist of the East, pursuing the same course in his representation of the same bird, took as *his* model the Chinese cock of resplendent plumage.

The symbolism in regard to this bird was practically the same in all the countries in which it was used at all. Bird of Fire, or Bird of the Sun, its title is descriptive of its symbolic habits. Only one of its kind ever exists on earth. This one is recreated, every 500 years, through its own death. When it is old it betakes itself to Arabia (as one tale has it) and makes itself a nest of the rarest spices whereon it rests until the sun or some secret agency has set fire to the spices, in the flames of which the bird is consumed only to arise from the ashes a new bird, ready to spend another five centuries on earth. It can readily be seen how easily this tale was incorporated into the Christian doctrinary legends, for the resurrection of the Christ was so well typified by the rebirth of this imaginary bird from the ashes of his own body. For that reason, the phoenix is not an uncommon bird in the pictures and carvings of the early Christian artists.

By reason of its religious significance the dragon, too, was used in early Christian symbolism almost as frequently as in that of the Eastern countries. As a result, it is a familiar form to us in the art of those times. Another animal already mentioned which seems to have had a prominent place in the art of the West as well as of the East is the lion. Many different tales are told of his symbolism, but it is sufficient for us to observe that, although he started out as an emblem of the Christ's resurrection, he was later used as a guard on many secular buildings and private dwellings, because it was believed that he never closed his eyes in sleep.

This custom prevails even to-day, in modern architecture, although it is doubtful if many of those who employ it are acquainted with the reason for its original use. An especially appropriate use of the lion, it would seem to us to-day who appreciate his courage, is his engraving on pieces of armor, particularly on helmets, but when we come to inquire into the reason for this use we find that it was in the hope that, if slain in battle, the wearer



Stuart silk embroidered picture

By courtesy of Gill & Reigate



William Zorach—"An Indian Wedding"

By courtesy of Daniel Galt

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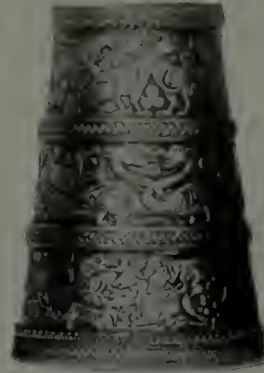
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might be raised up on the last day, even as the Christ was raised. This symbolism was based upon the belief that the lioness brought forth her young dead, whereupon, after three days the lion came and howled over them, vivifying them with his breath.



By courtesy of Minassian
Silver tankard from Upper Mesopotamia, 12th or 14th century

No symbolism was attached to the lion found in the lower left corner of the whimsical Stuart needlework shown. A delight in the decorative use of animals was enough to inspire those old English designers. The satin samplers of the Elizabethan and the Stuart times abounded in all sorts of animals displayed most strangely. This one, for instance, contains besides a lion—was ever lion blessed with such venerable mane or benign expression?—a camel, a parrot, a reindeer, a rabbit, a caterpillar, a snail—entirely too close to the lady's face to carry conviction!—a squirrel, a butterfly, a King Charles spaniel near the king's feet, a kingfisher, and a panther, not to detail all the bees and butterflies and small birds flying about. This all-inclusive pictorial fancy did not detract from the excellent sense of design portrayed, however. It might, perhaps, even be used as a rebuke to some of our "empty" painters of the day.

Another tendency that is being evinced by a number of modern painters is the revival of the old art of embroidery. And strangely enough, they seem to derive great benefit from the use of animals as decorative motifs, even as the older craftsmen used to. While the elephant is a symbolic beast in India, even being the representative of the god, Ganesa, it is used in this instance by a modern American artist in a purely decorative way. Notwithstanding the great difference in treatment of this modern wool embroidery and the old silk embroidery beside it, there is a similarity of feeling which assures us that each artist had a kindred joy in his naive portrayal of the animal in art.

In Italy we find that the animals used to decorate were patterned after the Greek mythological creatures. That seems a natural enough consequence of the Roman conquest of Greece and the subsequent adoption by Rome of Grecian ideals of art and religion. Centuries could not dim the pleasure that artists took in fashioning these enchanting mythological creatures, so they persisted long after Christianity was firmly established in Italy, and other countries of Europe. Especially did the artists of that time of glory for artists—the Renaissance—delight in giving form to these products of an older artist's mind, making them tell quaint tales of all their antics.

Coffers such as the one shown here with dragon-drawn chariot and groups of fauns making merry with other odd creatures are not the only articles of general use which bore this type of decoration.

Tales are told, too, by this little silver tankard, though what, we are not able to find out. It has three bands of animals, real and fabulous, running about its sides. Although it is recognized as a bit of Byzantine art, of the twelfth or thirteenth century, and was found in Armenia, its decorations are remarkably similar to some found on baptismal fonts of stone in old Swedish churches. Such extraordinary similarities between the arts of primitive peoples of entirely different and widely separated lands force themselves upon us in the most unexpected way.



By courtesy of Kouchouji, Erer
Syro-Egyptian plate of the 12th century



By courtesy of John Levy Galleries
Percival Rosseau—"Pointers: Duke Pointing, Heyday Backing"

We have in Percival Rosseau's portrayal of Pointers a fine representative of the type of animal painting which is inspired only by a deep love of animals. This picture exemplifies the charm that is to be found in animals used in this branch of art. It is by no means a type that was unknown in ages past. In fact, man's first crude attempt at pictorial art was the realistic

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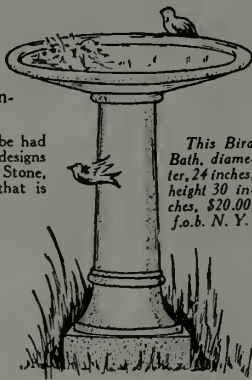
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drawing of animals to show his prowess as a hunter or to convey the idea of religious fear or adoration. This last does not differ so much from the ideas of the peoples of a few centuries later, which we have seen expressed in pictorial and conventionalized animal symbols.

Pottery too, has ever been a favorite with artists as a means of applying their designs. A peculiar charm is attached to it in our eyes to-day, also. It is probably that the grace of line which is natural to it because of the speed with which paint needs must be applied to the quickly setting clay attracts us by its very naïveté. This Syro-Egyptian plate of the twelfth century, with the bounding rabbit and characteristic floral decoration, holds great attraction for us because of its grace and child-like simplicity. That very simplicity of form and decoration proves the artist, and has enabled his work to live for the appreciation of all ages.



Chinese bronze libation cup.
Early Han dynasty

By courtesy of
Kewerian

The pottery of China is more or less familiar to us because of its extensive importation into this country. We have been delighted with the quaint and often grotesque, but always graceful, designs on it. Its animals—serpents, pheasants, kylins and so on—are familiar to us. So it is with surprise that we come across an acquisition from ancient China which bears not the least resemblance to anything we have known from there before. Yet, strongly conventionalized and decorated with line carvings, this bronze elephant which is in the nature of a sacrificial vessel, being a libation cup, has all the earmarks of the Chinese imagination. At that time, we must remember that the art of China and India intermingled to some extent. Usually the result of an international marriage of art is a bad one, but in this particular case, the adoption of the Indian elephant by a Chinese artist produced a most interesting article.



Bronze candlestick of Gothic times namely, the early 13th century. An example of Franco-Flemish art

By courtesy of
Canessa Galleries

It is a far cry from China to Europe in the Gothic period, but still we find an abundant use of animals in the art of the land. The style of the period is shown to good advantage in the candlestick above. No profusion of decoration without an unpleasant ornateness, such as the elephant exhibits, is present in this art.

So we find that whatever the country or the style of art, or the particular symbolism which they express, animals have a universal appeal, not only for themselves, but for the charm which they lend to articles of common use, under the hand of the artist.

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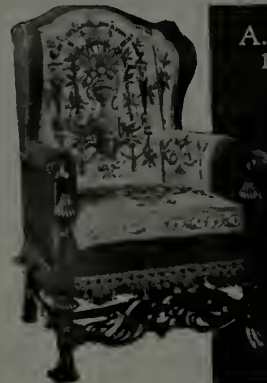
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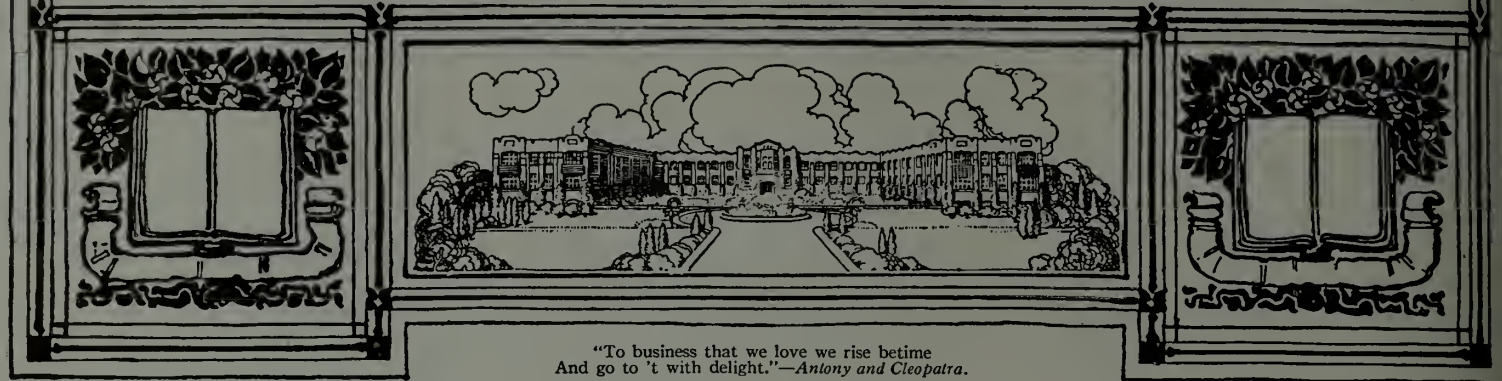
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THE TALK OF THE OFFICE



"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*.

A NEW BOOK OF KIPLING POEMS

THOUGH early to make the announcement, the news is so cheering that we want to pass it on to our readers at once. There is to be a new book of Kipling poems this fall, including a large number of his recent war poems, together with some very famous pieces which do not touch upon the war. The book will also contain a number of new poems which have never before been published in any form.

Among the contents are "The Sons of Martha," and the inspiring poems, "France," "For All We Have and Are," "A Nativity," "The Song of the Lathes," "Gethsemane," and others.

The title of the book will be announced later.

AN ELDER SISTER TO "FRECKLES"

"Through my nature work I came upon 'Freckles,' but this is an elder sister," said Gene Stratton-Porter recently in talking of her new book, "A Daughter of the Land," which goes before the public the 17th of this month. In connection with this book Mrs. Porter speaks of a changed point of view. The war, she says, has stripped us all of the petty conventions of life and brought us down to saving crumbs and wearing patches. It has changed our lives, our thoughts, our hearts. "Why not admit," she continues, "that it has changed me as much as the rest of the world?"

Feeling as she does, her new book, therefore, strikes a deeper note and a more serious view of life. Just as "Freckles" was a vehicle for a delightful pastoral story of nature lore, so is Kate Bates, the heroine of "A Daughter of the Land," the instrument for this powerful novel of American character-building grounded in an elemental love of the earth and its products.

When the thought of the whole nation is directed in the same direction we cannot help but feel that Mrs. Porter's wide public will feel her new novel to be a deeper, bigger and better thing than she has done before.

WILLIAM MCFEE

Thanks to the fact that Sub-Lieutenant William McFee of the British Navy, now attached to H.M.S. *Oxford* on active service "somewhere south of the auroraborealis," has a number of good friends in this country, we have had the pleasure of reading some of the most entertaining letters it has been our good fortune to see in some time. Mr. McFee is always loath to talk shop, either in regard to his books or in regard to the work he is doing in the war, but in an unguarded moment in a recent letter in which he answered a direct question about his fascinating novel "Aliens" he said:

You can quite understand that as the original perpetrator of the book I could regard it with a

certain philosophy if, in the meantime, I had been able to do the two or three more books which are still in my note-books and in my head. I envy the brilliant beings who write in their "forewords"—"The greater part of the following stories were written in the front line trenches, travelling in armoured cars through Persia, and on the bridge of a mystery-ship while in action with a fleet of superdreadnought submersibles." And so on.

The writer goes on to intimate that it isn't quite so easy as all that, and that writing books while "carrying on" has its disadvantages and difficulties.

In another letter the author gives a rare flash of himself, while lightly telling of the discovery of a character for some future story:

... A creole lady, whom you will some day meet in a story, told me I had a great deal of "hauteur." What she meant was I had the typical Englishman's standoffishness. I can't help that. But how I wish I could explain to strangers how genial, how humble, how conciliatory I am inside! What friendships I have missed, what love affairs, simply because of that damnable "hauteur"! The fact is, that although one or two generations have passed since my people were Irish, and although we have been crossed with a few braw Scots and narrow English, the bad old Irish blood is coursing still. I feel this most when boiling with rage over some grievance or choking with venomous thoughts about others, because I can see the joke. I can see the folly of my anger at the time. And I can see the joke when my perception of the joke is taken seriously by others and they ask what I am grouching about, anyway.

"I am having a week-end away from the ship, which is at—, that well-known base on the Caspian. I am living (at famine prices) in a hotel and wandering about the town of Hub-el-Bubb-el, where, as you have read, the Algerian Days are continually chasing the Arabian Nights, and I may add, the fleas are thronging in throngs. You wouldn't believe how these spring-heeled little demons disturb one's philosophy. I have biffed two since starting this letter."

WALT WHITMAN APPRECIATION

We do not refrain from an expression of gratification, over the recognition of the *New York Times* Review of Books in devoting its front page to "The Patriotic Poems of Walt Whitman" and also to "The Complete Prose of Walt Whitman." We should like to quote an editorial from the same issue of the *Times*, which strongly bears out our prediction made more than a year ago that the Walt Whitman books would have a very strong appeal to the war spirit of the present time:—

In these days of the great war the figure of Walt Whitman looms up in our literature larger, more human, than ever. Not only does his poetry, as shown in the timely little collection of patriotic verse voice to-day the war aims of America, but his prose descriptions, also, of war scenes and incidents read as if they had been written within sound of the guns that are devastating the fields and villages of France. Of the myriad war books that are being published to-day we recall none that equal his "Specimen Days" for vividness and a certain revealing sense that stamps them not only as literature, but as historical documents of permanent value as well. . . . Whitman was a volunteer army nurse, doing whatever he did on his own initiative and without the supervision and direction of a department chief. There was no Red Cross in those days. The nearest approach to that marvelous

organization was known as the Sanitary Commission. But as we read "Specimen Days," we cannot help feeling that here in this "good grey poet" of democracy, was the first, the ideal Red Cross nurse.

THE NEGRO AND THE WAR

Dr. Francis G. Peabody gives significant figures in regard to American Negroes in the war in his new book "Education for Life," just issued in connection with the Fiftieth Anniversary of Hampton Institute. This school is one of the most important educational centres in the country for Negroes and has done a very great work for the race. One paragraph from the book will suffice to show the response which young Negroes have made to their country's call:

The statistics of Negroes as enlisted men or as commissioned officers cannot be completely presented here, for they represent a moving and steadily increasing column, whose total dimensions will not be known until the end of the War arrives. It is sufficient to say that in the Draft ordered by Act of Congress on May 18, 1917, there were 953,899 colored registrants and that of these about 83,000 were certified for service. In addition to these selected recruits there were, in January, 1918, approximately 10,000 enlisted colored men in the Regular Army; 7,000 in the National Guard; 1,250 candidates for commissions in the Reserve Officers' Training Camp at Fort Des Moines, Iowa; and 15,016 enlisted in the U. S. Navy. At the beginning of 1918 more than 100,000 drafted Negroes had been assigned to 15 cantonments; 678 colored men had been commissioned.

VON BISSING'S VIEW

"When General Moritz von Bissing died," says J. W. B. Gardiner, military critic of the *New York Times*, in his new volume "German Plans for the Next War," "he left among his papers an extraordinary document which bears out most positively the conclusions that Germany's systematic despoliation of Belgium has but one objective: so to defy reconstruction that she may again strike through Belgium at France in her next war. General von Bissing was the Governor-General of conquered Belgium from 1915 to 1917.

"After discussing the present war in a general way, he states:

"I shall now indicate the strategic importance of Belgium for the future war. In order to be able to conduct the present war offensively at all, the German Supreme Command was forced to march through Belgium, and in this process the right wing of the German army had to push itself laboriously along the edge of the Dutch province of Limburg. Strategically, the objective of the present war, the western theater, should consist in our obtaining elbow room, in order that in any new war whatever, we should be able to operate with our army against France and England!

"If the result of the present war were the continued existence of an independent Belgian State, the operations would have to be conducted differently and under greater difficulties than at the beginning of the present war; for the aim of France and England will be, in conjunction with an allied or strongly influenced Belgium, to anticipate the German army. It will, therefore, rightly be asked whether in such circumstances it can be possible to guarantee the freedom of operations of the German right wing, and whether the advance of these groups of armies to conduct a new war offensively is possible."

The New Country Life

CONTENTS - AUGUST, 1918

Subject Index

Art. 24, 47
Attracting Birds, 66

Bees, 72-*b*
Birds, 50, 66
Building Camp Fires, 53

Camp Equipment, 53
Camping, 53
Canadian Canning Kitchen,
64
Cellars, 59
Chicken Feed, 52
Crops, 48, 52.

Davison, Henry P., 39
Davison Estate, 39
Dogs and Sheep, 42

Essays, 46
Estate Management, 39, 56
Estates in War Time, 39, 56
Extracting Honey, 72-*b*

Farmers, 62
Farming, 48, 52, 56
Feathered Messengers, 50

Hog Cholera, 62
Home Defense, 62
Honey, 72-*b*



Photograph by J. H. Field

Subject Index

Life in the Trenches, 24

Nature, 66
Navy, 33

Paintings, 24, 47
Pasturing on Forest
Ranges, 62
Pigeons, 50
Poultry, 52, 62

Sheep, 42
Sheep Herding, 42
Storage, 59
Summer Back Door Neigh-
bors, 66

Trench Life, 24

U. S. Official Bulletin, 62

Vegetable Storage, 59

War, 24
War Pigeons, 50
Win-the-War Activities, 33,
39, 42, 48, 50, 52, 56, 59, 64
Winter Storage, 59

Yachting, 33
Yachting after the War, 33
Yachtsmen in War, 33



Article Titles and Authors



Cover Design - - - - -	J. Paul Verrees	Grow Your Own Chicken Feed	
Country Life in the Trenches	Lieut. Antoine Redier 24	Milo Hastings 52	
They're in the Navy Now	Lawrence Perry 33	Camping Out in Comfort	
The Davison Estate in War Time	Edward Mott Woolley 39	Warren H. Miller 53	
Shepherding the Sheep -	Walter A. Dyer 42	A Course in Estate Management for	
From a Country Window - - - - -	46	Women in War Time -	Elma Loines 56
Professors and Potatoes, Cutting 'Cross Lots, "Come,		Store that Surplus Food	R. J. H. De Loach 59
Young Lads First"		Here and There - - - - -	62
Bay and City of San Diego from Point		Sending Tommy His Marmalade	
Loma - - - - -	47	Dorothy McIlwraith 64	
Keep the War Crops Growing		Summer Back-Door Neighbors	
F. F. Rockwell 48		Craig S. Thoms 66	
The Pigeon in War Service	E. I. Farrington 50	Extracting Honey -	E. I. Farrington 72 <i>b</i>

HENRY H. SAYLOR, EDITOR


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The New COUNTRY LIFE



VOLUME XXXIV

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NUMBER 4

COUNTRY LIFE *in the* TRENCHES

By LIEUTENANT ANTOINÉ REDIER

Translation By MRS. PHILIP DUNCAN WILSON

Illustrated By J. PAUL VERREES

NEVER in all my life have I heard so many foolish words, nor myself said so many useless things, as I have since my sojourn in the trenches. The great danger in which we live forces us to seek distraction and we are always striving for entertainment. At times my brain reels from giddiness,

I take my head between my hands, and anxiously ask myself: "What am I doing here for the profit of my soul?"

I am serving my country, it is true. I am occupying my appointed place. If I should be killed I shall have done my whole duty. But how if I survive? Shall I have passed through these solemn moments of world history without improvement to myself? We are the witnesses and the actors in one of the great dramas of humanity. In later years many will envy us, and perhaps our children will think of us as Titans. Yet thoughtlessly we tramp these fields of carnage which later will become the goal of pious pilgrimages. We are like our little neighbors, the larks, that continue their joyous songs without regard for the war. Our sole concession to the moment is that occasionally we lower our voices if the enemy, who watches opposite, be near enough to hear.

Some people will say that this lightheartedness in the face of danger is a sign of heroism. This is not true. We are able to distract ourselves. We could not endure our existence if we lacked this precious gift of forgetting. But if we have learned to shut our eyes at certain times, there are other times when it is necessary to look with all our power. When the war emerges from its present stagnation of trench life, we will joyfully look ahead of us. To-day our bodies are fast stuck in the mud, and, unless we take care, our souls will fall asleep.

When I was a child my parents owned a bound collection of the "L'Univers Illustré" dating from the beginning of the Second Empire. I used to look at the pictures and read the captions underneath them, and in this way all the people of rank at the Imperial Court were visualized for me. I remember that their majesties, the Emperor and Empress of France, were always making innumerable trips to inaugurate railways or to compliment certain cities, large and small. I used to study the sovereign's

Antoine Redier was born at Mardon, Seine et Oise, almost in the suburbs of Paris. The mobilization of August, 1914, called him from his duties as Editor of the Revue Française to his post as corporal in the 5th Regiment of Territorial Infantry. His rise in the military establishment was rapid, and in November of the first year of the war he was commissioned second lieutenant. Upon his request he was transferred to a regiment of the Active Reserve and for twenty-one months participated in the trench warfare of the Somme as chief of a section. The secteur of which he writes in his book, "Comrades in Courage" (published in France as "Méditations dans la Tranche") of which the following is an excerpt, is situated in the region of Chaulnes between the villages of Maucourt and Le Quesnoy-en-Santerre. This is in the country evacuated by the Boche in his retreat to the Hindenburg line, and now again in his hands through the push toward Amiens. Lieutenant Redier's writing has brought him the highest commendation on both sides of the Atlantic; his fighting has brought him the Croix de Guerre and citation in army corps orders.

august beard, represented by little undulated lines, each of which seemed to me to be a true hair drawn after nature. Nothing can ever prevent me from coupling in my imagination the forgotten art of wood engraving with the period of the majestic and comical hoop skirt—a fashion which I hear is com-

ing back. After turning many pages I came to the war of 1870, and then to the Commune. I followed those two tragedies with passionate interest. My eyes grew bigger when I looked at the military barricades, and I contemplated with terror the rough faces of the confederate troops, the entreating or resigned glances of the hostages, the extraordinary black blotches, representing flames on the roofs of the Tuileries or of the Cour des Comptes. At the time my mother was playing Grieg's Spring Song on the piano. Since then I have often heard it played at private or public concerts, and every time my heart jumps as if I were expecting to hear the crackle of shots of the Civil War.

Like Grieg's notes, which always bring to my ears the noise of firing, there is a small number of people and objects that, in the trenches, become associated with different senses. Henceforth, we shall never be able to see, hear, touch, or smell them without thinking of the war, which, through them, will haunt us until death.

I have said that we can hear no sound in the fields where we have dug our winter holes: no bells, no dogs, no roosters. Spring and summer have come without bringing back any of these sounds. There is a church bell not far away, but it is shattered and on the ground. The soldiers cut pieces from it and convert them into rings, which are more popular than those made of aluminum. There is a dog quite near here. While I am writing he keeps watch from the parapet of a listening post, but he is not allowed to bark. His assignment is to scent the enemy, point him, and keep quiet. As for the roosters, I admit that, a few days ago, I thought they had come back. Some Hessian guardsmen, opposite, were awaking and imitating animal cries. The French infantry answered with such enthusiasm that on each side and from trench to trench the cock's crow might have been heard, that morning, to our left as far as the sea; to our right as far as Belfort.



"It is necessary to have been on watch like this, during long nights in front of the enemy, to know the intoxicating beauty of the sun's rising, accompanied by the song of the lark"

And yet, one day in February, there arose a voice from the dead earth. It has continued to sound ever since, at dawn, thus enchanting our solitude. It is the voice of the lark.

Once, at daybreak, while in one of those first muddy shelters that we built so crudely, I thought I heard the song of a bird. It might have been a man, whistling in his cave, but the notes were too pure and fresh, and followed one another too rapidly. They grew in volume, and little by little, spreading over the plain, filled our desolated sky with such joy that I went out and stayed a long time motionless, listening.

"It is pretty, my Lieutenant!"

Next to me I perceived the smiling face of my orderly. Was it to hear or to see better that the good fellow was showing his teeth so? He seemed to be in ecstasy.

Since that day the larks have become our friends. No person ever comes to see us at the front. These little birds alone link us to the rest of the world. How could we help loving them? They are all we have.

Was it the novelty of it which caused our admiration the first time we heard the concert? It was a new pleasure, but our emotion came from a more profound source. Our souls are able to participate in great events which they cannot see. Sometimes we have a vision, and suddenly the magnitude of the scene before us and the significance of our acts appear to us. Outside of these minutes, when we know how to live, we act with the simplicity of children. The latter are wise without knowing it, for by means of their little virtues they are preparing, that wonder of God, a beautiful life. We are disciplined and attentive to our military duties, but careless of the rest, and we are writing an epic.

It is better thus. But it is also a good thing sometimes that a shock awakens our slumbering spirits. Contrasts give us this shock. When suddenly we perceive the mediocrity of a being or an object which we considered very important, our nerves contract and we penetrate to the depths of human misery. When a lark flies over a battlefield it reveals the sweetness of life to people who had become familiar with the neighborhood of death. They look and listen enchanted and, if they cast their eyes down, they realize in a minute all the horror of the place where they are living, all the savage beauty of the task that they are accomplishing. That is why the heart beats at such moments and why this soldier who had seen so many larks before the war, without noticing them, here, in the trench, remarks; "It is pretty, that song."

Certain larks are closer to our hearts than others; some, although less accessible, are more touching. Our best companions are those who dwell in the clover behind our lines. They live near us on ground that we have kept for them with the rampart of our bodies. They are the first to benefit from the protection we give to all that France of which the valleys and plains stretch from us to the ocean. They are the outpost of the hard-working country that we defend. Hard working themselves, attentive to their daily needs, they are charming housekeepers, who come and go, chattering as they do their work. They do not make any pretences; they do not flutter like those crazy swallows, which we never see here and which we will find only when we return again to our homes, God knows when! They are sweetness and grace itself, and when they mount in the sky so high that our eyes, although long accustomed to discovering the airplanes, can no longer follow them, we feel that they do not realize the beauty of their flight, so simple and naïve is the note that falls from their throats.

In front of our lines, between the Germans and us, live the tragic larks. How many times have I not looked at those little creatures who stay on in spite of the horror about them, and who sing even above death! They show us the vanity of human quarrels. Some Germans and French are fighting: what is that to them as long as the sun rises, and the earth, neglected though it be by ungrateful and quarrelsome man, provides the food for their little ones? When from the parapet of the trench one contemplates the mysterious plain where the soldiers of the most formidable armies of the world are hidden, what a surprise it is to see a cheerful little bird suddenly emerge, hop about, turn somersaults, and fly away, transporting us with it toward the sky. These French larks are so alert and quick to conquer the skies, right in front of the enemy, that with very little imagination we make them the emblem of our race, impulsive but well poised, ingenious

and merry, singing and rising at the same time; and like them we also shall be victorious.

We love our larks as the messengers of glory, prophets of all good news. It was their note which warned us of the springtime while we were still bending our backs under the weight of winter, and I must tell you of the signal they give us every morning.

Imagine a night in the trench and the night guard up, listening. The fusillade is almost continuous. It decreases sometimes and begins again, suddenly, no one knows why. Our men respond but little. What would be the use? Ceaselessly the Germans send up illuminating rockets. With great speed they rush upward, giving a vivid light for fifty or sixty metres of their course and then die down. The light given by ours is not so penetrating, but it lasts longer. They remain suspended from a light parachute and during seconds which seem interminable project on the grass a pale light. The vegetation seems to become animated, and sinister shadows seem to move in front of our lines. Our men shoot at these phantoms and on the other side the rifles go off, too, but toward the sky. The Germans, who never miss an occasion to practise, are aiming at the fuses. It makes one think of boys at a fair, trying to shoot an egg dancing on a jet of water.

All that noise has nothing bellicose about it. Sometimes the artillery thunders. If it is ours, we inevitably say: "They are getting the worst of it."

If it is theirs, one doesn't laugh quite so much, but one finds, even then, words of consolation.

"I hear we need more aluminum for our rings. We have ordered some from the Boches; they are good business men and they are filling the order immediately."

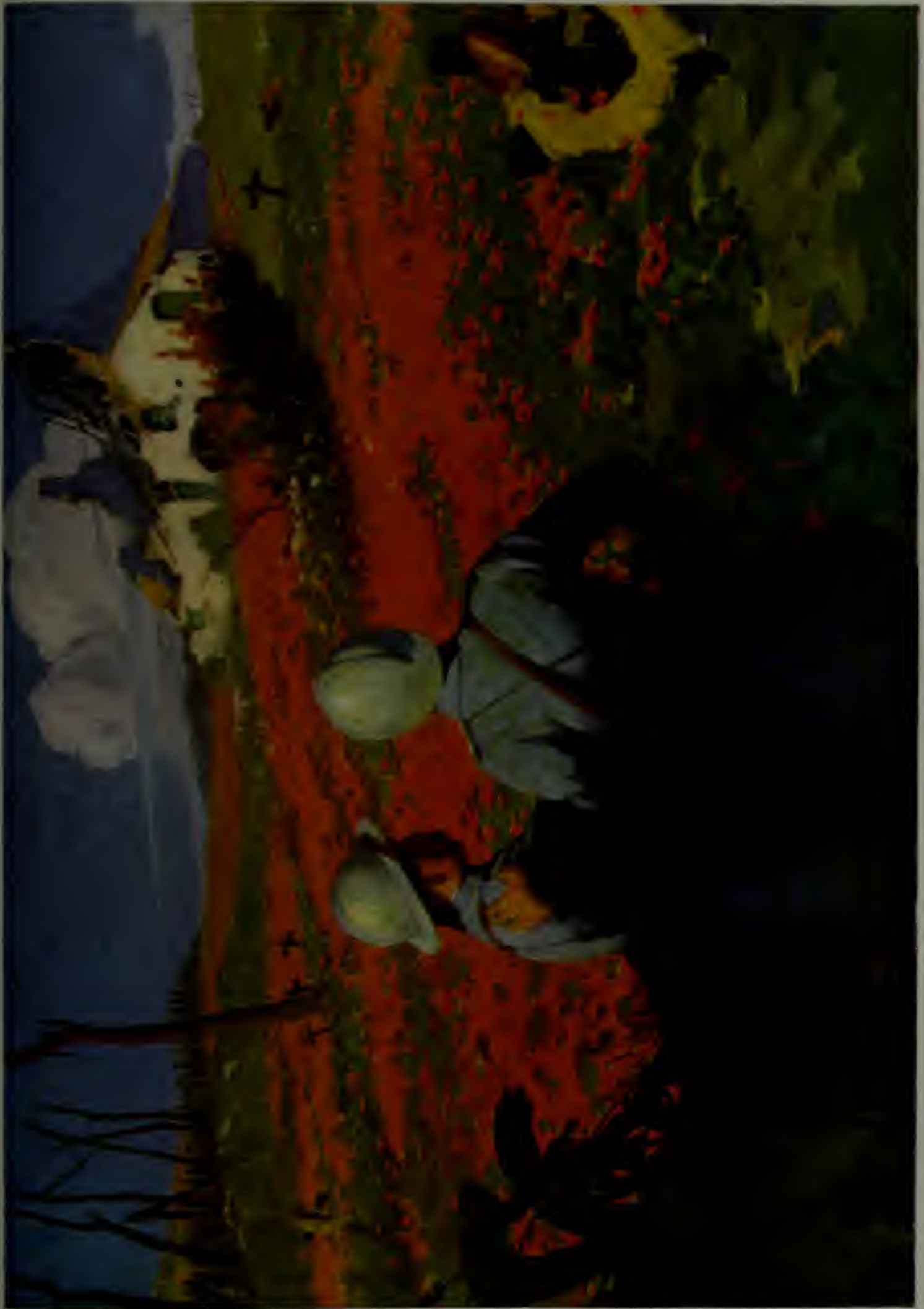
The hours are long. Cold, obscurity, silence, immobility, and danger tire even the most courageous. Formerly, in peace time when on guard, one could always tell the time by the convent bells. Here there is nothing of the sort, and nearly all our watches are broken! When will the day come? With bent backs and our brown rugs folded in two or four over our heads and shoulders, we walk in Indian file, stamping our feet; taking ten steps to the right, then all together, after an "about face," ten to the left. Suddenly we hear a muffled roar. We stop and listen. It is a strong cannonade over there toward the north. After a few minutes of attention, a few comments on the war, and always a few jokes, too, we resume with a sigh the muddy promenade, waiting for the divine morning hour.

Daylight means release. The cooks will bring hot soup and coffee. Life will resume its course. The trench, in a few minutes, will be cleaned and swept like a barracks corridor. The number of men on guard duty will be reduced. We will breathe once more.

And yet light is not coming. The sun which ought to appear behind the German lines remains hidden. It is two o'clock: the corporal has said so. One leans against the parapet, with eyes lost in the gray sky, and with a heavy soul.

Suddenly, a chirp, then another, then several. Thank the Lord, the larks are waking! Is it possible? The dawn has not yet appeared, but happiness enters our hearts, as when at school the pupils hear the liberating bell. It is necessary to have been on watch like this during long nights in front of the enemy to know the intoxicating beauty of the sun's rising, accompanied by the song of the lark, and to love forever those charming birds, heralds of all glories: the spring, the day, and—God permitting—victory.

There are other creatures around us, but silent and terrified ones. These are not sacred, and the soldier who has a rifle and knows how to use it watches for them and from his hole shoots them without a permit. The listening posts, in front of the lines, are wonderful for that. The art consists in shooting the partridges through the head. It is very easy for those who know how. If one misses one's aim, one smiles and hopes that the bullet was not entirely wasted, and that perhaps over there some German may have found himself in the right place to receive it. It is nothing to kill a partridge; but in order to eat it it is necessary to go and bring it in from the grass, straight in front of the enemy. Some of the men, who would perhaps make a grimace if they were told to crawl out to observe or listen, jump on the parapet and on a fours, madly imprudent, laughing at everything—the Boches and themselves—run toward the little prey, put it in their pocket, and come back nearly as happy as if they had won the *croix de guerre*.



“Monsieur, the agriculturist,” I replied, “your words are undoubtedly true. That beautiful thing is a field of desolation, but all the same, I find it wonderful. Look again.”

One day a great big chap, a renowned shot, noticed that the beet stalks were moving. He pushed his neighbor's elbow:

"A Boche, there, look!"

"A Boche? You are crazy! It is a hare."

"I believe it is a Boche, and so"—boom!

I must tell you that, two days before, it had been forbidden to shoot at game on account of wasting ammunition. He shot and killed a splendid hare, and, his hour of watch over, brought it to us.

The funny part is that the next day the *Bulletin* brought news of the punishment of a man from another company who had done exactly the same thing: "has wasted two bullets on a hare in spite of strict orders against shooting published in the order of the day."

That same evening the Colonel, while going through our trench, saw a beautiful skin hanging by our door. He opened wide his eyes and asked:

"What did you give the man who killed that for you?"

"Five *sous*, Colonel."

"It is not too much. As for the other unlucky man who got punished, I'll have the offence changed. I'll say: 'Has missed a hare.' That's well worth four days' confinement."

"Quite so, Colonel."

Of what other birds, what other game can I speak? There are no crows around here, only the empty nest of one. The bird has not appeared since we came here. Its nest is very important; it is a strategical point. When we studied history, we imagined the great warriors of olden days, pale from bending over maps, their eyes fixed on fortified cities and narrow passes. Here it is in front of a tiny manure heap, which is flattening itself out and disappearing as the months go by, and a tree, at the top of which is a crow's nest, that we are stopped. In all the military conversations, whether one is speaking of patrols, reconnoitring, attacks, or the regulation of artillery fire, the "crow's nest" and the little "manure heap" recur, constantly, like a *leit motif*. It makes us modest, and that is a good thing. I am always so afraid that after the war those who will have the joy of being still alive will think themselves extraordinary men and become insufferable. For my part, if people ask me to tell about my great deeds of valor and I am tempted to glorify myself, I will at once think of the crow's nest, and if they insist, of the manure heap.

If people remark later that the war was ugly, those who took part in it will say that at least the poppies in front of the trenches were not ugly. The battlefield poppies will remain in our eyes throughout our life as the lark's song will remain in our ears!

Have you Madame, received from your son or husband, or you, Mademoiselle, from your fiancé—from the one for whom your heart beats—a war poppy, spread out on a white sheet of paper with a name and a date? If so, guard that beautiful red stain as piously as a relic.

I first saw the dazzling vision of the war poppies about a hundred yards back of the line, near a camp. We were going out from a village, a comrade and I. Just as we had passed the last house, a huge, bright red field appeared in the valley near by.

"How dreadful!" explained my companion.

I looked at him, then at the poppies.

"You are joking?"

"Not at all. Those are weeds. Hideous!"

One becomes an officer in war time, but one has a profession in civil life. My friend, although a very good officer, always remained the scientific farmer that he had once been.

"Monsieur, the agriculturist," I replied: "your words are undoubtedly true. That beautiful thing is a field of desolation, but all the same I find it wonderful. Look again!"

I explained that it was beautiful in the same way that a painting is beautiful. The argument proved convincing and I felt proud of having found it. Our eyes have contracted a sense of color that Nature rarely offends. Beautiful and rich enough, without resorting to the bizarre, she charms us without effort and we sense all the beautiful secrets that each season has brought forth unchangingly since the beginning of the world. The artist, less powerful and less disinterested, in order to captivate our interest, must resort to some artifice, which is not always successful. The most common of these consists in throwing extraordinary color combinations before our eyes. Thus each year, in the art exhibits, one sees purple, yellow, and red tints, which rarely exist

under the true sun in the fields. One of those red tints, unknown to us in peace, because it was then intermingled with the mellow-ness of the wheat, has now rapidly extended into great, blood-red carpets before our eyes. When a painter dares to do as much, one smiles. If it is Nature, one admires!

When we went back to the first line at the time of the great battles in Artois, I was glad to see the poppies growing even there, in front of the trenches. They enchanted our eyes, and it was through that intrinsically worthless but strikingly beautiful vegetation that our soldiers, gay cavaliers, went forward to the assault. Can one say that those scarlet harvests were worthless? Is it nothing to have cheered the last glance of so many sons of France? The neglected earth, unable to produce wheat to nourish our bodies, gave us rays of triumphal light for the joy of our souls. During days of mourning beautiful things are revolting. But the war, through which we are living, instead of weakening our souls, exalts them. While we sadly draw black veils over the remains of our brothers in arms, God, who knows better than we how to honor the dead, bestows upon them a profusion of war flowers, mingling their red color with the blood of our martyrs.

A thousand other flowers spring up around our trenches. One day a little girl, eager to serve France in her own way, told her mother to ask me to send her the name of a poor soldier to adopt as her godchild. I got hold of a good fellow whose family lives in a province occupied by the Germans, and I started a correspondence between my little French girl and this pleasing but uncultivated godchild. The letters and presents began pouring in! The soldier was delighted. He said to me:

"She wants me to write her the names of my children. I'll send them to her in a letter." Then he added: "If you don't object, my Lieutenant, I could perhaps send her a flower?"

A week later the little godmother told me that she was astonished at the pretty thoughts the soldiers have, and that her godchild had sent her a beautiful golden flower.

The flower was one of those common wild ones which are unknown to city people, like me, by name, but which we love to find growing in the fields in springtime. The flower was enclosed with a long, poetic letter from her godchild that the dear child sent me.

I had seen my man that very morning, leaning over a parapet, in one of the back trenches, scribbling big, ill-shaped letters on a white sheet of paper.

"It makes you sweat, old man."

"Rather, my Lieutenant."

"When you dig, you don't get so hot?"

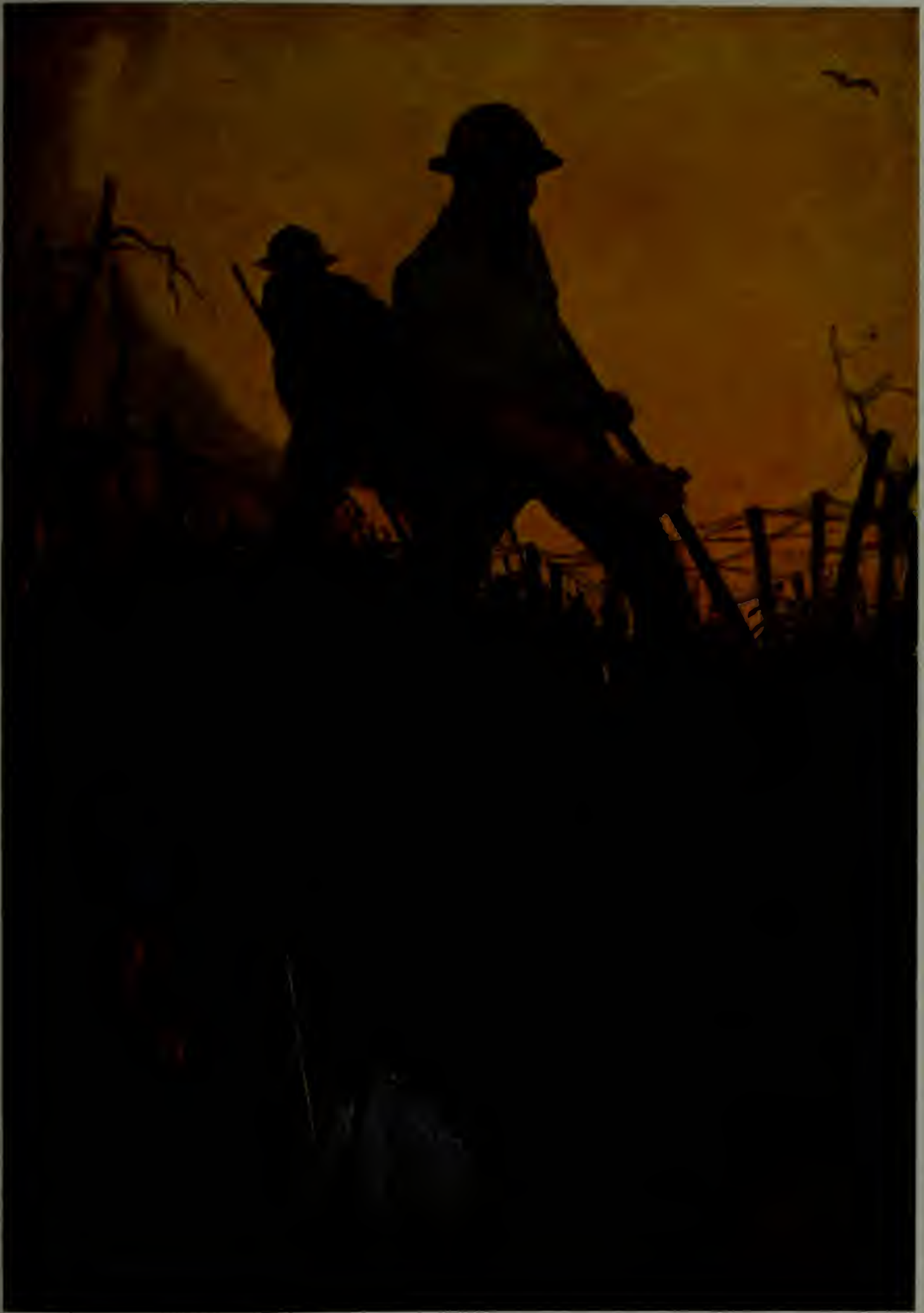
"Well, no, sir."

Was this simple being, then, capable of writing pretty things? I opened the precious paper, sent by the child, and saw capital letters traced artistically. My eyes fell on this sentence with dismay: "With my hand on my heart, Mademoiselle, and dear godmother, I place at your knees, rather at your feet, this emblem of your simple grace."

The monster of duplicity, aided by the "writer" of the squad, had copied his letter out of a manual for correspondence, called "*Le Parfait Secrétaire*" and had deceived my honest little girl. I was tempted to be severe with him, but, after all, in this case the letter mattered so little! Upon thinking it over, this rough man's action seemed to me full of grace. He knew the rules of gallantry well enough to pluck a flower and offer it to his lady.

There came a day when we must ruthlessly cut the high grass and with it the flowers. All that vegetation hid the enemy's positions and allowed him to crawl nearly up to us without being discovered. One morning we heard that the company was going to be sent two scythes. These new weapons were received in the commanding post with much respect by a comrade and myself. Neither of us had ever encountered such a tool face to face! I won't say we felt frightened: we were more like chickens who had found a toothbrush. That same evening we began to clear the ground in front of the parapet. Of course, the scythes were broken during the first night. Then we were given sickles to use. They were all right for the grass, but would not cut the tough beet stalks, and the men had to use their shovels. The real difficulty was encountered when they came to the barbed-wire entanglement.

You must imagine a moonless night in the fields. No lamp posts here or lighted shop windows. The star shells make a lot



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of light, but only for the benefit of our backs, for when we hear the slight noise they make in starting, we immediately throw ourselves flat on the ground with our chins in the mud. You will say: "Why don't you work when the moon is up?" Unfortunately the moon is thoughtless and sheds her rays indiscriminately. When she is there the Germans see our silhouettes as plainly as we see theirs, and the only thing we can all do is to go back and hide. It is so dark sometimes that it is impossible to see a yard in front of one; then it is useless to try to put a hand through the barbed-wire entanglement to cut the grass and flowers.

One morning at daybreak I came out of my hole and could see nothing but fog. From the firing trench one saw barely ten yards across the plain. At that hour the men are tired out, and they have every right to be. Yet I was greatly tempted to make use of this piece of luck and have the men, under cover of the fog bank, go out and remove the waving green screen growing in the defensive barriers. I got hold of a shovel, jumped on the parapet, and said to one or two of the men:

"Follow me."

A quarter of an hour later twenty men had joined me and the work was quickly done.

Opposite we could hear plainly the blows of mallets. The Germans were putting up stakes in front of their lines. Only the night before a corporal had come and told the commandant of our company:

"My Lieutenant, the plain is full of Boches. We ought to ask for the artillery."

Our friend, being a practical man, had answered:

"Leave the Boches alone. We also want to be left alone when we work on the barbed wire."

An hour later a volley came from a German post, in the direction of our workmen. It might have been a mistake, but more probably the enemy pioneers had finished their own work, and no longer needed protection for themselves.

That foggy morning seemed to me favorable for revenge. I got all my men together and, to the great joy of those bearded children, said that we were going to administer punishment to the people opposite. But an inspiration came to me suddenly. What if by an unhappy chance there were some of our men in the field behind us? They would receive the sharp reply of the German rifles.

"Go and see," I said to a soldier. He came running and shouted to me:

"Don't fire, sir, our whole company is out!"

"Are you mad?"

"Not more than usual. They are searching for shell fuses."

The fog then began to lift. For fifty meters around we could see our men, bent double, scrutinizing the ground. Here and there groups of three or four were climbing out of huge shell-holes. Others, stick in hand, solemnly, like magicians, were pushing aside the grass as they walked. Usually at that early hour, having just swallowed a hot meal, they are sleeping soundly. But that day it was a question of getting some aluminum to make those little rings that they send to their wives, sisters, mothers, cousins, and fiancées. Soldiers are poets.

I had to order them in. To console them I ordered the promised volley.

"It will make them jump, my Lieutenant!"

I don't know if many Germans danced, but I do know that they fired back at us furiously for a time. One would have believed it to be an attack, and my comrades, awakened abruptly, could have strangled me for the false alarm. Thus ends my little story of grass cutting and fog; a few flowers less, a few rings more.

Is it necessary to tell you about the beet plants? Ah! They will leave recollections in our senses: touch, vision, and smell. During this war we have been saturated with beet roots. Even our feet know them, those cursed things. I don't wish any civilian ever to repeat our night walks among these treacherous and slippery stalks. The strongest among us broke their legs at that work.

At night they were a perfect nightmare, during the early days of the campaign. Their dark foliage was continually mistaken for German silhouettes. One of my young friends, who really has never known fear, said to me the other day:

"Only once have I ever made the complete sacrifice of my life. I was in front of my section, and suddenly about ten feet away I saw

a line of enemy riflemen. I told my men to lie down, I looked closely, and very clearly made out moving helmets. I took the only possible course and tried bluff. Alone, revolver in hand, I threw myself forward, shouting in German with all my strength: 'Surrender! You are prisoners!' There were only beet-stalks, their heads nodding in the wind."

There can be only one pleasant recollection of the beet plant—its perfume.

One dreadfully hot June day I was hastening through the *boyaux* to join the officers of a neighboring company, about 500 metres from my post. The vegetation of the field hung down above my head and flimsy plants caressed my face to the right and left. Suddenly the air that I breathed seemed charged with honey. Little by little the sensation became so strong that I was almost intoxicated. I shut my eyes in order to enjoy that wonderful feeling more freely. Was I in Greece, inhaling the wonderful odors of Mount Hymette? A shell came and awoke me from my dream with its unpleasant noise. I lifted myself up to look at the field. Beet plants gone to seed were the only visible objects. On their high, bushy stems, millions of little green bells, flowers or seed—I hardly knew which—were warming themselves in the mid-day sun. They smelt wonderfully sweet. Henceforth a thousand recollections of the war will come to me whenever I smell a cake made with honey.

Whenever my eyes shall rest on the nest of a mouse the recollections will be less cheerful, but the effect will be the same. I write "mouse" as a euphemism. I mean all those small, unclean animals which are commonly called moles, field mice, and rats of various sizes. As first we knew little of our companions in misfortune. The first visitors in our caves were the earth worms. I remember we were sitting in the dugout one day, on rickety chairs which once belonged to the Boche and before that to our civilian population. Our backs were jammed against the wall, while in front we were nearly cut in two by the edge of the table. The opposite wall of damp earth was scarcely more than two feet away. The only light was from a candle of bad quality planted in a niche of the wall. Our menu contained cold fried potatoes (which is sad) and cold mashed potatoes (which is even sadder). All of a sudden a lump of earth fell in my pewter plate. We lifted our heads and there beheld, emerging from the earth, a little, wriggling worm, hanging like a pink tear.

"Quick, a match!"

An orderly scratched a match and approached the hanging shred. We laughed like children. The creature was not accustomed to fire and acted like a puppy. It contracted and disappeared with such funny, quick movements that the effect on our nerves was electrical. Entire matchboxes have been consumed in this manner. Sometimes, when officers and orderlies were heaped together in the same dugout, beginning to get bored, one of the soldiers would say: "Ah, now we are going to laugh."

He would take the candle and pass it along the walls. As each worm hastily withdrew, without waiting for farewells, peals of laughter would arise and the time would pass more quickly afterward.

Now the worms no longer come to our beautiful, comfortable shelters. Instead we have moles in our *boyaux*. Lying on their backs, their little pink claws open, these dead animals have a better appearance than that of their cousins, the field mice. Their round bodies, short and fat like frankfurt sausages, are entirely covered with silky fur. They look as if they were kittens. The mouth, a white spot about the neck, is all that can be seen of their funny little faces. Why all these little corpses every morning in the *boyaux*? They fall into these long corridors and are unable to escape the brutal feet of the soldiers.

The military authority who watches over the hygienic condition of the troops appoints a soldier called the *taupier* (mole killer), one for each *boyau*, whose business it is to take away all the dead animals and bury them every morning. I know a ladies' hair dresser who accomplishes, with much distinction, this warlike function and who certainly won't reveal the fact to his fair clients after the war.

Strange little animals! The war has multiplied them. The bread, the remains of meat and vegetables that the men throw around the camps and trenches, have already stuffed several generations of rodents. Finding life good, they have reproduced



"One of them had just run across my cheek

Another one was turning somersaults in my empty basin, out of which it was trying to climb; the most practical one of the three was devouring my new sponge"

themselves rapidly. In the villages, rats as large as cats prowl continually in the barns where the soldiers are sleeping.

In the little room where I go every now and then to take my royal slumbers I notice that I disturb the mice quite a little. I minded them at first, from force of habit. Now I let them play around me. Only once have I thought them too presuming. One of them had just run across my face—I still can feel the light touch of its little feet against my cheek. Another one was turning somersaults in my empty basin, out of which it was trying to climb; the most practical one of the three was devouring my new sponge. Do you think that in time of peace and in civil life I should have tolerated such manners? The war has made philosophers of us all.

The field mice are less fortunate. The trenches attract them, but to their doom. For them a trench is a formidable precipice. They climb down the sloping side of a ditch with difficulty, but the side of a *boyau* is vertical, and the animals who are out hunting at night have tragic falls when they attempt its descent. On arriving at the bottom a little stunned, they begin to look for some exit. Gradually they lose courage and putting their front paws on the wall, their little pointed faces turned toward the sky, frantically attempt to leap out. Many times under the beam of my electric lamp I have seen these terrified little animals madly running back and forth, throwing themselves at the side walls, jumping to the right and left, and even under my feet if I had not been careful to avoid them. The soldiers do not take the same trouble. It is simply: "Crunch! Another one!"

The dead mice play such an important part, even in the thoughts of the high command, that one day the chief of a neighboring battalion sent by his aide-de-camp to the captain of a company at the front a note running thus: "Urgent! There is a dead rat

in the *boyau*. Please explain!" It was necessary to take a sheet of paper and make a formal reply. An inquiry was made and it was discovered that the rat was a field mouse, which had fallen into the *boyau* after the prescribed hour. The *taupier* passes, according to orders, before eight in the morning. After that hour there is not a dead animal about. We had to own that that morning the company had been presented with an extra field mouse and that we had not paid any attention to the fact. Bad business!

All these little beasts that have been our companions in misery will be remembered with a mixture of repulsion and tenderness. I was wandering last night in a section of trench when close by my ear a tuft of grass began to move. I turned quickly and found myself confronted by a funny little mouse. It is impossible to imagine anything more odd than our ceremonious interview. I kept serious. She watched me intently with her beady eyes, sitting on her haunches, her ears erect, her nose moving. She was trying to understand, and really so was I. She seemed to say:

"What are we both doing here?"

"Well, mouse, I believe we are both waiting for some violent death and that I am as miserable as you. With all my pride and this uniform, once handsome, but now covered with dust and mud. I am of no more worth on this earth than your little gray, trembling body. Then don't be frightened by my mustache or my big shoes; let us be friends!"

"Let us be friends," she seemed to reply, nodding her head.

"Good-night, little friend. If I come out of this I promise that in my soldier's heart you shall share a corner with the larks and the poppies."



The most heroic figures in the world to-day are the women of France. Not only does the entire burden of their country's agriculture rest upon their uncomplaining shoulders, but they fill the places of work animals in the cultivation of the fields



© Edwin Levick

No citizen has come forward in a more public spirited and practical way than Commodore George F. Baker, Jr. (of the N. Y. Y. C.). He has donated to the Government the steam yacht *Howard*, fully equipped, and she is at present in commission as a training ship. Mr. Baker has been in England, France, and Italy on Red Cross work, in which he is actively engaged.

THEY'RE *in the* NAVY NOW

Yachting has gone to war in earnest: some 29,000 of its exponents are now serving in the Navy, while craft that erstwhile graced the summer sea in all the bravery of white hulls and burnished metal are now grim in leaden war paint

By LAWRENCE PERRY



IN THE course of a recent investigation into the effects of the war upon the sport of yachting, the writer met a man, somewhat beyond middle age, whose name has long been one to conjure with among those who sail the seas in pleasure craft. His big steam yacht, bearing a name that would instantly be recognized by all

followers of yachting along the Atlantic seaboard, lies in a shipyard, the deck so often the scene of stately hospitality covered by a fine board pent house, the big yellow funnel in a most disreputable state of peeling paint and grime.

"You ask me," he said, "when I am going to put my yacht in commission? Well that's easy to answer: when the war is over, or a day before. Any man who would put a big yacht in commission in these times would be a traitor. I offered my craft to the Government and the Government did not see its way clear to take her. All right, she'll lay up. Yachting is dead until this war ends."

Well, yachting *is* dead—in the sense in which this man spoke: yachting as we have learned to know it and love it, yachting on a normal scale—cruising races, well-filled regattas, crowded board verandas, and all the old sort of thing which made the summer dear to those who love the open water, salt or fresh, a taut net and a steady wind, or a smoothly working engine.

Yachting has gone to war in dead earnest. Some 29,000 yachtsmen and motorboatmen throughout this country are in the Navy—comparatively few in the Army—while brave craft which graced the summer seas in all the glory of white hulls and burnished metal—now grim in leaden war paint—protect our coasts against skulking invaders, or else hunt the submarine in foreign seas or at home.

Picture the brilliant argosy of ocean palaces which gave so much pride and dignity and impressiveness to the annual port-to-port

cruises of the New York Club. Not a unit of that extraordinary squadron but is now on war duty, far removed from the scene of placid jaunts through dreamy August days. Some of them lie on the bottom of the North Sea, victims of the torpedo, while others bleach their bones on the rocks between Queenstown and Archangel. When the final story is written, all the widely separated facts collated, yachting will be found to have contributed a brilliant page to our national history.

Mr. G. W. C. Drexel's beautiful steamship *Alcedo* will go down as the first naval vessel to fall victim to the German submarine. She was sunk early in November, 1917, with a loss of some twenty of her crew. No doubt Mr. J. P. Morgan's *Corsair* has by this time taken adequate revenge for the death of her consort; she has been ranging the seas for submarines almost from the very first. In her gray paint, and with her decks stripped of all but necessary fittings, she presents an appearance vastly different from the trim black yacht with her yellow funnel and glittering metal work which we used to know.

Mr. Robert E. Tod, peer of all deep-sea-racing yachtsmen, owner of the great two-masted schooner *Katoura*, is executive officer of the *Corsair*, and a most efficient one he is. Then there is Mr. A. Curtiss James's *Aloha*—what a picture she was with her towering bark rig and her graceful black hull! Those square-rigged masts are gone now, and she is altogether in fighting trim. After Commodore James had turned her over to the Government he went to the Navy Yard where she lay, decided that the crew needed a phonograph and all sorts of things, and promptly had them purchased and sent aboard. *Atlantic*, which won the Kaiser's Cup in the great transatlantic race of 1905, is also in service. She was owned by Mr. Wilson Marshall at the time, and Wilson Marshall, Jr., who sailed on her so often and later distinguished himself on smaller racers, is already included among the naval aviators who have given their lives for their country.

There are also A. C. Burrage's *Aztec*; Irving T. Bush's *Christabel*; H. A. Loughlin's *Corona*; Robert T. Graves's *Emeline*; E. P. and J. W. Alker's *Florence* (Jimmy Alker, so long known as one of the sponsors of Manhasset Bay Yacht Club racing, and an enthusiastic member of the New York Yacht Club thirty-foot class, is an officer on the *Florence*); Edgar Palmer's *Guinevere*, lost in foreign waters; George F. Baker Jr.'s *Wacouta* (Mr. Baker, the present commodore of the New York Yacht Club and Chairman of the Executive Committee of the Naval Training Association of the United States, gave the *Wacouta* to the Government, having renamed her *Har-*

vard); John Borden's *Kanawha*; H. Walters's *Narada*; Howard Gould's *Niagara*; Horace E. Dodge's *Nokomis*; Vincent Astor's *Noma* (Mr. Astor is a lieutenant aboard this craft); Mrs. E. H. Harriman's *Sultana*; Morton F. Plant's *Vanadis*; P. W. Rouss's *Winchester*; the great *Aphrodite*, of the Col. O. H. Payne estate; Edward Harkness's *Wakiva* (recently sunk in foreign waters); F. G. Bourne's *Alberta* and C. Ledyard Blair's *Diana* (both now in Russian waters); D. C. Jackling's *Cyprus*, lost on the Russian coast; these are a few of the steam yachts that donned war paint when we entered the war.

What sort of a New York Yacht Club cruise, one may ask, could be held in these days, with all the great and glorious craft engaged in the war or victims of the war? Go over to the Brooklyn Navy Yard and ask Lieutenant W. Butler Duncan what he thinks of yachting, and you will get a very short and emphatic reply. Mr. Duncan is the one who took Cornelius Vanderbilt's sixty-foot sloop *Aurora* through that howling night in the New York Yacht Club run from Vineyard Haven to Portland, Me., a few years ago, a night which saw the proud squadron scattered to the far corners with only the *Aurora* and the schooner *Elmina*, of all the windjammers, reaching destination. Mr. Duncan is on a receiving ship, where he is employing a knowledge of nautical affairs gained at Annapolis. Before war broke out in 1914 he was one of the *America's* Cup Committee engaged in laying plans to defeat the hopes of Sir Thomas Lipton, whose *Shamrock IV* narrowly escaped capture by a German raider in crossing the Atlantic to tune up for racing in this country. *Shamrock IV* now sleeps in a shed in a South Brooklyn shipyard, and there are those who believe that by this time she is in condition for naught but the hammer of the junk master.

Mr. H. de B. Parsons, Chairman of the New York Yacht Club Regatta Committee, is employing his great engineering genius to the advantage of the Navy, and in general the New York Yacht Club has given hundreds of its members to the naval service. So have all the yacht clubs. Standing out is Mr. W. W. Trench, so well known as an enthusiastic member of the famous Star Class of small sloops. When the Government called for sailors, he enlisted as a common seaman on a mine sweeper, the *City of Lewes*, and went abroad. He studied while in the service and now wears the gold stripe and star of an ensign.

Up Boston way Mr. G. R. Dabney, who sailed in the *Sonderklasse* against the Kaiser's racers at Kiel, is in the Navy and so is Mr. Robert W. Emmons, who was associated with Charles Francis Adams, 2nd, as sailing director of the cup defender *Resolute* which is now lying at Bristol waiting for the end of the war—and for Sir Thomas Lipton. Messrs. B. B. Crowninshield, the

designer, Henry Howard, and W. Starling Burgess—all prominent Eastern Yacht Club men—are in the service, as are the two Higginson brothers, Frederick, a quartermaster, and Charles, an ensign. Mr. Dudley S. Dean of Cohasset racing fame, and an old Harvard footballer, is a lieutenant in the Navy, and Ogden T. McClurg, of Lake Michigan fame, is serving on the United States Ship *Essex*. And so one might go on filling pages with names of well-known yachtsmen who have dropped not only sport, but important business interests, to serve their country. These names at least will serve to create an accurate impression of what the yachtsmen of the country are doing.

It has not been the in-



Photograph by Edwin Levick

Mr. Robert E. Tod, one of our most famous deep sea yachtsmen, is now a commissioned officer in the Navy, and is the executive officer of the converted gunboat *Corsair*, formerly owned by J. P. Morgan



© Edwin Levick

The schooner yacht *Katoura* is owned by Mr. Tod, who built her for ocean cruising. She was designed by the Herreshoffs

... of yachtsmen to mince matters, and no body of men so freely sacrificed the sport they love for the greater interest. They laid aside not only yachting but everything else in April of 1917. Those who through their studies of seamanship and navigation were able to be of use to the country found no time in offering themselves. Not only that; those who were serviceable yachts turned them over to the Government, either at a price determined by boards of survey, or else—as happened in many cases—not only gave them to the nation for the nominal sum of a dollar, but contracted to defray their cost of maintenance. Hundreds of yachts, as already said, have been used as scout and patrol boats, and larger craft are engaged in the work of running down the submarine.

It is already history how the sport was practically abandoned when we entered the war; how the leading yacht clubs announced there would be no racing or formal cruising while war continued. It is true that some of the smaller clubs arranged races on small sailing craft, usually handled by the sons of well-known yachtsmen, and that there were a few power boat races, but no notice was made of carrying on the sport as in former years.

It was early in the present year that Mr. Arthur F. Aldridge, editor of *Rudder*, looking forward to the approaching season, wrote to Josephus Daniels, Secretary of the Navy, and to Franklin D. Roosevelt, Assistant Secretary, for advice which might be employed in shaping his editorial policy. The Secretary of the Navy replied as follows:

... I wish to express my appreciation of the large number of yachtsmen who have enrolled in the Navy, and are now in the service. Their experience in yachting has been of real value as preliminary training for work in the Navy and I agree with you that it is wise for the younger men, who are not yet needed in the war, to continue their yachting activities as a preliminary preparation for service in the Navy. I feel that it is important that our young men in the colleges should continue their athletic sports, and similarly that the young men who are inclined to the sport of yachting would do well not to give it up."

Assistant Secretary Roosevelt wrote that he was torn by conflicting emotions. While appreciating the way in which the yachtsmen of the country had helped the Navy since war began, and noting the value of their work in providing vessels and trained personnel, he yet felt that the question of racing in the present was rather an involved matter.

"Of course," he wrote, "the first duty of everybody is to use their personal effort to win the war, and it seems to me that the question of the holding of races by the different clubs becomes one of whether the holding of such races will divert the energies of any of our young men out of war channels in which they might be especially useful. This is especially true of those who, let us say, are over nineteen or twenty years of age. In the case of the younger generation—the boys under military age who are in such large numbers learning seamanship along our coast through the handling of small craft—the question is not like that of college athletics. It seems to me that these boys should be encouraged in every possible way, and that the holding of smaller classes on existing boats could be continued. As a matter of fact, most of this younger generation sails on smaller type of boats and I think they should be given every encouragement to continue."

But Mr. Roosevelt felt that in the case of larger racing sloops and schooners, in fact of all yachts that carry professional crews, more good would be done the country this summer if they were not placed in commission. The man power of all these men, he said, was needed in the Navy and the merchant marine.

The views of the Assistant Secretary of the Navy have been rigidly followed throughout the country, and, indeed, so strict an interpretation has been placed upon the ideal of service as set forth by Mr. Roosevelt that even the younger men, below military age, will not have wide opportunities of carrying on their practical



Photograph by Edwin Levick
Mr. A. S. Cochran (at wheel) the well-known yachtsman, who has lent his services to Government enterprises connected with the war. He built the cup-defense candidate *Vanitie*, which raced against the *Resolute*



Photograph by Edwin Levick
The *Kanawha*, owned by Mr. John Borden, has been converted into a fast cruiser with light armament

work in seamanship and navigation.

Still, something has been done. The Eastern Yacht Club at Marblehead, Mass., and the Massachusetts Bay Yacht Racing Association are holding regattas for small boats—thirty feet and under—and are having an interesting season, while at the same time serving the practical needs of the country by manning these racing craft with students from the Government nautical schools, through which the young seamen will gain a great deal of experience in boat handling and even in navigation. Last season's meagre racing showed the Marblehead racing men that there was no reason in the world why small boat regattas should not be held on Massachusetts Bay. And no yachtsmen in the country have been more patriotic than the Marblehead clubs—the Eastern and the Corinthian—members of which have built submarine chaser flotillas and presented them to the Government, while at the same time offering their own services and the use of their club houses and grounds for training purposes. Withal, these men have found

opportunity to put racing yachts into commission on the practical basis as set forth above, and thus, we find that yachting has been greatly amplified this season to the benefit of everyone within sailing distance of Marblehead.

The Eastern Yacht Club last June maintained its brilliant cruising tradition in rather an interesting, certainly a unique, manner. Instead of the historic port-to-port run along the New England coast the "cruise" lasted precisely half a day. The place of meeting was on board a recruiting ship of the American Shipping Board at India Wharf. The steamship left the wharf at one o'clock, and while the yachtsmen were enjoying a buffet luncheon the steamship proceeded to the Boston Navy Yard where an hour and a half was spent inspecting the activities there.

From the Navy Yard the steamship went to Marblehead—where the Eastern Yacht Club house is located. Here was witnessed a rowing match among boat crews of the merchant marine service. In the evening there was a dinner at the club house. And that was the Eastern Yacht Club cruise of 1918. It will go down in history, of course.

Various Sound yacht clubs, notably the Larchmont, Indian Harbor, American, and Orienta Clubs, have put into effect plans



Marblehead Harbor, which is the great centre of yachting in this country this season. Here are situated the Eastern and Corinthian Yacht Clubs. While Massachusetts Bay is the scene of many naval activities, there is abundant opportunity for the racing of small boats



Photograph by Notman
Mr. Henry Howard, of the Eastern Yacht Club, Marblehead, who is on active service in the Navy

for taking junior Naval Reserves on practice cruises in Long Island Sound and about New York. Some thirty yacht owners carry from five to thirty cadets on every trip, and the amount of practical experience which the cadets receive has been highly spoken of by officers in charge of the junior Reserve camps.

The Long Island Sound Yacht Racing Association, composed of clubs on both sides of Long Island Sound, has instituted a season's series of six regattas for small boats exclusively, which has enlisted the enthusiasm and active participation of a number of boys from fifteen to eighteen, together with yachtsmen well above military age; while that group of sturdy shellbacks at Larchmont who last season built six forty-foot sloops, have them under sail and racing as a class this season. These fine boats—the largest in commission in this country—are manned by young amateurs, and provide interesting sport, while at the same time assisting in the valuable work of keeping alive that fine amateur nautical spirit for which Long Island Sound is famous. All along this beautiful body of water and also on Narragansett Bay, Buzzards Bay, Barnegat Bay, Put-in-Bay, Lake Michigan, Lake St. Claire, and the inland lakes of the North, are now found small boats manned and navigated by youngsters, sailing for cups in an informal way under the auspices of individual clubs. But comparatively speaking, it is, in all truth, an insignificant expression of the normal yachting impulse.

The Long Island Branch of the American Power Boat Association devised a series of extremely practical races, races chiefly of value as a factor in the training of seamen for the Navy. First various courses of fifty miles were mapped out, courses, for instance lying along the Sound, touching various buoys at all points of the compass. Then it was planned to put young men who are studying at the various Government naval schools of the New York district in boats belonging to the Association, and give them maps of the various courses. Their duty was to plot out the course which they thought they could negotiate in the shortest possible time, and then race over it. This involved, naturally, a thorough boning up on tides, currents, shoals, prevailing wind conditions, and the like, and also it involved the employment of a vast amount of judgment, common sense, and seamanlike initiative.

I know of no scheme which so adequately met the national needs in a practical way, while at the same time providing fuel for the languishing racing spirit of this branch of the Association. It is a scheme which no doubt will be widely copied next year assuming that war is then in progress. Whether it is or not, the

idea is not one to be dropped. It has too many valuable phases.

Of course with the closed zones outside of headlands, there has not been, and will not be, any long-distance motor boat cruising races, and there will in fact be no big motor boat event of any sort with the exception of the annual race for the Gold Challenge Cup which this season will be held in Detroit. A race of this sort has its value in developing engine power as applied to hulls, and thus is not frowned upon by either yachtsmen or the Government.

But the large cruising power craft, the steam yachts that have not been taken over by the Government and the sailing vessels ranging from forty to ninety feet, rest in the shipyards, idle until war ends. The visitor to City Island, where many of our proudest windjammers sit high and dry on the stocks, sees a forest of dismantled masts—fleet sloops and schooners whose names are written large in the annals of yachting, and whom one associates with huge spreads of straining duck and the spindrift flying from either side of their handsome bows. Desolate they look on the weatherbeaten ways, and some of them disreputable, with tangled bits of gear rattling in the wind and paint peeling from the well-turned hulls. There are smaller boats, too, hundreds of them, and in South Brooklyn yards, in ports of Long Island Sound, Gravesend Bay, the Chicago River Basin and, in fact generally throughout the country, the ratio of yachts on land to those spreading canvas is as fifty to one.

While yachts lie thus idle at the shipyards, it must not be gathered that industry in these yards is stilled. Far from it. They hum with that activity which naval enterprise has brought to them, hum as never before. Instead of light-waisted pleasure craft resting on the railways for cleaning and overhaul, you find submarine chasers, mine sweepers, patrol boats, and fighting machines of various sorts. Uniforms of officers and enlisted men are everywhere seen and often there are armed guards.

There are many guards in and about Lawley's famous yard at Neponset, near Boston. Only two or three yachts have been built at this great birthplace of pleasure craft, while on the other hand scores of naval vessels have taken shape and are constantly taking shape here. Men who were skippers or mates on steam and sailing craft frequently call at the yard attired in the uniform of commissioned or petty officers in the Navy, mighty well pleased with their new occupation.

Some of the best known yacht skippers are in the service. There is Capt. Alexander Corkum, commander of many of the largest yachts afloat, who will be recalled as the man who superintended the construction of Mr. D. C. Jackling's *Cyprus*, already

noted as lost in the course of war service. Corkum now commands a transport, formerly one of the German liners plying between Hamburg and New York.

Capt. F. A. Sparks, skipper of the big yacht *Machigonne*, stuck to the vessel when she was turned over to the Government service, and has served since the war as an officer on this fine craft. The *Machigonne* had a strenuous career on patrol duty throughout last winter, and for several weeks was employed as an ice-breaker. She stood up beautifully under this arduous work and to-day is as fast and staunch and generally effective as ever.

Capt. "Dick" Sherlock of South Boston, known throughout the yachting world as commander of the ocean going schooner yacht *Gitana*, owned by the late W. F. Weld, and later as skipper of Mr. A. S. Cochran's steam yacht *Mohican*, served as instructor in navigation at one of the Government schools for some time, and then received command of one of the fleet of Dutch steamships taken over by this Government. His naval rank, as with that of other professional skippers, is lieutenant, senior grade.

Many other professional sailors have gone from yachting into the Navy—so many, in fact that after the war is over the professional, whether officer or seaman, will be quite able to hold up his head in company with his Corinthian employer.

One wonders what the outcome of it all will be. What position will the sport of yachting occupy when war is ended and men are free to turn to other affairs? "I think," said a veteran yachtsman to whom the writer put this question, "that the end of the war will find those who have owned steam yachts in no great hurry to build new craft, while there may be no doubt that few of the craft which the Government has taken over will ever again wear the yachting ensign. At least they won't if the war continues for some time. Already a number of big power craft which the Government took have ended their days of usefulness. The life they have been leading has been nothing if not strenuous. Again, a steam yacht costs money; big money. There is the cost of building and the cost of maintenance, and when you consider that taxes are not going to fade away with any gratifying degree of rapidity, you have your answer as regards steam yachts—which are the only sort of craft concerning which I can speak



Photograph by Paul Thompson
Mr. W. Starling Burgess, yacht designer, of Boston, who is now engaged in airplane building for the Government



© Edwin Levick

Boats of the forty-foot Larchmont one-design class, the largest sailing yachts in commission this summer. Designed by William Gardner, these single stickers are noted for their speed and weatherly ability

with authority. But I do look for an immense boom in sailing and motor boating."

As to steam yachts whose cost of construction runs up into the hundreds of thousands, let it be borne in mind that with vessels such as the *Corsair*, the *Niagara*, *Aloha*, and other large steam-propelled craft, the budget of expense is tremendous. With a captain receiving \$3,600 a year; chief engineer \$3,000; chef \$1,800; first mate \$150 a month; second mate \$100 a month; third mate \$100 a month; assistant engineer \$150 a month; second assistant engineer \$100 a month, and others in proportion, such as four oilers, twelve firemen, two launchmen, two boatswains, twelve seamen, six quartermasters, and one steward, a great steam yacht owner will pay fully \$30,000 if his boat is in commission eight months of the year. Counting salaries, feeding and clothing the crew, coal, oil and sundries, repairs, and dockings, \$80,000 a year for maintenance is a moderate estimate. This does not include the cost of entertaining, without which no steam yacht man would have any fun at all. It's an expensive business, is steam yachting, and many former owners of palatial vessels will think twice before they reënter the game. This, in many cases, will undoubtedly mean a return to the old craft of the wealthy yachtsman, the schooner. That will be a good thing, an excellent thing.

As to taking a yacht back from the Government, I wonder what Mr. Burrage, for instance, will think of the *Aztec* if he ever again goes aboard of her. In days of peace she was indeed a palace. She had twelve staterooms, five baths, dining saloon, drawing-room, nursery, library, and owner's quarters separate. The library was done in Circassian walnut, the bookcases had leaded glass doors. The drawing room was finished in white mahogany inlaid with satinwood; the dining room was built of dull waxed teakwood. One can imagine what happened when Uncle Sam's renovators came aboard to make the vessel suitable for submarine chasing, to provide accommodations for 200 jackies. They say that the junk dealers used to gather in hordes outside a shipyard when the Government was converting a crack yacht to naval use. So with the *Corsair*, *Niagara*, *Nokomis*, and all the top liners of the sport of yachting.

But on the other hand, the work of the Navy is developing tens of thousands of young men into confirmed shellbacks; they will come back from the war with a profound love for the sea. The life they are leading is one of hardship and peril, but the lure of old ocean is irresistible, and with their seamanlike trade acquired they will be very loth to abandon it. They won't abandon it. The waters of coast and inland sections of the country will teem with small windjammers as well as motor boats, and there may be no doubt that yachting when war is ended will receive its greatest impulse.

The great thing about the sport has been that no recreative form of activity was in the position to be of so much practical value to the Government when we entered the war as was yachting. Passing the fact that there were hundreds of yachts which the Navy Department found to be of inestimable value, we note the thousands of men familiar with navigation, practical seamanship, or boat handling, who were qualified at once—or with very little training—to enter the Government service; there were men who were not only familiar with coastwise waters, tides, currents, and other details essential to patrol duties, but yachtsmen who held the best sort of pilot's certificates, or at least knew how to hand reef and steer with the best of them.

Take such a man, for instance, as Robert E. Tod, who has already been referred to as an officer on the *Corsair*, or Vincent Astor, an officer on the *Noma*; or Leonard H. Dyer, Francis S. Page, John R. Brophy, Walter S. Dayton, Walter H. Funke, and C. L. Willard of the Bayside Yacht Club, George Gardner Fry, of the Orienta Yacht Club, Arthur Adams, of the Eastern Yacht Club (an ensign on the battleship *Nebraska*), Henry Howard, Edwin H. Bigelow, and—well the roster of every yacht club in this country contains the names of accomplished mariners whom the Government found fully qualified for various duties aboard ship.

Yachting has proved itself as a developer not only of patriots, but of seamen as well, and the Government has not been slow to express adequate appreciation of what the sport has meant in the past and what it has stood for in these trying times. As for its glorious future—that is assured.



Photograph by Edwin Levick
Mr. Harry de B. Parsons (left), Chairman of the N. Y. Y. C. Regatta Committee, is assisting the Government in his capacity as a noted engineer



© Paul Thompson
Mr. Vincent Astor not only turned the *Noma* over to the Government, but is serving as lieutenant aboard her, with the U. S. fleet in European waters



Mr. H. P. Davison and his two sons who are in the aviation service

The DAVISON ESTATE *in* WAR TIME

By EDWARD MOTT WOOLLEY

Photographs by PAUL THOMPSON and JOHN WALLACE GILLIES



THE country estate of Mr. Henry P. Davison on Long Island is another splendid example of beauty and ornament converted, so far as possible, into war utility. As Chairman of the War Council of the American Red Cross, Mr. Davison believes in consistency. It is not feasible to metamorphose this sixty-five-acre place of his into a truck farm, because much of it is woods and other portions are rough and sandy, but practically the whole estate is now used for utilitarian purposes. About twenty acres are actually under cultivation, and a large percentage of the remaining land is producing food through livestock and poultry. You may say that this is virtually a 100 per cent. war estate, at least in so far as a gentleman's grounds, designed for other uses, may be made such.

The Davison place lies on Peacock Point, near the village of Locust Valley, and some two miles from Glen Cove. Perhaps the rugged north shore of Long Island is not more beautiful anywhere than it is here. This estate has its frontage directly on the Sound, with an entrancing view from the great house. From Peacock Point to the Battery is about twenty-eight miles, and in times of peace the waters of the north shore are alive in summer with private yachts. Within sight is the estate of Mr. J. Pierpont Morgan, and near by are other splendid properties, while up and down the shore for many miles are the summer homes and magnificent grounds of well-known New Yorkers. Here, normally, are numerous wonderful conservatories that are filled with blooms the year round, and the outdoor floral gardens are as fine as anything in America. It is a region where the gods and man have outdone themselves in creating an aristocracy of country life.

So far as the private yachts are concerned, you will see few of them this summer. Like Mr. Davison's 150-foot boat, the *Skipaki*, they are out of commission for the period of the war, or else are in war service. It must be confessed, however, that some of the greenhouses are still devoted to their rare and beautiful inhabitants, and the outdoor flower gardens of the north shore are

by no means abandoned. But here on the Davison place the reverse is true.

Early last winter there was a heartbreaking eviction at the Peacock Point conservatories; at least it surely would have been distressing if it hadn't been done for a cause that was paramount. Two greenhouses filled with American Beauty, Killarney, and other varieties of roses were closed, in order to conserve coal and labor and to devote the conservatories later on to the production of food plants. The hot water heating plant was shut down and a large quantity of coal saved. To run these greenhouses all winter takes about seventy-five tons of hard coal.

Along toward spring the greenhouses were brought back into use, for getting the early vegetables started. During the cold days of March and April, and even of May, these conservatories were producing amazing numbers of vegetable plants. Tomatoes, eggplants, peppers, cauliflower, cabbages, lettuce, and the like basked in the sunlight that in peace times was monopolized by the blooms. The greenhouses, however, were unable to accommodate all the plants planned for the food gardens, and cold-frames were used, in addition, for lettuce, radishes, carrots, beets, and other vegetables. A succession of crops was planned so that none of the available land would be wasted at any time during the summer. Mr. Davison's purpose was to get the food out of the ground, and to get all that he possibly could, as fast as it would grow. He was not looking for profit. Although he wants his place run with all the economy possible, he desires, above everything else, production. It is difficult to say whether an estate of this sort would pay a dividend on its food gardens if it were possible to figure the earnings on a commercial basis. I am inclined to think it would be a financial loss. But I take it that this is considered an inconsequential matter at this particular time.

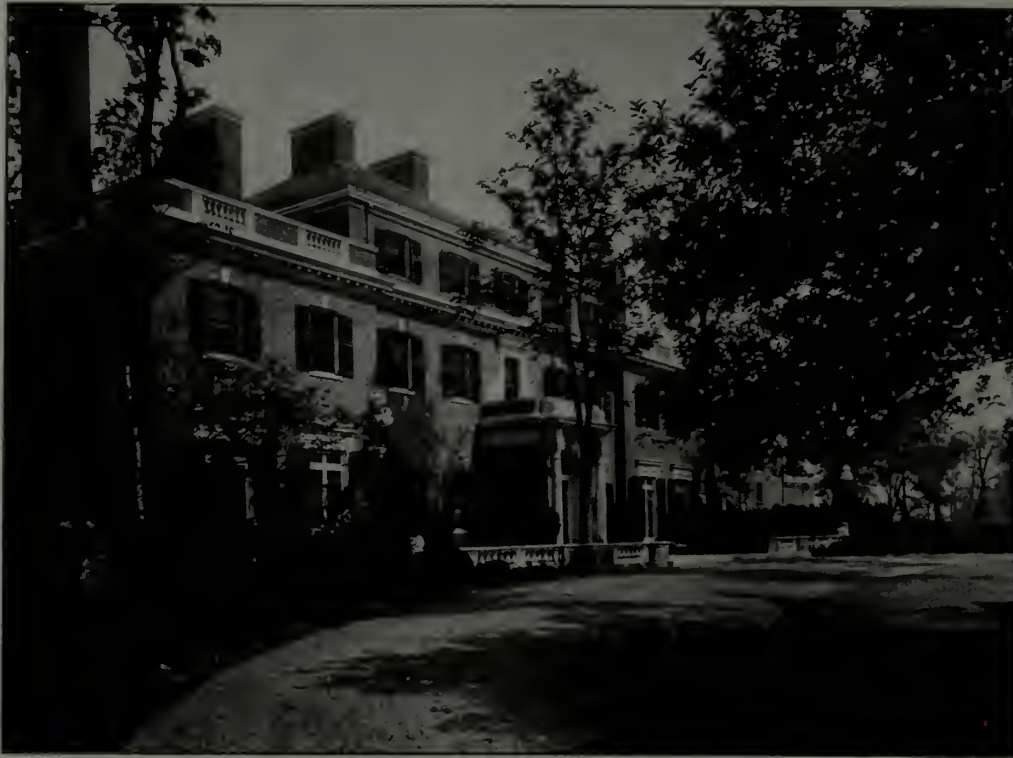
The problem of utilizing an estate of this character to the best advantage in these times of pressing emergency is indeed a difficult matter. Mr. Davison, however, has a penchant for getting results when he goes out after them. He attained them as a banker and

is getting them in his work for the Red Cross. Obstacles seem to please some men. I imagine that Mr. Davison enjoys action and the drama of quick-moving life. Thus we may imagine that the problem of utilizing his estate for food may have appealed to him because of its very difficulties.

Out on the Western prairies a pioneer may plow up the virgin soil and use every foot of the land for immediate food production, but here on the Davison place the original soil was, for the most part, nearly worthless for crops. Much of it was a waste of sand-swept desolation, bearing withal a rather picturesque tradition of pirates. Close to the spot where a little casino now stands, near the tennis grounds, was once a shack reputed to be the headquarters of a notorious band of freebooters. For all I know, Captain Kidd, who knew Long Island from stem to stern, may have buried some of his treasure near by. He would not recognize the site to-day. Thick and velvety lawns overspread it, and I was told by the superintendent, D. J. Coughlin, who has been there five years, that the labor and money expended in creating those lawns run into a big sum total.

In other words, the place is thoroughly capitalized, so, after all, the former work of adornment alone makes possible its use to-day for more necessary purposes. This soft and thick grass will go into milk, cream, and butter. There are now ten cows on the place, most of them registered Jerseys, and by the time this article is published there may be more. Among the choice ranges for this sleek herd is the four-acre polo field. There is no polo played there now, nor will there be any, in all probability, until the war is won. Wherever there is grass on the place that cannot with agricultural efficiency be turned under for cultivation, the Davison livestock will crop it.

Of the land available for plowing and tilling, about five acres are in corn, used mainly for feeding the chickens. Two acres are in mangel beets, for the livestock, and an acre in carrots for the same purpose. Two acres are planted to cabbages, the best of which will be sold, and the remainder fed to the poultry. There are five acres of potatoes, some of which may be sent to market; but the bulk of them will be consumed by the Davison group. Then there are the vegetable gardens, the orchard, and the small fruit. The latter, especially, is receiving intensive forcing this season, as the iron trellises indicate. One item from the



The Davison home on Peacock Point, near Locust Valley, L. I., which last summer was practically the living quarters of a dozen or more flying men, whose 'planes made the beach below the house seem fairly to swarm with wings



Everything of an ornate nature about the place has been eliminated this year, with the result that the force of workers has been reduced 50 per cent.

orchard comprises four barrels of cider.

The main garden occupies an especially favorable site of two or three acres that was formerly a chestnut grove. The chestnut plague killed the trees and left them standing bare and ugly. Not only were they an eyesore to Mr. Davison, but he wanted the land for gardening, so he had them cut down and the stumps removed by the most spectacular of short-cut methods, dynamite. I fancy that he entered into this sort of gardening with gusto. It took something like a ton of explosives to get the roots out, but incidentally the soil

was well stirred far down into the ground. I believe they call this deep farming. To-day there is not a trace of the stumps, and the garden is as smooth and tillable as any scientific farmer could desire. It is provided with surface irrigation, too, should it be needed. The water system on the Davison estate is more complete than it is in many a town. There are two artesian wells, one 230 feet and the other 365 feet deep, and the electric and gasoline pumping plant has a capacity in emergency of 350 gallons a minute. In summer 100,000 gallons a day is not an unusual quantity consumed. The system is one that uses air pressure, forcing the water to all parts of the estate and to the top of the house. A thousand feet of hose are available, and there are many hydrants. The house itself is to a great extent fireproof, whatever that may really mean.

Here in this main garden are growing almost all vegetables commonly used on the table. The first crop to be put in was peas, on April 3rd. As soon as these showed above ground, the second crop went in, and then the third. Last

summer peas were served on the table just nine weeks from the planting. After the peas, and on the same ground, come celery, late cabbage, cauliflower, and such other crops as the superintendent considers proper. The Davison harvests, which will be continuous all summer and well on toward winter, will include melons and pumpkins—the latter growing among the corn in true farmer fashion.

In all this work it is the purpose chiefly to take the Davison group out of the food markets, so far as may be. Production for the purpose of sale is not possible to any great extent. Wherever there is a surplus, it will go to swell the outside supply, but the Davison group of itself represents at least thirty-five or forty persons, and at times this number is very largely increased. In

years past it has been the custom to buy large quantities of vegetables, eggs, and butter. Even much of the milk and cream was bought in New York and shipped to the estate. But now practically everything in this line is being produced on the property in sufficient quantities to provide for the needs of all.

Thus this group is taken out of the market entirely, and becomes a unit in the nation-wide food campaign. In the winter, when the family is living in the Park Avenue house in New York, there will be ample vegetables in storage to supply the table. All last winter vegetables were hauled in by motor truck from the estate, so that it was practically unnecessary to go into the market. Large quantities of vegetables will be preserved this summer, as was done last year.

One of the most interesting features of the place is the vegetable storehouse. This building is about twenty-five feet square, attached to the general storage building, with double brick walls having air spaces between. Including this space, the total thickness of the walls is about fourteen inches. The building has double doors, is thoroughly ventilated, and is fitted with two tiers of bins. Last winter vegetables were kept here through the coldest weather without freezing. They have never molded nor shown deterioration of any sort. All the root crops, such as carrots, beets, turnips, parsnips, cabbages, and potatoes, were stored with success. String beans were kept for quite a time, until they were needed for use. Apples, peaches, pears, and other fruits also kept well. The estate harvests its own ice, from a pond supplied by the artesian wells. There are 200 tons now in the ice house.

With the elimination of practically everything of an ornate nature, it has been found possible this summer to reduce the force of workers 50 per cent., even with the large food-producing activities. The great amount of labor that has been required to create and maintain this estate may be judged from the fact that some spring seasons eighty-five men have been at work at one time. One gets some conception of this task by taking a walk along the sea wall, for instance. This massive concrete fortification against the waves has been heavily reinforced by thousands of tons of huge and jagged pieces of rock that came from the New York subway excavations.

The workers have been trimmed out just as have been many of the beauties of the place. At least two men were released by the closing of the greenhouses, and two more were dispensed with by the practical abandonment of the sunken garden. When I saw this, it

was in sad shape indeed, but I was told that it would look much worse as time went on. Nothing is being replaced, and the gaps will be left to grow bigger and bigger. Even the grass on the borders will not be cut. Possibly a little work may be done here occasionally, if the food activities give a day's respite now and then, to prevent absolute deterioration; but even this will not be done if the other work presses too severely. It is Mr. Davison's aim to avoid all possible demands on the labor market. That the carrying out of this resolution requires no little sacrifice, considering the time and difficulties involved in building up the estate, is manifest. But Mr. Davison has seen, in a most graphic way along the battlefronts of Europe, the terrible necessity for man power. All other considerations sink into insignificance.

The chickens afford another food activity that is especially interesting. This has taken a great spurt this summer, and I found about a thousand feathered inhabitants of the poultry yards, including young and old. The poultry houses are located at one end of the estate where they are best protected from the winds from the Sound. The services of one man are used entirely in the care of the chickens. They are fed and cared for on a scientific schedule, as laid out by the poultry specialists at Cornell University. Cooked potatoes are used somewhat for fattening.

Most of the pullets are white Leghorns and Wyandottes, and the trap-nest system is used to discover the best layers. Hens which show the worst records ultimately lose their heads and are used perhaps for fricassee and roasting, while the others are taken over for breeding purposes. From one group of 150 pullets thus selected, 145 eggs apiece were secured in a year. Another batch of thirteen hens laid about eight eggs daily all the year.

Early this season, before the family went to Peacock Point for the summer, twenty-seven dozens of eggs a week were being shipped to the New York residence. Large quantities of eggs were also "put down." Last winter eggs at Glen Cove brought \$1.15 a dozen in the market.

This will be a banner year in the Davison poultry yards. The first hatch occurred about March 10th, and the broods were coming out of the eggs rapidly all during the early part of the season. From these came large numbers of broilers.

Incidentally, there are some forty pairs of pigeons on the place, which are used for breeding squabs.

Hogs, too, have come within the Davison scheme, but, so far, misfortune has overtaken the efforts in this direction. The parent stock consists of some full-blooded Berkshires, but the



The practical abandonment of the sunken garden released two men. Nothing is being replaced here, and even the grass on the borders will not be cut



Mr. and Mrs. Davison and their two daughters—the Red Cross contingent—put the family on a 100 per cent. war basis

litters, for some reason, have met an untimely fate. The cause has not been thoroughly accounted for. Judging from the new and modern hog house, and the apparent solicitude with which the animals are attended, the business of producing pork should be extraordinarily successful here. I heard the opinion expressed, perhaps without sufficient grounds, that there may be such a thing as too much science.

I can scarcely close this article without saying that the Davisons themselves, as well as this country place of theirs, are in war work deeply and earnestly. They make up a 100 per cent. war family. Both Mr. and Mrs. Davison are giving their time to the cause, and the two sons are in the aviation section of the Army. The eldest, Lieut. Trubee Davison, was injured last autumn in an airplane accident, but is back again in the service. The younger son, Harry, is now in an aviation camp. These two boys, I believe, were active in the formation of the Yale unit

for the Air Coast Defense. They helped get twelve Yale men to form the first actual Air Coast Patrol. Last summer the Davison beach was alive with airplanes, for the big house was practically the living quarters of a dozen or more flyers. A fine beach it is, too, with diving floats, boats, and canoes galore; but such diversions have no place in the scheme of Peacock Point this summer.

One of the daughters, Miss Alice, who is even younger than her brothers, showed her desire for service by studying wireless and is now teaching it in one of the schools in New York. The other daughter, Frances, is too young to go out into active war work. Nevertheless, she conducts Red Cross operations in what was formerly a family tea house near the Davison beach. Here she gathers about her a group of girls, ranging around fifteen years of age, and they turn out bandages and work of that kind.

All this ought to inspire similar activity on country estates elsewhere.

SHEPHERDING *the* SHEEP

By WALTER A. DYER

Suggesting a sane and conservative settlement of the controversy between sheep men and dog owners. "The best cure for the dog menace is more dog"



IT IS a fact not to be denied that dogs kill sheep. Sheep produce both meat and wool, and in this period of our nation's history sheep raising certainly should be encouraged. In many sections of the country such encouragement would not be necessary were it not for the sheep-killing dog. The losses caused by these dogs have driven farmers out of the sheep-raising industry at a time when that industry should be markedly on the increase. What is the answer? Must the dog, a non-producer of food or clothing, be eliminated because of the urgent needs of nations at war? Or is there some other way?

This controversy has been gathering intensity for some time, until now, in some quarters, it has reached a point of actual bitterness. The sheep men believe that they have a just and obvious grievance which should receive immediate and effective redress. They call loudly for more stringent laws, going so far, even, as to demand legislation which shall virtually annihilate the canine race in America. Why not? The friends of the dog, on the other hand, ardent partisans as they are, demand a cessation of this bloodthirsty campaign against the best and most useful of all four-footed creatures.

It is difficult not to take sides in this controversy, but so far as I am able, it is my intention to look at the question fairly, weighing the evidence, and giving each party a hearing. First, what are the authentic facts?

Perhaps the most impartial and authoritative source of information and suggestion that has yet appeared is Farmer's Bulletin 652 on "The Sheep-Killing Dog," written by Mr. V. O. McWhorter of the Animal Husbandry Division, and published in 1915 by the United States Department of Agriculture. Though published three years ago, the facts given in this official bulletin are true of the present situation, and I cannot do better than quote a few paragraphs.

"The continued high prices of mutton and lamb have made it



In every sheep-raising country in the world except the Eastern United States, shepherds depend upon dogs for the protection of their flocks. Sheep herding is the dog's age-old occupation

desirable that more sheep be kept on the farms of the United States. Compared with the United Kingdom, where there is one sheep or lamb for each 2.5 acres of the total land area, in the thirty-seven farm states of the United States, not included in the Western division, there is only one sheep or lamb for each 31.8 acres of land in farms."

Following a discussion of the value of the forage-crop in preference to the range system, the bulletin continues: "As compared with the census of 1900, that of 1910 shows an increased valuation of 20 per cent., or approximately \$19,000,000, in the total value of sheep in the United States, exclusive of the Western division. Notwithstanding this marked increase in value, there was a decrease in numbers of 14 per cent., or more than 3,900,000 head, for the same period of time. It seems that an industry so favored by market conditions and so well adapted to the area in question should flourish rather than decline.

"Sheep-killing dogs are not only recognized as the worst enemy of Eastern flockmasters at the present

time, but are known to be the principal cause of so marked a decrease in the numbers of sheep kept on farms. That dogs are a real hindrance to the sheep industry is not only acclaimed by the testimony of thousands of sheep owners whose flocks have suffered through ravages by them but is verified by statistics.

"Owing to his many acts of faithfulness and devotion," continues the bulletin, "the dog rightfully holds a strong place in the minds and affections of men. This fact must be reckoned with in any attempt to ameliorate the injury done by the animals having the bad characters of the dog family. Because of the economic loss occasioned by sheep-killing dogs, and because of such dogs bringing the whole of their kind into ill repute, it is necessary that the true admirers and friends of this animal should help to further any steps likely to result in the limitation of the activity of these discredited members of a noble race. One of the most practical methods of accomplishing this result seems to be to place upon dogs such a tax as will reduce the number of superfluous dogs and

result in fewer being kept by persons who can not or will not give them the attention necessary to prevent the formation of habits and associations that lead to sheep killing."

The bulletin makes an exception of the so-called "Western division." Apparently dogs are not a serious menace to the sheep industry in the far West. *Our Dumb Animals* recently received reports verifying this fact. The secretary of the Animal Protection Bureau in Montana, the greatest sheep-raising state in the Union, wrote: "A large number of the dogs in this state are shepherd dogs, especially trained to herd and protect sheep.

I have lived in Montana nearly twenty-eight years and have never yet heard of a sheep being killed by dogs in this state." Wyoming comes next as a sheep-producing state. The state veterinarian writes: "There are no dog laws in Wyoming other than one defining ownership of dogs, and another section making it a misdemeanor for dog owners to run livestock with dogs for a distance of more than 100 yards from their property. There is a quarantine law prohibiting the bringing into the state of any dog without a health certificate issued by a licensed veterinarian or health officer." California, by the last census, is the seventh greatest sheep-raising state. The secretary of the San Francisco S. P. C. A. writes: "We have no state law regulating dogs in relation to sheep raising. We never have heard of any objection to dogs by sheep men. Dogs are used by nearly all the sheep men to assist them in pasturing their herds."

The far West, therefore, where most of our sheep are raised, may safely be eliminated from this discussion. But that does not solve the problem. The point is that we ought to be raising more sheep in the East, Middle West, and South, where the nearness of the markets and the character of the farm lands favor the industry. The East is not the place for large sheep ranches, but if it were not for the dog difficulty, we might hope to multiply our small flocks to such an extent as to increase materially the sheep products of the country—a serious consideration at this particular time.

In 1870, according to figures that have been handed to me, there were more than 5,000,000 sheep in the state of New York; in 1916 the number had dwindled to 400,000. This was partly due to the competition of the large Western ranches. Now, however, the demand for mutton and wool is greater and the prices are higher. The markets are near at hand, and there is much land in the East, not good enough for farming, which would be excellent for sheep. It is in the East that the problem of the sheep-killing dog demands immediate solution if we are to bring the production up to war-time requirements.

Here comes the crux of the situation. The sheep-raising farmers demand—and sometimes obtain—drastic legislation. The more nearly such legislation tends to elimi-



At Pocanlico Hills, the estate of Mr. John D. Rockefeller, showing Cecil Fawkes, the shepherd, Mrs. Fawkes, and one of the sheep dogs, the collie

nate the dog entirely, the better they like it. No doubt their grievance is well founded, but they have not always been temperate in the expression of their views, and the friends of the dog have risen up in ardent opposition to them. In a few states dog laws have actually been passed in which hatred of the dog is all too apparent, and such laws deserve the opposition of every humane and fair-minded citizen. I cannot speak too strongly against this belligerent attitude, and I am quite sure it will not succeed in the long run. The love of man for the dog is too deep-seated to permit defeat by any utilitarian considerations.

But the views of the extremists have no part in the present discussion. It is my purpose rather to see these views eliminated, and to arrive, if possible, at some conclusion which will point the way to a rational protection of the sheep-raiser's just and praiseworthy interests and at the same time work no real injustice to man's best friend, the dog.

I am glad at this point to be able to quote from a letter written to me by Mr. W. W. Burch, editor of *The American Sheep Breeder*, for it sets forth the sheep man's point of view in a reasonable and temperate manner. "For years," he writes, "I have been pounding away at legislatures and organizing the sheep men to fight dogs. I do not mean good dogs, for a good dog is man's best friend. I have owned many good ones, representing a dozen different breeds, and the purebred dog has his rightful place in the home and on the farm and ranch. A well trained sheep dog of any breed, whether it be collie, shepherd dog, or cross-breed, is indispensable to the farmer and ranchman. A well trained dog never attacks a sheep. It is the marauding cur that wanders o' nights that does the damage. Nine tenths of all the dogs in the United States belong in this class.

"Nearly every state has some sort of dog law, but up to now these laws have been a dead letter. The South has suffered more than any other section of the country because the South has a tender heart for a dog. Six out of ten farmers in the South cannot raise sheep on account of dogs. The South is waking up on the dog question. More than half of the states east of the Missouri River have enacted new dog laws within the last three years. The proposed Federal dog tax has many friends in the House and Senate, but the Ways and Means Committee has practically decided not to report it at this session, claiming that the expense of collection will more than absorb the tax. Suppose it does. If it cost a million dollars more, the country would be tens of millions better off in a revived and prosperous sheep industry. No branch of agriculture is so essential to the welfare of this nation."

Mr. Stuyvesant Fish, who has kept both dogs and sheep on his estate near New York, and who at first opposed the Wicks Law which was passed in his state, is also inclined to give the sheep the



On the lawn at Rockwood Hall, Tarrytown, N. Y., the estate of Mr. William Rockefeller. This shows part of the flock, with Archie Fawkes, the shepherd, and his Old English sheep-dog, the guardian of the flock



The modern collie possesses the instinct for sheep herding—all he needs is the chance to develop. Bruce (Sunnybank Goldsmith), owned by Mr. Albert Payson Terhune

The Old English sheep-dog is becoming increasingly numerous in this country, and his intelligence and dependableness make him hard to beat when it comes to working with sheep

The Old English sheep-dog trained and used by Archie Fawkes. He was a splendid worker, intelligent and dependable



benefit of the doubt at the present juncture. I will quote a few sentences from a long letter which he has written me. "While I am far more fond of dogs than of sheep, and in the habit of keeping both kinds of animals,

. . . I contend that the owner of dogs is just as much bound to keep them under restraint as he would be with regard to bulls. . . . The owners of dogs and of sheep should each for himself protect his own property, and the owners of dogs of all kinds must be ever mindful of the old maxim, 'So to use thine own as not to injure the things of another.'

"Personally, the dog law of this state seems to me a very good one in that it has certainly lessened the number of homeless, masterless curs all over the state. Fond as I am of dogs, and have been all my life, I am rather glad to see those useless ones dying off. On the other hand, the farmer in the country, whether he keeps sheep or not, must have a house dog, as there is no other police for the protection of his household, and of course it will never do to keep those dogs tied up all the time. It is a difficult question to solve, and there is much to be said on both sides. On the whole, I think the present law should be given a fair trial."

I shall discuss these dog laws presently, but since Mr. Fish has mentioned the New York law, it might not be out of place at this point to give another view of it—that of a man prominent in the dog fancy whose name perhaps I should not give. "From a pretty careful investigation of the farmers and the countrymen who have sheep," he says, "I find that they are not prejudiced against the dog, as in 95 per cent. of the cases that I met they all owned one. It is simply the political equation which has stirred up the sheep growers in New York, northern Vermont, and northern New Hampshire. In New York State the creation of a new department opened up about 1,200 political jobs and the collections from licenses run up into six figures. This can, of course, be used to good advantage by the political party in power." Thus is the whole matter further complicated.

But to get back to the original question. Dogs do kill sheep; the sheep industry certainly deserves protection; but the friends of the dog are on the alert to prevent injustice toward the canine race. What, then, is the answer?

The bulletin which I quoted, and most other students of the subject, offer two solutions—more effective laws to protect the sheep, and the use of dog-proof corrals by sheep raisers. As to the latter, the sheep man protests that he should not be obliged to go to this expense simply because his neighbor harbors sheep-killing dogs. Still, that is the law in other matters; if I do not keep up my half of my line fence and my neighbor's cow gets into my corn or my garden, I have no redress. Nevertheless, it cannot be expected that sheep raisers can be compelled to erect dog-tight fences. And they are not always effective, though Mr. W. C. Whipple of the Ophir Farm, Purchase, N. Y., writes me that he has found a close wire fence the most effective protection for his flock. The aforementioned bulletin gives evidence of the effec-

tiveness of such fences and describes a kind that has been found satisfactory by the Government. As to laws, the main thing is to impose a tax which will result in the elimination of ownerless curs and make all dog owners responsible for their animals. Well-bred dogs do sometimes offend, but it is the stray dog that does the greatest damage, and even lovers of dogs must admit that such dogs are of little use in the world. It is important that such laws should not impose a hardship on owners of well-trained and inoffensive dogs. They should aim to punish the guilty and not the innocent, or they will only arouse opposition and so be rendered ineffective. Some of the recently passed state laws go too far, in placing it in the power of a possibly irate and dog-hating farmer or sheep man to become any dog's judge, jury, and executioner, and perhaps to shoot a harmless dog whose sole fault is running out and barking. The injured sheep man is perhaps not the best interpreter of the phrase "worrying an animal." The bulletin which I have quoted gives a standard law, compiled after careful study of the laws of all the states, which is designed to meet all requirements. It seems to me it would be better for legislators to study this standard law rather than to be guided by the partisan demands of sheep-raising constituents. Let us have restrictive laws, by all means, protecting sheep and restraining the dog, but let them not be laws so lacking in common sense and justice as to antagonize those friends of the dog whose support is most needed at this crisis.

But fences and laws are not the only means of protection. I have left until last what seems to me the most obvious method of all—the method which has been employed since the days of Job. In Scotland, in New Zealand, and in every sheep-raising country in the world except the Eastern United States, shepherds depend not upon laws and fences for the protection of their flocks, but upon dogs.

In the name of common sense, why don't our harried Eastern sheep men and farmers adopt this age-old method? It is done in Montana; why not in New York and New England, Ohio and Kentucky?

I suggested this to an Easterner the other day. "Put a dog with the sheep?" he replied. "Wouldn't that be a rather dangerous experiment?"

Can we look upon it as an experiment when we know that the protection of flocks is the dog's most ancient employment? Can it be that we are so provincial and ignorant as all that? The world over, since time immemorial, dogs have been trained to protect sheep against all sorts of dangers, including wild beasts, thieves, and sheep-killing dogs. The sheep-killing dog is usually a coward; the well-bred shepherd's dog is not. One good sheep-dog can protect his flock effectively against any and all comers; history has proved it.

Here, I venture to assert, is the solution of the problem for the owners of small flocks in the East. True, there are difficulties. We have got to learn something of the methods of training; we

have got to get the dogs. But we have plenty of good stock. Airedales can be trained to this duty, as Western sheep men have proved. There is no dog better for the purpose than the old-fashioned Scotch collie, and even the modern collie has the instinct in his blood. Good modern collies are being effectively used today on Western ranches. And the Old English sheepdog, now becoming more numerous in this country, cannot be beaten for this service. Doubtless the German and Belgian sheepdogs, too, could be brought back to their original vocation. It is absurd to say that it cannot be done.

Mr. E. A. Rogers of Dundee, Mich., whose business is breeding and training collies for the protection of sheep, has written me a long and feeling letter on the subject of the character and capacity of these wonderful animals. I wish I could quote all he says in praise of them. Incidentally, he writes, "We have one collie in Montana that we trained who is handling 2,000 sheep, and the owner said that she had capacity for more. We recently sent another dog to a herder in Wyoming. He writes me that he has a flock of several thousand and he couldn't get along without this dog. I learn from others who have our dogs that there are hundreds of this sort in the West who couldn't handle their sheep without them."

Such dogs are often trained to herd sheep in the approved manner, and this of course offers obstacles to the owner of a small flock. It would not pay him, perhaps, to go to the trouble and expense of securing a sheepdog trained to the last notch of efficiency in herding. But that is not necessary as a protection against sheep-killers. Any good dog of these breeds, which is reliable, brave, and intelligent, can easily be trained to act as a responsible and effective guard for the flock. The Scotch shepherd of the University of Missouri, for example, owns several collies which he does not attempt to train for herding, but which are exceedingly useful as protectors for the University flocks.

The Eastern farmer should take this suggestion under serious consideration, and the wealthy owner of the Eastern estate, as well. If the country estate's resources are to be enlisted for the war, there is no better way than to pasture a flock of sheep on the waste land. Small flocks of twenty-five to a hundred head would be the thing, and if every estate maintained such a flock, the aggregate number would materially affect the figures of the next census. And for each such flock a good dog, trained to protect the sheep from the marauding cur, would solve the problem and bring joy to the hearts of dog lovers everywhere.

That this is not a visionary scheme is evidenced by the experiences of a number of estate owners with whom I have come in contact. The thing is being done; my chief feeling is one of surprise that it is not being done more extensively. Why have we Americans, with our reputation for enterprise and with our national admiration for the dog's best traits, been so backward? Isn't this the time of all others to try the "experiment" of a good dog and a small flock?

In closing I would like to quote from letters written to me by shepherds on large Eastern estates who have had experience with this sort of thing. Mr. Archie Fawkes, the shepherd for Mr. William Rockefeller at his estate in Tarrytown, N. Y., writes as follows: "I have handled both collies and Old English sheepdogs, and I have found the Old English the most faithful and reliable. They are easy to train; it seems to come natural to them. I leave my dogs with the sheep every night, and they guard them against other dogs and people. I herd the sheep on the lawns in the summer time, and my dogs will work by the motion of the hand. Any one owning a flock of sheep should never be without a good dog. Of course, many people would prefer the collie, but give me the Old English for reliability."

"In breaking a young dog, the trainer should tie it to an old dog that has been already trained and is gentle. Sometimes the youngster is taken on a long line and the phrase 'get forward' is used. If he starts off too rapidly, cry 'steady' or 'down,' pulling on the line at the same time to enforce the command. There are many different ways of training, however. We have had no bad experiences with sheep-killing dogs, our dogs offering sufficient protection."

Mr. Cecil Fawkes, Mr. John D. Rockefeller's shepherd at Pocantico Hills, N. Y., writes: "The marauding stray dog has certainly been quite a menace to the sheep business in the state of New York."

"In my own personal experience I have never been bothered by stray dogs. I have used the Old English sheepdog and the collie in caring for the sheep. The English bob-tail is believed to be the best protector, as he is very alert and most faithful. Often their forefathers have never known any other life than with the sheep, so it comes natural to them. They are very apt, and it doesn't require much training for them to learn to work with the flock. Usually they are trained by the side of the mother or an older dog who is already trained. Any dog that is trained to work with the sheep during the day, and knows that this is his life and duty, will protect them from anything that comes near, day or night. I don't think any special training is needed for this."

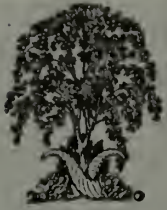
"In my opinion the Old English sheepdog is the most proficient and ready for any emergency, and they are found with the best flocks in America and England. The collie is a good dog, too, but is inclined to be more easily cowed."

"Since I have had charge of the John D. Rockefeller sheep, I have had more than 500 sheep to attend to at one time and only two dogs, a sheepdog and a collie."

The conclusion of the whole matter seems to be clearly indicated. Let the sheep men use dog-tight fences if they will; let us have better dog laws and enforce them; and finally, let's have a little courage to try the "experiment" of a small flock of purebred sheep and a purebred dog to watch them. "Set a thief to catch a thief." The best cure for the dog menace, in my opinion, is more dog.



Collies (in the background) tending their flock at Pocantico Hills. While the pictorial side of the question is a negligible factor in these times, it is nevertheless a fact that, entirely apart from their utilitarian value, sheep are the most decorative feature that the estate owner can introduce into the landscape.



FROM A COUNTRY WINDOW



CURVED BLUES: a smooth, sapphire stream flowing between gently winding banks; an arched sky of intense lighter blue; the



PROFESSORS
AND
POTATOES

stooped backs of men in blue overalls sun-faded to a soft picturesqueness; and an enfolding purple-blue mist that blurs the whole into a M^onet landscape. You wouldn't think that I was describing just professors in a potato-patch, would you? But I am, and I wish that the world outside, the world that persists in thinking of "dry-as-dust" as a professorial synonym, that can imagine a professor teaching the young idea how to shoot, planting a thought in the sometimes fertile soil of a student's imagination, or digging Greek roots as an ardent avocation, but doing no practical, hard work, could have seen what I saw all last summer. Our Town went to war with so whole a heart: the boys left for training camps or service overseas; the women worked thriftily and with nimble fingers; and the professors—planted potatoes!

A pleasant place to work it is; the bank above the stretching patch dark with pines, and on its sides grow thickly starred hepaticas in the spring, and in the fall a carpet of scarlet partridge berries. When the sun beats hot upon it there is a delicious wood-fragrance, and in some magic way you seem to savor the landscape. Virgin soil it is, or very nearly so, for, in plowing the land, bits of broken china came to light, fragments of the little domestic gods of eighteenth century housewives; old blue Staffordshire, more sapphire than the river; proving that men long ago lived and throve and planted here, too. Of course there were cold days of beating rain when the thought of an open fire and a friendly book beckoned enticingly indoors; and gray weather when the river looked as sullen as an unpolished pewter platter. But it all was a part of life, and chiefly I remember those joyous blue days and the blue figures directing creaking wagons and wheelbarrows to the communal patch where they worked in harmony, though people *do* say that there sprang up certain quick rivalries as to which professor could dig the most potatoes in the shortest given time.

They were matinal; like Chaucer's Emilie they rose with the up-rising sun, and they toiled until evening, victorious, flung out her flaming banners in the western sky. Maybe these blue-clad workers were not always the same men, but I know that the perpetual aspect was professorial persistence. And at first the farmers hereabouts were amused—a professor having always seemed to them a rather overpaid, unpractical, good sort of creature—then interested, and at last, convinced. For our professorial crop last fall was a bumper one, and this year we mean to go over the top. You see—and here I am adapting Voltaire a little to suit our present needs—if we are to make this the best of all possible worlds, certainly we must cultivate our gardens.

I HAVE OFTEN BEEN puzzled to interpret the proverb "The longest way 'round is the shortest way home," but I think I have got at the meaning of it at last.



CUTTING
CROSS
LOTS

We will say that I have been down to see how the Widow Beaman is getting on. The road to my house makes a sweeping curve and it is unquestionably the longest way 'round. But it is a very familiar road, and familiar roads seem shortest. It does not encourage loitering. I know so well the blue flags in the ditch by the roadside in spring; I know just where the deepest-colored clumps of wild asters grow in the fall. It takes but a glance to tell me what Tom Hooker is doing in the Belden orchard. I know every ledge in the rise in the road which has been known for a hundred years as Cider Mill Hill. Perhaps Prince, the Belden dog, runs out, barking fiercely, but it takes only a minute to give him the friendly greeting that is really what he is after. The air is fresh and clear, and rapid walking is a pleasure. I look at

my watch as I reach my own lilac bush, and find that I have covered the distance in twelve minutes.

But if I take the short-cut across the Holton farm it is distinctly another matter. Surprises await me on every hand—things that demand investigation. Little adventures delay my progress.

There seems to be a hint of green on one of Holton's plowed fields; I must just step aside and see what it is. Potatoes. Hm! Mine have been up for a week.

As I cross the brook on slippery stones I am startled by the sudden whirring of wings, and a small bird darts up from among the alders. It takes five minutes or so to find the cunningly hidden nest with the four speckled eggs in it.

As I clamber over the stone wall that bounds my farm I hear a low whistling somewhere beneath me. I cannot refrain from pulling out a stone or two until a bit of Mr. Woodchuck's grizzled fur is disclosed and he redoubles his angry whistling. I must bring down the dog and get him out of there.

In the old orchard back of the barn I stop now and then to scrutinize the lower branches for fruit buds. Evidently there will be full bloom this year.

At the barn old Bob whinnies to me and I must stop for a word with him.

My journey by the short-cut has consumed forty-five minutes. Yes, it's true: the longest way 'round is the shortest way home. But then, happily, shortening the way home is not the sole end of man.

DID YOU EVER THINK how hard it is to be a boy—sometimes? To want so much to do things, and not be allowed to do



"COME
YOUNG LADS
FIRST"

them? In Our Town it all began by "Dutch" Schrieber's enlisting; "Dutch" Schrieber, strong and big and brown, the admiration of all the smaller boys;

"Dutch" who sent back a message which bewildered the old father who long ago had fought in the Prussian army, "Good bye, Mother. Tell Dad I've gone to take a crack at the Kaiser!" For such, so often, is the spirit of the second generation.

Singly and in groups the boys went away, and service flags saluted you from many houses. And then one with a single, fluttering star waved from the window of the Junior High School! My twelve-year-old son came and leaned against my knee and told me all about it. "Tony's enlisted. Tony's gone," he said wistfully. "Gee, he's a lucky guy! Gee, I wish I could enlist!" The spring outside was young, too, the trees flaunting their banners against the blue sky, leading the army of all green things growing. We looked at each other silently, and I knew that that was the way I wanted my boy to feel. And then the next day Romance and High Adventure were swept ruthlessly aside, and Tony, exalted, shamefaced, very resentful, and with 35 cents in his pocket, was returned from the city to his protesting, indignant parents.

Oh, I know it is amusing, but isn't it a little touching as well? Was it only the Red Gods calling, or the big world beyond that beckoned Tony, Tony who had never seen anything larger than the milling-towns below us in all his fifteen years of life? Neither really, I think for I have seen the lad so many, many times in school, his liquid Italian eyes ashine, saluting the Stars and Stripes and saying in chorus with the others, "I pledge allegiance to my flag and to the Republic for which it stands. One nation, indivisible, with liberty and justice for all." Ah, that sacred relation of our children and our country; the thing quickest to tighten your throat, to brim your eyes with tears! In the whole world there is nothing more of tenderness.

And, after all, what is life but a splendid gift for us to offer freely? Such was the valiant soul of little Santa Teresa who, 400 years ago, ran away to convert the Moors. So, only, may we who live to-day write wonder-tales for those who come after to read.



BAY *and* CITY of SAN DIEGO
from POINT LOMA

FROM THE PAINTING BY
Maurice Braun
FROM AN EXHIBITION IN THE BAB-
COCK ART GALLERIES, NEW YORK



Photograph by J. Horace McFarlan

Though at this time of year the garden is mostly a growing one, a great deal can yet be done to secure the largest crops possible, by keeping up cultivation to conserve moisture

KEEP *the* WAR CROPS GROWING

By F. F. ROCKWELL



THE U. S. Department of Agriculture has revised its estimate for this year's wheat yield—upward! It is a mighty fortunate thing that, in spite of the unfavorable winter, spring conditions have been such

that a better yield is to be expected. But while the wheat estimate has been revised, other estimates have also; notably the number of men that we will have in France at the front and in training here, by harvest time; and the number of years it may take to convince the German people that their irresponsible rulers have been feeding them up on falsehoods. So that while there is some prospect that our supply of foodstuffs this fall may be larger than looked to be the case a few months ago, there is likewise a certainty that the demand for it has increased in proportion even more than the supply. And then there are the increased food requirements of our allies, made greater by the never-ending drain upon the man-power at home to furnish fresh material for the front.

To put it briefly, there will be urgent need for every pound of food that can be produced for next fall; and every crop that is growing now, no matter how small, or how unimportant it might seem under ordinary circumstances, is under present conditions so important that its care during the next few weeks may mean literally a matter of life or death to some family or families in Europe before next spring. It is only by making every quarter-acre at home count to the utmost in feeding ourselves during the next several months that we can possibly supply food enough from the corn belt and the wheat states and other big producing areas to take care of all those whom we have to help on the other side.

What can be done at this late date to get more food from our home acres?

The layman may think that by this time of the year there is nothing to do but await final results; that the farmer has done his bit, and it's now up to the Lord to do the rest. Let no

land owner lay that flattering unction to his soul! Many crops are still largely to be made; some can be wholly made between now and snowfall. There are four distinct lines of action, along any of which there is still time to get busy, and thereby help a poor situation, or make a good one better.

First, secure the largest crops possible by keeping up cultivation and fertility.

Second, plant every idle acre possible to fall or winter crops.

Third, give thorough protection from insects and diseases.

Fourth, prepare for better methods in harvesting and storing.

Much can still be done to secure crops that will be the maximum for the conditions you have. First of all, you should be sure, by looking your fields over with your manager or foreman, that no half-grown or maturing crops are being held back for lack of available plant food. The efficient use of fertilizers, as a side dressing or top dressing on *growing* crops, is one of the arts of agriculture in which the American farmer is least skilled. He has had so much land to cultivate, that his problems have been almost more mechanical than agricultural; that is, he has had to study out how to get something out of a great many acres, rather than how to get much out of a few acres. But, even aside from the war duty of producing all the food it is possible to produce on every acre, it will *pay* to do things now which would not have been profitable in times of peace and below-the-cost-of-production prices. The top dressing and side dressing of growing crops with quick-acting fertilizers is one of these things. There are several good machines for doing this work, although they are not nearly so generally known as tools of similar capacity for cultivating or planting. With one of these machines the fertilizer may be applied evenly to both sides of two or three rows, in any desired amount, at one passage. Of course the grower must use his own judgment as to what may be

needed. Most crops draw more heavily on phosphoric acid and potash during the latter stages of growth. There is a new fertilizer material available now which contains 15 per cent. of water soluble potash. It is a product of the nitrate fields of Chile, and in addition to the potash contains about the same amount of ammonia nitrate of soda. This will make a particularly valuable top dressing for crops for which it is impossible to obtain potash when they were planted last spring, for late planted potatoes, a corn, mangels, and all root crops for winter. It should be kept in mind that even if all of the plant food applied by putting on fertilizers is not used by the present crop, very little of the residue need be lost; it will remain in the soil and may be put into still better shape for next year's crops by sowing a cover crop for winter.

It will pay to cultivate this summer more thoroughly than ever before. The amount of cultivation which it will pay to give any crop is a proposition in diminishing returns. Each successive cultivation, generally speaking, will add to the size of the crop to be harvested. Each successive cultivation, however, adds less in proportion to the cost of doing the cultivating. As cultivation is, to a large extent, a substitute for artificial fertilizers, it is obvious that the more fertilizer cost and the more a crop is worth per bushel or pound, the better it will pay to cultivate, merely as a business proposition.

Every acre of crops this year should be cultivated thoroughly as long as it is possible to work it.

Don't be content to have your crops laid out merely as a matter of routine this season. If the equipment won't take care of it readily, get a new row cultivator, or if your acres are extensive enough, a motor cultivator. Of course it's late, but it's very good policy to get now any new equipment you will want next season, for deliveries are more prompt now than they are likely to be then, and there is always more or less adjusting and experimenting to do with any new machine to get it working just right.

There is another factor in the production of maximum crops that is usually confused with irrigation. That is the matter of the maintenance of the supply of moisture in the soil. It is true that cultivation, as a sort of by-product, accomplishes this result. But keeping up a perfect dust mulch at all times is a matter aside from, or rather in addition to, frequent cultivation. As soon as a crust forms, the loss of water—which, more than any other one thing, really limits the size of the crop to be obtained—begins to take place. The farm equipment is incomplete without tools for making a shallow dust mulch. For this purpose a light spring-tine mulcher or weeder, on wheels, does the work so much more rapidly than an ordinary cultivator that on a place of any size one will pay for itself very quickly. They are very light machines, and will cover as much as twelve feet, four three-foot rows, at a passage. A seeding attachment, which is very handy for using in cover crops, is available. The value of the soil mulch depends upon getting over the ground at just the right time, and therefore a machine which will do the work with the greatest efficiency will prove a profitable investment.

It is possible to increase one's acreage without increasing the size of the farm. Speeding up the cropping system, so as to get two crops, or one and a half, where one was obtained merely, will accomplish the result. Nor is such a system necessarily hard on the land; in fact, it may be very beneficial, either through increasing some of the extra crops for green manuring, or to feed or buy feed for more cattle.

The most important crop to sow at this time of the year, to help present food production, is turnips. These are the most rapid-growing of root crops, and if there is a shortage of potatoes, as seems likely again this winter, they will be a very important item in our national winter diet. They will do well on sod—some run-out pasture or hay field—on stubble, after oats or corn, or on old ground. Without going into cultural details, let it be kept in mind that the important knack in growing a crop of turnips is to secure a good stand in dry weather. Turnip seed is very hard, and requires an abundance of moisture to secure good germination. But it is so small that it cannot be covered deeply. To secure a good stand in dry weather, therefore, the seed should be rolled quite heavily after sowing, to bring the moisture to the surface and in contact with the seed. But one cannot have his cake and eat it too," therefore, just as soon as the seedlings are up enough to be plainly visible, they should be cultivated to break up the crust made by the roller, and reestablish the moisture-reserving dust mulch.

In sections where there is still time to sow winter wheat, it should be put in by every one who can find room for it. As a wheat substitute

is particularly important. Buckwheat has a reputation for "poisoning the land." It seems to be due mostly to the fact that buckwheat is capable of foraging for the last bits of plant food available, so that on ground that is not replenished with plant food after buckwheat gets through with it, any other crop finds poor going. But for that same reason, buckwheat is a good war crop; it is capable of digging the latent wealth that has been tied away in the locking, and dragging it out for use; it furnishes a short cut in converting raw material into available food. The crops that will be next year's crops

are almost as important as the crops to feed this winter's soldiers. One of the greatest opportunities which August offers is in growing next year's fertility. Not an acre that can be covered should go through the winter bare. The two standard winter crops are rye and winter vetch. Another good combination is buckwheat and crimson clover. Sweet clover will often succeed where no other legume will, and make a tremendous growth. Whatever may be the best for your own conditions, get it sown, and sown early. It is not necessary to wait until the present crop has been harvested. Put in the winter crop at the time of the last cultivation if possible. If not, be ready to disk or harrow or cultivate the ground from which a crop is being removed, and get the seed in, at once. Keep your share of the war crops growing by getting ready to have bumper ones next year, even if the fertilizer supply is short.

Many people who have tried winter crops or green manuring to keep up fertility, and have not been pleased with the results, have simply given instructions to manager or foreman, without following the thing up to see that it was done properly. In the first place they must be sown early enough to get a good growth by winter, both to insure going through the winter safely, and to be ready to turn under early in the spring. Also the seed must be properly planted, not merely thrown on the ground. The average man hates to take any pains with a crop that is merely going to be plowed under. But seed of the same kind will not sprout any more readily for one purpose than for another. A special one-horse drill, for sowing seed between rows of growing crops, may be bought for a few dollars; often the price of seed wasted by careless hand sowing would pay for one of these machines several times over.

Government experts have estimated the annual damage done by insects at more than a billion dollars. Probably it is much more than this, for a great many crops are injured enough, for want of protection which might readily be given, to cut down the yield considerably, although the crop as a whole may not be damaged enough to be reported. Let your crops be so thoroughly protected that they will yield 100 per cent. so far as damage from insects is concerned. Fruit spraying has been developed and advocated to the point where no fruit grower thinks of attempting to produce good fruit without regular spraying. But there are many field crops which there is just as much reason for spraying, where results would be just as beneficial, that in nine cases out of ten go neglected. There was some reason for this formerly, but with the modern light, powerful field sprayers, in which the pressure is furnished not by traction but by a small engine, and covering up to ten rows at a time, the estate owner who has poor field crops for want of protection from insects or controllable diseases—and most

of them can be controlled now, if taken in time—is not only a poor patriot but a poor business man. Against sucking insects, such as the plant lice which attack cabbage, cucumbers, peas, melons, and occasionally potatoes and tomatoes, 40 per cent. nicotine under good pressure has been found to be the most effective spray. For potato bugs—which often do severe injury even at this time of the year, especially to late-planted crops—and other eating insects, arsenate of lead is the specific. For blights and other fungous diseases, bordeaux mixture is the standard remedy. The latter is also good as a repellent for the flea-beetle, which is one of the worst enemies of potatoes, tomatoes, and turnips, and at times attacks many of the other garden vegetables and field crops.

The important thing about spraying is to do it in time—or rather, ahead of time. See to it that your manager has provided for everything in the way of spray materials that is likely to be needed, and has his spraying equipment in shape to begin at an hour's notice when the necessity may arise. A single day's delay may mean the difference between success and failure in fighting many plant troubles. Every spray needed should be ready for literally instant use.

Last, but not by any means least, comes the problem of keeping maximum crops maximum, once they are grown. The crop that is grown only to be lost or damaged in harvesting or storing is the one that pulls the edge off the whole year's profits. One thing that was said above in connection with cultivating, applies equally well to harvesting; i. e., it will pay this year to do it more carefully than ever before. Don't let grain stand until it will shatter in the harvest, or corn go until the frost may catch it. A single leaky wagon body may cost you many dollars, and be of just that much help to the Kaiser. Conservation must be the watchword all along the line from reaping to root digging this fall. There is a chance here to make use of the local organization of Boy Scouts in your vicinity. I knew of an instance last fall where they "followed the harvest" on one large estate and saved many dollars' worth of food that would otherwise have gone to waste each day.

If you have been considering getting any improved harvesting machinery, now is the time to do it. Not only will it help your own work, but it may be the means of saving the crop for some neighbor who is not in a position to get such a machine, and cannot find hand labor in the press of the harvest season. Every such machine that can be kept busy this fall will be a big gun in the food trenches, fighting for democracy just as definitely as any 75 on the front in Flanders. To some extent this year you are responsible for your neighbor's harvest as well as your own.

And be prepared to store everything that you have grown when frost returns this fall. If you have greatly increased your planting of root crops that can be kept for winter, build a pit now that will be convenient and adequate for storing them when they must be taken from the ground. Such a pit, or rather root cellar, is an excellent investment even in normal times. With transportation as uncertain as it is now, it will be an even better one. All over this country trainloads of vegetables are shipped to the big market centres every harvest time, only to be shipped back again later to near-by towns. More adequate local storage houses and cellars will help eliminate this useless waste of time, labor, and coal.



Photograph by J. Horace McFarland

The important point about spraying is to do it in time. A single day's delay may mean the difference between success and failure

BELGIUM had 200,000 racing pigeons when the war broke out, and they played a part in the saving of Paris which the world is just beginning to realize. The invaders seized the telegraph offices and wireless stations from which they sent out misleading messages calculated to involve the French and Belgian armies in endless complications. They did not succeed because the truth was revealed by feathered messengers released by fanciers who had dared to ignore an order that all arms and carrier pigeons should be immediately surrendered. How many of these fanciers were stood up against a brick wall and shot, nobody will ever know. At any rate, it was demonstrated that racing pigeons can be depended upon when all modern means of long-distance communication fail.

It is not strange, therefore, that pigeons have come to play a prominent part in the present conflict. France had learned the value of carrier pigeons long before. For months, during the siege of Paris, no other means of communication with the outside world existed. There was a time twenty years ago, when these pigeons had a certain place in the military service of this country. Then the wireless telegraph came into use, and it was supposed that the day of the carrier pigeon had passed. Accordingly, the lofts were abandoned. It is a curious fact that many theories have been overturned by this war. It was supposed that with the coming of such modern death-dealing devices as machine guns and armed air ships, fighting would be on an entirely different plan from that of former wars. It is found, however, that we are getting back to old-time methods in our fighting, bayonets, hand grenades, dug-outs, and trenches being as important as they ever were in the past. It is not surprising, therefore, that the carrier pigeon has come back.

It is a fortunate circumstance that there are any homing pigeons to enlist for military service. If it had not been for the interest in racing pigeons maintained for half a century by the fanciers of Belgium, France, and England, there would have been no trained birds to use. Pigeon racing, as it happens, has long been the national sport of the Belgians. Before the war broke out, the most famous lofts in the world were located within Belgium's borders. Of course comparatively few of these lofts escaped the relentless hand of the invaders. Fortunately, though, England, with her ninety to a hundred thousand fanciers, was able to supply a large number of birds for immediate use in France. Now there are traveling lofts by the score immediately back of the fight-



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Military homing pigeons for service at the front in France

The PIGEON in WAR SERVICE

By E. I. FARRINGTON

ing lines. These lofts, which resemble covered vans, are mounted on wheels and accommodate about twenty birds each. The roof of each loft is painted several bright colors, which can be seen a long distance. On the side of each roof is a wire cage, from which the birds can familiarize themselves with their surroundings before they are released.

It is a remarkable fact that these racing pigeons are more dependable than the wireless telegraph or any other means of communication known to man. It is stated on authority that 97 per cent. of the messages sent by them reach their

destinations. The messages are safeguarded by a simple system. Shortly after a bird has been released a second pigeon is liberated. It carries the message entrusted to bird number one, together with a message of its own. Then a third pigeon goes forth carrying duplicates of the messages already sent out, and a third. This is continued until five birds have been released. Then a new series is started, the sixth bird carrying only the message of bird number five besides its own. The distance which the pigeons are required to fly is no long, usually from ten to fifty miles. Such a flight entails no strain on the birds, which reach their destination in a very short time.

Extremely sensitive though they are, the pigeons seem little disturbed by the noise and shock of battle flying calmly through the blinding smoke. Sometimes, of course, they are hit by pieces of shell, but more often they go down before the rifles of the German sharpshooters, who consider these pigeons among their most important targets. Occasionally a dead bird is obtained by the Germans but they profit little as a result, for the messages are written in code. This code has been worked out with such skill that the contents of a scrap of paper ten by fourteen inches will cover several sheets of typewritten paper when translated. Rice paper, being extremely light and thin, is commonly used. The messages are carried in tiny aluminum tubes fastened to the legs of the birds.

When the American troops landed in France, they quickly became convinced that they needed a pigeon corps. Moreover, their officers began to realize that the American Army at home must organize a pigeon service in order to meet the conditions of modern warfare. That is the reason that the United States Government has been combing the country for several months to obtain 20,000 registered homing pigeons to be used as a nucleus in this new branch of service.

There are many racing pigeon fanciers in this country, especially in sections which have been settled by men of Belgian or British birth. There are three national associations and probably 10,000 active breeders. Although the sport of racing pigeons is not indulged in so freely as across the water, birds have been flown in all parts of the country in annual races, some of them covering long distances.

Although the term "carrier" is commonly applied to these pigeons across seas, the pigeon known as the carrier in this country is an entirely different bird. Our carriers are purely exhibition pigeons. They can fly but a short distance, and they bear no resemblance



British official photograph
A message from the British trenches being removed from the leg of a "night howler", as these feathered messengers along the battlefield are called



Our carrier pigeon is a different type of bird from the carrier overseas



A pigeon loft may well combine beauty and utility, though in war time we can dispense with the former quality



The racing homer, the type in military use, is a compact, trim-looking bird

to the homing pigeon. The chief characteristic of the carrier is large patches of bare skin often spoken of as "carruncles." There are several varieties of homers, too. There are exhibition homers, bred solely for their show points, and the large, beefy homers, which are used by squab breeders. The racing homer is a compact, trim-looking bird, bred chiefly for its powers of flight. Many of these birds have considerable money value, selling for \$50 apiece or more. Only registered birds are allowed to participate in a race, and a bird can be registered only when its pedigree can be accurately traced.

The breeding of these racing pigeons is a fine art, in which the staying powers, courage, intelligence, and vitality of the parents as well as their conformation and markings must be considered. The interest displayed in racing pigeons may be judged by the fact that the breeders have a magazine, *The Racing Pigeon*, published at Jamaica Plain, Mass., devoted exclusively to their hobby. One of the leading writers, as well as a prominent breeder, is Lieut. Robert Milne, of Dorchester, Mass., who has been assigned to the Northeastern Department of the Army in charge of the pigeon service.

When the call for pigeons came, scores of breeders offered their birds. The Government is taking no pigeons as a gift, however, but is paying \$2 apiece for those accepted. Lofts are being established at the different cantonments throughout the country. The first loft was on Governor's Island, New York. A large number of active pigeon fanciers have been enlisted to service in the pigeon corps. At first a number of pigeons were shipped to France, but this proved unsatisfactory, as the birds were too old when they arrived to be properly trained. Accordingly many of the birds now being obtained will be used for breeding, the young stock being used for actual field work.

There has long been a controversy among pigeon breeders as to whether it is instinct, intelligence, or abnormally keen sight which enables a racing pigeon to find its way back from points many hundreds of miles away. Perhaps a combination of all three must be admitted. Certainly a considerable degree of intelligence seems to be shown in many instances. Moreover, some birds will succeed where others fail, seeming to demonstrate superior mental ability. Not long ago a New Jersey breeder sent a pair of birds to Cuba. A few weeks later one of these birds was found back in its old loft.

In order to be a good working bird, a pigeon must be settled in its loft before it has taken a flight. Pigeons are ready to leave the nest and sluff for themselves when four weeks old. Then they are allowed to enter a cage on the roof of the loft where they can become familiar with their surroundings. This is called the settling process. After a few days they are allowed their freedom late in the afternoon, or when the weather is cloudy. Under such conditions they do not go far away. Indeed, they may not leave the roof. This practice is continued several days longer, after which the birds are taken a short distance away and tossed into the air. Usually they return promptly to their lofts. Once a bird has taken a flight and returned, it can be considered thoroughly settled. Wherever it may be taken, it will come back to that particular loft if it can possibly do so.

Occasionally birds are lost. More than a dozen very young birds were taken to one of the camps not long ago, and nicely settled, as it seemed. They made several flights and returned. Then one day the soldiers began firing, which so alarmed the flock that all of them flew away. Two or three days later a few came back, but the rest were never recovered.

Training homing pigeons for racing requires considerable skill and knowledge. Naturally

enough, fanciers differ greatly in their methods. Some like to turn out their birds when a storm is raging, or the snow falling in order that they may become accustomed to flying under such adverse conditions. Courage and persistency are two qualities indispensable in racing pigeons if they are to win any laurels. Some birds will fly very swiftly for short distances, but the test of their true quality comes when they fly nose-end into a stiff breeze or have to fight an icy blizzard.

Courage is especially needed in pigeons used for war work. It is not unusual for a bird wounded in battle or shot by an enemy marksman to flutter on until it has reached its home loft, dying in the hands of its trainer.

The most common way of training pigeons for flying is to carry them in baskets or hampers varying distances from home and release them. Sometimes a clock device is used to mark the time when they reach their lofts. Most lofts are fitted with special gates or bob wires, as they are called, which open only one way. Once the pigeons enter, they cannot go out again.

Like all pigeons, homers breed in pairs, and must have double nest boxes. The feeding and general care is practically the same as that prescribed for the raising of any fancy pigeons. It is especially important, though, that they have good grain, including sound northern corn,

Canada peas, Kafir corn, and red wheat. Oftentimes hemp, flaxseed, and rice are also fed. Rice is believed to be particularly valuable after the birds have returned from a long flight. Fresh water must be given at least once a day. Some breeders make it a point to feed and water by artificial light in the evening while the days are short. This is an excellent practice for working birds, especially in cold lofts. Dampness in the lofts must be avoided, and cleanliness is, of course, imperative.

It is certain that the use of racing pigeons for war work is going to increase greatly the interest of fanciers everywhere. Probably many thousands more birds will be raised this year than ever before in the history of the country. This is well, for no one can tell how great a demand the Government may make upon the fancier for birds of quality.

Unfortunately, a great many good homers have been shot by careless or wilful hunters in the past. Laws which will make it illegal for any person to entrap, shoot, kill, or in any way detain a registered, banded homing pigeon, while on the wing or at rest, are imperative.



British official photograph
One of the numerous motor pigeon lofts on the British western front in France. Each loft will accommodate about twenty birds

GROW *your own* CHICKEN FEED

By MILO HASTINGS



HE more feed that chicken raisers can grow at home, the less will be the drain upon the nation's staple crops, and the greater the relief to transportation. Moreover, it means economy for the poultry-

man. But because it is economical to grow one's own chicken feed, it does not follow that all kinds of chicken food should be grown by every chicken raiser. One of the most common mistakes of the back-to-the-land enthusiasts is the notion that by getting sufficient land to grow grain, chicken farming can be made more profitable. Again and again have I heard amateur poultry farmers, or would-be poultry farmers, speak of their prospective profits on the ground that they were going to raise their own feed. Now most of these poultrymen are located on the light soils of the East, where raising corn is about as wise a move as locating a lumber yard on a city's best residential block.

It pays to grow grain for chickens only on ground where it is profitable to grow grain for market, except for the difference in the cost of hauling the grain to and from the railroad station. From this it follows that for chickens, or for that matter any livestock, grain should be grown on farms in the grain belt. The man on light soil suitable to poultry and trucking only, or the man with small acreage, must continue to buy grain for his chickens.

But in the case of forage or greens it will almost invariably pay to supply the poultry yard directly from adjacent soil. Green food for poultry is generally recognized as highly essential to the health and productivity of the fowls, but it has been commonly considered as a sort of condiment and not as a basic food. We have not been feeding enough of it, and we have not taken enough pains to get what we have fed at a low cost. Since grain prices began sky-hopping, the question of feeding more green food has received attention, and some of our experiment station men state that as high as one fourth of the hen's rations may be of succulent vegetable substance.

The two most exploited green foods in the poultry world are alfalfa and sprouted oats. The former, because it takes years to get a stand, field machinery to plant and harvest, and chiefly because of the area in which it can be best grown is limited to the West, is not a practical crop for the back-lotter and the down-East poultry farm. Alfalfa, because of its high protein content has probably been over-exploited as a poultry food. It is on the market, cut or ground, coming in bags for thousands of miles, and costs the producer as much as grain, occupying a larger amount of room in Uncle Sam's limited car space than that commodity.

The great hoax in poultry food economy has been sprouted oats. Unquestionably of merit as an appetizer and feed, sprouted oats has been widely exploited under the false notion that it was also a cheap food. But the food substance of sprouted oats all comes from the kernel of the grain. The oat hull is useless if not actually harmful, and the meat of oat kernels at present prices costs 3 to 4 cents a pound. When oats are sprouted, a portion of this food value is lost through the chemical processes of germination, while another portion is wasted from molding, failure to sprout, and the fact that the chickens do not clean up all the kernels. When the expense of labor is added, sprouted oats

costs at least 5 cents a pound, and at such prices is not economical, only yielding a profit because of the appetizing and health-giving effects of such greens when and where others cannot be provided.

The trouble with alfalfa and sprouted oats is that they furnish food elements at grain prices, whereas green food should be grown much more cheaply than any form of grain. Moreover, because of bulkiness and perishability, green foods must be grown by the poultryman.

For the farmer whose land is abundant and who has machinery for tillage, the cheapest green crops are the small grains. A winter run of wheat or rye is highly desirable. If none has been provided, sow oats near the chicken house next spring. Put in a little extra seed, as the hens scratch up some, and harrow it in deeply.

As the hot, dry days of midsummer come on, grains and grasses get too tough for poultry. Looking forward to this time, more succulent fodder should be provided. The best farm crop for this purpose is rape. The farm chicken garden this year should provide succulent food to be stored for winter and early spring use. Mangels easily lead in this list, while in cabbage-growing sections cull cabbage may be used. Most other vegetables and root crops, except cull quality, are nowadays too valuable to feed to chickens.

The village and suburban poultryman, with a poultry range anywhere from the size of the parlor carpet to a baseball field, must work out a more careful crop-growing system for poultry than that required for farm ranging hens. The poultryman with yarded fowls has generally been content to plow up the yards once or twice a year and plant oats or rye, the chief idea being the freshening of the soil. This is all right as far as it goes, but by this system the hens are provided for only a few weeks before the grain gets killed out or becomes too tough.

A much better system is soiling, or growing the green food with careful cultivation, and then cutting it and feeding of it to the hens from day to day. When the proper crops are selected the amount of land required is surprisingly small, as suitable crops will yield from ten tons upward per acre. Rich soil is required to grow any leafy plant, and nitrogen is the chief fertilizing element required. Happily, poultry manure supplies it. Grain and meat foods imported from without will keep up the

fertility of a poultry plant, and by the growing of green feed nothing is lost.

In selecting the crops the chief essential, outside of heavy yields and palatability to the fowls, is to choose those the nature of which permits the green feed being readily gathered by hand labor, without checking the further yield of the crop. Rape satisfies these three conditions fairly well and may be sown in drills any time from April to August. It is too laborious a task to pick the leaves off of rape plants, hence they must be pulled. Successive plantings will yield a continuous supply of tender forage. A larger yield will be obtained if, instead of cutting or pulling up all the plants, they are thinned out in the row as they are fed, so that the remaining plants make a heavier growth.

By far the best chicken forage plants known to the writer are kale and Swiss chard. Both plants are largely used in California's chicken city of Petaluma. The intelligent use of ample green food by the soiling system, together with the mild climate which makes this possible the year round, are the chief reasons for the existence of this wonderful chicken city, which is now astonishing the egg trade world by regular shipments to New York City of California eggs from hens fed Kansas corn.

In more severe climates there is no food plant that will stand green enough to harvest all winter, but Siberian kale will come nearer it than any other plant known. There are several varieties of kale. That used on the Pacific Coast is called "thousand-headed kale" or just "chicken kale," and is a more abundant yielder than the ordinary garden variety. Professor Dryden of Oregon is authority for the statement that in his state such kale yields forty tons to the acre, which is about five times as much green feed as an acre will produce by growing oats and sprouting them. Such a yield of kale is practically a ton to each thousand square feet, which means that a plot 20 x 50 feet would yield enough for 100 hens. The time of planting kale and the means of its cultivation are the same as for cabbage. It may be sown in early hot beds and transplanted in rows for cultivation. The kale is harvested for the chickens by plucking off the lower leaves. In the California climate it grows four or five feet high, and with the lower leaves plucked off it looks much like a miniature pine forest.

In more severe climates kale should be supplemented with rye and mangels or cabbages, sprouted oats, and fall planted rye for use in the winter and early spring.

Swiss chard is not quite so heavy a yielder as kale, but forms a very delicate green feed which the hens will clean up stems and all, whereas with the kale plant the stem is wasted. Chard is harvested by breaking or cutting off the outer leaves close to the ground. It will freeze down with the first frost but it cannot be beaten for summer and early autumn use. A combination of spring-planted Swiss chard and August-planted rye will give a year-round supply of green food.

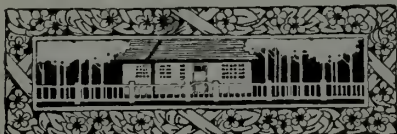
Growing proper green feed for chickens will cut the feed bill from 10 to 20 per cent. and result in a like increase in the productivity of the fowls. In this war year of 1918 no man who has land enough for poultry can afford not to grow green food for it.



Kale is one of the best forage plants for poultry. Plant and cultivate the same as cabbage



Rape provides a succulent green feed that will stay palatable through the hot, dry days of midsummer





Camping out does not necessarily imply roughing it—unduly. With properly selected equipment it involves little deviation from civilized standards of living, and the joy—to say nothing of the benefits derived—of living under canvas for awhile is a thing which must be experienced before it can be appreciated.

CAMPING OUT *in* COMFORT

By WARREN H. MILLER

Editor of *Field and Stream*

THAT eminent satirist, Mr. George Jean Nathan, regards camping out as the most terrible of modern diversions. While this simply proves that the critic's judgment is pronounced from a mere playgoer's viewpoint—material on camping gathered, most likely, from some movie screen—the fact is that most people, while fascinated with the idea, regard it as something which only the elect can enjoy with any degree of comfort.

Camping out is a fine art; one of those things which are worth doing well if done at all. It is quite easy to bungle it, and so sentence yourself to a variety of nuisances from which you are normally shielded by the bulwarks of civilization. It is also very easy to do it right; the formula is few and simple, and camping with a modern equipment involves really so little deviation from civilized standards of existence that it is well worth learning. Living for a while in some old beauty spot under canvas, close to the busy life of nature, steeped in the ozone of the forest, is an esthetic enjoyment, relished the more especially the more intellectually inclined is the normal bent of the camper-out. If you have a desire for nature study—trees, botany, birds, outdoor photography—or if you want to indulge in the sterner sports of angling for gamey fish, birdshooting for wildfowl and the game birds of the wilderness, or hunting the big game that pounds, to camp right on the ground and live the life of the woodsman for awhile is by far a better solution than to attempt some fisherman's

boarding house, hunter's "camp," or other form of quasi-hotel life, in which your companions are not of your own choosing.



A good cooking fire is the main cornerstone of comfort in camp

Within the limits of this brief paper, I shall not take up any of your time in going into the thousands of ways of camping out which are either obsolete, impractical, or belong to the specialty of hunters' and explorers' camping, where a certain amount of hardship is endured as a matter of course. Having camped for more than thirty years, at first several times a year, later once a month every month in the year, and, at present writing, once a week throughout all but the extreme winter months, I have had the opportunity to test and observe and experiment with camping outfits for various purposes. I therefore take the keenest pleasure in prescribing for you, as it were, an outfit that would best suit the country gentleman who wants to try a few weeks of camping with some assurance that he and his family will have reasonable comfort, cleanliness, and enjoyment without being forced to transport into the forest a van load of impedimenta.

You will desire, to begin with, to look well and properly dressed when taking your outing; to look the part, so to speak, so that you will command respect in place of derision wherever you may be. Good camping clothes are becoming, both to the male and female of the species. Your camping togs should withstand wear, rain, briars, and mud with equal impunity. An olive drab flannel shirt, army breeches of the same color in wool, both electro-waterproofed; gray wool socks (two pairs worn at a time); cruiser moccasins of about fourteen inches height, with tap and heel; belt; silk tie; and a broad-rimmed hat, will make a sprack,

natty camper of you, as good to look at as any Army officer, and as practically dressed for the service as he. I have caught bass in a driving thunderstorm in this rig, right after wading through hundreds of yards of wet ferns, and was not in the least wet inwardly. No khaki or old clothes would protect you in the slightest in such case. A sweater coat with high collar, and a light rubber raincoat that will fold into your pocket, will serve to keep you warm in the chill night air of the forest, or during a raw spell of northeast weather. Omit the fantastic bandana—it always appears to us old-timers as just a bit out of place, except in the West, where it has a real use, that of keeping alkali and dust out of your neck. Such an outfit of clothing will cost about \$50, and is worth it, for it will last forever.

For the outdoor girl: in summer she does very well with a khaki skirt, bloomers, and Norfolk jacket smartly tailored; khaki shirtwaist with half a dozen khaki collars; an extra wool shirtwaist for cold spells; and a sweater or mackinaw coat. On her feet, a pair of ladies hunting boots, about sixteen-inch height, worn with one pair of wool socks. A becoming felt hat and tie, and a belt with Norwegian fishing knife in its sheath, complete her toilette, except for a pair of buckskin gloves with cuffs, which she will wear in cold spells, when paddling about camp at night, etc. Such an outfit was worn by my better-half during our 120-mile canoe trip across the Adirondacks last summer, omitting the mackinaw coat. The latter, plus a divided skirt and Norfolk jacket of English tweed, went with her on a 150-mile saddle trip across the Rockies in snowy weather, and the two outfits serve her for winter and summer outings. The khaki suit costs \$10 and the tweed \$50; boots, hat, and sweater coat, about \$25 more; but with these she will look right and feel becomingly dressed, which is worth more to her than much game and many fish.

For a tent you want something light, that is rain proof and insect proof; high enough to stand up in, and well enough ventilated to keep it cool in the daytime. Of all shapes I think the so-called "snow tent" is the easiest to put up, lightest for the amount of space, and most comfortable for general camping. A picture of it is shown here to save detailed description. It wants a large window in the rear, with gauze filling and a flap over it to close down in stormy weather, a veranda to be guyed out in front so that you can build a cook fire in front of the tent door when it is raining, and an oval door with high sill, the same well filled with gauze. The sill is needful to keep dirt and sand from being tracked inside, and the window not only to give you a view both ways when inside the tent, but to provide a current of air through the tent to keep it from getting as hot as a bake oven in the daytime. It should have a sod cloth, but not a ground cloth, the latter making the tent unnecessarily heavy, and being awkward in case your only available terrain has some uncompromising stump or boulder or root occupying a part of your floor space. This happens too often in picking a new camp site in a wild country to make the floor cloth anything but a nuisance, for it will not go over the obstruction gracefully, causing the tent to go up out of shape. The snow tent in 7 x 7 feet for two people, weighs about six pounds in modern light fabrics, and the peak should be about eight foot high. It is put up with ten pegs, a bridle and club, and a pair of shears.

My own tent for this sort of camping is a modification of the snow tent called the "handy" tent. It is six feet square and eight high, with an eighteen-inch wall around three sides, and is put up with twelve pegs and a single pole instead of a bridle and shears. The gauze for window and door should be of fine ecru scrim, as anything larger will not keep out punkies and midges, in which some forests, particularly the Adirondacks, abound. They usually drive the party indoors soon after sundown, when you take your electric flasher and locate and calmly murder every black fly, midge, mosquito, and other pest that has gotten inside during the day, after which you can enjoy a night's peaceful sleep.

In spite of all that has been written about browse beds, stick beds, stretcher beds, and the like, I feel that the light folding tent cot is the

best for general camping. These weigh little and are set up in a jiffy, whereas to make a browse or stretcher bed takes a lot of time and work when you would rather be loafing and smoking. We generally take a cot for my wife and none at all for me, to save weight on canoe trips where there are long portages. A few spruce boughs serve me very well, and are collected quickly with a hatchet off the nearest spruce, with maybe a topping of balsam. When alone, I take a stretcher bed, weighing a pound and a half, and cut my own poles for it, which poles also form the framework for the tent tarpaulin; but where we can get our things carried for us, by boat, team, canoe, or toboggan, we take along two cots. These tent cots are cold to sleep on at night unless you take the trouble to collect enough dry leaves or pine needles or fresh balsam or pine sprays to make a sort of mattress about an inch thick on the cot, when it will be warm and comfortable. Without it you will be cold, even in a sharp night in June, and that with the warmest of sleeping bags or blankets!

For sleeping bed-clothes, the outfitters seem so

both use these wool quilt bags in all their camping, while my son and I use pack-sack sleeping bags, a contrivance devised by me to be a pack sack by day and a sleeping bag at night. It is the ideal hiker's sleeping rig, but takes some time at night to lace up as a bag, and again, to lace up in the morning as a pack.

For a cooking outfit, there is no need to go further than the nesting aluminum outfits sold by the sporting goods houses. These come in sets for parties of from two to ten people. You will need three pails, a fry pan, and a baker, all in aluminum, as this metal will not scorch food over the camp fire: it has three times the conductivity of steel and so distributes the heat instead of localizing it over the camp fire flame and causing a scorching spot, as steel does. Get your own table set; enamel ware for both plates and cups, as aluminum is not good for either, since its great conductivity makes the cup rim too hot to drink out of and steals all the heat from your food when it is on the plate. Get a cheap set of knives, forks, and spoons for the table service, and take along a packet of paper



Three types of camping-out tents, all of which are easily put up. The snow tent (left) is probably the most comfortable for general camping



Off for a 120-mile canoe trip. Note the compact, waterproof duffle bags, and the girl's serviceable but attractive khaki outing apparel



stubborn about insisting on heavy or else very expensive sleeping bags that we have been forced to devise a comfortable yet light quilt bag, homemade of brown sateen and Australian wool bats, which you can get at any department store for 17 cents a bat. The sateen is thirty inches wide, and you will need eight yards of it. Cut off four yards, spread out six bats to cover six feet of the strip, and fold the remaining six feet over on top of the bats. Hem and quilt to make a brown wool quilt, thirty inches wide by six feet long. Do the same with the other four yards, and then sew the two quilts into a bag, six feet long by thirty inches wide, open at the top and down one side for about two feet. Anybody that can run a sewing machine can make this bag and it will weigh three and a half pounds, cost \$5, and be warm when ice is forming in the camp pails. The same thing, sewed up in fur, is the best bed for winter camping. My wife and daughter

napkins, so that you may eat your meals like a human being.

The baker I use for small parties is a reformed aluminum fry pan, with cover and folding handle. This is oval in shape, about nine inches long by seven wide, and one and a half deep. It was intended by its maker for a fry pan, but a worse one could not possibly have been devised. However, it makes a star baker, light and compact, just right for two, or three at a pinch. Put your corn-bread batter or biscuits in the pan, on with the cover, and fold over the handle until it snaps fast; then set it in a hot place high over a bed of glowing coals, capsized when risen and bake the other side, and you will have a fine cake, or the best rolls or biscuits that you ever put in your mouth! My wife and I take on our trips two nesting pails, a fry pan, a mixing pan, and the baker, and find this cooking outfit ample.

It may cause a shudder to go through you to learn that camping out, as sensibly done, requires but two meals a day, but it is a most solid fact. In city life we eat too much and do not digest half of what we eat. In camp your digestion does much better, and two meals a day are ample. The Indian, who is the greatest camper of us all, has a saying that "No man can eat meat more than twice from sun to sun and yet remain healthy in mind and body," and it is absolutely true. In two days in the woods you will begin to realize this unless an intestinal upset and a sick headache from too much eating have not already told you so. In camp my wife and I usually begin our day with a plunge in the lake about eight o'clock—a real swim, lasting maybe an hour. Then we cook a hearty breakfast of coffee, fish, potatoes, bread, and fruit. The dishes for this are washed and the engine put away in some ten minutes' time, after which we spend the mid-day painting and writing music, for she is an artist by profession and my hobby is composition for the organ. About four o'clock we cook a great meal of meat stew, rice, tea, a canned vegetable, dried

sensible home foods instead of prepared and concentrated things sold for explorer's use. You are not on an arctic trip, nor yet discovering a new way up Mount McKinley, so why endure these rations? I even take potatoes, if transportation permits them, and a few canned things. Most of your stuff is, however, light raw material—rice, flour, corn meal, coffee, tea, etc.—which add to themselves from two to six times their weight of water from the spring in cooking. They are best carried in waterproof paraffin muslin bags and friction top tins, the whole in a side-opening food bag with pockets, so that when you hang it up by the fire on a couple of stakes, everything you want is right in sight. Such a bag goes with us on all our trips except lone hikes for hunting and fishing, where a knapsack carries all one's worldly possessions. Our usual grub list is displayed herewith. The eggs we carry are broken into a friction top tin, three inches in diameter by four high, which will hold fourteen.

For trail accessories you need steering here more than anywhere else—the aim is not to leave the essentials behind and to leave out the non-

you cold feet; better endure bare feet, as these quickly dry, which the socks do not. Cooking gloves, costing 10 cents at any department store (in the hardware department), save burnt fingers, dirty and cold hands, and enable you to pick up hot pails and firebrands with impunity. A light wire grate, which is better than any makeshift of logs, and will save many a scorched dish. A sewing kit, the smaller the better, but well provided with buttons, safety pins, and needles and thread for clothes and moc-casins; the one sold for the Army boys for 85 cents is a good one. A toilet kit of about the same size has tooth brush and paste, razor and soap, looking glass, wash cloth, and towel. A folding canvas basin for washing; that hasty rinse in the brook will not do the business, and soon you begin to long for a tub; with hot water in a canvas basin you get really washed and refreshed. A folding canvas bucket to carry spring water and have it handy in camp; springs are not found behind every bush in the woods, and lake and brook waters are dangerous and medicinal. A yard of cheesecloth in which to keep your meat and fish cold; hang, tied up in the cheesecloth, in the shade, and turn a cup of water over it several times a day; it is proof against blow flies and is the coldest way to keep meat in summer, unless the spring is near enough to camp to permit building a spring house. A light, compact medicine kit; take along pills for constipation, diarrhoea, fever, colds, headaches; antiseptic solutions, and a little surgical tape and bandages; don't take too much or too bulky a kit, for you will probably not use it at all. Fly dope and a head net; particularly in the North woods where they have seven kinds of biting and stinging insects. A compass and a waterproof match safe, both always on you, the compass in the watch pocket of your breeches, without which you are not likely to fare forth! Maps, in a leatheroid case. A fly hook, and a leather tackle bag to prevent the hooks from penetrating through and ruining clothing. A compact camera with roll film; and, finally, a carry-all to hold nearly all these things. This may be a pocket-bag of khaki, opening out flat, with tapes to hang it up on two stakes at the head of your bed, where everything is ready to hand in its own pocket when wanted, and, what is more essential, returned when done with, so that it will not get lost. You will further need a wire-cloth stick mop for dish washing, a dish towel, and a small piece of kitchen soap.

These are about all; there are at least a million other things that you would like to take, or are convinced that you would not be happy without, but go light on them, for the list is weighty and bulky enough as it is, as you will find when you come to portage it.

Two other suggestions occur. One is a camp box, in which you can put the whole outfit and check it to your destination. The baggage rules regard a box as a trunk if it is provided with rope handles and a lock and hinges, and it will be so accepted for checking by the baggage men. Otherwise, it is a parcel and must be expressed. If you take such a box you will save lugging and chasing up a lot of more or less vulnerable camp duffle bags, none of which can be lost with impunity. A box saves all this, besides making a fine camp table, and once the forwarder has it and you have his check in pocket, you need give it no further thought. Send it on well ahead, for if sent on the same train you are on it will most likely not be there when you arrive, and "the next train will be up next day," as the factotum assures you as he locks up the station and leaves you alone in a howling wilderness, with a lumberjack's hotel as the sole refuge for twenty-four hours! Sooner than take such a risk, it is better to lug all your stuff on the train.

The second suggestion is the camp stove. It is a great comfort in cold, snowy weather, and a nice thing to cook on in your tent in bad summer weather. The outfitters make them absurdly heavy, about ten pounds weight for a one-hole stove; but we have one, home-made in 28-ga. sheet iron, two-hole, weighing but two and three quarter pounds. We always take it in fall and winter camping. I do not like the idea of the pipe going up through the roof; better let it out



Showing the sort of fire to build for the reflector baker—so that the heat is thrown into the baker—and a grid fire of split oak billets for a wire grate



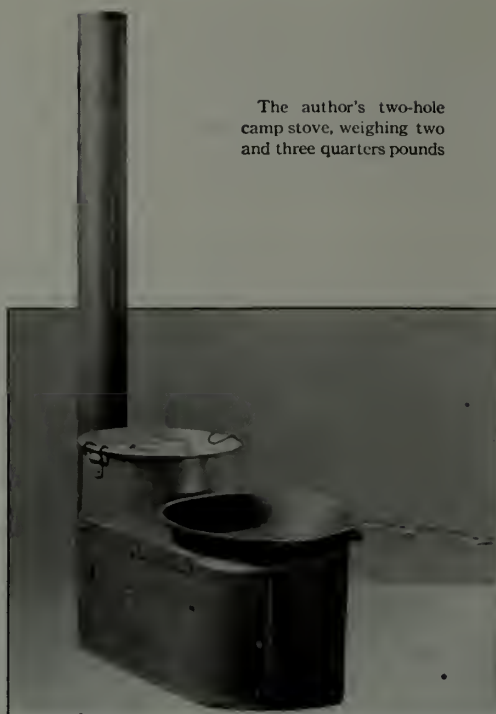
Backlogs should be of slow-burning woods such as red oak, green pitch pine, etc., and the filling of hot-coal woods like red maple, hickory, etc.

meat stewed in a pot-pourri, and biscuits or rye bread (which latter keeps fresh a long while in camp), after which the lake has quieted down, an inset has begun, and the bass and pike are out edging. We then sally forth in the canoe and fish until dark, catching all we need and enough to give away to neighbors. Then a small camp fire, and to bed by nine. If I am out hunting or fishing at dawn, I grab a cup of coffee and a hunk of bread and set forth before the sun, driving back at camp by eight or nine, when the painting and fishing for the day is over, and then the same régime is followed. On the trail two meals a day, with a light cold snack and a pipe in the noon, are all that are permissible for either canoeing or horseback traveling. It takes two hours at least to cook, eat, and clean up after a meal when you have to unpack and pack things for traveling, and it just isn't done! For camp foods the best in the long run are the

essentials, as the way these latter pile up in weight and bulk is past understanding until you try it. You need one light ax—a Damascus steel belt ax or a Hudson's Bay ax with long handle, depending on whether you expect to do much chopping or not; either will weigh about two pounds and cost some \$2.50. A hunting knife, which will cost about \$1.50. An electric flasher—the handiest tool in the dark that you ever put in your pocket—costs 50 cents. A folding aluminum candle lantern (costing \$2.50) fine in the tent, good out of doors, and not so likely to get out of order as a carbide; the latter, however, is essential for large parties where a lot of light is wanted. A night hood, or night cap, of wool or pontiac, which on cold nights you must have to sleep comfortably. Night socks—a pair of warm, wooly ones, especially reserved and kept bone dry for that purpose; do not go out at night with them on or they will get damp and give

on the side, with an elbow to turn it up, which elbow is not a formidable matter if made like a tin can with a large hole in one side. We use two two-foot joints of two-inch pipe for our stove, and pack the meat in the lengths, rolled up in paraffined paper so that no space is lost. I even take this stove on back-pack trips, and the whole cook kit packs inside it. Our "handy" tent has a pipe hole in its wall for just this stove, and for that reason also, a ground cloth is omitted, as such a thing is impossible when a stove is to be set up inside the tent. To manage a tent stove without filling the tent with smoke, you simply need a column of hot air in the pipe, without which it will not draw no matter how tall, and with which it will draw like a major if only two feet high. To get this hot column you must have the fire well started, with lids off and flames rising direct; when going well, clamp on the lid and the flames will burst out under the lids, finally finding the chimney outlet, up which they rush, and your draft is established. Never load on too much wood at a time; it will make more smoke than the chimney can carry off. The aim is a bed of live coals and a few billets in process of combustion. If she starts smoking around the lids, open up and get the fire flaming again if you have to make a human bellows of yourself to do so. A two-hole stove is the only one to get a meal on. One can manage a breakfast tolerably with a one-holer, but never a real outdoorsman's breakfast! At night one or two large oak billets, put on a bed of coals, will smolder all night, keeping the chill off the tent; all drafts should be closed to aid in this gradual charcoalizing process.

For outdoor fires you will need to know three styles. The backlog fire is the best night heater. Cut five four-inch red oak logs about a yard long each, and pile them one above the other



The author's two-hole camp stove, weighing two and three quarters pounds



The policy of watchful waiting, as applied to getting a camp breakfast

against two hornbeam stakes leaning somewhat backward. Cut two short billets or andirons, and stake in place with a forestick across the front to hold the fire in bounds. Make a general fire in this grate, on the andirons as you would at home, and you will find that most of your heat will be reflected right into the tent from the backlogs instead of being dissipated into the forest as in the bonfire type of camp fire. The remains next morning are fine for a breakfast fire. A grid fire of blackjack oak is the best fire for your wire grate, and, if using a reflector baker, either keep a high, flaming billet resting on the edge of the wire grate, or build a special fire for it of small backlogs about two feet long laid in between two pairs of upright stakes. Against this build a high fire, with the sticks laid up against the logs so as to produce a hot, high flame that will brown both top and bottom of the bread at the same time. For fire woods, except the last fire described, use only hot-coal woods, blackjack oak, red maple, ash, hickory, and yellow birch. Reject all the quick-flaming woods, such as pine and balsam, as these are not hot nor do they last long; and never use popping woods, like hemlock, if you have any regard for your tent roof.

With these few reflections on outfit I will conclude. It would be useless to attempt to tell you the hundreds of kinks that suggest themselves to all campers in the woods, as each man will pick them up for himself as he goes along. I have described for you a light, comfortable outfit and one in which I trust that no essential is lacking. The outfit is not cheap, but it is cheaper in the long run than a heavy, inadequate lot of junk, and you will not want to make a bore of your outing, when, as any experienced man will assure you, if done right, camping out is the best fun in the world.

A COURSE *in* ESTATE MANAGEMENT *for* WOMEN *in* WAR TIME

By ELMA LOINES

III—Balanced farming and development of arable land



IMPORTANT as the development of timber-land and water power on a country estate may be at this time, yet with the slogan "Food will win the war" forever in our ears, there is no doubt that most important is the development of arable land. The problem now before us is how to grow enough of certain foodstuffs for our own use and still have a surplus.

The plea to-day on the part of agricultural experts everywhere is for mixed or balanced farming. In our grandparents' day most of the farms throughout the East were self-supporting. But as the industries came to be gradually taken away from the farm and the home, and because one crop paid better than another, farmers began to grow one crop year after year until a deplorable condition of the soil resulted. The opening up of the great Western wheat lands and cattle ranges, the introduction of farm machinery, and the better freight rates for the long hauls were all contributing factors to the present condition of the farms in the East. Now, however, the

time has come when we must go back to balanced farming and must realize that it is because of the need for all possible transport facilities on the part of the Government for war necessities, that we must do it *at once*. That is to say that while balanced farming is always desirable, at the moment it is imperative.

In taking up, then, the question of the development of arable land, the woman who is to manage her own estate will wish to understand thoroughly the nature and treatment of soils, in order that she may grow most efficiently those crops which are adapted to the particular soil of her farm.

Soils are composed of sand, chalk, clay, and humus, or decaying vegetable and animal matter. Some are much, others little, pulverized. Those of fine texture allow for a free circulation of air and a consequent release of the food values. The water capacity of some soils, especially humus, is very great, of others little. So the value of soils as a producing element varies greatly. The chief characteristics on which this

value depends may be summed up as: texture, food value, holding capacity, aëration, the number of bacteria present (whose importance will be noted shortly), and the temperature of the soil itself. Of the four kinds of soil mentioned above, humus and chalk have the greatest food values; but humus is apt to become water soaked and is then often acid, while when dry it is incapable of supporting the roots of plants properly. Aëration depends upon the amount of pore space between the particles. This is generally 30 to 50 per cent. of the total volume of the soil. Most productive soils have 30 to 50 per cent. clay and 50 to 60 per cent. sand. They are called loams and are sandy or clay loams according to which predominates. From the above it will be seen that a perfect soil would be that which has enough clay and humus to prevent drought, enough sand to make it pervious to fresh air and prevent waterlogging, and enough chalk to correct a tendency to acidity.

The importance of good drainage at once becomes evident, for it carries off surplus moisture,



... a dwarf apple tree. Fruit growing is a feature of advanced farming that appeals to most women

The northernmost of the several farms which constitute the author's family holdings in the Adirondacks

Jessie, a grade Jersey cow and her yearling calf. All heifer calves on the place are kept for breeding

... cold soils warmer, and puts all soils in better condition for crop bearing.

The next consideration is what foods plants take. These are carbon, calcium, hydrogen, magnesium, nitrogen, phosphorus, potassium, oxygen, and sulphur. All but carbon and small amount of oxygen and nitrogen which are drawn from the air, are taken from the soil. Ash and soda and other bases are present in soil in the form of silicates and nitrates, and sulfur in the form of sulphates of magnesium, iron, etc. Leguminous crops — peas, beans, clover, alfalfa, etc. — which are called nitrogen-accumulating as opposed to nitrogen-consuming crops, draw nitrogen from the air and convert it into nitrates, while most plants take it up as food in the form of nitrates from the soil. Therefore the great value lies in restoring to the soil what other plants abstract from it.

In this connection, other elements in the soil must be considered. These are the minute living organisms which by their activity appear to release the potential food in the soil by causing a chemical change to take place. These bacteria just near the surface, attach themselves to the roots of leguminous plants, and cause the production of nitrates in such a way that non-leguminous plants are able to absorb them. Of late years a good deal has been done to inoculate the soil, with resulting benefit to the crops. This increases the number of bacteria. I spoke earlier of inoculating clover seed on our own farm. The roots of clover are especially favorable to these bacteria. The nodules containing nitrogen are formed by them on the roots. The organisms in the nodules increase until the plant blooms, and then decrease again. That is why clover, used as a green manure to build up the soil, must be plowed under before blooming. Thus clover takes up nitrogen from the air and puts it back into the soil as food for the non-leguminous crops.

All crops take some particular food out of the soil, and some a great quantity. Some take one kind and some another. Root crops take up much nitrogen; potatoes exhaust the potash very quickly. In olden times fields were allowed to fallow every few years to give them time to recover from the exhaustion of the soil. Gradually farmers observed that by following a rotation of crops, which took out certain elements and put back others which were needed for a different crop, the land could be used continuously, and not only not be depleted but actually increased in fertility by proper management.

To build up the soil and follow a rotation, the method is as follows: plant clover first of either Pea Vine or in a dry season Mammoth Red. Before it blooms, i.e., when its production of nitrogen is greatest, plow it lightly under. Then plant potatoes. These may be followed by corn or cereals. Then potatoes may be grown again. After these, plant clover to be plowed under, beginning the rotation again. Mr. George Powell says that a short rotation is always best. It builds up the soil steadily. Where wheat

and potatoes both thrive, a three-year rotation is often adopted, as: clover, potatoes, wheat.

Before planting clover, however, test the acidity of the soil with blue litmus paper. Moisten a bit of the soil and slip the paper in for two or three inches and press down. Examine it in about five minutes. If it turns pink, the soil is slightly acid and clover will do well; if red, it is too acid and lime should be applied, one ton to the acre. Then plant the clover. Only pure and highly productive seed should be used.

Land is also greatly improved by deep plowing, which helps to make the texture finer, to get the food elements nearer the surface, and to increase the aeration and holding capacity. Fertilizing with green manures such as clover, rye, and buckwheat, or with stable manure, and commercial fertilizers such as lime, potash, and nitrates, or bone meal, also improves it. In times of drought, much cultivation and a certain amount of mulching prevent the loss of natural moisture in the soil. It must always be kept in mind that the principle of farm economy is to return to the soil through some suitable fertilizer those constituents which the crops have abstracted. And the greatest merit of commercial fertilizers is that they may be made to render stable manure a complete fertilizer for the various crops.

If the soil is poor to start with, before growing crops, the land may be put into condition by growing and plowing under beans or clover, plants which have the nitrogen-fixing bacteria. Each piece of ground must be treated for what it lacks in soil constituents and for the particular foods needed by the crop to be grown.

The different processes of improving the soil are referred to in general as liming, claying, marling, burning, green-manuring, draining, irrigating, etc., and their names indicate what they are. For green manuring we have used clover, buckwheat, and rye successfully. Other crops in such use are vetches, lupins, white mustard, and rape. Green manuring is one of the cheapest methods for getting nitrogen; it helps as well to aerate the soil and release the potential food values.

Next to understanding the nature of soils and their maintenance for the growth of crops, one must understand, of course, the purposes of the different operations in farming; also how to buy farm implements intelligently. The county farm bureaus, state schools of agriculture, or any expert who surveys the farm will recommend the proper tools. But the practical farmer whom one engages often needs education in the use and care of these, for we have not yet learned the thrift of the Europeans. The operations, as everyone knows, are plowing, harrowing, sowing of seed, hoeing, cultivating, mulching, spraying, haying, reaping, harvesting, threshing, etc. Sometimes deep plowing is advisable. This requires a special kind of plow which pulverizes the soil well in the furrows. Then different kinds of harrows and cultivators may be used. The disk is one of the best harrows because it refines the texture of the soil. Sowing may be done by hand or by machinery, and one should know what kind of machinery is best adapted to one's

place. The different methods of planting crops especially potatoes, should be looked into. Also the different kinds of spray pumps should be considered, for these run from an inexpensive kind which may be slung by a strap from the shoulder, to barrel pumps which require a team to draw and a couple of men to operate. Others again are run by motor. (And here the importance of spraying, especially of potatoes and fruit trees, cannot be emphasized too much. One expert says that the former should be sprayed at least five times a season to produce the best results.) For harvesting, the question again comes up whether it is better for the owner to use machinery or to have it done by hand. Again there are different methods to decide upon, as whether rye should be cut in cradles and bundled, or not. The machines cut and bundle at the same time. Sometimes the harvesting of a certain crop is very expensive, and it may be better because of local conditions to grow another which costs less. As an example, we found it advisable last year with the increased cost of labor, the scarcity of men, and the danger of early frost, not to grow corn, but to grow millet and rye instead.

When it comes to the question of extra labor in harvest time, it usually pays in the end to get the most skilled available.

Then, besides understanding the main operations of farming, the woman who manages her estate must know how, as far as possible, to guard against frosts in spring and fall (which means not planting too early and so having to replant once or even twice), against drought, insects, and blights.* The only prevention of damage from drought comes with an abundant water supply and careful and frequent cultivation or mulching to preserve the moisture below the surface. As to insects and blights, there are those recognized for certain crops which require certain kinds of sprays which must be applied in ample time. If an unrecognized blight appears one can always send a specimen to the state laboratory to be examined and to ask advice as to its remedy.

When it is decided to specialize in some crop, one must of course consult the soil and climate. All through New York State potatoes can be grown to advantage. Their value lies, naturally, in their being a necessity of life and therefore always in demand. Two methods of planting are followed. In England and in parts of the West the whole potato is put in. This is thought by some to give the highest production and the largest potatoes. The other method is to use a section containing one or two eyes. The rows are usually two feet apart and the sections or whole potatoes about eight inches apart in the row. Potatoes do best in a light, friable loam, well manured. They are apt to rot in wet ground. Also they do well in a cool climate.

When grown and sold for seed they bring a higher price than when sold as food. There are many varieties both as to color and time of ripening. For several years we ourselves have raised enough potatoes to last a household of ten

* (See Farmer's Bulletin 856, "Control of Diseases and Insect Enemies of the Home Vegetable Garden.")

until spring, as well as some for seed, both to sell and to use for our own next season's crop. When other farmers' in the neighborhood have lost many from rot ours have escaped practically uninjured. The United States raises a much smaller number of bushels of potatoes to the acre than England. It has 97.5 bushels to the United Kingdom's 215.3. New York State averages 94 bushels. One yield in Ontario was 1,000 bushels, and once in England 1,250 bushels to the acre were produced. This only indicates what might be done by intensive cultivation. So potato culture offers many inducements to the woman farmer.

In latitudes where one may count on warm nights and three and a half to four months without frost, she may also grow corn for seed, to advantage. The things to be considered especially here are that corn exhausts the soil rather rapidly and necessitates short rotation of crops, and that it requires much labor to harvest; also that in specializing, the very finest seed should be bought until one can develop one's own strain. But there is this advantage, that an excellent seed corn of good germinating quality will always bring a high price in the market, and will more than repay the initial high cost of good seed.

If wheat is made a specialty a flour mill should be near at hand. Hand mills may be used for small quantities.

Hay is on the same par with potatoes, a necessity and always likely to bring a high price for fine quality. Its principal need is a good water supply, and a climate with sufficient moisture.

Before passing on to the subject of balanced farming, farm pests and their remedies should be touched upon. The pests of the vegetable garden and field crops are insects of different varieties, and fungous diseases. The former may be divided roughly into three classes: cutting, chewing, and sucking. To the first class belong the borer and the cutworm, the latter that insidious creature which severs the plant from its roots and quickly kills it. It attacks the young plants of cabbage, tomato, lettuce, etc. To protect against cutworm, stiff paper or cardboard collars should be set around the plant when it is set out, and placed two inches from it and about one inch into the soil. Chewing insects bite holes in the leaves. The potato bug belongs to this class. By spraying with arsenate of lead or Paris green its food is poisoned and the insect dies. Hence the tremendous importance of frequent spraying, especially for potatoes and fruit trees. The sucking insect, which includes many kinds and colors of aphids, is perhaps worst of all, and its damage hardest to detect in the initial stages. One pair of aphides will furnish two billion descendants in a single season. Nicotine or oil sprays are considered best for these. They cover the insect and prevent its breathing, thus causing death by suffocation. Blight, rust, and mildew are the common fungous diseases. Bordeaux mixture is used for these, and when the plants suffer from chewing insects as well, the addition of arsenate of lead will do for both. Where possible, affected leaves should always be burned.

On a mixed farm the stock is an important element, for there is a mutual dependence of plants and animals in farm economy. (Livestock farms in Iowa and probably elsewhere produce much larger grain and hay yields per acre than the strictly grain producing farms.) The buildings for the stock should be suitable, with the emphasis on ventilation, water supply, drainage, and the ability to keep clean with the least amount of effort. The quality of the stock should be good, and it should be made to pay for itself. It is well to keep records in the case of both cows and poultry, and certainly with all purebred animals. Cows should be tested for butter fat, and to see if they are tuberculous. It pays to get rid of poor cows, for they do not yield enough to pay for what they consume.

On our own farm we have each year three or four good three-quarter Jersey cows and raise every heifer calf. These cows supply three households (about twenty people) with milk, and one with butter. We get a very fine grade of cream, and are able to make abundant cottage cheese during the summer. Recently we made over an old stable and put in model cow stalls with iron stanchions and floors of corked brick; and windows with hinges below to ventilate without causing a direct draught.

If one can raise plenty of fodder corn and have a silo the cows can have green food all winter. A friend told me recently that on her own farm she had noticed no difference in the milk yield since she had put one in. It does, however, give the cattle a pleasant variety in their food, and it saves grain. Dairy farming also offers opportunities to a woman.

Poultry raising is another necessary adjunct of the balanced farm. Methods of feeding and housing vary greatly, but may be studied up in the many books on the subject. I know one indefatigable little woman in the Adirondacks who was determined to prove to her neighbors and herself that chickens could be made to pay for themselves over winter. She fed them well with table scraps, skimmed milk, cheese, red pepper, greens, and corn, making them scratch for their food as much as possible. She hung a cabbage by a string as a sort of edible punching bag. And they worked for every mouthful. Then she kept a diary, giving every item of expense. The chickens amply repaid her care, for she sold the eggs at the local market and paid for all her winter groceries out of the proceeds. But this last year, with the very cold weather and high cost of feed, they have not done so well. Now poultry keeping has become indeed a serious problem for the small farmer, and unless a remedy is found to assure him feed at a moderate price,* we shall face a shortage of a valuable food.

Sheep raising used to be very profitable in New York State and may be again. The climate and character of the country are both well suited to sheep. The principal item is the cost of proper fencing. The present-day necessity for producing one's own food should be an added inducement to raise them.

*See article on page 52—Editor.

Fruit and nut orchards should be developed along with other branches of farming. New York is particularly favorable to apple growing, and still produces by far the highest number of apples of any state in the union. Plums, pears, and cherries also do well except in the north. But great care has to be taken to adopt proper methods of pruning and to protect from scale, which infests certain areas. Nut orchards are not as much planted as they might be in this country, though Pennsylvania has a number. Walnuts, hickory nuts, and butternuts will all do well in Northern climates.

Nor has the maple sugar industry been developed as much as it might be, now that white sugar is not so plentiful. With a little care in getting the sap at just the right time, and in clarifying, a fine grade of both sugar and syrup may be made. And the hard or sugar maple is abundant in many parts of the state. Bee-keeping is another way to add to one's sugar supply.

There remains still to be said a word about the kitchen garden. One should aim for great variety in vegetables and a long season. Although far to the north, we ourselves begin in April with asparagus (which we enjoy for two months) and end with beans and corn in October. We introduced many vegetables not hitherto known to the native farmer, who usually confine himself to peas, beans, tomatoes, corn, and potatoes, and doesn't know what he misses by not making his vegetables stretch over a longer season. We grew with great success Swiss chard, celery, okra, Chinese cabbage, French mustard, New Zealand spinach, peppers, Italian squash (cocozele), everbearing strawberries, etc. It has been interesting to see the notice taken of these vegetables at the annual shows; they are well known of course to most good gardeners, but unknown up here.

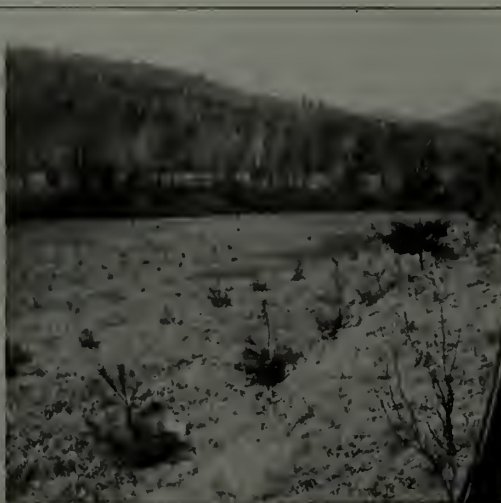
Adjuncts to the garden are the many berries and currants.

Before closing it may be well to touch on that part of farming which has until recently been somewhat overlooked—farm efficiency. This means primarily the keeping of careful accounts. But it also means the keeping of charts for special work, showing the cost and amount of labor on each field for planting, cultivating, and harvesting, the cost of seed, and the profit therefrom. Then it can be determined whether each particular crop is paying for itself. It means, too, keeping records of the stock, especially when they are purebred. This is helpful also in increasing the interest and efficiency of the farm workers. Only in this way can the owner get an accurate idea of the cost of production and the returns of the farm products.

[Related articles dealing with practical details of estate management which have appeared in COUNTRY LIFE, are: "First Year Figures of a Thousand-Acre Orchard," November, 1916; "How to Support Your Farm Manager," April, 1917; "Accounting the Cost of Farming," May, 1917; "Should You Be Allowed to Run Your Own Farm?" June, 1917; "General Orders for the Army of Maintenance," July, 1917; "Fall Maneuvers for Estate Owners," August, 1917; "Prepare Now for Bigger Crop Next Year," September, 1917; "Plotting the Estate's Big Job," February, 1918; "Food Will Win the War—Produce It," April, 1918; "Forage Plants That Feed and Fertilize," May, 1918.]



A fair hay crop. Hay is a necessity, and a fine quality will always bring high prices



A young pine plantation that is steadily growing into money for its owner and for the nation as well



A stand of marketable white pine. Tree cutting should always be supervised by some experienced person



Doorway to a root cellar at Lake Forest, Ill., which has been in successful use for nine years. It is provided with two sets of drain tile, one at the floor line and the other four feet above.

STORE *that* SURPLUS FOOD

By R. J. H. DELQACH

The construction of storage houses for roots and vegetables is a war necessity—something that *must* be done if we are not to go hungry in the lean months coming. Here are plans for houses to meet varying needs—houses that have been in successful operation for years



THE most urgent need in this country to-day—aside from guns and ammunition, and boats to take them to Europe—is the assurance of increased food supplies for our armies and the armies of our allies. If the food crisis is reached next winter, as we have every reason to believe will be, our table comforts at home will be reduced materially, and our fighting men will be limited to the necessities of life. We are not yet fully awake as a nation of individuals to the quality and immensity of the food problem. Things are too easy to get—our wants are still supplied merely for the asking and the price.

We should instead confront ourselves with the possibility of having to go hungry because of inadequate supplies of food. There is no question but what a lack of plans for producing and conserving these necessities will bring us face to face with a serious situation in the near future. We need to give every attention to conserving sugar, wheat, fats, and meats, and to use these materials only as our health requires.

How shall we supplement them in the most effective way? By growing larger crops of roots and vegetables, and properly storing them for next winter. We must regard the construction of storage houses a war necessity, not merely a thing that ought to be done or that could be done with profit. We must plan for releasing more wheat and sugar for the armies, and no method is so practical as to grow these valuable root crops and store them securely for winter use.

The necessity for storage was never so apparent. Thousands of refrigerator cars have been standing around our coast lines and cantonments loaded with perishable foods much of the past winter, when they might have been released for moving freight if the proper storage facilities had existed. Many cars of such materials were lost during winter because a food shortage required that they be shipped during weather too severe for the nature of the material shipped. If storage facilities had existed at the point of consumption, this loss could have been eliminated entirely.

The practical solution of our food situation seems to resolve itself into two distinct phases: one the question of enlarged storage for the crops already raised in sufficient quantities; and one



a question of enlarged production of practical health-building crops, and storage facilities to care for these extra crops.

We have been constantly cutting down on our home consumption of wheat, fats, sugar, and meats without planning sufficiently for things to take their place in the diet. These concentrates should continue to go to the armies and navies, and in increasing quantities; but the civil population must be guarded by as careful a programme. In the first place the home population can eat more potatoes as it eats less wheat and meat. It can eat more perishable vegetables as it approaches the limit of consumption of these concentrates. But potatoes, root crops, vegetables, and fruits require careful storing if they are to be consumed beyond the time that they can be taken from the fields, and besides, many of them must be canned or stored at the time of maturity or they will be lost.

It may be asked, do we need these vegetables and root crops in our diet? Will they be worth the cost of growing them? Are they a luxury or a necessity? The fact that they have clung to the human race as an essential food from time immemorial argues that they have supreme merit, and are closely related to our health and efficiency. The most efficient nations of the world are those that have made the most scientific and systematic use of vegetables, fruits, and root crops, which are the natural complement of the higher concentrates, such as grains, fats, and meats. The proverbial expression "pork and turnips" has a far greater significance than would appear on the surface, for it blends perfectly

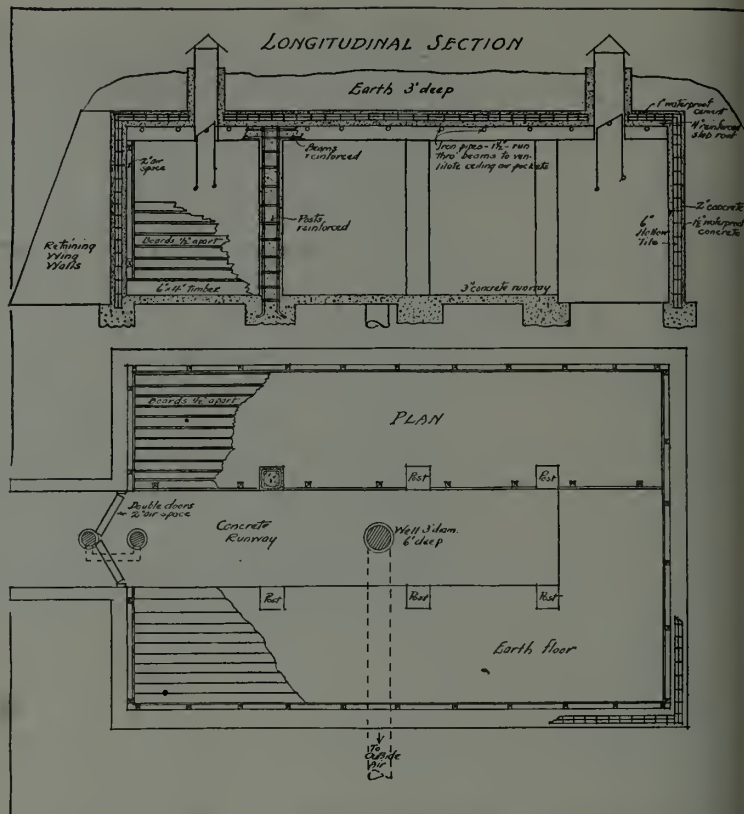
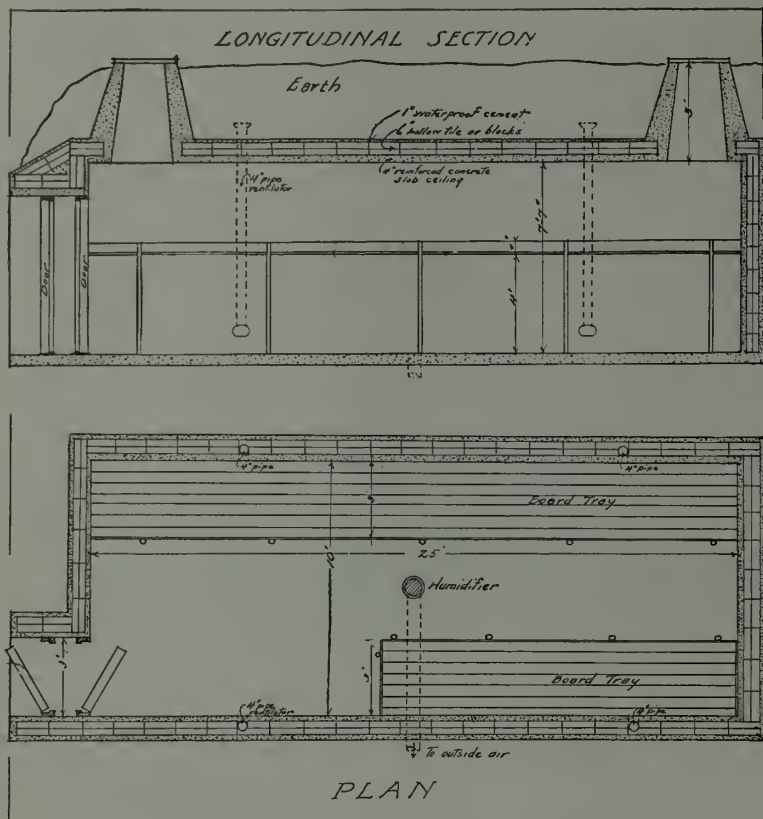
the concentrate and the necessary forage, and when properly prepared, satisfies the most fastidious taste, and builds tissue. A soldier will last longer and fight better, and a laboring man will have the energy to do more and better work, on this diet than on many other things. No one with good health and a normal appetite could fail to enjoy a meal of this kind.

All the great authorities on foods and dietetics show the necessity for a large percentage of succulent vegetable matter in the diet in order to maintain health, and the elimination of these for any reason is always accompanied by many forms of disease and by an unnatural functioning of the digestive tract. We may, therefore, feel fully justified in advocating a larger planting of these essential crops and a well organized effort to store them properly after they have been grown.

This brings us to the storage problem which, in the writer's opinion, should receive national attention. The storage of foodstuffs has always been a problem since man drifted from the tropics into climates in which food could be grown only a part of the year. In order that necessities might be supplied during the long winter he has been forced to provide storage for such crops as he has learned can be kept in the most perfect condition for the longest time. At best, however, past methods have been wasteful and costly, and it is surprising to know that we have paid so little attention to storage. Our experiment stations and colleges have very little experimental data on the subject. Many of them have constructed houses for storing, but without making the work a scientific problem in relation to our food supply. The subject is of unquestionable importance, and it is time for us to collect, and disseminate broadly, all possible information on it.

Some private and community houses constructed at Lake Forest, Ill., seem to be giving entire satisfaction. After many years of successful operation, they are now relied upon for keeping fruits, vegetables, and root crops in a good state of preservation until May, and even later.

The fundamental principles on which these houses are constructed and which must be complied with if success is to result are: good ventilation, thorough drainage, successful insulation, humidification, and the proper temperature.

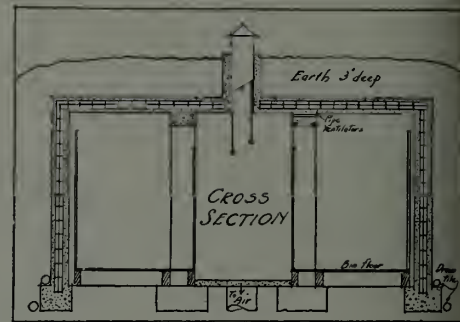
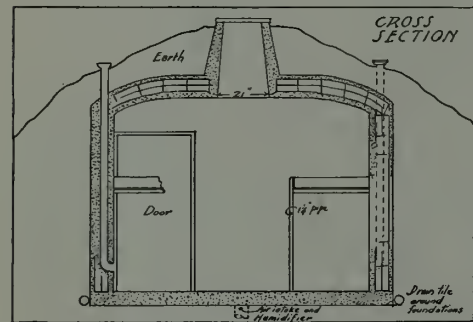


Longitudinal section and plan of a storage cellar built for Mr. Carter H. Fitzhugh at Lake Forest, Ill. The drawings show how the essentials of ventilation, drainage, insulation, and humidification are provided for

Details of a storage cellar 26 feet long, 16 feet, 8 inches wide, and 7 feet, 5 inches high, built on the same lines as the one at Lake Forest University. The latter measures 40 x 38 x 7 feet, and holds supplies for 1,500 people

Cross section of the Fitzhugh storage cellar. As the span is but ten feet, the slightly arched roof provides the necessary strength and helps the ventilation flow. The trays for vegetables are supported on pipe framing

The bin boards are spaced a half inch apart and kept two inches away from the walls. Thorough drainage of the foundation and of the ground beneath the floor must be assured. Note how the dead air ceiling pockets are relieved



A constant supply of fresh air is the first and most important of these requisites. Stale air will soon bring on decay in any kind of vegetable matter whether the atmosphere be moist or dry, warm or cool, and it is important that the system of ventilation be thorough.

It is necessary that water be not allowed to stand in the storage house, and that the earth about it be not saturated with too much moisture. A mildly moist earth is necessary, however, and this is easily secured if a good drain pipe is run beneath the floor of the house or cellar. To secure natural drainage, the cellar could be constructed on a hillside or by a gully. We know of a number of houses so constructed which seem to meet every demand. In such cases tile drains surround the houses, as a further precaution.

The third necessity—insulation—may be secured either by the building of a double wall or by the use of hollow tile construction. Either method is efficient and will prove satisfactory.

Humidification is the means or process by which the atmospheric moisture in the storage house can be controlled. The importance of this is not very generally known, but must be recognized if success is to follow. The most practical way to maintain the right condition is to dig out under the centre of the floor a cistern about three feet in diameter and three or four feet deep. Let the inlet pipe of the ventilating system come immediately over this, so

the fresh air will absorb moisture as it passes on up into the house or cellar. If water is kept in the cistern and the ventilation is good, the air will always be moist.

As to temperature, some crops can stand greater heat than others. Similarly some require moisture while others do not. Onions require a cold and dry atmosphere, while apples must have a cool, moist atmosphere. The root crops all require moisture, and will not keep without it. They should be kept covered with moist sand for best results. This may not always be practical in commercial storage houses—but it can be easily arranged for in those for small families.

A low temperature is required for most of our raw roots, vegetables, and fruits. If it ranges from 35 to 40 we need have no fear but what our stored foodstuffs will keep through the winter if we have the necessary moisture, ventilation, and insulation. A double entrance door is good insurance and may almost be considered a necessity. One door is quite sufficient most of the time, but during very low temperatures the double door proves to be essential. Also, when the outside temperature rises, it seems effectively to keep in the cool air.

Containers should be arranged on carefully constructed racks so that the storage house will hold foods almost to its full capacity. If these containers are made of narrow strips in the form of bins the ventilation will be more complete, and if some disease should develop, it would not be so liable to spread to all parts of the storage house.

It seems necessary to consider three styles of house—one for the individual farmer or country estate owner, one for the public institution, club house, hotel, or small community, and one for the large dealer, broker, or cantonment. Or, in other words, a small house, a medium house, and a large one. Whatever be the size, it must be constructed on the principles laid down above, which have proven essential to the successful storing of fruits, vegetables, and root crops. Whenever we get way from these principles, failure is sure to result.

The accompanying illustra-



Concrete storage house of Lake Forest University, showing the ventilators above the sodded roof

and plans show cellars of the two smaller sizes—those in which the majority of readers will probably be most interested. In deciding the location for a storage cellar, not only its access should be considered but drainage and natural advantages as well. An available sidehill that can be easily drained offers one of the best locations. If other conditions do not interfere, a protected location, out of the path of cold winds, is to be preferred. Where exposure to cold winds cannot be avoided, it is considered best to build the cellar parallel to the prevailing direction, and in this case the doorway should be on the end away from the wind. A cellar six feet wide, eight feet long and seven feet high, inside measurements, will provide storage for a small home garden. One that is eight feet wide, twelve feet long and eight feet high, inside measurements, will take care of the ordinary products from an acre of garden. A cellar ten feet wide, eighteen feet long and seven feet high, inside measurements, will store 500 bushels of vegetables. Many potato cellars are made large enough to hold several thousand bushels each.

The materials used should be those available that are most plentiful and will serve the purpose. Generally a wood construction that is not covered with earth is not satisfactory, although potato cellars, especially in humid climates, are made of wood framework almost altogether. In more or less humid regions, permanent structures should be made of concrete, stone, brick, or tile. Just as these materials are put together, how cheap or how expensive, makes no difference, so that the storage cellar is permanent and combines good control of temperature, humidity, ventilation, and proper drainage, whether constructed in a side hill or on level ground, the storage cellar must be covered with earth, deep enough to prevent freezing. If constructed on level ground, excavation should be made deep enough so that from one third to one half of the cellar is below the surface.

Double outside walls with air space or chinking between are better than single walls. Single walls, however, will answer the purpose, especially if the ventilation is good. Thick single walls are better than thin ones. Air space can be easily made in connection with heavy single walls by placing furring strips two inches thick against the inside of the wall, to which metal lath can be nailed, this being covered with two or three

coats of rich cement plaster. Instead of lath and plaster, good results will come by tacking building paper to the furring strips and covering this with close fitting sheathing or shiplap. Hollow tile furnishes one of the best cellar wall materials known. All masonry walls should be plastered on the outside or weather side with waterproof cement.

It is important that the top of the storage cellar, as well as the sides, be made right; in fact, the good effects of one without the other will be counteracted. A heavy masonry or concrete ceiling must necessarily be supported by centre posts and reinforcement, especially in wide underground cellars. Hollow tile or a specially constructed double ceiling like that described for walls is better than the single ceiling. For underground cellars, the ceiling ventilator boxes, best made of concrete or brick, should be placed before covering the cellar with earth. These should be made high enough so that the top will extend slightly above the surface of the earth after the

cellar has been covered. The earth covering should be from three to four feet deep, when settled and should be banked up against the side and end walls, thus making a mound type of covering which should be sodded over later. Wing walls may be necessary at both sides of the cellar entrance to hold back the earth banking at the end.

Instead of being covered entirely with earth, as has just been described, some cellars are constructed of masonry under the ground and the remainder of wood frame above the ground. The wood walls above the ground are made from ten to twelve inches thick, being sheathed with matched boards, inside and outside, and the space between filled with insulating material such as sawdust or shavings. The rafters are ceiled on the underside with the same material as the walls, and the space between the rafters is filled with the insulating material. One layer of building paper in connection with the roof and walls will be of material help.

Ordinarily the natural earth or clay floor is better than specially made floors. In many cases a concrete passageway works to excellent advantage.

The cost of construction depends more on local conditions and prices than anything else. It has been estimated that the initial cost of the best kind of storage house built of first class material throughout will average about 30 cents per bushel of storage capacity. Of course, there will be no cost after the first year except the relatively small items of filling and emptying, cleaning, sterilizing, minor repairs, and the like.

Houses built according to the principles outlined are superior to other forms of construction in all parts of the country, but are peculiarly adapted to the cooler portions of the temperate zone. They will apply in all parts of the United States from the higher elevations in Georgia, Tennessee, across to southern Kansas, and northward without there being any necessity for the use of ice. South of that line, provision should be made for ice to keep down the temperature for a short season both in the fall and in early spring. The growing season is longer in the warmer climates and it is not necessary to keep so much in storage. From middle Georgia, Alabama, and Louisiana through Texas to the south, it is possible to have certain vegetables growing all the time, and get them fresh out of the garden for food. In the colder climates obviously this is not possible, and it is here that we most need the storage houses.



A photograph taken on April 16th of vegetables which had been properly stored during the winter in the Ontwentsia Club cellars at Lake Forest



potatoes (at left) from the same cellar and photographed on the same date. They kept splendidly. At right, the potatoes in the upper row were stored in a fairly good cellar, but they are badly softened and have sprouted. The potatoes in the lower row were stored in a Lake Forest storage house, and show no signs of softening or sprouting. These potatoes will keep well into July or later

HERE AND THERE

Read the U. S. Official Bulletin

Owing to the enormous increase of Government war work, the governmental departments at Washington are being flooded with letters of inquiry on every conceivable subject concerning the war, and it has been found a physical impossibility for the clerks, though they number many in themselves now, to give many of these letters proper attention and reply. There is published daily at Washington, under authority of and by direction of the President, a government newspaper—*The Official U. S. Bulletin*. This newspaper prints every day all the more important rulings, decisions, regulations, proclamations, orders, etc., etc., as they are promulgated by the several departments and the many special committees and agencies now in operation at the national capital. This official journal is posted daily in every post-office in the United States, more than 56,000 in number, and may also be found on file at all libraries, boards of trade, and chambers of commerce, the offices of mayors, governors, and other federal officials. By consulting these files most questions will be found readily answered; there will be little necessity for letter writing; the unnecessary congestion of the mails will be appreciably relieved; the railroads will be called upon to move fewer correspondence sacks, and the mass of business that is piling up in the Government departments will be eased considerably. Hundreds of clerks, now answering correspondence, will be enabled to give their time to essentially important work, and a fundamentally patriotic service will have been performed by the public.

Wider Use of National Forest Ranges

An enlarged livestock industry is perhaps the most essential single feature of the various agricultural programmes that are being urged for the United States—both immediately and after the war. Among the concomitant conditions required to make this possible, one of the most important is increased pasturage, especially for the flocks and herds of the far Western ranges. To help bring about the desired results, the Department of Agriculture and the Forest Service are cooperating to permit a greatly increased number of animals to be grazed in the National Forests. Half a million more sheep and nearly a quarter of a million more cattle, added to the smaller increase permitted last year, will mean a total of some eleven and a half million animals in these government pastures in 1918. Although such an increase multiplies the possibility of injury by over-grazing, the great improvement of the ranges brought about during the last decade by the Forest Service methods, and the ability of the rangers to control and constantly observe the results of the proposed measures, give ample

reason to believe that only permanent good will result—both to the ranges themselves and to the people of the nation who are in need of the food supply which they represent.

A Better Prospect for Poultry

Early in the season pessimistic reports were rife, to the effect that the high price of feed was causing the killing off of great numbers of fowl and that there was every chance of a famine later on. It is now decidedly cheering to hear that the extension poultry specialists sent out by the Department of Agriculture to check this dangerous tendency have been and are meeting with very gratifying success. They report that normal production will be maintained in practically every section of the country where they are working this year, and that in many sections a definite increase is expected. An espe-

three states, 3,000,000 animals. These figures are equivalent to the normal consumption of pork and pork products of the total population of the United States for thirty-seven days and slightly less than sixteen days, respectively. How long before we shall have cut this toll, taken out of the mouths of our people by preventable sickness, to nothing at all?

A Permanent Home Defense Plan

About a year ago the subject of home defense, like that of emergency gardening, was the centre of feverish, almost hysterical excitement. A great deal was said and a good deal was done (for awhile); finally, some definitely useful results were achieved, upon which the saner and slower but more lasting measures of the present have been built up. However, with the prospect before us of several

years more of war, and of the sending to France of several millions more of men, we should not bask too carelessly in a sense of security, nor neglect to formulate and perfect every possible plan that might contribute to our national safety in time of need. For this reason it is good to learn that there is on foot in many parts of the country the organization of units that will ultimately form the National Association of Shotgun Owners. Already a national committee has been chosen, headed by Lieut. John Philip Sousa, with headquarters at 17 East 11th Street, New York City. The prime object of the organization is the protection of the homes



Major-General Hugh L. Scott, commanding officer at Camp Dix, inspecting the work of starting a 400-acre war garden, promoted and established by the National War Garden Commission. These gardens, which are being established in many camps, will be tilled by non-combatants as far as possible

cially significant response is being made by city and town dwellers to the appeal that they keep a few hens in their backyards, feeding them largely if not entirely upon table scraps and other home by-products.

The Cash Value of Science

The ability to prevent the spread of hog cholera, and consequently practically to control it (no actual cure for the disease having yet been discovered), is one of the triumphant achievements of modern science. Slowly the nature of the malady became clearer; eventually the micro-organism that causes it was isolated, described, named, and labeled; finally a serum, a vaccine, was developed with power to protect the animal into which it was injected against the attacks of the bacilli. Just what all this means to stock raisers—and to those who buy the stock they raise—is indicated in comparative figures giving the swine mortality for the years ending in March 1914 and 1918 respectively. In each case 8 per cent. of the deaths are attributed to cholera, and the figures are, for the earlier year when the disease raged unchecked, 7,000,000 animals; for the later year when 160 trained veterinarians were working against the enemy in cooperation with the agricultural experiment stations in thirty-

of its members in case of riot or invasion, and since there are many persons already in possession of and familiar with shotguns, in sections of the country where there are no formal or regularly recruited defensive forces, the plan is one that offers much of promise. There are the added advantages that expensive equipment such as rifles, uniforms, etc., is not required, that the arms are less powerful and therefore less dangerous than rifles, but eminently satisfactory for riot service, and that the enrolment of loyal citizens in such a cause will provide a good opportunity for checking up the reasons and sentiments of those shotgun owners who do not care to join.

How Farmers are "Carrying on"

To show how farmers of the United States are meeting the shortage of farm help, a field agent of the Bureau of Crop Estimates in a recent report told of seeing a farmer in Indiana driving a team of six horses hitched to a disk plow and leading three horses drawing a harrow. Thus, single handed, he was working nine horses and two modern farming implements, and doing in one operation the work that under the old system of farming several men and several teams would have had to do in several operations.





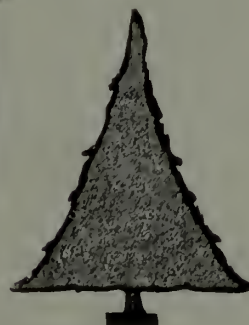
The residence is a magnificent example of ivy covered walls



The stable is flanked with evergreen screens; its yard bounded by formal clipped hedges.



With masses of evergreens, border of evergreens, isles of evergreens, how can winter be drear?



Roehrs Grown Evergreens For Putting Smile and Glow Into the Winter's Snow

WITH the snow a foot and a half deep, and the mercury hovering around the 15 below mark, these pictures were taken last January on a famed Lakewood estate.

Evergreens are the dominant feature of the planting. The tall, somewhat gaunt native Jersey pines are accented in their striking character by a multitude of evergreen varieties.

To the grounds everywhere, the evergreens give a feeling of seclusion, a security and a happy-like feeling, as delightful as it is difficult to describe.

The entire planting was planned with the main idea of idealizing the place as a winter cheer spot. It is a striking example of the smile and glow that evergreens put into winter's snow.

Which fact leads us to remind you that August and September are satisfactory months to plant your winter evergreens. We have a choice collection—many of them being out of the usual. We are not bidding against other prices, but we do take a positive stand on the question of Roehrs-grown trees having exceptional quality.

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Box 12 Rutherford N.J.

Ro



DO YOU know that little strip of land on the Southern shore

of Lake Ontario which is called the "Garden of Canada?" It is a well-sheltered spot where there are miles and miles of orchards and vineyards which look like so many squares of a checker-board, seen from above from the windows of the trains which run along the brow of the Niagara escarpment. In the spring, tourists used to come to see the great show made by the miles of trees in full bloom, and in summer and early autumn the fruit markets of the towns of that district are a sight to behold.

For the past four years people in Canada haven't been thinking of fruit blossoms, and even the fruit itself hasn't been very much in their minds. But many of the boys who are fighting Canada's battles overseas have come from this same Niagara district, and their names have been appearing with never ceasing regularity on the casualty lists.

Some of the people at home began to think what a splendid thing it would be if these men, as well as wounded soldiers from all over the Dominion, could have some of this fruit sent to them where they were lying in hospital in England, France, Cairo, or wherever fate and German bullets had landed them. The idea took hold of peoples' minds and a beginning of the fruit campaign was made in 1915. At first, drying the fruit was tried, but the experiment was not wholly successful. Later, under the auspices of the Canadian Club, canning the fruit for shipment was begun. Farmers around the three centres of Hamilton, St. Catharines, and Niagara Falls were asked to donate the fruit and it was preserved in homes, in church kitchens, and in club rooms. People were very enthusiastic, offering their services unstintedly, and one not infrequently heard of unhappy households where, being suddenly confronted by numerous crates of gooseberries, the entire family had to turn in and sit up most of the night snipping the ends off the berries, while their more fortunate neighbors who had received raspberries got to bed at a reasonable hour.

This individual work was not altogether a success, for although people were only too eager to help, there was no standardization. Different people had different ideas as to how fruit ought to be preserved, and the result was that some of it kept and some didn't. Jars were of different sizes and weights and could not be packed to advantage. Some ten carloads were shipped away to various military hospitals, but a great deal too much was wasted. Canada in 1915 was pretty new to this war game and its resultant organization and coöperation. A small attempt at coöperation had been made, however, for included in the ten carloads were 3,800 quarts of jelly which had been made by volunteer workers in a specially fitted kitchen in Hamilton.

In 1916, the work came under the management of the Canadian Red Cross Society, a very well-organized and active body, and although St. Catharines still depended on individual canning, in Hamilton one floor of a laundry building had been rented and fitted up as a canning kitchen. Steam from the laundry was utilized for the cooking, and the canning was carried on by enthusiasts, who became more efficient as the work progressed.



The fruit district around Grimsby, Ontario, the heart of the Niagara fruit district, as seen from the Niagara escarpment (known locally as the mountain)

SENDING TOMMY HIS MARMALADE

By DOROTHY McILWRAITH

Notices were inserted in the country newspapers of the district telling of the work and asking the farmers for their coöperation and for donations of fruit. They were asked to send the fruit to the kitchen if possible, but if not, a truck would call for it on request. Posters to the same effect were displayed at cross-roads, in village post offices, and wherever it was thought that they would catch the eye of people with fruit to dispose of. In other cases special collection days were planned in different parts of the country, and the growers were notified of the fact that they would be asked for donations on that particular day. Later on, the girls doing National Service on the land were very active in harvesting the fruit for the kitchen.

In the kitchen itself workers volunteered their services, going on in regular shifts and working under the direction of a professional canner. Different churches, woman's clubs, societies, etc.,



The willing helpers on a busy Saturday night worked until 5 A. M. Sunday, turning out 1,860 quart jars

would take over the work on specified days, and the jars filled on those days bore a label with the name of the workers' organization on it.

In 1916 one ton of fruit was dried besides what was preserved, but no work of that sort was attempted last year.

The summer of 1917 saw the fruit kitchen at Hamilton in full swing, and all the work of the district was concentrated there. The kitchen had a capacity of 4,000 quarts a day and each variety of fruit was preserved as it came into season. The last thing the kitchen undertook was the making of tomato soup.

On market days when the farmers came into town to sell their produce and brought along their fruit for the kitchen at the same time, and at other times when there was a special rush of

supplies which even 200 workers that the kitchen has housed one time could not handle, the manager sent out an SOS call the soldiers in training and the men of the depot battalions responded with a will. They helped in the packing, moved crated loaded trucks (volunteered as tasters), and helped to get the deal clear for further action. When ten carloads of apples for jelly came from farms of the district where the government had bought the entire crop, the help was especially needed. They even assisted in the preparation of the fruit.

More than 80,000 quarts of all sorts of fruit were sent from the Hamilton kitchen in 1917. Besides 15,000 pounds of dried peaches and 21,000 pounds of raisins were sent direct from California and paid for out of money collected by the school children.

The kitchen had the very best of support from the townspeople. The electric railways which radiate from Hamilton to the surrounding districts carried all fruit for the kitchen free of charge. The kitchen itself and the necessary appliances for the steam cooking were donated to the workers. Light was given by a local power company, excelsior for the packing freely sent in by local firms, sugar supplied at the least possible price by local wholesale firms, and people generously offered their motors for the collection of the fruit.

Canned fruit from other sources was not received at the Hamilton kitchen, as the product there was standardized, to be more easily handled and shipped. People from other places who wished to contribute were asked to give money instead of supplies. Twenty-five dollars paid for 100 quart jars, and the name of the donor was stamped on the box.

The glass jars used were of quart size, a little heavier than those in common use, and were made especially for the kitchen. Since this was Red Cross work, each jar had a cross of Geneva stamped in the glass. Of course the greatest care had to be exercised in the packing of the boxes for shipment in these days of shipping scarcity, no space could be wasted on badly packed supplies, so a professional packer was engaged to teach the workers the best way of filling the boxes. As with all Red Cross supplies going from Canada, the Government assumed the responsibility for transporting the fruit overseas.

The shipments went direct to Colonel Hodgetts, C. E. F., head of the Canadian Red Cross Society in London, and through him were distributed to the various hospitals. They arrived all right, too, for many letters were received from wounded officers and men saying how fine the preserves tasted, and expressing their thanks in glowing terms. Letters from the front are always full of contrast, but one letter from a Canadian base hospital which was of special interest to the Hamilton workers, contained this paragraph: "We were bombed last night in a filthy business—but after it was all over we served the men strawberry jam for breakfast, to cheer them up. By the way it was marked 'Fruit Kitchen, Hamilton.'" All the fruit from this particular kitchen is sent to the hospitals, as the men in the trenches are supplied through other channels.

The managers of the fruit kitchen are organizing for still greater efforts in 1918.

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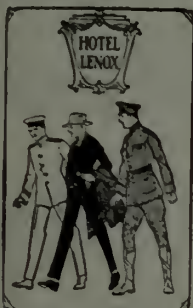
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SUMMER BACK-DOOR NEIGHBORS



WE HAD been entertained during the summer by the robins, catbirds, wrens, blue jays, and English sparrows that visited our back yard. Through the long succeeding winter the blue jays, chickadees, downy woodpeckers, and white-breasted nuthatches were regular guests at a food dish filled with suet and nuts, and the hairy woodpecker was entertained occasionally as a special guest.

As spring approached and food became more plentiful, we feared that the winter fare would not prove so palatable, and so made houses for nuthatches and chickadees as a special inducement. Taking two round chunks of wood with the bark on, we split them open, hollowed out the centres, bored holes for entrances, and then nailed the parts together. These we fastened in the most secluded places in the nearest trees. The chickadees and nuthatches looked in at the holes a few times, but the decision was unfavorable, for they would not enter, and ere long one of these homes held a brood of English sparrows, while the other was partly filled with sticks by a cock wren in anticipation of the arrival of a certain little brown lady. Most valiantly did he defend this prospective home against those who sought to dispossess him. On one occasion seven sparrows were counted near it, but whenever one tried to enter, the wren plunged into him and compelled him to leave.



The English sparrows came at all times

After the first of May the nuthatches were not seen, and during the month the chickadees came only occasionally. To the winter food dish the downies seemed disposed to continue to come, and might have done so had not the wren made them feel decidedly unwelcome. The food dish was not far from the house which the cock wren was guarding for his mate, and whenever the downies came the wren attacked them with gleeful viciousness. There seemed no fight whatever on the downies. They would hastily betake themselves to the other side of the post, but only to find that the wren seemed to be on all sides of the



A handful of young wrens

post at about the same time. They did not long enjoy feeding under such circumstances, and until about the middle of June, satisfied themselves with drumming from near-by telephone poles.

When the little brown lady came, her opinion did not coincide with that of her mate in choice of the home which he had so valiantly defended. She preferred a little house with roof and porch in which a pair of wrens had reared a family of seven the preceding season. Possibly she was one of the seven, or the mother of them, and recognized the old home and remembered the former success. But male birds do not quarrel over such matters. The love-making began with characteristic volubility of bubbling, rippling song, and much fluttering of wings. The nest was soon completed. And now the wrens were

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The embargoes which have been placed (owing to lack of transportation) upon bulbs and other foreign plants, really compel us to make a greater use of our own American grown plants. Irises will fill the vacancy made in the spring garden by the absence of the imported bulbs. They may be grown easily by any one and in any situation, giving their blooms with such abundance the first season after planting, that they themselves almost seem to solve the perplexing question of labor in the garden.

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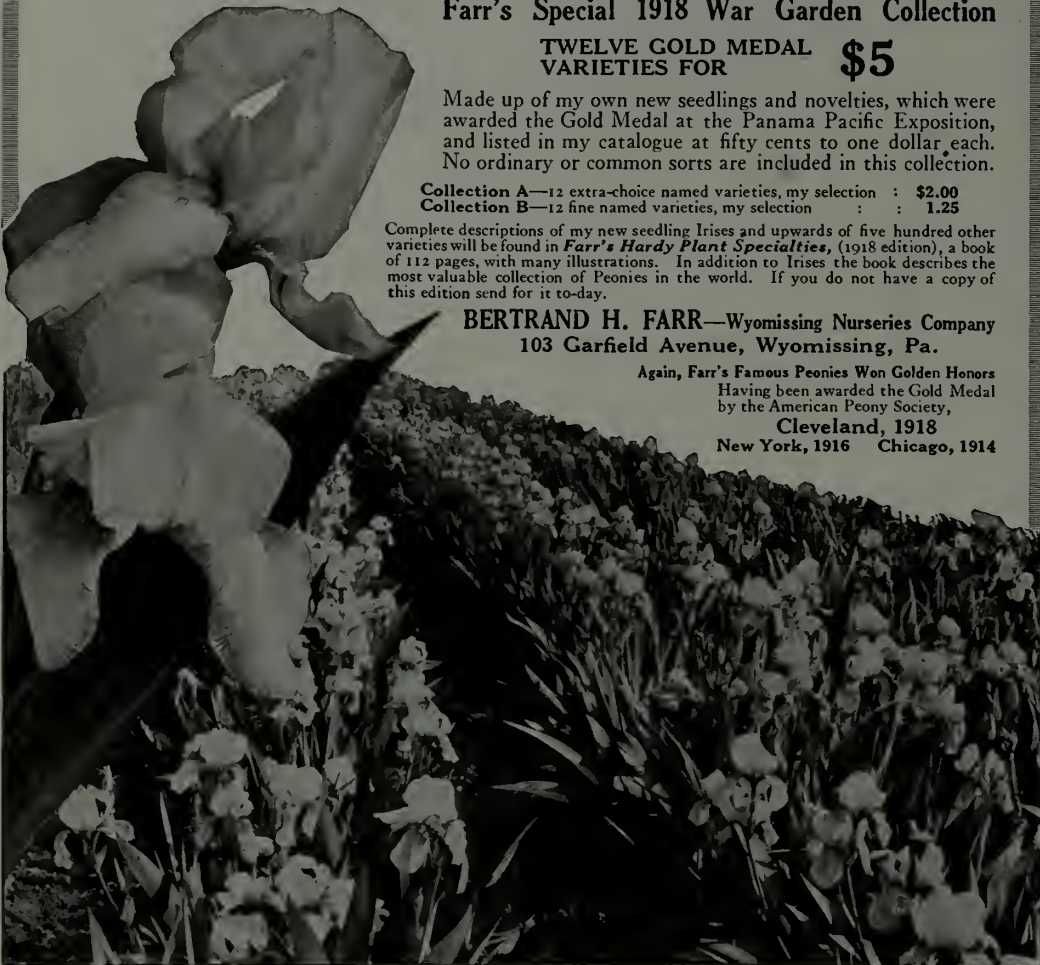
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little seen that we thought the nest deserted. The roof of the house had been made so that it could be removed, but in removing it, an unexpected lurch was given which jolted the two eggs out of the nest. It was egg-laying time, and the birds would not be seen about much until all the eggs were laid and brooding began. By the time one of the eggs was chipped. It was carefully removed, while the other was put back in the nest and the roof replaced. But when the mother bird returned, the storm she raised was surprising. She scolded, blustered about, rushed in and out, and threw the remaining egg to the ground, and so began to tear her nest to pieces and remove it from the house. Though the nest was not wholly removed, it was hopelessly wrecked, and the door of the house was left filled with sticks. Another box was hastily nailed to a near post, and the pair at once began a second nest where, as I write, two pinkish, brown-speckled eggs lie in a nest so deep that it would hold at least three wrens perched one upon another.

As the spring drew on, the blue jays became more familiar, and seemed to regard our back yard as a place of special safety. During the previous summer they had been very wary, but



Kingbird on the perch awaiting passing flies

The catbird just arrived from the South

the constant supply of winter food seemed to allay every suspicion. They would perch upon the clothes-line posts, hop upon the lawn, feed from a dish placed not far from the door. While perched upon posts, they were frequently seen to descend to the ground for insects and return again to the perch. They would occasionally alight upon the trunks of trees, cling to the bark while scanning the grass below for signs of insect life. When searching in the grass for insects, they would raise themselves as high as possible, stretching up the neck and erecting the crest. One day while I was watching one as it thus searched in the grass for food, it lay down upon the grass and turned somewhat upon its side, placing its ear quite close to the ground. It remained in this position for some time, except that occasionally it would raise its head to look about. It was evidently listening for the sound of insects working near the surface.

For two weeks before the blue jays began to build their nests, they would pass through the yard in troops of half a dozen. During this time they were exceedingly noisy and could be heard from half a mile. A pair of robins, which built their nest in a tree near the back fence, defended the eggs valiantly against this nest-robbing troop. But while the male robin would attack and drive away the nearest one or two, others would approach the nest. A dash at these would permit the first to return again, and thus the brave robin seemed in danger of being overwhelmed by numbers, though, as far as I was able to observe, no blue jay succeeded in coming at the nest while the robin was present. Yet, ere long the nest was rifled, whether by the jays or not cannot say.

Looking out of a second-story window one morning, I was surprised to see a blue jay perched upon the lower edge of the porch roof. The explanation lay in the fact that in the vines just under the eaves over which he was perched a pair of English sparrows had built their nest. The jay had evidently been watching the movements of the sparrows, but could not get at their eggs. Were it not for his nest-robbing proclivities, the blue jay would be one of the most delightful of birds. As it is, he is one of the most interesting. Cautious at first, he soon becomes well acquainted with you and quite at home upon your premises. After watching the small chickadee

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* * * *

Over there in the Picardy mud, pock-marked with significant craters and "plum-caked" with unspeakable things that once were men, our soldiers can't hear all that some of us are saying. Good that they can't, isn't it? It wouldn't make it any easier to stand firm against those blood-crazed, grey hordes who come on wave after wave because they believe their Kaiser is "God's anointed shepherd of the German people."

* * * *

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and nuthatches, as they moved nervously about the food dish, the jay seemed excessively large and all others gave place before him, and his deliberate bearing gave an air of mastery, while his up and down movements in splitting a piece of hard suet were like those of some great pile-driver. When the piece of suet or bread broken off was too large for him to swallow, he would place it under one foot and break off small pieces. Sometimes, when the pieces were too large, they would be placed under the other foot. Thus, in feeding, the jay would often use the bill and both feet.

Soon the noise of the jays ceased. The troop of half a dozen scattered. A single pair was seen passing from tree to tree, evidently searching for a suitable nesting place. About one crotch in particular many earnest, loving blue jay conversations were held. It was examined very carefully, but the female could not be persuaded and they passed on. They were seen about the yard during the following days gathering short sticks and grasses, but the place of their nest was never known.

The robins, whose nest I mentally accused the blue jays of rifling, soon built a second home in another tree, where they safely reared their young. Our lawn was their hunting ground for worms with which to fill mouths that seemed ever open. As they searched for them, hopping freely, and usually coming to a stop with a few running steps, the difference in coloring of male and female was plainly manifest, the colors of the former being bright and full of life, those of the latter dull and faded. The right wing of the male hung down a though broken near the end, yet his flight did not seem in any way affected. Doubtless some old injury had healed, so that the effect was apparent only when the wing was at rest. I had hoped to secure a photograph of the young, but when I went for it, one was perched upon a limb, another in a small gable at the front of the porch, while the others were nowhere to be seen. The wing-power of the two was already sufficient to carry them a little higher into the trees at each flight, and they were soon safely beyond the reach of the camera. Yet what was my indignation, upon going to the hydrant for water one morning, to find scattered about a few remnants of a young robin's wing and tail. Some prowling cat had pounced upon the unsuspecting bird as it came to drink and bathe.



The blue jay became quite at home

The previous summer a pair of catbirds had been regular boarders. Would they return? Or are birds like people in occasionally wanting change of table? One morning I had focused my camera on the top of a stake which had been placed not far from a food dish which sat upon the grass, in the hope of securing the picture of a pair of kingbirds which had been making use of the clothes-line posts for a few days. I sat in the house holding the bicycle pump, which was connected with the shutter by a long rubber tube ready for the snapshot, when suddenly on the back fence appeared the first catbird I had seen that season. The food dish, placed where it had been the summer before, was more than fifty feet from the back fence and near the house. After a moment's pause upon the fence, the catbird made straight for the dish, as though known perfectly what it contained, and satisfying me that it was one of the birds that had fed from it so freely the previous season. By one of the happy favors of fortune which occasionally befell the bird photographer, the catbird, when it had eaten, took a winged hop to the top of the stake and struck an attitude which it could not have improved had it known that it was posing for a photograph.

The catbirds, however, were not frequent visitors during this second summer. Their nest was evidently not located in the vicinity; or it is possible that in running the gauntlet of danger that beset birds in their migrations, one of the pair which had become so familiar the year before had fallen by the way. The catbird's place was filled by the pair of kingbirds just mentioned. At first they were suspicious of so fine a perch before the glaring

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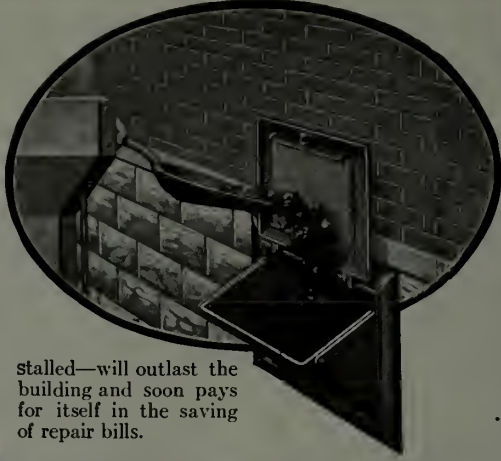
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of the long-focus lens, and would take positions anywhere else to await passing flies. One clothes line after another was laid upon the ground until the top of the stake was the only good perch left. This they soon began to utilize, and finding no harm in the camera, it became their favorite, and furnished me all the pictures that I desired. While observing the kingbirds one day as they were perched upon the lower branches of a tree, one was seen to descend to the ground for a cutworm, and the other for a beetle. They watch the ground for crawling insects as well as the air for flying ones.

We had noticed some Baltimore orioles in the trees, and remembering their liking for yarn and strings as nest-building material, we placed numerous pieces and also loose cottony substances in some low plum trees and upon the stake where the kingbirds had perched. The kingbirds promptly appropriated the cottony substances for a nest which they had begun in the top of a high boxelder, making away with it in pieces of considerable size. They also used a number of the pieces of yarn. So well was their nest concealed among the upper branches that it was exceedingly difficult to get the eye upon it, its location being most easily disclosed by a few pieces of red yarn that hung from it and waved in the wind.

In the top of this tree no other birds were allowed. A prowling blue jay was viciously attacked by both birds and hustled out. A purple grackle, happening into the tree, doubtless quite innocently, was similarly assailed and fled precipitately across the open yard with both kingbirds in close and hot pursuit, the grackle meanwhile crying out as though for help. Except when other birds ventured into their tree-top the kingbirds were peaceable. The purple grackle was undisturbed in his stately search for worms upon the lawn, except when the jay, seemingly in mere wantonness, dashed down upon him from some overhanging limb. Though driven off, the grackle would soon return to renew the search. A company of them was occasionally seen exploring the tops of boxelder trees, in which they love to build their nests, but where the one who so frequently favored us with her company placed her home, we were unable to learn.

The female Baltimore orioles came a few times for the pieces of yarn, but the pieces seemed always to become so tangled that even with the utmost tugging they could not release them, and before we were able to arrange the pieces differently they had found available material elsewhere.

For a time the American goldfinches were agreeable visitors. Both male and female would perch upon clothes lines, lispings meanwhile their sweetest notes, and giving hope that in some nearby tree they might locate their home. Upon a few long, swaying grasses, which were found in a back corner of the yard, they would perch and swing while they fed upon seeds.

The English sparrows were never absent. They fed at all hours, in all numbers, and upon all kinds of food. A pair of cock sparrows were observed one day fighting in a little depression of the walk that was filled with water, their wings outstretched and fluttering, their bills locked, and their feet clawing each other. It seemed a perfectly equal match, but when finally they separated, one fled and the other followed in close pursuit, uttering sparrow shouts of victory. When the many young sparrows from numerous nests were able to fly, they would come to the food dish and perch upon its edge, while the mother, perched upon its opposite edge, lifted the crumbs from the dish and placed them in mouths that gaped widely between quivering wings.

When one is on the watch for birds, the number of different kinds seen in his yard in a single season is quite surprising. Following is a complete list of birds seen in our yard from January to June. The location was in the midst of the resident portion of a city of about 3,000 people, and the lot, which was 75 x 150 feet, had about the average number of trees: the blue jay, downy woodpecker, hairy woodpecker, flicker, white-breasted nuthatch, black-capped chickadee, brown creeper, house wren, Wilson's bluebird, robin, wood thrush, veery thrush, kingbird, catbird, Baltimore oriole, rose-breasted grosbeak, cuckoo, bobolink, bronze grackle, American goldfinch, summer warbler, black-poll warbler, myrtle bird, kinglets, black and white creeping warbler, orange-crowned warbler, English sparrow, chipping sparrow, and one other sparrow unidentified, while in a neighbor's yard was seen the orchard oriole, thirty birds in all.—CRAIG S. THOMS.

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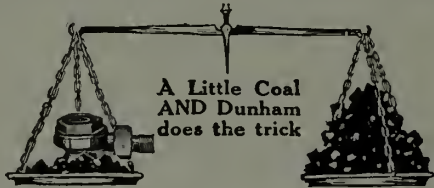
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EXTRACTING HONEY



PROBABLY more honey will be extracted in the United States this year than ever before in the history of the country. This is because of the efforts being made by the government to produce an

extra large crop of honey this season, and also because amateurs as well as professionals are being urged to work for extracted instead of comb honey. As a matter of fact, the amateur will find it distinctly to his advantage to produce extracted honey because of the larger amount that can be obtained from a given colony of bees, as well as because there is less swarming.

In former times liquid honey was always obtained by straining, so that it came to be known as strained honey. First the comb was melted up, then the wax skimmed off, and the honey strained through a cloth or sieve. This plan is, of course, wasteful because the comb has to be sacrificed. One of the principal reasons for producing extracted honey lies in the fact that the comb can be saved and restored to the bees, being filled perhaps several times in one season.

Some years ago an Italian beekeeper, watching his young son at play, saw the lad place a small piece of comb in a basket to the handle of which a string was attached. Presently the lad began to swing the basket around his head by means of the string, and the father noticed that some of the honey in the comb was thrown out by this process. It occurred to him immediately that honey might be removed from the comb by centrifugal force, and he invented a crude machine by which this fact was proved. From this machine has been developed the modern honey extractor which is used by beekeepers everywhere in one form or another. Such an extractor can be set up in any kitchen or shed, and is worth buying if the amateur has more than two or three colonies. There are two types, one for the man with a small apiary, and a larger kind better suited for one who has a considerable number of bees; it is a little easier to operate than the small one.

The extractor is best used when set on a block or box high enough so that a pail can be placed under the outlet at the bottom to receive the honey. The machine may be fastened to the block or box by means of rods at the sides. When the crank is turned the honey is thrown against the sides with a gentle patter like that of rain. Then it drops to the bottom. Sometimes a strainer cloth is hung over the outlet to catch any small pieces of wax.

Before the frames are put into the extractor, however, the wax cappings must first be removed. This is done by means of a knife sharpened to a razor edge, and kept warm by immersing it frequently in a pan of hot water. The so-called Bingham knife is probably the best for the purpose, although many beekeepers prefer an ordinary large carving knife. If two knives are used, one being kept in the hot water, time is saved. The combs are held in the left hand with a lower corner resting on a block fastened over a pan or other receptacle, into which the wax drops as it is removed. Experts begin at the bottom of the comb and cut upward with a sawing motion. Usually the capping can be removed almost intact. It is wise to save all the wax and to melt it up, for it is worth 36 cents a pound or more at present prices.

Of course all this work must be done indoors, and the windows must be protected by screens so that the bees cannot get in. The work of removing the honey from the hives is made easy if a bee escape is used. This is a little device which can be set in the middle of a board, sold by dealers in beekeeping supplies for the purpose. When placed under the super it allows the bees to go down through, but prevents their return. If placed on a hive in the afternoon, nearly all the bees will have left the super by the next afternoon. Then the honey can be removed without danger of stings, and without disturbing the bees.

It is not best, however, to leave the bee escape on the hive through the middle of the day if the weather is very warm, as the heat may cause the comb underneath to break down. After the honey has been removed from the combs they may be returned to the hive, but it is best to wait until evening. If the combs are put back at once the bees are likely to be unduly excited and will perhaps be provoked to robbing.

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AUGUST, with its tantalizing hints of autumn fashions, and its shop windows filled with the first new things, impels one to purchase at least a hat or two, a frock, or a new wrap, and if one is traveling in August it is a wise plan to investigate these new fall things and make the necessary additions to one's wardrobe from them.

There is nothing in the world that "tones up" a spring and summer wardrobe, such as one takes on an early autumn trip, more than a "dash" of new autumn fashions. So often one needs a new wrap, a one-piece dress, an early suit, and always at this season one needs a new hat.

If these are purchased early from the right sources they are perfectly good for all season use. It is a mistake to imagine that just because one indulges in an early model that its fashion is transitory, and that later one will see something far better. It is best to realize that there are no longer any very definite confines to a season and that a well chosen and becoming frock, wrap, suit, hat, or whatever it is, is good for a certain period, no matter when it is purchased.

THE NEW FALL STREET FROCK

One of the newest early fall street frocks, illustrated in the centre of the page has been imported from Paulette, who is one of the younger couturiers to receive favorable notice in Paris. It shows many interesting features, remaining at the same time eminently practical. The waist and tunic, cut in one, are semi-fitted and of blue gabardine edged with a band of black satin. A wide black satin sash ties in a single long loop with two ends, and color is given by the tiny chemisette and collar of light blue cloth embroidered in gilt metal thread.

The apron-like front to the tunic may be unbuttoned at either side if one chooses, and dropped in long pointed ends to almost hide the gabardine underskirt, but it is newer and much more youthful worn as illustrated. Practically three quarters of the early French dresses show short sleeves, most of them far shorter than these, but it is doubtful if so extreme and senseless a fall fashion can receive American sanction, and presumably most of these short sleeves will end by becoming either three quarter or wrist length.

THE CAPE IN A NEW GUISE

Nothing is more interesting—not even millinery—than the new fall wraps, which always make their appearance simultaneously with hats, blouses, and early street dresses. Coats and capes share the day, the coats loose but fairly straight, what fullness there is being introduced gradually from the shoulders down, no decided flare being in evidence. Many tan shades, blue, and deep wine are noticeable with the new brick color introduced in the linings.

The capes are very new in cut, fullness appearing at unexpected places and many showing over-capes of the Inverness type. Quite the smartest early model to make its appearance is illustrated to the right above. Blue serge is cut to be widest at about

THE purpose of this department, conducted by Country Life's Readers' Service, is to give information of any sort regarding country clothes. It will gladly furnish the names and addresses of establishments where correct country clothes may be found, as well as those from which the clothes in the accompanying articles are chosen. Write, telephone, or consult Miss Taylor personally on country clothes problems.

COUNTRY LIFE
120 West 32nd Street New York City

elbow length, is lined with the gayest of plaid wool—a white plaided in yellow and red—and is collared with something quite new in the fur line, unplucked nutria, which is a bit like raccoon

in type, but longer haired. One can look into the depth of the long hairs and distinguish the base of soft brown nutria below. For motoring, traveling, or similar uses, such a cape is most distinguished, having both novelty and usefulness to recommend it.

THE SMART TRAVELING SUIT

A dark toned covert, one of the military green-tan shades, makes the excellent suit shown in the lower left hand corner which is ideally suited to travel or similar hard wear. It has a narrow, straight skirt—and by the way skirts are noticeably longer on fall suits, about four inches from the ground. A pocket, which buttons close, finishes a shallow yoke section of the skirt, which is belted by a similar narrow cloth belt to the one on the skirt. The coat has a pretty collar lined with a gay blue (a shade or two deeper than robin's egg) knitted yarn which when opened looks a bit like a small scarf. A suit of this character is excellent for general town or country use, adapting itself chameleon-like to the accessories accompanying it.

TWO NEW STREET DRESSES

The two one-piece street dresses shown at right and left of page 76 may be said to be the accepted styles for early wear. Straight, fairly loose in type, with narrow underskirt, they represent the fashion of the moment. The straight panel back, first introduced on Callot things last winter, has crept more firmly into the mode and is now very generally worn. If one finds it trying it may always be belted in.

At the left, is a blue serge frock, eyelet embroidered in black silk, this style being one of the many new and interesting types of embroidery seen this fall, which may be termed an embroidery season. The neck line, collarless, a definite edict of fashion, is finished only by a line or two of stitching and the long light sleeves by buttons.

The other frock is a combination of tricolette and satin, tricolette being the heavy chain weave silk jersey which was introduced early last spring. The under section is all of the satin, shown in a real midnight blue, hardly distinguishable from black, and is a very lustrous, soft charmeuse; the tricolette overskirt is embroidered in the narrow ribbon embroidery called "ribbazine" combined with heavy silk embroidered coin dots. A narrow band of similar handwork finishes the neck.

A dress of this type is an excellent choice for including in one's traveling wardrobe, particularly if it be of necessity a small wardrobe, for it packs well, is simple enough for day use, and yet quite smart for dinner, with a large hat.

Both of these dresses are particularly good values, considering their fine materials and the amount of hand embroidery on them.

A SHIRT AND SOME HATS

A particularly good value in a well made shirt is being offered by one of



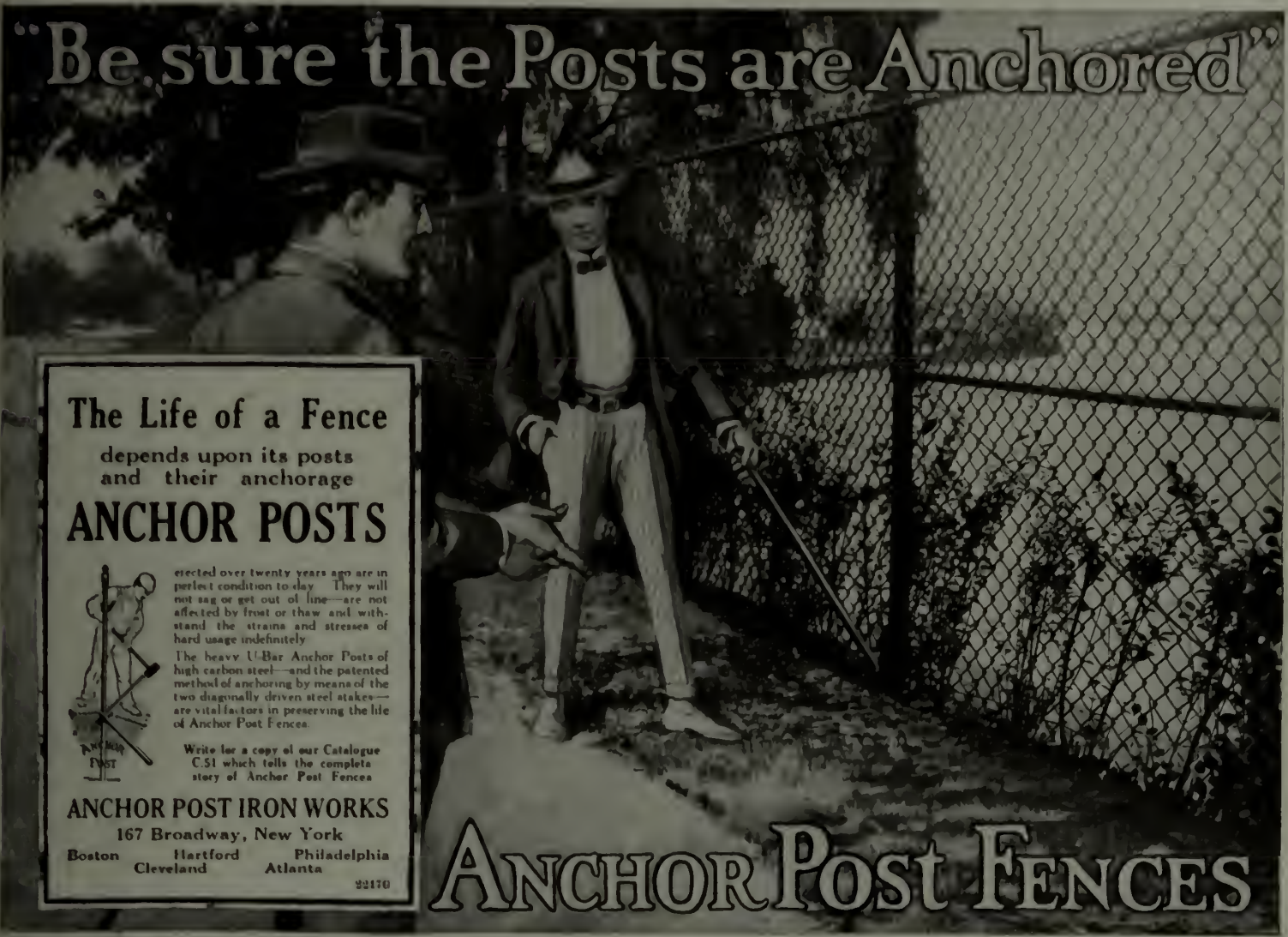
Very trim and serviceable is the greenish-tan covert suit with its collar of crocheted wool



Turned up like an apron is the tunic of this new gabardine street frock. (Three models from J. M. Gidding & Co.)



New in silhouette and in combination of material and fur is this serge cape lined with plaid wool and collared in unplucked nutria



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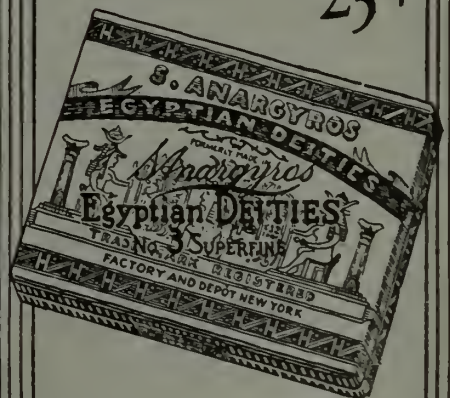
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the shops. Of a good quality of China silk, it has a medium low neck, the desirable narrow collar, and turn-back link button cuffs, fastening with pearl buttons. This shirt is custom made and is illustrated at the top of the page.

The same shop is showing the mushroom brimmed felt hat of robin's egg blue felt, faced with dark blue velvet, and trimmed with a band giving a wide quill effect by means of strips of the blue felt being applied close together on white.

The other hats all come from a shop, one department of which specializes in smart hats of the very newest fashion from about \$12.50 to \$20, although they always have many styles below and above these figures; well dressed New York women have learned that here they will always find the very newest things in millinery at moderate prices.

Shown with the frock in the centre of page (74) is a rolling brim sailor, beautifully made of taffeta to give a soft finish. Around the top of the brim and the base of the crown, chain stitched embroidery in the same tone appears, ended by a grosgrain ribbon band.

New and very becoming is a youthful Tam o'Shanter type turban worn with the cape at the right of page (74) silk stitched over its entire surface, its fullness being caught in by a tassel at one side.

With the suit at the left of page (74) is worn an English type of low crowned sailor, not universally becoming, but very smart on the youthful woman with delicate features and a small face who can wear a stiff brimmed sailor. This one is treated in a new fashion: velour in a soft tan shade is covered with a bright blue Georgette crêpe, the resulting soft hazy blue being christened "blue bird." A band of several thicknesses of the Georgette encircles the crown, the ends being held by two embroidered buttons.

A scalloped saucer-brimmed hat of taffeta is worn with the serge frock, at the left on



A very well made tailored shirt of China silk is reasonably priced at \$7.75. A robin's egg blue felt hat has its brim lined with dark blue velvet (\$18.50)

this page, just half of its crown embroidered and held down with a big ball button; and a very becoming mushroom hat of taffeta is shown with the dress of tricolette and satin, at the right, its crown soutache embroidered at the base and finished by a narrow grosgrain ribbon band, and its brim faced in velvet.

All of these hats are of the between-season type that are a happy break between the straws of summer and the velvets of winter.

It is far better taste to wear a hat of this character in August than to make an abrupt change to a velvet or felt hat except for real country use when of course either a velvet or felt hat is good for practically the year round, unless one excepts mid-summer when either of them is apt to be a bit uncomfortable.

Mid-season fashions are rapidly assuming an increasingly important position in the eyes of the smart woman for it is a period like August and early September that the badly dressed woman always appears down at the heels in the fag end of her summer wardrobe while the smart woman with only slight additions to her wardrobe nevertheless manages to appear fresh as at the beginning of the season.

It is best to make these slight additions to the wardrobe where they will achieve the greatest effect. Hats are of course pre-eminently necessary and next in importance comes the street frock; for August and September, even if one is out of town, is the season in which one makes frequent trips to town and it is upon these trips that such a dress is most useful. Then if one cares to, a new wrap is probably the next most suitable purchase.

For oft times the very prettiest wrap appears early in the season and this season is no exception for both the early coats and capes, such as have been described in this article, are a perfectly safe purchase, even though one selects them as early as August 1st.



Two straight embroidered panels of tricolette are hung over a foundation of satin (\$69.50). Braid embroidery and a velvet facing are features of the becoming taffeta hat (\$16.50)



Eyelet embroidery in black silk is the new feature of the smart serge street frock (\$69.50), with which is worn a stitched taffeta hat with a saucer shaped brim (\$16.50)





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Garden City New York



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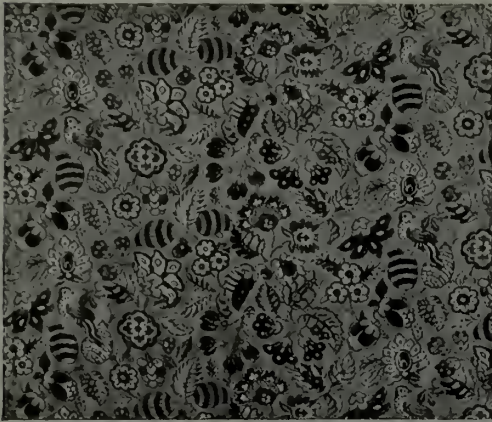
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Making Decorating Fabrics Do Their Bit

By JESSIE MARTIN BREESE

Inquiries regarding home decoration—color schemes, furnishings, art objects and interior arrangement—should be addressed to Mrs. Breesse, of the Decorating Service of *The New Country Life's* Advertising Department, 120 West 32nd Street, New York

A YEAR or two ago, a well-known fiction writer, in a semi-humorous article upon interior decoration written from the lay viewpoint, asked in effect, "Why don't you tell us what *not* to do?" This is all very well in its way, for the pitfalls that beset the way of the homeowner seeking decorating fabrics in every way suitable for the interior scheme, are many and dangerous. But too much emphasis put upon the negative side of the question of drapery is just as bad as equal emphasis upon the negative side of the craft of fiction writing. Given a catalogue of "don'ts" without a definite foundation to build on, or a structural skeleton for a working basis, and one is just as badly off.

There are, however, two main "don'ts" that it would be well for every one interested in obtaining beautiful decorating fabrics for his home to observe. First, don't be misled with the idea that the only cretonnes, chintzes, or silks fit to use are made in Europe. While it is true that for antiques we must turn to France and England, and that their long training, and the background and atmosphere in these countries—a background and atmosphere that come only with time—have given their artists a supremacy and a prestige that is recognized all over the world, still, America is learning, and to-day her designers are doing much to their credit in these lines.

Secondly, don't choose hangings for their color scheme alone. The design is equally important and if one is asked to choose between a fabric of beautiful color and another of exquisite design, don't select for color alone. Of course, the color-scheme that has been chosen for the interior must be rigidly adhered to, and likewise, to-day, the psychology of color and its influence in our daily life is a recognized factor, but it must also be remembered that the design without perfect harmony of line and symmetry of proportion can nullify all the beauty or benign quality of a colorfully exquisite drape.

It is not enough to choose well in this matter of design. Having chosen, it is necessary that we decorate wisely with the carefully chosen fabric. To do this means to have a thorough understanding of the design itself, and to be able to so use the fabric that that design will be shown to its best advantage, and that it may give to the point it decorates the full measure of its beauty. This is not always easy. Accepted forms are always simple enough to follow. In the case of a window drapery, little thought is required to hang a piece at either side of the window and put a straight valance

overtopping. But the slightest variation of this simple form requires some thought, even though it be only to cut the valance so that it have a curved edge instead of a straight base line.

How much thought, then, must have been spent on the window shown below! The printed linen which was used for the draping of the window is shown on a larger scale in the photograph at its left, in order to give a distinct idea of the way in which this particular design was adapted to fit the needs of the place where it was used. Ever popular among more sophisticated Occidental beauty-lovers, the naïve Chinese design has taken a high place in the decoration of the American home. Western inventiveness, however, not content to import the designs purely as they were used in China, has improved upon them to make them more suitable for use in the American home. In the case of the linen used in this window drapery, a band simulating Chinese embroidery, such as is used as sleeve bands on mandarin coats and the like, has been added as a stripe to the original design employing pagoda and tea-house beside a curving stream.

This band was used, as the picture shows, alternately single and double and on either end of the valance. To give further variety, one full band and one half one were used together. All of these stripes are outlined with a braid dyed especially for this use. Between each two of them, the linen is so cut and draped as to carry further the Chinese effect. As a final touch of artistry, no ordinary fringe was used, but a ball drop which was cut especially for the purpose and adapted from a Chinese design.

Surely the compelling charm of such a window proves the worth of all the thought and work that was spent upon it. But what shall we say of the artist who so far carries his mission of harmony to completion, as to have the border of the rug designed from the pagoda in the window-hanging? No lack of individuality could possibly be felt in a room so thoroughly and perfectly harmonized. And is not individuality the one quality that we all want our homes to have above all others—excepting beauty, of course, which must be made a part of that quality.

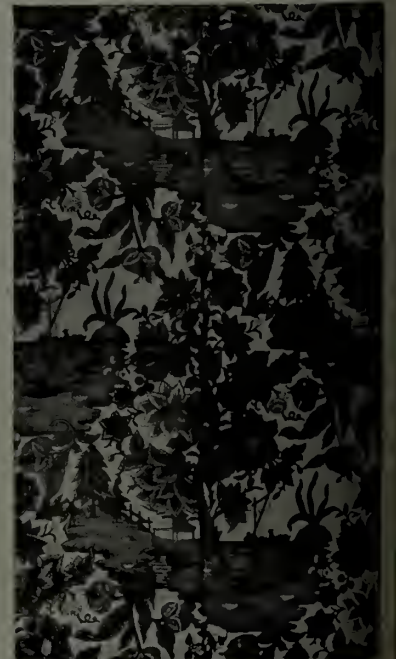
This room should be no exception to the general rule. There are too few, though, that can boast such complete harmony of treatment. Why this should be seems almost inexplicable when we see the many delightfully adaptable designs that are to be had in the shops. In the English chintz at the right of this interior, for instance, is all the atmosphere that is found



This linen inspired one decorator to an individual window treatment of great beauty.



This interior shows not only the excellent use that was made of the linen on the left for window drapery, but the incorporation of a part of its design in the rug design as well.



Similar use could be made of a decorative, yet pictorial chintz, such as this one.

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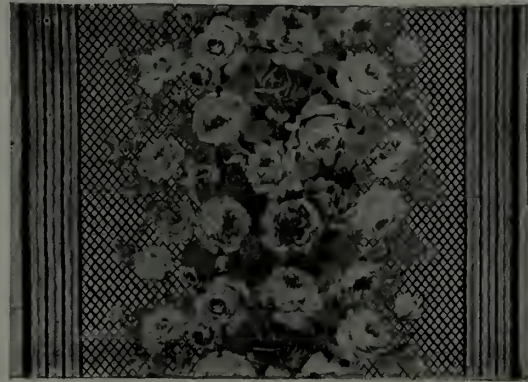
FIFTH AVENUE AT 53rd STREET
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in an old-fashioned watercolor. Notwithstanding the fact that it is pictorial in feeling, it has all the quaint exaggeration that designers are privileged to use in their work. Thus it is true to itself as a fabric, and makes no attempt to pose as a picture. The advantage of the combination is that it can be used in various ways to exploit the picture motive, even as the Chinese linen was used. In a library it could be used most appropriately, for besides having the look of an English watercolor, it has a rhythm and a luscious softness that is poetry in itself. It would almost seem that its inspiration had come from a poem, for a perfect description of it is

found in Alfred Noyes's "Flower of Old Japan":

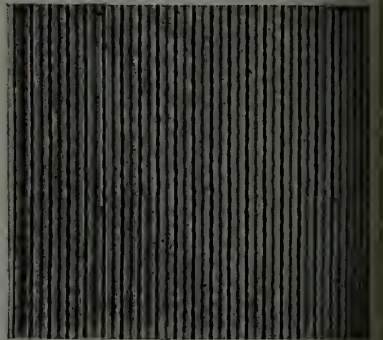
"Satin sails in a crimson dawn
Over the silky silver sea;
Purple veils of the dark withdrawn;
Heavens of pearl and porphyry;"



These two cretonnes, each a yard wide, are used in conjunction to produce a room scheme of greater variation, with no superfluity of design or color.

No chintz with such poetry in its design could be treated in an ordinary way when the time came to use it as window drapery or upholstery. The very charm of its association would demand an original and individual treatment.

Silks of all-over patterns, such as the three illustrated at the head of this article, offer little difficulty to the decorator, for they are adaptable to many different kinds of treatment. Even so, however, personal delight in any one of them would not be enough to warrant its purchase without further thought. For although they all come under the heading of "all-over designs"—that is, broadly speaking, designs which are one throughout the piece, having no division between the unit of design and its repeat—no one of them is like another one, and each has its peculiar advantage for some particular treatment that the decorator has in mind. The first one, for instance, is a very "full" design, by which is meant that there is great variety to the design and so much of the silk is covered by it that but little of the background shows. In a room where the walls were of neutral color and but little decorated, this silk would look immeasurably better than either of its fellows.



If a room is in need of decorative aids to give it height, and cannot depend on vertical lined wall-paper to help, the silk in the centre illustration is so designed that the branches, the line of the birds, and even the grouping of the flowers have an upward swing which would make any room seem higher.



This formal bi-symmetric design contrasts in use as well as design with the "Shakespeare Garden" pictured below, which is as gay and informal as any chintz may be.

While at first glance the last design seems very like the first, it is soon realized that much more of the background can be seen. For that reason it can be used in a room of more decoration and more furniture. Its rhythm too is more pronounced, and it can therefore be used to advantage in fulfilling some ulterior purpose on the part of the decorator.

Perhaps the latest convenience that has been arranged by the makers of decorating fabrics is the printing of two separate pieces with allied designs. Such fabrics have an unlimited field of usefulness. It would be folly to



try to enumerate the many things that can be done with such a combination. Let it suffice to tell just how these two join forces. The stripes on either side of the wide panel of flowers have been reprinted on a yard-wide cretonne in the same colors, so that the two can be used in conjunction, as for instance in upholstery and draping. For hangings, the floral panel is used, with the stripe panel sewn to either side, if it be not wide enough of itself. Then the stripe piece can be used by itself in the upholstery.

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This is but one of the many uses to which fabrics
so printed can be put.

Where formality is required of the fabric used
in the decoration of a room, a design of bi-symme-
tric balance is a wise choice. Such a one is the
chintz with two little birds of seeming Indian or
Assyrian inspiration sitting facing each other on
a lattice of branches. In this chintz, the formal-
ity is heightened by that lattice.

Gay and most informal is the "Shakespeare
Garden" shown below the chintz just mentioned.
As its name implies, it is not a mere floral pat-
tern. It is of interest historically, aside from its

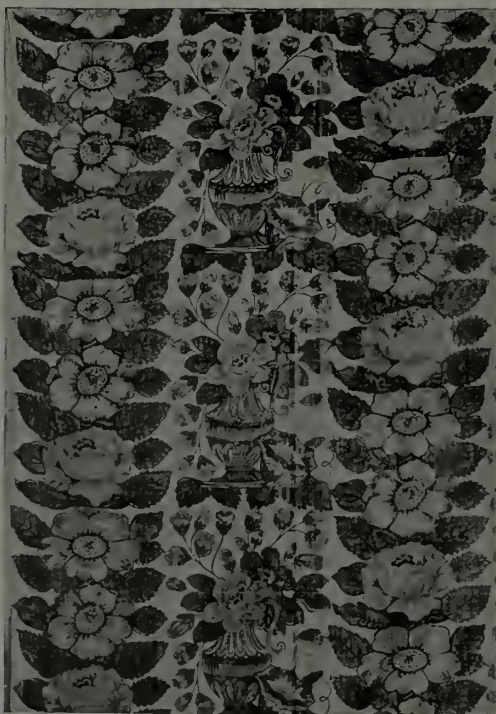


The "period" room requires a fabric printed in a design
suitable to the time, as well as to the physical demands of the
room.

excellent design, for the flowers portrayed are
all those mentioned in the poems and plays of
Shakespeare. Inserted in neutral tones to offset
the gay, multicolored flowers, are prints of the
old Globe Theatre and Anne Hathaway's Cottage.

Of historical value in a different way is the
Portuguese chintz, for it is an old hand-woven
and hand-blocked piece. Those of us who are
able to find these rare, lovely pieces do not need
to ask how they should be used. The question
in this case is, where we shall find them.

The room decorated in a period style requires
a quite different design from any that we have



In the home of a Portuguese peasant was found this charming
old hand-woven and hand-blocked chintz.

discussed so far. It must not only be in har-
mony with the room in which it is used, but
must fit historically into the period which is
used. As an illustration of the type of design
to be employed in an Adam setting, there is the
modern chintz whose motifs are entirely classical.
Inspired by the work of Pergolesi, the present day
designer whose work this is, has kept faithfully
to the motifs which the designer of that period
used in his work. So we find the cherubs up-
holding a lyre, or a tamborine, while in alternate
strips between them are plaques containing re-
spectively a cherub driving a pair of wild boars,
and drinking doves. In the two rows of medallions
are the heads of Minerva and Zeus. Such
chintzes of modern design are to be found for any
period.

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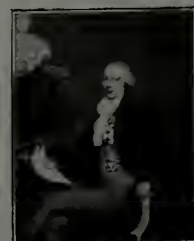
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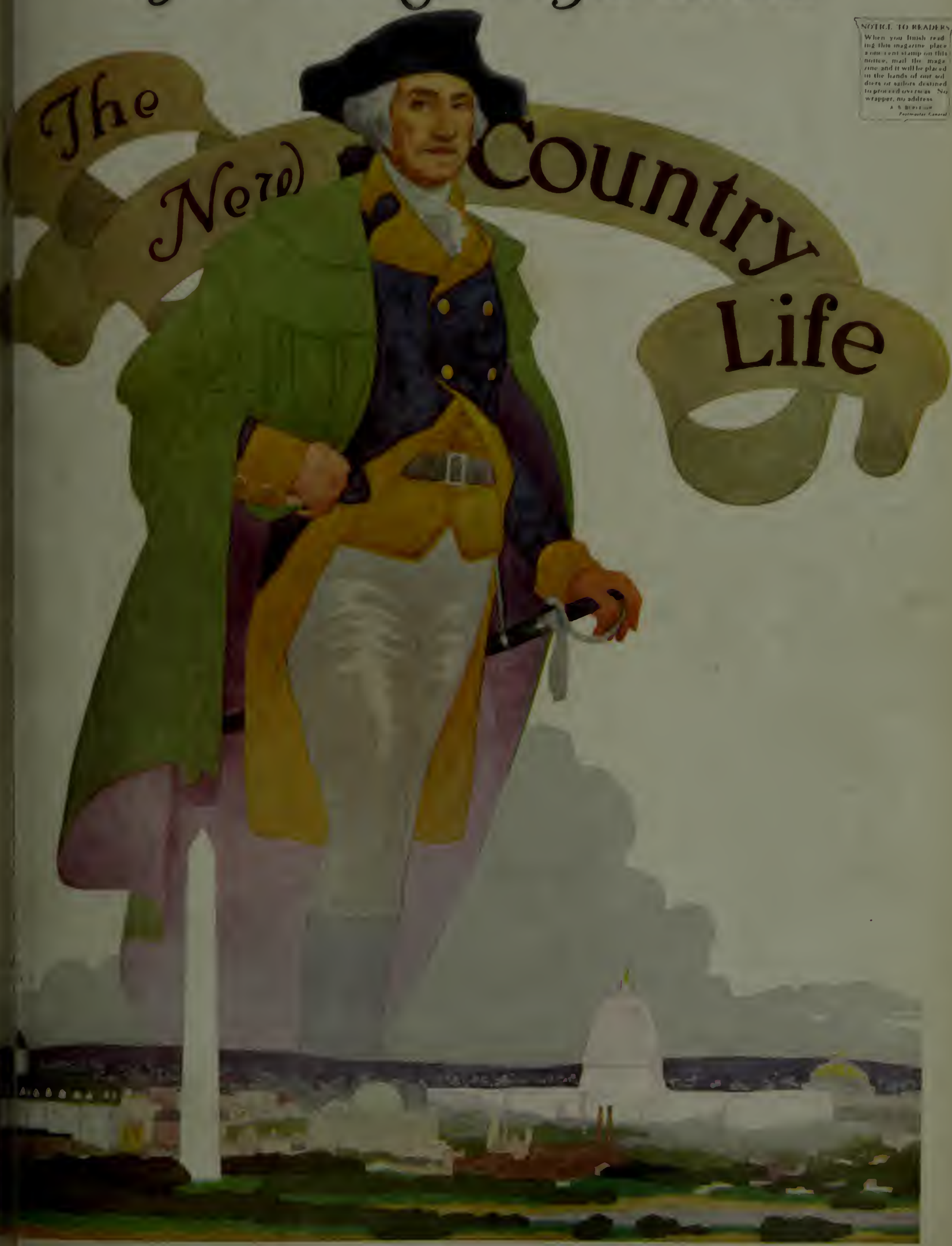
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By Annee Duvivier

Further details upon request

WASHINGTON, D.C.

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All bred to Langwater Senior. 39431

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Hampshires are the best mutton sheep in the world. A Hampshire ram sold at the National Wool Growers' Auction Sale, 1917, for the highest price ever paid for a mutton sheep in America. Write the secretary for information. We have a dandy little booklet for you.

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Linden Girl of Harbor Hill 3rd AR 4651
15,032.9 lbs. milk, 785.89 lbs. fat Class CC

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We Bred and Developed the Breed's Champion Roll of Honor Cow

We offer a few bull calves carrying similar blood lines

Shorthorn Business

The 1918 receipts at this office will run approximately four times as much as in 1914, 25% above those of last year. Transfers in March were 50% greater than in March, 1917. \$200,000 will be offered as Shorthorn prizes during 1918.

The Shorthorn is the breed for you

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Breeders of

Milking Short-Horn Cattle
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Waterloo Clay
Grand Champion Eastern States Exposition, 1917

Dalton, Mass.

NEWS of the BREEDS and the BREEDERS



EASTERN cattlemen and breeders, who are particularly interested in matters pertaining to dairying and the dairy breeds, sometimes fail to realize that recent sales of registered beef cattle have reflected the same high prices and prosperity that have characterized some of the recent events in the dairy sales rings. For example, the Escher & Ryan Aberdeen Angus sale at Harlan, Ia., on June 4th and 5th, brought the remarkable average of \$1,190 on 127 head, and included the record price of \$9,200 for an Angus bull. Again, Messrs. S. H. Hill & Co. paid \$1,000 for a yearling bull of the same breed raised by the Ames plantation in Tennessee. In "White-face" annals, Col. E. H. Taylor's Hereford sale at Frankfort, Ky., on June 7th, will long hold a prominent place, for it brought about the record average of \$3,013 for sixty-two animals, and the striking price of \$13,850 for the imported cow Clive Iris 3d. And out at Harris, Mo., the firm of O. Harris & Sons, held another Hereford sale on June 4th at which 101 animals went for \$109,725, including the bull King Repeater, for \$12,000.

THE plan of erecting a memorial, or rather a testimonial, in honor of ex-Governor W. D. Hoard which was suggested some years ago but temporarily laid aside at the death of Dr. H. B. Favell, one of its sponsors, has been revived and promises soon to crystallize into actual results.

It has been decided that the testimonial will take the form of a bronze statue to be placed in front of the College of Agriculture in Madison, Wis. Its cost will be covered by a fund made up of voluntary contributions from those who want to render tribute to the "grand old man" of the dairy world. Judging by the number of those who have expressed interest in the project, the individual contributions will have to be kept small if they are not to total more than the \$25,000 required.

THE case of the Burgess Stock Farm vs. the American Percheron Society, by which it tried to compel the organization to register certain animals offered by that farm and previously refused certificates, has been decided by the Illinois Appellate Court against the plaintiff, the early decision of the McLean County Circuit Court being thereby reversed.

This case, which has naturally attracted the attention of breeders of other types of livestock as well as horses, is valuable as establishing a legal as well as a moral basis and standard upon which to settle questions of a similar nature.

WITH 1,500,000 of its horses already among the 5,000,000 that are said to be engaged in the great war, and more going over as our Army is increased and sent overseas, the United States has reason enough to keep in mind the Red Star organization, which in its relation to the horse in war stands in the same light as the Red Cross does in its relation to man. In other words, it is the civilian body that backs up the veterinary forces and hospitals, insuring for them the supplies that Governmental appropriations alone cannot furnish.

With pageants, auctions, fairs, and other events being held by generous Americans in all parts of the country for the purpose of obtaining funds to ease the war path of our fighting men, is it not time that those who pride themselves on being lovers of animals should take similar steps, on a proportionately extensive scale, to soften the road for our fighting horses? The thanks

of those that are helped may never be expressed in words, but any one who has known what it is to receive the gratitude of any animal whatever, will have no doubt that the reward will be a real and a cherishable thing despite its inarticulateness.

ON MAY 16th, Fra Diavolo of Linda Vista, a Guernsey bull, sold at the Lake Forest, Ill., sale for \$10,000, a record price that most breeders thought would stand for a long time to come. How impossible it is to forecast conditions and events in these strenuous days is indicated by the recent sale of a second bull of this same breed for a still higher price, namely \$10,100. This transaction revolved around Pencoyd's Golden May Secret 39626, who was purchased from W. G. Jamison & Sons, of Appleton, Wis., by Mr. Charles L. Hill acting for Edgemoor Farm of Santee, Cal.

This three-year-old sire is by Langwater Pencoyd, and his dam is Nella Jay 4th, who at present stands third in Class A of the Advanced Register. In addition to this position, she also holds seventh place in Class D, and third in Class G, which suggests that she is not only a good performer, but also a consistent one. Mr. Dupee, owner of Edgemoor Farm, has certainly purchased a representative of a fine line of

farm, a splendid herd of cattle, and the sale of eighty-eight head of representative members of it for the very respectable average of \$386. It is safe to surmise that all who were interested in trotting horses were also given an opportunity to view some of the sightly and speedy trotters that help to make life worth living for the junior member of the firm. In addition there was what might be called the "customary" Red Cross auction of an infant bull calf, which put all other transactions in the shade by causing the transfer of \$1,070 from the pockets of the patriotic assembly to the coffers of the Red Cross. As was also to be expected, the details of the affair, under the experienced direction of Mr. L. F. Herrick, went off without a hitch.

PAUL J. RAINEY, the moving picture photographer whose hunting films have thrilled thousands of movie fans, is apparently planning to turn from big wild game, to equally big, but much tamer livestock. He has begun to stock and cultivate his 15,000 acre plantation at Cotton Plant, Miss., with a view to raising beef there. Already some 3,000 acres of Tippah Farms are under cultivation, and 50 purebred Aberdeen Angus bulls will be used to increase the herd of 100 purebred cows, and to grade up the product of the 1,250 grade matrons.

The first purchases of purebreds for this venture were made from W. H. Hurdle of Holly Springs, Miss., whose steers have topped the East St. Louis market in recent years. The twenty-five two-year-old bulls with which Mr. Rainey is going to start his breeding operations were bought from C. D. & E. F. Caldwell, of Burlington Junction, Mo. The intention back of the whole proposition is to develop a complete beef producing plant on which breeding, rearing, feeding, and fattening—in short, every operation that is needed to fit beeves for the packers—shall be carried on in such a manner and on such a scale that the best possible product will be turned out on the most economical basis.

WHOMEVER is interested in Guernseys and feels that a day in "God's own country" would do him good along about Labor Day, would better make plans to accept the invitation of Mr. John C. Haartz

of Boston to the Field Day that he is going to hold on his farm at Campton, N. H., on August 30th. The very fact that this is the present home of the \$10,000 bull, Fra Diavolo of Linda Vista, is enough to make the trip interesting, for any one who can judge cattle values accurately enough to have made that purchase must have some other mighty worth-while animals in addition.

IT WILL naturally be impossible for some breeders to send an exhibition herd around the circuit this season. Labor shortages, difficulties of transportation, a general retrenchment with a view to larger purchases of Liberty Bonds—all these are legitimate reasons for some men making the reluctant decision to stay on the farm, or at least within the limits of county or state. Yet this decision ought not to be arrived at hastily, for there are arguments to support the other side that yield only to very serious consideration. The advertising value of every exhibition made and every ribbon won by a herd must not be forgotten; nor the indisputable fact that one of the foundation stones of advertising success is the practice of getting one's wares before the public eye at every opportunity. Also the educational value of viewing other noteworthy animals, of seeing them compared, of talking with





Blackcap Poe, the Angus bull sold at the Escher & Ryan sale to Mr. A. D. Wilcox, Muscotah, Kans., for \$9,200, the record price for the breed

Guernsey blood, and one that can stand on his own merits as far as appearances go, as well. The results of combining his family lines with those of Itchen May King, Royal Rose King of Edgemoor, Imp. Westmoreland Squire, and the other sires of the Edgemoor young stock will be looked for with interest.

THE first public sale of any breeder is always an interesting event, not only because it serves as a sort of index to his breeding operations, but also because it provides an opportunity to visit his establishment and note under what conditions he is achieving his results. The Glen Gable Farms Guernsey sale, late in June, was a success in both these respects, although little if any proof was needed of the ability of W. F. Gable & Son as either breeders, dairymen, or modern, progressive farmers. It will be recalled that Glen Gable Farm won the proud distinction of sending its milk clear across the continent to the Pan-American Exposition and bringing back to Wyebrook, Pa., the very highest award.

While nothing remarkable—in these days of hundred thousand dollar sales—occurred, the 400 or 500 interested breeders who spent the day as the guests of the Messrs. Gable, were treated to the sight of a most attractive and profitable


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Be sure to see the Aberdeen-Angus cattle. There you will have an opportunity at more than 25 leading livestock shows to inspect the choicest representatives of the grand champion beef breed. These show animals are samples of the best American herds. Their pedigree has won at the world's greatest livestock show, the International Exposition at Chicago, 15 out of 16 fat carcass grand championships over all breeds, as well as 11 out of 16 fat carlot grand championships, 11 out of 14 steer herd grand championships, and 10 out of 16 single steer grand championships. Calves of the breed have been demonstrating their baby beef making superiority at shows and markets from Canada to Texas. The bulls of the breed have been getting market topping steers at all leading markets, demonstrating their place in the winning of the war.

"Ask the man who owns some!"

American Aberdeen-Angus Breeders' Association
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"Cows is Cows"

is not true. There is a difference between just "cows" and purebred Holsteins, and that is the difference between loss and profit

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1823	166
Quarts of Milk a year	Pounds of Butter-fat a year

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PURE BRED HOLSTEINS is

7000	504
Quarts of Milk a year	Pounds of Butter-fat a year

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OFFERS TEN HEIFERS
 12 to 18 months old

Fine Type Best Breeding

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In handy holders enable them to have refined dairy salt—all natural impurities taken out. No more forgetting. Saves time and work. Ask dealer and write for free booklet.



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Princess Irene
 1st Single Harness, Chicago, 1916

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At the 1917 Fairs and Shows Won 181 First Prizes—10 Championships

If wanting a pony why not buy some from this farm. Hackney, Welsh and Shetland ponies for sale at very reasonable prices. Also breed Hampshire Swine. Stock for sale

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We furnish you stock and pay \$2.00 each and expressage when three months old. Contracts, booklet and full information 10c. "Nothing free."



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Start right with a Belrose modern Duroc Jersey sow bred for late summer farrow. Prices right. Shipped on approval, sired by sons of champion Boar Belrose Orion Cherry King. Also offer Baby Durocs and service boars.


Belrose Farms Poolville, N. Y.

THESE PONIES WON

At the Devon Horse Show; Greater New York Horse Show, New York City, and many others of National interest. They were bred and reared at Belle Meade Farm where there are 300 excellent ponies now waiting for good masters. A little child can drive or ride them.

Write for particulars and illustrated catalogue

BELLE MEADE FARM Box 6, Belle Meade, Va.



The Mighty Giant Buster

Grand Champion and sire of Grand Champions

Sire of the \$4825.00 litter; the \$2500.00 Buster's Best; the \$3000.00 Buster Over and many more of the greatest big type Poland Chinas Living.

Grand Public Sale Friday, November the First, Nineteen Eighteen



The Epoch maker, the standard bearer of the breed, the yard stick by which other great boars are measured.

Herd at Farm near Bryant, Jay County, Indiana
W. C. Williams & Sons, Thorntown, Indiana

EASY UNDERFOOT

Mr. J. H. Lane, of McLeansboro, Ill., says:
 "My cows stand on Cork Brick for weeks at a time, day and night, without being turned out of their stanchions, and they do not get sore and stiff like cattle do when they stand on concrete."

Circle A Cork Brick

For All Stall Floors

are never hard and cold. Cork is resilient; asphalt is, too. The combination of these materials in Circle A Cork Brick gives a floor that is almost as easy underfoot as turf. In addition, Circle A Cork Brick are Sanitary, warm to the touch, non-slippery and easy to lay in old or new barns.

A copy of the 32-page, illustrated book, "Better Stall Floors," and a large sample are yours for the asking.



Armstrong Cork & Insulation Company, 143 Twenty-fourth Street, Pittsburgh, Pa.
 All genuine Armstrong Cork Brick bear the Circle A trade-mark

the highest authorities, of learning the latest facts and theories about breeding and dairying, must not be overlooked. Finally a tour of the shows, if well managed and moderately successful, need not be an expensive venture, and may at times be rather better than self supporting. At all events, the exhibition officials are not cutting down their premium lists, and someone is due to win the prize moneys. In the Guernsey classes alone at the National Dairy Show there will be awarded more than \$2,800 in addition to the customary prize cups and special ribbons.

BOTH the agricultural South and the Aberdeen Angus breed won notable recognition when, on July 2nd, nineteen head of Southern raised and fed steers sold on the East St. Louis market for the record price of \$17.70 per hundredweight. The animals, weighing about 1,285 pounds apiece, were bred mostly on the Ames plantation in Tennessee and fed, finished, and marketed by Joe J. King of Tallahatchie County, Mississippi. Between last November and February, 1918, they were roughed through on silage and cottonseed meal; beginning in February they were given all they would eat of corn and alfalfa hay. But throughout their entire feeding period they received nothing but home-grown feeds.

THE meeting of the Jersey Breeders' Association of New Jersey at W. R. Spann's Burr Oak Jersey Farm, Morristown, N. J., on July 31st was made the occasion for the first Jersey Breeders' Picnic to be held at Mr. Spann's new home. The host and hostess, who maintained their reputation for hospitality, had some notable animals on hand for inspection, and the seventy-five or more guests present enjoyed the entertaining and instructive programme.

President M. D. Munn of the American Jersey Cattle Club, delivered an inspiring address, and urged the local breeders to band themselves more closely together for the improvement and advancement of the breed. Geo. W. Sisson, Jr., gave a very interesting historical sketch of the part that the State of New Jersey once played in Jersey affairs. I. Robert Blackburn of Dayton, Ohio, gave an instructive address on "Breeding for Production" and outlined a mathematical formula of breeding operations which has brought him to the front ranks of Jersey breeders within a comparatively few years.

Mr. Spann, who has experienced some difficulty in arranging for his latest shipment of fifty-four animals, announced his plan of going over personally to arrange for their immediate consignment, and received the hearty wishes of all present for a safe and successful voyage.

ONE cannot help but wonder whether, if Clarence Mackay's Harbor Hill estate is accepted by the Government as a convalescent hospital, the soldiers quartered there will be the recipients of the milk from the Harbor Hill Guernsey herd! If so, their recovery should surely be rapid and complete. This is merely a digressing thought caused by the news that Linden Girl of Harbor Hill 3rd has recently completed a record of 15,032.9 pounds of milk and 785.89 pounds of fat. This not only places her at the head of her age class as a producer of butter fat, but also makes her leader of Class CC of the Roll of Honor, or the champion cow of the breed in the combined rôle of matron and milk machine. Incidentally she has other noteworthy records to her credit, as have also her two full sisters who shed a lustre of their own over the name of Harbor Hill.

ANOTHER of the interesting purchases that have recently taken place in connection with the Milking Shorthorn breed, is that of a young bull bred by Flintstone Farm, Dalton, Mass., and bought by Mr. Clark Wright of Middlefield, Mass. The sire of this calf is Glenside Dairy King who also sired the five young animals that sold for an average of nearly \$1,000 apiece at the last sale held by Mr. C. D. May. His dam has a three-year average record of 15,610 pounds of milk, and is a daughter of

General Clay, who has thirty Register of Merit daughters.

Flintstone Berkshires are also selling well, indicating that it was not necessary to take all the good material to insure the success of the Berkshire County Berkshire Breeders' sale held early in the summer. Three excellent sows have recently gone to Mr. Wellington Smith of Lee, Mass., and a sow that has made a growth of more than 400 pounds since it was farrowed September 5, 1917, has been taken by Mr. J. W. Deely of the same town.

THE story is told of an English schoolboy who stated in an examination paper that "Much butter is imported from Denmark because the cows have a greater enterprise and superior technical education to ours." One cannot help but wonder what meed of praise he would have extended to the cattle of America if he had read, as we have recently, of the sale of one six months old bull calf for \$106,000. Yet this was an actual occurrence during the National Holstein Sale of June 6th, 7th, and 8th; the original owner was Mr. A. C. Hardy of Brockville, Ontario; the buyer was Manager E. A. Stuart of the Carnation Stock Farm of Seattle, Wash., and the animal, Champion Sylvia Johanna, now called Carnation King Sylvia, son of May Echo Sylvia, the only cow that ever produced 152.1 pounds of milk in one day, more than 1,000 pounds in seven days, 4,196.8



Carnation King Sylvia, née Champion Sylvia Johanna, the six months old Holstein bull calf which brought the record price of \$106,000 at the National Holstein sale in June

pounds in thirty days, and 12,899 in 100 days. This in itself was enough to give the sale a permanent place in history, but in addition there were other transactions that under normal conditions would cause gasps of admiration. For instance, Aldencrest Farms of New York paid \$12,000 for Rex Wanderbelle; A. W. Green of Ohio took Leafy Veeman De Kol for \$10,100; and Idleaze Pontiac Lass for \$13,000; A. C. Hardy of Ontario paid \$12,000 for Glen Alex Queen De Kol 2d; George J. Schuster bought Peldora De Kol Sadie Vale for \$10,600; and Carnation Stock Farm included in its purchases Albina Josie at a price of \$10,000. A summary shows that sixty-six head sold for \$427,680, or an average of \$6,480.

Only by comparison with the above mentioned event, does another recent Holstein sale take second place. On its own merits, that of Oliver Cabana, Jr., at Elma, N. Y., on May 28th, 29th, and 30th was a really triumphant achievement. Notwithstanding the fact that this herd has already supplied a bull calf that sold for \$53,200 and others at prices ranging from \$15,000 to \$40,000, Mr. Cabana was able to pick from among his 400 or 500 animals, 175 head that were good enough to bring an average of just under \$1,000. The feature of this sale was the purchase by Mr. Paul T. Brady of Pawling, N. Y., of Korndyke Winona, for \$16,000, the third highest price ever paid for a dairy cow.

In view of these highlights the lesser details of all recent sales pale into insignificance. So, also, does the annual meeting of the Holstein Friesian Association held in Milwaukee on June

5th, which, nevertheless, was thoroughly in keeping with the present position and prospects of the breed. The officers were reelected practically without change.

WHAT a cow can do under ordinary farm conditions and throughout the greater portion of her lactation period is what counts in the estimation of the practical farmer, be he dairyman or just general farmer. On this basis three Milking Shorthorn performers in the Cow Testing Association of Shewano County, Wisconsin, are worth noticing. One of them—a grade, Maggie by name—produced in the third month of her lactation period 1,283 pounds of milk testing 5.1 per cent. fat, or a total of 65.4 pounds of fat for the month, and as a result headed the list of the Association's cows for the month. Two other grades tested by the same organization gave respectively 1,236 pounds of milk, 50.7 pounds of fat, and 1,274 pounds of milk, 40.7 pounds of fat in the fourth and third months of their periods.

MR. JAMES G. WATSON, already well known to Ayrshire breeders and dairymen generally, has been elected Secretary and Treasurer of the Ayrshire Breeders' Association to succeed the late C. M. Winslow. A Scotchman by birth, Mr. Watson has an inherent love for and interest in the bonny red and white cow; as a graduate of Iowa State College, and ex-dairyman there and later at the University of Missouri, he is well grounded in the principles of breeding and dairying; as manager of the Southwestern Dairy Show in 1916, he gained invaluable experience in the business side of the exhibiting of cattle; and since that time he has been associated with the Ayrshire organization absorbing its traditions and planning for its growth and success. The Board of Directors has made a good choice for an important position.

ANY fears that livestock production in the United States will be rendered less necessary and less profitable when the war stops and the nations of Europe take up once more the industries of peace, are groundless, according to Professor E. A. Trowbridge of the University of Missouri. Belgium, Serbia, and Rumania have practically exhausted their livestock resources, he says. The European Allies as a whole have probably reduced their flocks and herds by nearly 46,000,000 head, while the Germans, through having been better prepared and by having captured the animals on conquered territory, have reduced theirs by about 18,000,000 head, or approximately one third. Neutral nations show estimated livestock losses amounting to about a million and a half, so that the total losses for all of Europe amount to something like 100,000,000, as far as estimates can be made.

When it is remembered that the total number of sheep, hogs, and cattle in this country is about 187,000,000, or not quite twice the number that have been killed off in Europe in the past four years, the immensity of the task of replacing the lost herds of foreign countries without leaving ourselves bankrupt, is obvious. It is a task to which every breeder can apply himself with the knowledge that in helping to accomplish it he is not only assured of a generous return for his efforts and investment, but is also contributing to a cause that has for its ultimate object the feeding of the world and thus the serving of humanity.

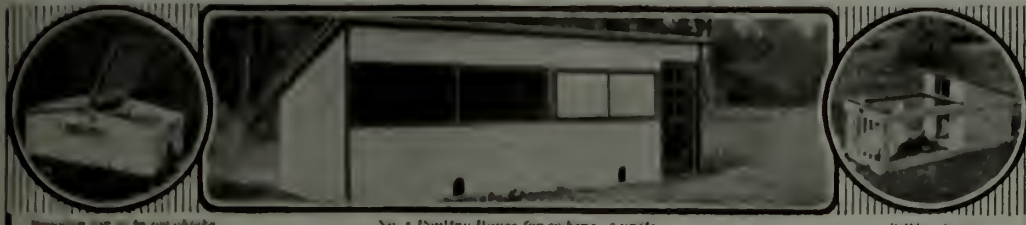
MANY Eastern breeders of Jerseys were present at the Broadway Theatre in New York City on July 30th to witness the premier showing of the American Jersey Cattle Club's new motion picture film "Hearts and Jerseys" in which May Irwin, the famous comedienne and devotee of Jerseys, plays the leading rôle.

The picture was produced by the Universal Film Co. of New York, and was pronounced by prominent dramatic critics to be one of the best pictures of farm life that has yet been put on the screen. It will be used by the American Jersey Cattle Club at breeders' meetings

(Continued on page 21)

THE POULTRY DIRECTORY

In this department are printed the advertisements of reliable poultry breeders and dealers in poultry supplies. The Poultry Department will send to readers any information about poultry which they may desire. Address POULTRY DEPARTMENT, The New Country Life, 120 West 12nd Street, N. Y.



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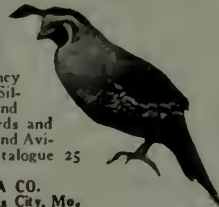
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Baree is half wolf, half dog, and the wild and civilization fight the old fight in his blood. This is his story, and the story of the humans who enter into his life—but most of all of his devotion to Nepeese, French Indian maid and his mistress.

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Positions Wanted

HEAD Gardener and Manager of private estate, is open for engagement this fall, experienced in all branches including farming. (English American), protestant, married, age 47, family, willing to please in every way. Only 1st class position considered with good wages and faithful services given for same. Masonic member. Ex. Refs. **LUCKING** Derry Village, N. H.

YOUNG woman with experience in training and teaching backward and nervous children, desires private pupil. Capable of taking entire charge. References. Box No. 912, care of New Country Life, Garden City, L. I., N. Y.

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To take charge of large private estate, not far from high school. Married, American of German descent. Age 49, active. Life experience in care of grounds, greenhouses, orchards, vegetables, etc. At present in undesirable employment in New Jersey. Good references. State salary, etc.

ADDRESS, BOX 914, NEW COUNTRY LIFE

FARM MANAGER

Desires position on large, modern farm or estate. Experienced in all kinds of pure bred stock, advanced registry, etc. Thoroughly familiar in up-to-date farming, orcharding, spraying, pruning, landscape gardening. Efficient in handling men, teams and machinery to advantage and will produce results. Strictly temperate. Scientific, practical, energetic and reliable. Six years present position. Excellent references. Box 905, care of New Country Life, Garden City, N. Y.

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as general farmer and working manager on private estate. Practical up-to-date experience with all farm, garden, and fruit crops, cattle, hogs, dairy, poultry, etc. English (American citizen), strictly sober, honest, and energetic. Excellent references. Please state full particulars and salary when answering. Address Box 913, care The New Country Life, Garden City, N. Y.

ENGLISHMAN, well educated, open for position as manager of large farm or gentleman's estate. 15 years' experience of practical farming, expert in dairying, poultry keeping on large scale, economical pork production, and a first class knowledge of the science of general farming, crop rotation and soil building, experienced in all kinds of fruit growing, pruning, spraying and tree surgery. A working knowledge of up to date farm machinery, gasoline and steam engines. A good accountant, a man of initiative and resource, of absolute integrity and sobriety and one to be depended upon in a position of trust. Address, Box 900, care New Country Life, Garden City, N. Y.

Position Wanted

By a thoroughly proficient, general farm and private estate manager of proven ability and exceptional record.

Present position includes successful management of one of the most extensive and prominent private estates in the east.

Well qualified in construction, improvements, reclamation of soil and animals.

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as Head Gardener on private estate. Has a thorough knowledge of every phase of gardening. Life experiences in Europe and America. Single; age 42. South preferred. Please state full particulars in first letter. Address, Oskar Bjorkgren, General Delivery, White Plains, N. Y.

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A good man and wife to look after country place, raising poultry, and care of garden for home use. Good tenant house. Excellent place for right couple. Must have A-I references. Frank P. Blair, Mukwonago, Wis.

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to secure new subscribers to the World's Work, The New Country Life and The Garden Magazine in your town. Your spare time thus invested will be profitable; liberal commissions. Address Circulation Dept.

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THE TALK OF THE OFFICE



"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*.

HERZOG, THE BERNHARDI OF THE TRADE

MANY people have been interested in our summary of a book published in Germany, and devoted to a plan for the control of the trade of the world. This book, which is called "The Future of German Industrial Exports," was brought out in Germany some time ago, and it reveals the same ruthless planning for world domination which we have seen in other directions. Mr. Herbert C. Hoover and his associates, Mr. Frederic C. Walcott and Mr. Vernon Kellogg, are eager to have this matter placed in the hands of every manufacturer in the United States. We shall publish it in a very cheap edition, which we will supply in quantities at 10 cents each or less, or in single copies at 15 cents each, postage paid. We shall be glad to hear from any trade organization which is interested in informing the manufacturers of this plan. Address Doubleday, Page & Co., Garden City, N. Y.

AUGUST 17th

is always a pleasant anniversary for us when Mrs. Porter celebrates her birthday with a new book. "A Daughter of the Land" was published on that day, and more than 150,000 copies were sent out to the dealers.

A NEW BOOK BY RUDYARD KIPLING

It is a very great pleasure to be able to announce a new book by Mr. Kipling in "The Eyes of Asia." This little book, which is issued in charming style for those who love their Kipling, was written as a series of wonderful letters purporting to come from an Indian who has been on the battlefield of France and has suffered for his patriotism. He communicates his new impressions to the people at home in a way that recalls the author's early Indian books. We are sure that every Kipling lover will be delighted to have these Indian letters.

Another volume of verses by Mr. Kipling will be published in October.

KATHLEEN NORRIS AND THE AMERICAN WOMAN

Mrs. Norris has come to be known to the reading public as one of the greatest interpreters of the soul of a woman. Her new book, "Josselyn's Wife," which we are publishing this month and which is a real American novel in every sense of the word, shows, with that great wealth of sympathetic understanding which is Mrs. Norris's own, the great redeeming power of a woman's love.

Ellen Josselyn, the small-town girl, transported from her even existence to Paris, and then to a social position in New York, whose faith carries her through long agonies of doubt and the horrors of a murder trial, will, we are sure, join Julia Page, Martie the Unconquered,

and Mrs. Norris's other splendid women in the firm place they hold in the heart of many, many of the American people.

"CHEERFUL—BY REQUEST"

is the title of the book of stories by Edna Ferber. Miss Ferber is one of the people who do not believe that romance died with the days that are gone, or is to be found only in far countries. She finds it in common everyday people, people we all know, love, despise, pity, are interested in, or merely tolerate. These twelve little stories are brimming over with that elusive quality known as "human interest," so often spoken of in the text-books and so rarely found in the storyteller's output. It is pleasant, indeed, to have Miss Ferber, the creator of Emma McChesney, the business woman with a heart and an inspiration, give us another volume with real charm and delightful humor. Each of the stories has an appeal all its own.

WRITERS AND READERS

A very interesting comment was made the other day by Jesse Lynch Williams on Clayton Hamilton's "Manual of the Art of Fiction," recently published by our Educational Department.

Mr. Williams has just received the 1918 Pulitzer prize for the best American play, and we cannot help thinking that his opinion is a very valuable one. He says:

"A Manual of the Art of Fiction" is the most sensible book of the sort I have ever read. Most people who write about writing are not writers; they are readers. Their point of view is that of the consumer, not the producer. You cannot learn to write by reading. A writer makes reading, but reading does not make a writer. Mr. Hamilton is one of those rare critics whose judgments are really respected by literary artists—not merely liked or disliked. He understands what he is talking about. He knows how things are made and why. This book should be read with care and prayer by every young writer and, for that matter those not so young.

FROM A TURKISH PRISON

Two months ago in "The Talk of the Office" we told how Captain Alan Bott, M. C., of the British Air Force, author of "Cavalry of the Clouds," one of the first books dealing with aerial warfare and still one of the most revealing—had been reported wounded and a Turkish prisoner. For many weeks nothing further was heard of the young pilot and it was feared he might have succumbed to his wounds. Recently, however, he managed by means of one of those mysterious war-time channels to get word through to his mother in England that though in hospital and wounded in the head and leg, he was in fair way to ultimate recovery.

There has been much talk lately of an agree-

ment for the exchange of prisoners between Great Britain and Turkey, so it may be that Captain Bott will be fortunate enough not to have to look forward to a term of imprisonment ending only with the great war itself.

A FINE FALL LIST

It is a great pleasure for Doubleday, Page & Company to call the attention of the readers of the COUNTRY LIFE to a list of books for fall publication which has purposely been kept very small, but which includes many of our best writers represented by books of importance.

It is impossible to give in a short paragraph, or, indeed, in any space that we have at our command here, an account of just what these books are. It is, we hope, sufficient to readers of the COUNTRY LIFE to mention them to excite their interest.

There are two books by Rudyard Kipling—one a volume of poems, the first in six years. The other is "The Eyes of Asia," written as a series of wonderful letters from an East Indian who has been on the battlefield in France to the people at home.

There is a new novel by Gene Stratton-Porter—"A Daughter of the Land;" a new novel by Booth Tarkington—"The Magnificent Ambersons;" a new novel by Mrs. Kathleen Norris—"Josselyn's Wife;" a new book by Edna Ferber—"Cheerful—By Request;" a novel called "Mam'selle Jo," by Harriet T. Comstock, whose "Joyce of the North Woods" is still a popular volume; Peter Clark Macfarlane has written a novel in "The Crack in the Bell;" the Williamsons, a war novel called "Every Man's Land;" and Peter B. Kyne, he of Cappy Ricks fame, whom every reader of the magazines has followed with breathless attention, has written a story called "The Valley of the Giants."

Then there are some serious books. Very important among these is "Ambassador Morgenthau's Story." In our judgment, this is the important historical book of the fall, a real contribution to history. There is a book of true stories of the British Army and Navy, called "Gentlemen at Arms," by "Centurion," well known to English readers as a soldier-author who has produced real literature in his stories of the fighting man at work. A beautiful and very important book, also, is Mrs. Louise Beebe Wilder's "Color in My Garden," full of wonderful color plates and full, also, of garden charm.

It is our hope and expectation to publish before Christmas Volume III of Frank H. Simonds's "History of the World War." We are glad that our readers are appreciating the quality and exceptional value of this most important history.

There are other books beside, which will be described as opportunity presents itself.



This picturesque and historical Dutch Colonial house was **SOLD THROUGH Country Life**

Thirteen inquiries were received from one advertisement. There were seven "Country Life" readers ready to buy it. The full price was paid.

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There is no charge for our service. There is a special rate for real estate advertising. Complete information sent upon request.

COUNTRY LIFE
Real Estate Department
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Architects' Directory



If you intend to build and wish your new home to be different from the commonplace and expressive of your individuality, you will be interested in my proposition in regard to special sketches and in the two publications described here. "COLONIAL HOUSES," with new designs for 1918, containing floor plans, perspectives, descriptions and estimates for designs in that ever-pleasing style. Price by express prepaid \$2. "STUCCO HOUSES" containing perspectives, and scale floor plans of designs suitable for this imperishable construction. Price by express prepaid \$5. In ordering give brief description of your requirements and they will have earnest consideration. Plans furnished for the alteration of old buildings in the Colonial and Stucco styles. Fireproof dwellings a specialty. Visits for consultation and inspection. Address E. S. CHILD, Architect, Room 1017, 29 Broadway, N. Y. City

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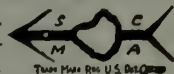
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M. G. Kains of Port Washington, New York, specialist in orchard and garden planning and management, author of "The Home Fruit Grower," "Plant Propagation," "Principles and Practice of Pruning," etc., and lecturer on horticulture in Columbia University, offers his services to all who need advice upon high quality varieties for general or special purposes; low, when and where to plant; pruning and training of fruit trees, shrubs and vines; renovation of old and neglected plantations, etc. Personal visits by appointment.

As a war measure and as a permanent investment for home supplies, plant fruit this Fall.

NEWS of the BREEDS and the BREEDERS

(Continued from page 18)

and agricultural conventions in various sections of the country. Parts of the film have already been used in food conservation and dairy programmes.

DAIRY cattle and the dairy industry have already made noteworthy contributions to the welfare of nations and humanity, but by all indications the summit of their service has not yet been reached. However, a plan that is rapidly approaching completion should land them very nearly at the apex. It was born in the mind of Mr. P. M. Sharples, president of the Sharples Separator Co., and receiving the stamp of whole hearted approval by the National Dairy Council, it was welcomed and gladly accepted by the American Red Cross to which the offer upon which it is based was made.

The scheme as now being perfected is as follows: Mr. Sharples has donated to the Red Cross four purebred cows, each a representative individual of one of the leading dairy breeds. These cows are to be sent on a tour of some sixty of the largest cities of the country, under the auspices of the Red Cross but with the coöperation and assistance of national, state, and local dairy interests and organizations. Their stay in each city will be the focus of a Dairy Day, during which the agencies mentioned will join with children's welfare committees, etc., in teaching the truth about the vital value of dairy products as food. In addition, each cow will be auctioned off, every bid being accepted and every bidder receiving a certificate of temporary ownership but relinquishing his right to the cow. The tour will include the Dairy Congress at Waterloo, N. Y., and will end at the National Dairy Show at Columbus, O., where, of course, the whitest heat of interest and enthusiasm will be expected. It is believed that the accumulated sums paid for the cattle will make each one represent close to a million dollars, which will go to swell the Red Cross war chest.

Mr. Sharples suggests that thereupon the four much traveled cows be made the nuclei of our purebred herds to be given by this country to the French Government, with an idea of establishing new dairy activities in that sorely tried country during its period of post-war reconstruction.

WHEN a man who has an established reputation as a breeder and an assured market for surplus stock from his herd, consigns sixty-eight head to a public sale that involves their shipment from Redmond, Wash., to Hartford, Conn., there is no doubt of his sincere belief in the value and success of the affair. Subsequent events have shown that in placing such confidence in the 1918 New England Ayrshire Club sale, Mr. J. W. Clise of Willowmoor Farm made no mistake. The sale was held on June 11th and 12th, under the direction of Mr. A. H. Sagendorph of Spencer, Mass., assisted by Messrs. W. T. Wells, G. A. Stockwell, and J. G. Watson, and was entirely successful, especially in view of the disturbed



The Ayrshire cow Pansy's Daughter of South Farm, for which Mr. G. S. Mawhinney paid \$4,200 at the first New England Ayrshire club sale

conditions now existing. It testified to both the growing popularity of the Ayrshire, and the interest and enthusiasm of its supporters as evidenced by their willingness to pay good prices for good animals. The fact that young animals were in the majority was largely responsible for the somewhat low average of \$367 for 140 head. But a record price for the breed was attained when G. S. Mawhinney of Chatham, N. Y., bought the four year old cow Pansy's Daughter of South Farm for \$4,200. Several other matrons of proven quality went for prices ranging between \$3,750 and \$1,000. On the whole, the results of the sale constituted a vote of approval for those

who worked hard to bring it about; also they probably give assurance of a repetition next year.

IF ANY one doubts the practical worth of consistent, accumulative, constructive breeding operations, he has only to turn to the reports of the Hood Farm sale of Jerseys held on June 1st. Here, indeed, was an event to bring pride and joy to the hearts of all Jersey enthusiasts and additional well deserved satisfaction to the souls of Mr. L. F. Herrick, who handled it, and Messrs. C. I. Hood and J. E. Dodge, who jointly and individually are responsible for the fame of the animals offered and the quality upon which it is based. It would be hard to find a better instance of team work between owner and manager than that which has so long existed at Hood Farm; no better tribute to its efficiency could be asked for than the uniformly high level of success that has attended and will doubtless continue to attend their efforts to advance the cause of the Jersey breed and of its beautiful individuals that are making history at Lowell.

The day began, as Hood Farm days do, with a visit about the farm and a parade of some of its representative cattle. The sale proper brought together buyers from twelve states and Canada, so it is little wonder that only three of the sixty-six animals offered are to remain in Massachusetts. The average for the lot was \$912, but this figure has little significance in comparison with that of \$1,030 which was the average for the fifty-six head bred at Hood Farm. Moreover, twenty-five animals, all the progeny of Pogis 99th of Hood Farm, averaged \$1,271, which is close to, if not the record for a "get of sire" consignment, and a striking commentary on the place held by this bull in the esteem of modern breeders. Among the feature individual sales, the most important was that of Sophie's Agnes 296795, for whom Mr. F. W. Ayer of Weymouth, Mass., paid \$10,099. The bull, Sophie 19th's Tormentor, went for \$7,500 to Mr. E. C. Lasater, owner of the Falfurrias herd in Texas, to which, as a result of his purchases, he is adding twelve Hood Farm animals, representing an expenditure of \$14,475. Sophie's Adora also went to Mr. Ayer, for \$3,599, while the second highest priced bull, Sophie's Improver, was bought by Mr. H. W. Knight, for \$4,600.



GORHAM STERLING SILVERWARE

STANDS FOR ALL THAT IS EXCELLENT
IN THE WHOLE DOMAIN OF SILVER
WARE ~ ~ ART ~ QUALITY ~ REPUTATION ~
ORIGINALITY ~ INDIVIDUALITY ~ ~ ~
EVERYTHING THAT DISTINGUISHES
THE BEST FROM THE COMMONPLACE

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The east front of the Capitol

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The New Country Life

CONTENTS—SEPTEMBER, 1918



Article Titles and Authors



Cover Design - - - - -	<i>The Reeses</i>	Here and There - - - - -	64
Frontispiece—The Capitol at Washington -	24	The Custom-Made Motor Car Body	
Washington Before the War - <i>Hal H. Smith</i>	25	<i>Alexander Johnston</i>	66
Washington of To-day - <i>Richard V. Oulahan</i>	33	Winter Shoeing for Saddle Horses	
Washington's Country Life - <i>Hobart Brooks</i>	40	<i>H. S. Rothera</i>	72
The Washington of the Future		Spruce Cones with Queer Seeds <i>Edith M. Patch</i>	78
<i>Arthur Bartlett Maurice</i>	46	The Firefly's Light - - <i>William E. Ringle</i>	96
Sport Answers Reveille - <i>Lawrence Perry</i>	55	News of the Breeds and the Breeders - - -	16

Subject Index

Airplane Building, 64	Custom-Made Bodies, 66	Irrigation Projects, 64	Rubay Body, 66
Antebellum Washington, 25	Drying out Wheat Stacks, 64	Livestock, 16	Sales, 16
Arlington Cemetery, 31	Fireflies, 96	Locomobile Bodies, 70, 72	Sport, 55
Automobile Races, 55	Football, 55	Maps, 30, 31, 48, 49, 54	Sportsmen in Service, 55
Automobile, 66	Galls, 78	Marmon Body, 66	Tennis, 55
Black Walnut for Airplanes, 64	Ginseng Culture, 64	Motor Car Bodies, 66	Tires, 64
Blue Ribbon Bodies, 70	Golf, 55	Nature, 78, 96	Trucks, 64
Capitol, 23, 24, 30	Government Buildings, 46	New National Forests, 64	War, 25, 55
City Building, 46	Highway Freight Trains, 64	News of Breeds, 16	Washington, 25, 33, 40, 46
Conservation, 64	Holbrook Bodies, 66, 68	Paintings, 26, 27, 30, 31, 49, 52	Winter Shoeing for Saddle
Country Life around Wash- ington, 40	Horse Shoeing, 72	Polo, 55	Horses, 72

HENRY H. SAYLOR, EDITOR

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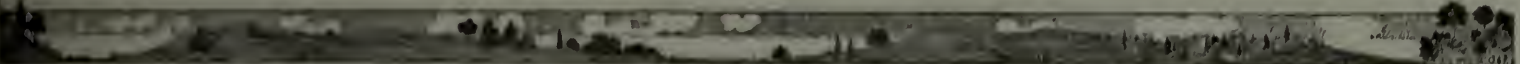


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THE CAPITOL AT WASHINGTON ON THE NIGHT THAT THE UNITED STATES DECLARED WAR AGAINST GERMANY



The New COUNTRY LIFE



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Where Booth crossed the Rappahannock River in flight after shooting Lincoln. Port Conway is on this side, Port Royal opposite. Booth was killed in a tobacco house on the other side.

WASHINGTON *before the* WAR

By HAL H. SMITH



FOR the fifth time in its remarkably interesting and romantic history—history that is the story of the nation itself—Washington has for more than a year been a war-time capital. Upon it the eyes of the civilized world are focused as never before. Little more than a century ago the undeveloped site chosen as a result of the political bargain between Hamilton and Jefferson was an object of ridicule, scorned in its infancy by the poet Tom Moore, when he wrote this satire in 1804:

In fancy now beneath the twilight gloom,
Come, let me lead thee o'er this modern Rome.
Where tribunes rule, where dusky Davi bow
And what was Goose Creek once, is Tiber now!
This famed metropolis where Fancy sees
Squares in morasses, obelisks in trees;
Which travelling fools and gazeteers adorn
With shrines unbuilt, and heroes yet unborn.
Though naught but wood, and Jefferson they see,
Where streets should run and sages ought to be.

So here I pause—and now my Hume we part;
But oh! full oft in magic dreams of heart
Thus let us meet, and mingle converse dear
By Thames at home, or by Potomac here!

O'er lakes and marsh, through fevers and through fogs,
'Midst bears and Yankees, Democrats and frogs,
Thy foot shall follow me; thy heart and eyes
With me shall wander, and with me despise.

Moore was more of a prophet than he dreamed. The straggling young place which he saw at its age of four—whose Capitol was called a "palace in the wilderness," whose future great highway of Pennsylvania Avenue was condemned as a "great Serbonian bog," whose hard early struggles won it the description of "a city of streets without houses," and which was described by another in Jefferson's time as "but a huddle of booths, taverns, and gambling houses set around a political race course"—has emerged at the end of the fourth year of the great war as a place unique among the capitals of the world.

Grown into a fair city even before this war gave America a new niche in the politics of the world, Washington had gained fame as the birthplace of American legislation, had become the focal point in the growth of national political parties, a school for statesmen, diplomats, and social queens, and a mirror of national development with splendors that were the pride of the nation. But all that occurred in the evolution from 1800 to that fair day early in 1917, when Count von Bernstorff was handed his passports as German Ambassador, on the eve of the entry of the United States into the



The leisurely charm of the country life of the old South has probably never been equaled, or even approached, in any other country

present contest, was part of the preliminary evolution of Washington to the point where it has emerged at the "top o' the world" in military preparation and financial leadership and become the very centre of the world's diplomacy.

The first century of this new centre of world politics and war plans is a story of wonderful romance, woven in the tapestry of American history with the web of love and the woof of politics. There has been a constant change since the time the democratic Jefferson took the oath of office at the first inaugural in the city on March 4, 1801; since Andrew Jackson served orange punch at that famous inaugural of 1829 when he invited the rabble into the White House; since the stormy five years between the secret arrival of Lincoln in Washington and his assassination at old Ford's Theatre, when Washington heard the rumble of cannon at its gates and was transformed into a great armed camp; since the scandalous days of the Credit Mobilier, and even since the period of McKinley and the Spanish War, when America had its first taste of world politics. The town itself has altered in character and appearance from what it was when Kossuth the refugee, Dickens and Thackeray the novelists, Jenny Lind the songstress, and Bowie and Crockett the pioneers, tramped the Avenue, and its character and appearance are again being most rapidly transformed now under the stress of the war emergency.

The moving panorama of statesmen, politicians, diplomats, journalists, widows, social butterflies, uniformed Army and Navy officers, lobbyists, profiteers, and vampires, may have quickened its pace and broadened its vision from national to international affairs, but the underlying motives and mainsprings of it all are

very much the same as when Hamilton and Jefferson drove that stroke of policy which compromised the sectional jealousies of New England and the South into the decision that placed the seat of government on the banks of the Potomac.

What is now the war-time American capital—to which nations large and small, belligerents in the great war, have dispatched their diplomatic and military missions, beginning with Joffre and Balfour and continuing with the arrival of the Jugoslavs and Poles—had its origin in contest, its development through periods of bitter strife, when more than once movements were launched in Congress for its removal to other sections of the country, and its greatest impetus toward future growth and development has been in periods of drum and fife. Except for the war of 1812 and the burning of Washington, and the Civil War and the boost that it gave the capital, the American seat of government would not be what it is to-day; just as the changes now being wrought are destined to make Washington greater than ever in beauty and influence among the national centres of the world.

The story of the political bargain driven by Hamilton and Jefferson is almost too trite to be retold, but it never lacks in romantic interest. After that the permanency of the new seat of government was uncertain until the war of 1812. The final decision to keep the capital on the Potomac was made then, and the public buildings were built on a better scale than



A connecting link with the past is this old tavern in Bladensburg, Md., where George Washington often stopped

before. Before the war of 1812 the Congressional Library had only 300 volumes. Jefferson, however, had a library of 7,500 volumes at Monticello which he sold to the Government for \$23,500 in 1815. These were moved to Washington, shelved in the Capitol in 1818, and became the nucleus of the present Congressional Library, one of the greatest book storehouses in the world, which has a more complete library on Russia than is to be found anywhere outside of that torn land of doubt and mystery.

When it became apparent that sentiment would hold the seat of government here, the city took on new life and hope, property rose in value, trade came and began to flourish, the more rapid growth of the Federal union helped the young Federal city, and in 1834 the building of the old Baltimore & Ohio Railroad from Baltimore to Washington, joining the North with the Potomac, in Jackson's time, began to assure a real future for the capital.

The next important link in its chain of development was the completion, in 1844, of the Morse magnetic telegraph which gave impetus to its steady, although not rapid, growth until the opening of the Civil War. On a smaller scale, Washington passed through much the same experiences then that it is undergoing now. Then, as now, great changes were wrought by war. The military activities of the Government attracted thousands to the place. Within less than a year the population doubled, and in 1860 it numbered 61,400 people. The census of 1870 gave it 109,204 residents. Civil War days saw it transformed into a huge military camp, and it is estimated that there were 250,000

personnel and around the city limits, including soldiers in camp and hospital.

Then, as now, Washington was flooded with strangers, inundated with war contractors, some of them profiteers, but the intrigues, immoralities, and orgies of the early '60's are not now being duplicated. Washington was "wet" and its gambling halls flourished then, in 1918 it is "dry," and gambling and betting are tabooed by law, going the route of the code of the duello, which furnished thrills and excitement for the period that immediately preceded the American Civil War. After the close of the war between the States there was an exodus from Washington, as there will be when the war against Germany has been written into history. The city was left more prosperous than it had been dreamed it could ever be, and many of those who came to serve the Government, or as refugees and hangers-on, remained behind, settling permanently, so that the most rapid growth of the capital during its first century paralleled the expansion of the nation itself after the Civil War.

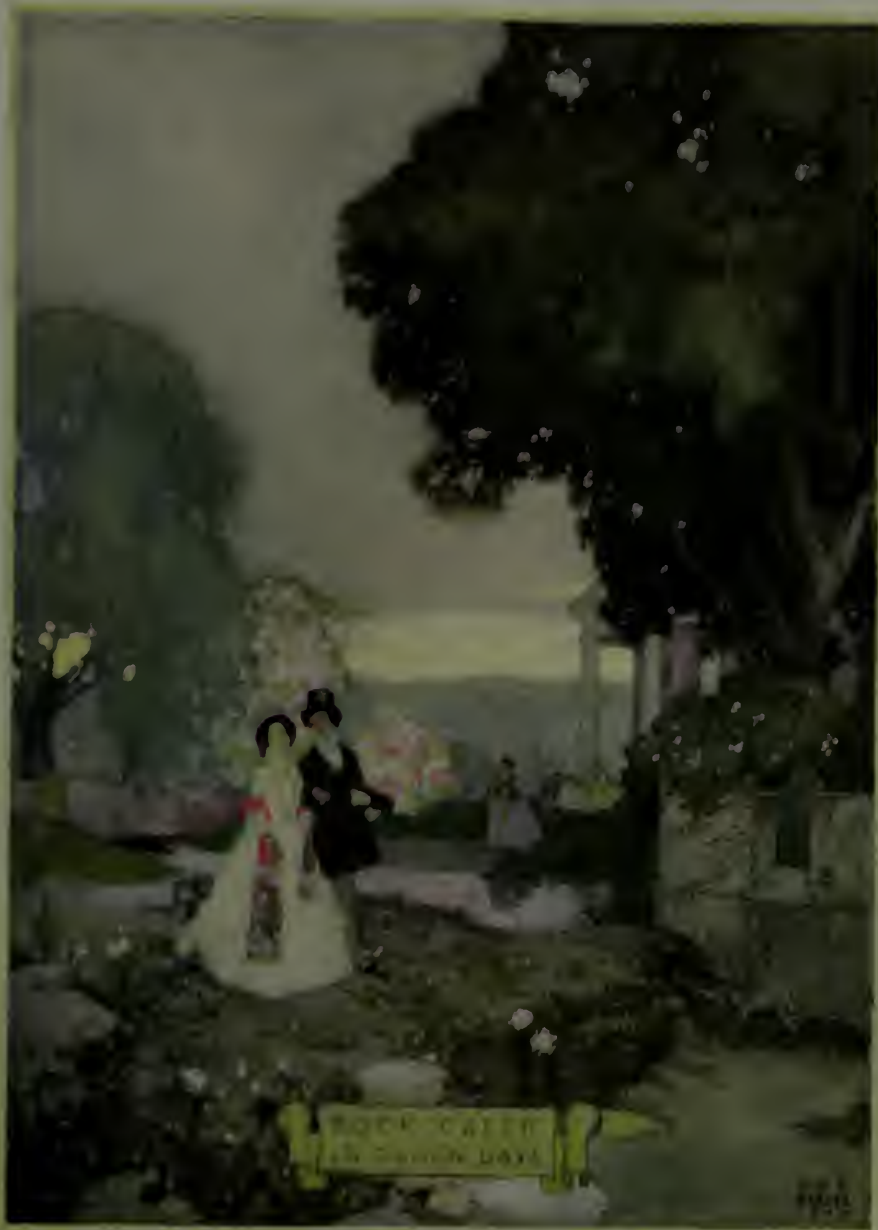
South of the Pan-American Building where modern Washington society has its most attractive functions—outside those at the White House—the Government is building at a cost of more than \$5,000,000 one of the numerous structures needed to house the enlarged activities of its war branches. With its forty-two acres of floor space and eight acres of window glass, this new home for the Navy Department, which will also house



The old David Burns cottage, one of the original houses on the site of the city of Washington



The section round about Rock Creek, on the hither bank of which lies Georgetown (now a part of Washington), has always been the city's playground



part of the War Department, will accommodate 15,000 officials and employees. More officials and clerks will daily enter this building than there were souls in Washington when Monroe was inaugurated in 1817. When Jefferson was inaugurated in 1801, Washington had a population of only 3,000. This had quintupled to 15,000 in 1822, and in 1830 the town had 20,000—approximately the number of employees that were added to the Government's payroll in Washington between the declaration of war against Germany in April of last year and the following November. In the expansion of its operations during the first six months of participation in the present war, more employees were taken on by the Government, in Washington alone, than the first twenty years of early Washington, with all the vision of Washington and Jefferson, had been able to give to the infant city of their dreams.

The newcomers are finding that musty memories hang thick around the town; that every other house is figuratively dignified by the close contact it has had with famous men and women; that history and flirtation have left deep impress upon the scattered annals of the old capital which used to be busy and gay in winter, and so hot, dull, and dirty in summer that the official, social, and diplomatic sets arranged to leave whenever the bluebirds came. Throughout those old earlier Washington summers the tradesmen and residential groups lived in hope of a speedy return of winter and Congress, bringing with them officials, foreigners, and the leisure classes to fill the historic old hotels and boarding houses.

Even for those who have delved deep into the story of the

American capital, it is difficult to realize that the earlier city of woods and morasses, with such wide open spaces intervening between its scattered groups of public buildings and houses that an earlier diplomat called it the city of "magnificent distances," could ever have been what the old chroniclers say it was, what the files of the *National Intelligencer* and old Washington newspapers prove it to have been. Through the ups and downs of a century Washington has reached the pinnacle where it is greater in power and influence over a wider stretch of the earth's surface than were ancient Rome or classic Athens, with architectural structures, monuments, palaces, broad avenues, parks, and breathing spaces more impressive than either boasted. From a mud-hole, the Washington of old has developed until it holds the centre of the world's stage and the distinction of being the dignified capital of a new world power, consecrated to the permanent interests of popular democracy and the finer instincts of civilized nations.

Seventeen years ago a well-known British editor, visiting Washington, confessed that it was no place for a cursory survey because its interests were under the surface, in the embassies of the fashionable northwestern section, in the committee rooms of Congress, the historic chambers of the White House, the alcoves of the Congressional Library, and the laboratories of the Smithsonian Institution, and it took time to penetrate these. This very well expresses the story of Washington from the beginning. There have been inaugurations in many moods, grave and gay, and black clouds of war hovering in the background. The remaining externals of old-time Washington are pointed out to the visitor, but its real interests have always been under the surface, where

they are buttressed deep in the foundations of the growing nation.

The founders of the Government, they who were also responsible for planting the germ that grew to be the Washington of today—did not intend that the capital of the new republic should be like other cities, least of all like the commercial marts in which nations had established their seats of government in most instances. It was their vision that the American capital should be apart from, but a part of, the nation and its development. They had in mind a Federal seat of government which should be defensible against the influence of the revolutionary rabble, as was Paris, and where the chief excuse for the existence of the city should be the fact that it was the seat of government.

As early as 1783, when the Congress that sat in Philadelphia was offered insults by Revolutionary soldiers demanding their pay, the matter of establishing a Federal district as the seat of government was seriously considered.

George Washington picked the site for the new Federal district in January, 1791. Then he went on a 1,900 mile trip through the South. When he returned to Mount Vernon he met Major Pierre Charles L'Enfant, a young Frenchman who had come over with Lafayette in April, 1777, to aid this country in gaining its liberties, and had remained in the United States after his comrades had gone home. L'Enfant was a skilful military engineer and was the designer of the new Federal town. He spent a week at Mount Vernon, and at Washington's request designed the seal for the Society of the Cincinnati. Jefferson, then Secretary of State, approved the plan for the new capital. L'Enfant planned a city that would meet the needs of a nation of millions, but events did not justify his plans for many years afterward.

The proprietors of the land on which Washington stands were Daniel Carroll, a cousin of Charles Carroll of Carrollton, David Burns, a crusty Scotchman, who lived in a cottage near the Potomac River, Notley Young, who owned what is now the centre of the city, between Seventh and Eleventh Streets all the way to the river front, and Samuel Davidson. Carroll owned the land where the Capitol stands. Burns owned the property where the White House, the Treasury, State, War and Navy, Red Cross, and Pan-American buildings stand, and where the Washington Monument rears its shaft above the new Lincoln Memorial.

Of all the sturdy settlers with whom Washington had to deal, he found Burns the most obdurate. Burns had been approached often, and it was not until after Washington had assured him that the streets should run so as not to disturb the Burns cottage that he yielded and his great farm became part of the national capital. "Davy [Burns's cottage]" stood in what is now the northwest corner of the Pan-American building's grounds. After the sale of his 600 acres had made Burns rich, his cottage became known as "Burns's mansion." Washington, Hamilton, Jefferson, Burr, rollicking Tom Moore, and many other noted persons were visitors there. It was simple and primitive. On the ground floor was a small room called "Tom Moore's room," for there, in 1804, the poet wrote the poem expressing his ridicule of the grand and what he regarded as impracticable plan for the city.

The Davy Burns cottage—so dear to the capital's early historians—was pointed out



Looking westward (about 1870) from the Smithsonian Institution, showing the Washington Monument at the point where private capital failed and the Government started to complete it. The most of the land under water beyond the Monument has been reclaimed. The Lincoln Memorial is situated on reclaimed land about in the centre of the water area shown

to Washington tourists until the summer of 1895, when it was demolished. Burns had a remarkably beautiful daughter, Marcia. She became a belle of the embryo city, and gallants picked their way over the marshes to the Burns cottage to woo the heiress. She gave her hand to Major John Peter Van Ness, a well-born New Yorker belonging to an old Dutch family, who was a member of the first Congress that met in Washington, but who lost his seat there through accepting a position as major of militia of the District of Columbia in 1803. Van Ness married Miss Burns and lived in the old cottage until the completion of the Van Ness mansion, which after the death of Davy Burns was built on what is now the site of the Pan-American building. The Van Ness mansion for many years could be seen southwest of the White House, and was not demolished until 1903. Van Ness, who was one of the mayors of Washington, and his wife inaugurated a series of social functions, the brilliancy of which has never been equaled in Washington, even in later days. For years it was one of the noted houses of the capital and until the death of General Van Ness, in 1847 at the age of seventy-seven, was the scene of hundreds of social events, attended by presidents, statesmen, diplomats, prominent men, and handsome women, who were entertained lavishly. Among the many Washington legends is the one connected with the house of Van



View of the Capitol at Washington, about 1830, looking southeast from Pennsylvania Avenue



Looking southwest in 1911 to the west of the Smithsonian Institution, showing the Washington Monument, with the Lincoln Memorial beyond. Comparison with the same view (opposite page) taken in 1870, shows the enormous improvements undertaken in the past forty years and gives a graphic illustration of what may be expected within the next fifty years.

Ness that six headless horses gallop around the house on the anniversary of the General's death.

Although the cornerstone of the Capitol was laid in 1793, it was not until 1800 that the Government moved from Philadelphia to Washington. Three months after the cornerstone laying, the Commissioners made a contract with Robert Morris, financier of the revolution, and James Greenleaf for the sale of 6,000 lots at the rate of \$80 a lot, payable in seven annual instalments. The contractors were to erect twenty brick houses annually. They failed to pay the instalments and soon the erection of the houses contracted for was discontinued.

President John Adams with his six Cabinet officers moved to Washington in 1800, and a packet sloop brought all the Government furniture and archives from Philadelphia. In June, 1918, when the Emergency Fleet Commission moved its offices from Washington to Philadelphia, its archives, bulkier than those of the Adams government, were moved in a fleet of army motor trucks from Washington to that city, in much less time than it took to packet the effects of the Adams government to Washington.

Oliver Wolcott, Jr., who was Hamilton's successor as Secretary of the Treasury, and one of the even half dozen Cabinet officers who came here with Adams, wrote home to his wife in 1800 this description of Washington as seen through his spectacles:

much mischief has been done which it will be almost impossible to remedy."

John Adams was the first president to occupy the White House. His wife Abigail wrote, in her bright and sparkling way, a letter to her daughter in 1800 in which she described the infant city in the forest and swamps. She and her husband came by stage coach from Philadelphia and had lost their way in the woods. "Woods are all you see," said Mrs. Adams, "from Baltimore until you reach the city. No wood cutters or carters to be had at any rate. We are now indebted to a Pennsylvania wagon to bring us, through the first clerk in the Treasury office, one and a half cord of wood, which is all we have for this house [the White House of today], where twelve fires are constantly required. The vessel which has my clothes and other matters has not arrived. The ladies are impatient for a drawing room; I have no looking glasses but dwarfs for this house, nor twentieth part lamps enough to light it. My visitors—some of them—come three or four miles. The return of one of them is the work of a day. Mrs. Otis, my nearest neighbor, is at lodging almost half a mile from us. We have not the least fence, yard or convenience without and the great unfinished audience room I make a drying place to hang my clothes."

"The great unfinished audience room" to which Mrs. Adams referred as the place for drying the family wash, was the East Room of the White House, through which thousands of newcomers in Washington have passed at presidential levees and receptions, the same East Room into which Andrew Jackson invited the crowd at his inaugural in 1829. Concerning this latter scene in the East Room, Judge Story, a bitter opponent of Jackson, later wrote: "After the ceremony was over the President went to the palace to receive company, and there was visited by immense crowds of all sorts of people, from the highest and most polished, down to the poorest and most vulgar in the nation. I never saw such a mixture. The reign of King Mob seemed triumphant. I was glad to escape from the scene as soon as possible." It was at this reception that Jackson served orange punch by the barrellful, and when the mob made a rush for it, as soon as the waiters opened the doors, the punch was overturned, glasses smashed, fine garments ruined and so great was the confusion that ice cream—which had its American origin in Washington's early levees—and wine for the



A birdseye view of Washington about 1820, looking from the Capitol terraces up Pennsylvania Avenue to the White House



The Capitol dome from the foot of Pennsylvania Avenue. The feeling of dignity and repose that comes of wide spaces and magnificent vistas is Washington's in large measure

ladies could not be served until the tubs of punch were taken out to be served on what is now the White House lawn. All this happened on that famous March 4th of 1829, when at his first inaugural "Old Hickory" read his address from the east portico of the Capitol.

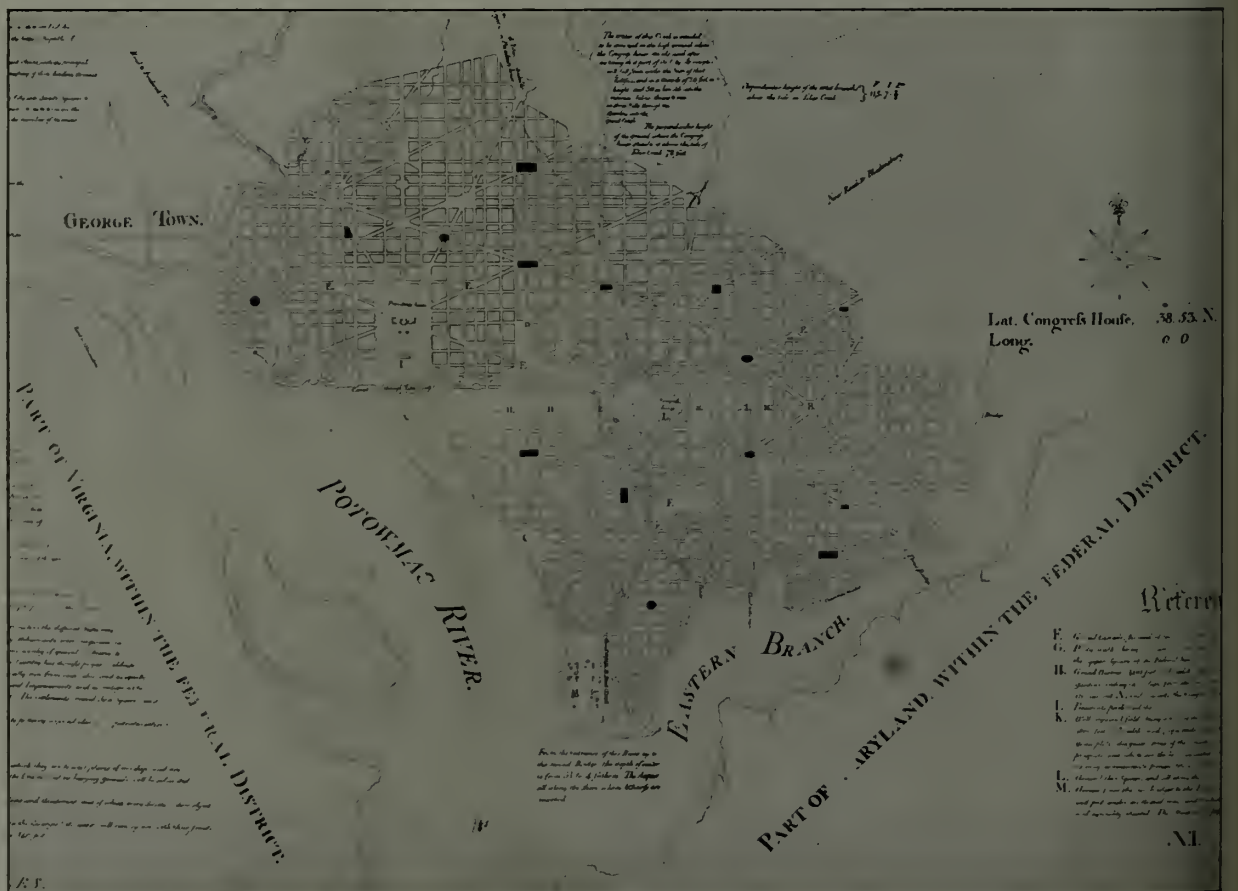
The Capitol was finished in 1825, at a cost up to that time of \$3,000,000 and was regarded as the most imposing building in the country. What existed then was only the centre of the present edifice and the higher dome was not added until the Civil War. It was at the Jackson inaugural that originated the custom of having the President take the oath before the populace in front of the east portico of the Capitol.

It was in this same East Room that the remains of the Cabinet officers and others who lost their lives in the explosion of the great gun on the Princeton were laid in state in February, 1844, during Tyler's term. The Princeton, commanded by Captain Stockton, took 400 persons, including President Tyler, Cabinet officers, and Congressmen, down the Potomac to Fort Washington for the trial of a big gun which fired a ball weighing 225 pounds. After a successful firing of the gun it

was decided to fire a salute at Fort Washington on the return. The gun burst and those killed included Secretary of State Upshur, Secretary of the Navy Gilmer, Virgil Maxey who had been our Minister to Holland, Commander Beverly Kennon, and others.

For some sixty-odd years after the untimely death of Commander Kennon in this early naval gun test, his widow, who was one of the finest *grande dames* of Washington, lived in Tudor Place, that most famous of all the mansions in the western section of Washington, which was formerly Georgetown. She was Mrs. Britannia Wellington Kennon, granddaughter of John Parke Custis and his wife, Elizabeth Calvert, who was granddaughter of Lord Baltimore. At the time of her death she was the oldest living descendant of Martha Washington and her only surviving representative in the third degree.

Mrs. Kennon was a sister of Martha Eliza Eleanor Peter, Martha Washington's first grandchild, who died in 1800, just nine months after the death of George Washington, who taught her to walk. Those who visit Mount Vernon may not know that immediately behind the sarcophagus of George Washington is a tiny coffin of a little girl who died more than a hundred years ago, and that it contains the remains of this little sister of Mrs. Kennon, who was living a



The famous plan prepared by Pierre Charles L'Enfant under the direction and supervision of President Washington and his Secretary of State, Thomas Jefferson. This plan was enlarged by the Park Commission so as to adapt it to modern conditions, and forms the basic plan for the development of the national capital. It is the progenitor of city planning in this country to-day, and the people of the United States are fortunate in the foresight of their early executives in securing a logical plan that has been unimpeached throughout the years



An old print from the Library of Congress, showing the areas on the Potomac taken for the City of Washington. The two most prominent hills were chosen for the sites of the Capitol and the President's house.

century later at historic Tudor Place. Mrs. Kennon was born here in 1815 and had most vivid recollections of the visit of Lafayette to her parents there in 1824. Tudor Place is one of the finest of the historical houses standing in Washington and is filled with relics of Washington and Lafayette.

Mrs. Kennon was only one of the group of famous old ladies of the city who lived here until a few years ago, watching the national capital passing them by and spreading out until the woods and marshes of which early chroniclers complained were obliterated in the march of events, until the city had passed beyond its old boundary, now marked by the twists and windings of Florida Avenue, into the suburbs toward the Soldiers Home, Chevy Chase and the country clubs, and Mount St. Albans where the towering pinnacle of the great new cathedral is taking form to-day.

Another of these famous old ladies was Mrs. Letitia Tyler Semple, the last surviving child of President Tyler and his first wife, who was mistress of the White House for several months preceding the President's second marriage, to Julia Gardiner. Mrs. Semple, who died only a decade ago, made her home for many years in the Louise Home, an institution established for the benefit of aged Southern gentlewomen by W. W. Corcoran, a philanthropist-banker, and founder of the Corcoran Art Gallery. Among these fine old ladies who lingered on the stage in Washington until a few years ago were women who had been associated with representative people for four generations. They had a rich fund of unchronicled information about noted persons. One of them recalled when General Winfield Scott returned to Washington, covered with glory from the Mexican campaign, to confront his political enemies at home. Another told how, when the dignified Lord Lyons, the British Minister, a bachelor, informed President Lincoln of the prospective marriage of one of Queen Victoria's daughters, the diplomatic representative of Great Britain was surprised by Lincoln's plenary reply: "Lord Lyons, go and do likewise."

The first inaugural in the mere hamlet which went under the name of Washington in 1801 was that of Jefferson, who is wrongly credited with having made that famous horseback ride to the capital, a horseback story that has become almost as famous as those of Paul Revere, Jack Gilpin, and Israel Putnam. Tradition has it that Jefferson made this ride on his bay horse Wildaire, but the story lacks the support of contemporary newspaper chronicles and has now been wholly disproven by historians. The tale was repeated often in the century that followed Jefferson's inaug-

uration, and popular belief in it as a truth became so fixed, that many were unwilling to accept its denial. As a matter of fact, it had its origin in the statement of the English traveler, John Davis, whose "Travels in America," published in 1803, asserted that Jefferson "rode on horseback to the capital without a single guard or even servant in his train, dismounted without assistance, and hitched his bridle to the palisades." Careful investigation has shown that Jefferson lived within one square of the Capitol grounds, and walked to the Capitol, accompanied by some senators and representatives, who were his fellow boarders at Messrs. Conrad and McMunn's apartments. While Jefferson walked into the presidency he rode out on horseback. At Madison's first inauguration Jefferson rode from the president's house to the Capitol to witness the inauguration of his own successor.

Spain, England, and France are the only Powers of to-day that had diplomatic representatives in the new capital. Under the French consulate in 1801 France sent Pinchon to the United States as chargé d'affaires, and he was followed in 1805 by General Turreau, whom Napoleon sent to Washington as minister. Edward Thornton was the British chargé d'affaires at Washington in 1800, and Anthony Merry succeeded him as British minister in 1803. American diplomatic intercourse began with Russia in 1809, with Austria in 1838, with Germany in 1871, and with Italy in 1861.

It appears that Washington was a much talked of city among foreigners and travelers, even during its first decade. Isaac Weld, whose "Travels in North America" was published in 1808, wrote that to be "under the necessity of going through a deep wood for one or two miles, perhaps, in order to see a next door neighbor, and



The spacious mansion on the Arlington estate, where now is the National Cemetery, was built 115 years ago by young George Custis, the grandson of Mrs. Washington, and is to-day substantially as it was when built.

in the same city, is a curious and I believe novel circumstance." Speaking of the distrust of Washington's future, Weld said: "The people who are opposed to the building of the city of Washington maintain it can never become a town of importance, and that all such as think to the contrary have been led astray by the representation of a few enthusiastic persons." But Weld himself had a vision of the present beauty and power of Washington when he added his own opinion: "At a future day, if the affairs of the United States go on as prosperously as they have done, it will become the grand emporium of the West, and rival in magnitude and splendor the cities of the Old World."

This volume and one by Lieutenant Harriott, another early traveler, are in the Smithsonian Institution. They belonged to John Smithson, with whose funds the Institution was founded, and are believed to have had something to do with having influenced him to select Washington as the seat of his bequest.

"Having seen and examined everything," said Lieutenant Harriott in his "Travels," "and gained all the information I could concerning this much talked of city, I sat down between the President's house and the Capitol and entered the following in my minute book as my opinion, viz: 'Should the public buildings be completed and enterprising individuals risk considerably in building houses; should the union of the states continue undisturbed; should Congress assemble for a number of years until the national banks and other offices necessarily draw the moneyed interest to it, the city of Washington in the course of a century may form a focus of attraction to mercantile and trading people sufficient to make a beautiful commercial city, deserving the name of its founder; but I apprehend so many hazards as not to be willing to venture any part of my property in the undertaking.'"

Two decades later visitors wrote in the same strain. When Lafayette visited America, after having lost most of his hereditary fortune by the Reign of Terror, he came to Washington, made his pilgrimage to the tomb at Mount Vernon, and after Congress had voted him a grant of \$200,000, sailed from Washington on September 7, 1825, in a frigate named in compliment to him the *Brandywine*. Lafayette's secretary chronicled his impression of the city in these words: "We were already half an hour within the limits of the city without finding a single habitation. The plan of Washington is so gigantic that it will require a century for its completion. It is only built up in the interval which separates the President's house from the Capitol, and this space at present forms a moderate town."

The young capital was then a quarter of a century old and had a population of 20,000. Fifteen years later L. Adolphe Aimé Fourier de Bacourt, French Minister to the United States in 1840, wrote that Washington was "neither a city, nor a village, nor the country," but a "building yard placed in a desolate spot, wherein living is unbearable." The present French diplomatic representative, M. Jean J. Jusserand, who has been ambassador for sixteen years, since 1902, has liked the American capital sufficiently to remain long enough to become dean of the diplomatic corps, and to witness the activities of Washington going at full speed in a war in which America is meeting her debt to France for the service rendered by Lafayette, Rochambeau, De Grasse, and L'Enfant. It is little to be wondered that foreigners visiting the capital, as well as American statesmen who failed to visualize the future greatness of the seat of government, should have been puzzled and perplexed. The conception of the Federal city was as daring and original as its ultimate execution has been remarkable and successful. Even so good an American as Horace Greeley, when here after the inauguration of "Old Tippecanoe" Harrison in 1841, had this to say of what he saw: "We have nothing now here in politics but large and numerous swarms of office-holding locusts, sweeping on to Washington daily; broken bank directors, swindling cashiers, etc., are in full cry for office, and even so humble a man as I am is run down for letters, letters. Curse their nauseous impudence!"

The story of old-time, before-the-war Washington is that of its famous old houses, as well as some of the finer new ones built in the past quarter of a century, buildings that have housed its statesmen and diplomats, old and new, its ancient and modern clubs and taverns, and the playhouses that have come and gone. There was Carusi's where the inaugural balls for Jackson, Harrison, and Polk were held, and old Harvey's, Hancock's, Shoemaker's, Mades's, Chamberlain's, Gadsby's, the old Indian Queen, Willard's old hotel, where men wine and dined, laughed or quarrelled, while history in the making was paving the way for the position that the American capital now occupies in its relation to the affairs of the world.

The rapid development of Washington under the impetus of the present war, and the activities that will keep it busy for many a day in the reconstruction period certain to follow the war, will crowd more of these old buildings off the map, sending them the way of old Newspaper Row, but they will live in memory with the rich traditions of the past that have been woven around the first century of the capital.



View of the Mall looking toward the Capitol, taken about 1860. It will be observed that the landscape designers of the earlier days, not bothered with the traffic problems of to-day, laid out streets on the theory that "the longest way 'round is the shortest way home." The Park Commission of 1901 restudied these streets and areas, and their recommendations have solved the building and traffic problems resulting from the city's tremendous expansion.



The White House from the north. Originally the south front was the main one, but under the comparatively recent renovation and remodeling, the front shown here is the main entrance

WASHINGTON *of* TO-DAY

By RICHARD V. OULAHAN



IN THAT springtime soon after we entered the great war—and Washington was never more beautiful than then—Mr. Balfour, who had come to us with messages of grateful appreciation from his king and government, found something so strange and unreal in the atmosphere of America's capital that he was puzzled for days in seeking the explanation. At last it came to him: he had been so long in the drear, unlighted environment of war-worn London that the brightness, the illumination of Washington by night, made it seem like no city he had ever visited before. He spoke of it in wonderment, and drew from the contrast the nearness to tragedy that one felt in the British metropolis, and in Paris, too.

Washington has changed since that sweet-smelling springtime more than a year ago, but not as London has changed in the four years of war. The brightness has been and is there morning, afternoon, and evening, except when the inexorable Dr. Garfield decreed those coalless days with their lightless nights. It is a brighter, sprightlier Washington in its outward aspect, if brightness and sprightliness come from increased activity, a more earnest spirit, a throbbing energy strange to those who, a few short months ago, found in its calm and orderly bearing a suggestion of somnolence, attractive for the most part but occasionally irritating.

Yet the spell of war is on Washington, the spell of seriousness, of constant reminder that the fate of the world is at stake, and that the settlement depends upon America, of which Washington is both heart and brain in these anxious days. Earnest men and earnest women have come to their country's capital to take their part in the great work of helping to win the war. The master minds of finance, business, industry are centred there, each engaged in doing its bit of planning for success in the stupendous task that has been set to be accomplished. And with them have come tens of thousands to toil in the ranks, to furnish that backbone

of labor so essential to carrying out the planning of the captains in the great game.

For more than a hundred years Washington had gone along in a peaceful, pleasant way, charmingly provincial in one sense, almost pastoral in its setting and atmosphere. With the conclusion of the Spanish War, America had become a world power, but its capital took on none of the airs of a great centre of international politics. It had grown more beautiful as the years went by, beautiful in its physical aspect, and it had acquired a polish and a poise that made it inviting to those of broad vision in the world's affairs. Yet it retained much of its old quiet stateliness, its homely attractiveness, its lack of convention, which came from its Southern beginnings. "An overgrown country village" it had been termed, and old residents rejoiced in the designation.

Then came our entrance into the world conflict, displacing in the local vernacular that well-recognized expression, "the war," which had stood the test of more than fifty years. Washington had known "the war" as something intimately and immediately applicable to the capital city, and "the war" had left an impress upon the community too deep to be effaced with the growth of its boundaries, the erection of countless modern structures, the acquisition of all the improvements in the way of public utilities necessary to keep abreast the times, and the inpouring of the many of younger generations from all sections of the land, to whom the great civil struggle was a mere tradition. A growing interest in the affairs of the nation had brought to Washington hundreds of those who sought intellectual stimulus in the centralization of political activity to be found there. Hundreds of others, backed by the gold that opens many doors, found it essential to their happiness to try a Washington season, and returned again and again with the spell of the town upon them. The Roosevelts set the scene, created the atmosphere, which attracted so many of both means and earnest desire to learn more of how a nation's



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The south wing of the Capitol which shelters the House of Representatives. The northern wing is the Senate's stronghold. Both are built of white marble

business is carried on, and to share, as participants or onlookers, in the making of history.

In some degree the environment changed socially within a limited sphere, but in Washington, society and politics have not mixed in the understanding of this application of the term. Your cabinet officer does not drop in of an afternoon as a regular thing

to have a cup of tea in a lady's boudoir and discuss freely with his hostess and her callers the particular matter that is for the moment agitating the nation or the sisterhood of nations. There is no political-social set whose men and women dine together frequently to exchange views as to this, that, or the other public question or the future of some satellite of Rooseveltian or Lloyd-Georgian possibilities.

It is true, of course, that those who are part and parcel of the great world of political affairs mingle on many social occasions, and it is equally true that some dinner parties take on an atmosphere of higher thought and purpose, but the flavor of the salon is not there as an actuality. Your great man who has won his way, step by step, up the political ladder, is, as a rule, a hard worker, absorbed in the duties of his office, and leaving to his women-folk the amenities which are part of a capital's conventional gregariousness. Perhaps his social education has been neglected; he has been too busy in his political affairs to learn the fundamentals of the game. Statesmanship in America is not a profession or a vocation; our localized politics does not serve to recognize marked ability in public affairs when it is found outside a particular geographical political unit. So, in a broad sense, the Washington career of an American statesman is short lived; if it is to be prolonged the statesman finds it more to his advantage to keep in closer touch with his "district" than with the society of his temporary residence.

Out of the war, however, the great war, has come a new society, more intense, more earnest than the old—a society not purely social and still not purely political. It could not be otherwise with the inpouring of many men of many minds with their many women, all anxious to do their bit, but not overlooking the necessity for relaxation which the present peculiar human complexity affords in an absorbing way. The newcomers of this class differ from those of the traditional official population of more than a hundred years in that the greater number of them have the means to participate in the game, and they are unhampered by considerations of political caution which statesmen and would-be statesmen acquire from the belief, right or wrong, that too close attention to "high society" is not approved by the folk back home, the folk who have the votes.



View showing temporary Government building operations west of Seventeenth Street, and between the Lincoln Memorial and the Pan-American Union building. The vista from the Washington Monument to the Lincoln Memorial is being preserved. The buildings on Government ground are to be razed after the war

It has been aptly said that the war has made Washington a post-graduate school of business. Here men of great reputation in the world of finance and industry have come, some of them volunteers, some of them drafted, but most of them filled with a patriotic desire to help out the nation in its time of peril. One finds them everywhere. A widely traveled author remarked, on a visit to Washington since we entered the war: "It isn't necessary to go to New York or Chicago to see the people you know; they're all here."

The war—that is America's participation in the war—came suddenly to Washington, burst upon it, as it were. Nearly three years of watching and studying the titanic conflict three thousand miles away found the capital unprepared for its regeneration. The great war had not touched Washington except in a political, a spiritual way, the outgrowth of that anxious and irritating period when the servants of the All Highest of Germany were violating the established rules of warfare and humanity on the high seas. The capital had not shared in the prosperity that had come to great industrial centres of America, through the manufacture and sale of products needed by those who have become our allies in the prosecution of hostilities against the Teuton enemy. Washington as a production centre was negligible.

Then the town awoke, slowly at first, as is the habit of one long slumbering; but once awake, very wide awake indeed. The real awakening came with a rush. There had been a hurrying to the capital of men of affairs who came to offer their services or who were called for consultation by those in authority. That was to be expected. It made little difference in the quiet serenity of the city. Congress must first lay the foundation upon which the war machinery would be erected. Little by little the foundation was constructed. The process was so general that progress was hardly noticed. Then suddenly the machinery was in place, and Washington became a seething, bubbling entity, rapidly outgrowing the clothes that it had found so loose and comfortable in the country village days.

The increase in population was apparent. The quiet streets, that in certain hours of the day were free from jostling crowds, took on the appearance at all times of intense human activity. The hotels recovered from a period of depression and found that their



© Harris & Ewing
The President and his Cabinet. Left to right, lower, are Secretaries Redfield, Lansing, Houston, McAdoo, and Burlison; upper, Secretaries Daniels, Wilson, Baker, Gregory, and Lane

way led along the pleasant path of affluence. Restaurants did a flourishing business, for patriotic fervor does not banish appetite. "For Rent" signs disappeared from the fronts of vacant dwellings. Apartments and boarding houses were filled to overflowing. The rich and the poor concentrated in Washington, all on account of the war, most of them to work, some to sell and reap.



The Mail, showing present conditions. The intrusion of temporary buildings to meet war needs is easily recognized, but these are to be supplanted after the war is won by permanent structures for which the Congressional Public Buildings Commission already has rendered plans and reports



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A winter night idyl—the main entrance to the White House



Vista through the Treasury columns, showing the Washington Monument in the distance



Washington could not accommodate its new population. Men of means, ready to pay handsomely for hotel rooms, were turned away because there was no space for them. Others, called to accept clerical positions under the Government, found even greater difficulty in obtaining habitat within their meagre means. The Union Station became a human beehive, with myriads of people arriving by every train, and myriads more, through with their business with the Government's war agencies, seeking to get away from the hectic atmosphere of the town. But the Union Station was a boon to many who found it a resting place after long and fatiguing effort to obtain sleeping quarters elsewhere. At least a hundred people at a time have spent the night there on occasions when a bed in a hotel was not to be had for love or money.

Of course there was profiteering, not general by any means, but sufficient to attract attention and arouse indignation. Some of it was born of pure greed and avarice, much of opportunity that came from tempting offers made by those who had the means to gratify their desire for comfortable surroundings while doing their bit for Uncle Sam. Furnished apartments were greatest in demand, and hundreds were sublet at prices three, four, and five times the basic rentals. People with large houses found themselves unable to resist the proffers of big money that came through active agents of rich men called to war service in the nation's capital. Cases came to light where rents were raised so

enormously as to show the basest profiteering spirit, and some of these were aired in Congress in support of legislative measures to put an end to abuses of this character. Many of those from distant towns who accepted clerical positions under the Government, at salaries which suggested affluence, found their new means all too small for the overgrown capital, and resigned their jobs in disgust.

Part of the troubles and injustices in this regard was due to the Government itself. It had made no adequate provision for housing the great army of officials and clerks called to Washington by the tremendous increase in governmental work due to the war. At least one hotel and a number of apartment houses and private residences were taken over by the Government for office purposes. While a hard customer in other things, Uncle Sam is an excellent tenant, with the ability to pay prices for accommodating his workers far beyond the means to be afforded by private persons. The Government sought official habitat in practically every portion of the town—private office buildings, hotels, apartment houses, residences, abandoned structures.

Washington was astonished when the figures of a special census taken in November, 1917, were published. The normal population when the war period began was something more than 360,000. There had been a police census in November, 1915, and this was the basis for comparison with the special census figures. As a political and municipal unit, Washington is the District of Columbia, comprising that portion of the original "hundred miles square" ceded to the Federal Government by the State of Maryland, now embracing about sixty-four square miles, and the population figures were for that area with its capital city and the suburban villages. It had been estimated that the increase in population due to the war ranged



Kelsey & Cret, architects

The Pan-American Union building is a gem of the first order in the architectural embellishment of Washington. An interior patio with its tropical plants and birds creates an atmosphere peculiarly fitting to the purposes of the structure



© Harris & Fwing



West terrace of the Capitol looking north toward the Senate wing beyond

Washington Monument. The pond in the foreground has long since been filled in



from 50,000 to 75,000, but when the census figures were compiled they showed an increase of less than 40,000.

There was something wrong. Everybody felt that. The perceptible growth in the crowds in the streets, the lack of accommodations for the newcomers, the incoming thousands at the Union Station, the inability of the Government to find room for its new army of officials and clerks, the overcrowded street cars, the congestion of traffic, the long lines of parked automobiles, many bearing license tags of near-by and far-away states—everything went to show that 40,000 or thereabouts was a mere drop in the bucketful of new residents. But the mystery has not been cleared. Perhaps the solution is to be found in the great number of ephemeral visitors called to the capital on war business, the unrecorded thousands of soldiers located in the new camps near the city, the many who were forced to seek accommodations in near-by suburbs of Maryland and Virginia, all of whom add to the human congestion of the streets without finding a place in the census returns.

That was in the year when we went to war. Since then the population has continued to grow. The Government estimated that it would require 30,000 additional workers in its departments in Washington for the first six months of 1918. Tardily, as is the way with deliberative democracies, it made its plans for housing the new arrivals within the gates of its capital. It is erecting great temporary habitations on public reservations for lodging Government employees. Ten million dollars has been allotted for this purpose, and it probably will not be a whit too much to provide the necessary accommodations.

A new city has already grown up around the old in the scores of office buildings erected for the purposes of the war—temporary structures, most of them, of two and three stories, quickly put together and crowded

with humans before they were finished. They stretch in battalions along streets that a year ago were obscure and practically vacant of houses. Broad, unoccupied spaces owned by the Government or, when of private ownership, remote from the trend of eccentric business expansion and hence commercially unprofitable, have been utilized for providing working quarters for thousands of those engaged in the new activities grown out of the war. It was a matter of dire necessity to erect them. All available structures suitable for offices had been occupied by Government agencies before the new construction was begun. Some of the new departments of Government were obliged to put a division here and a division there in widely scattered localities. One war activity occupied twenty-four different buildings. The Emergency Fleet Corporation found it convenient—for lack of centralized accommodation, among other reasons—to move its headquarters to Philadelphia. In a few months the new city has sprung up, clinging to the skirts of the old.

Here in this new city may be found many of the great captains of finance, industry, and business, who have been called into their country's service. The Food Administration, the Fuel Administration, the War Industries Board, with Hoover, Garfield, Baruch, and the notable men who are assisting them in the great game of backing up the fighting legions in winning the war, are spending busy days and nights in these human beehives, where the



Sheep feeding in the shadow of Washington Monument. In this the second year of our participation in the war, sheep raising is beginning to come into its own. Even the White House lawn has its flock



The Bureau of Engraving and Printing, where Government money and stamps are printed, is a new building along lines approved by the National Commission of Fine Arts

clicking of batteries of typewriters sounds the live-long day. The members of the cabinet cling to their offices in the permanent buildings which the Government occupies, all of them within comparatively short distance of the White House, where the cabinet goes twice a week for regular consultations with the President. Elsewhere are the official habitats of other war-born administrative energies—the Shipping Board, the Aircraft Board, the War Trade Board, the Alien Property Custodian, the Railroad Administration, the War Council of the American Red Cross, the Division of Military and Naval Insurance of the War-Risk Insurance Bureau, the Provost Marshal General, each in whatever nooks and crannies are available. The great captains of business are there, working on jobs bigger than they ever tackled before, taking the post-graduate course in the university of a nation, and learning and achieving that the nation may live.

A certain Washington street of the character usually described as quiet, through which I have walked frequently in our year and more of war, is lined by a double row of tall, many-branched maples whose foliage is restful and pleasing to the eye. A year ago, in the particular section of this street where the foliage of the trees is thickest, it was an inspiration to pass along from one corner to another, the length of the block. The wide-spreading branches almost touched over the centre of the roadway. The houses, residences for the most part of the period of from fifty to sixty years ago, were resplendent in their showing of national standards—flags of many hues, our own Stars and Stripes flanked by the tri-color of France, the Union Jack, and the royal ensign of Italy. Nearly every house displayed one or another or all of these symbols of patriotism. It was apparent that in this quiet street the love for country was uppermost, along with regard for the nations which were fighting with us in the great struggle to make the world a safe place in which to live.

That was a year ago. We were early in the war. Patriotic zeal sought a vent. To-day there is less display of national standards from these old-time houses along the quiet street. The town is busy. It forgets outward show of sentiment in its earnest endeavor to win the war. The wide-spreading branches with their thick foliage are there, as beautifully restful as before, but the whole aspect of the street is changed. On one corner stands the square, red-brick mansion of a former mayor of Washington—for back in the past Washington had its mayors and its councils and a local politics. A staff section of the Army has taken over the former residence of His Honor, and it hums with industry—war industry. Farther along, a sign tacked to the stuccoed front of another old-time residence announces that an organization for war labor employment is quartered within. Near by, a dignified dwelling in which “quality” lived has been turned into a luncheon club conducted by the Food Administration for the benefit of war workers. One of the activities of the Red Cross has another dwelling. Officers of the Army and the Navy, in uniform, walk along the shaded sidewalks. Snappy-looking marine orderlies march past briskly on their rounds. Motor cars with military officers inside dash beneath the arched branches. A French officer in horizon blue, with a pretty girl clinging to his arm, enters one of the houses. A group of young Italian aviators engage in an animated discussion as they hurry by.

At the corner, where one turns toward a centre of war activity, a group of naval officers in their summer uniforms of white duck saunter toward their club for a bite of luncheon. Two British Tommies, orderlies at one or another of their government's several



The Senate office building opposite which stands a similar building for the use of Representatives



© Ernest L. Crandall
South portico of the White House, in front of which public band concerts were held on Saturday afternoons before the war



The City Hall Office (left) and the Union Station. These buildings, as well as the Senate and House of Representatives office buildings, have been subordinated in architecture to the Capitol

military offices in Washington, give that quick salute of His Majesty's service. An officer of the Royal Navy, passing in what is known vulgarly as a low-neck hack, waves a hand to the American group, gets waves in return, directs the driver to stop the vehicle, and engages in conversation with his naval friends. They are evidently on good terms.

A short walk brings one to Lafayette Square. Here, where the high and mighty have dwelt since the days when the town and the nation were young, the business of the war has intervened. The square mansion at one corner, whence the gallant Decatur went on a winter's morning to get his death wound on the dueling-field at Bladensburg, has neighbors now which hum with business of the war. Several of these past abodes of fashion bear signs above their doorways announcing that they are occupied by various branches of the Committee on Public Information. On the street that bounds the square on the north is the home that was Gideon Welles's when he served in Lincoln's cabinet, and before that, the residence of Slidell of the Trent affair. Now it is occupied by a branch of the aircraft service. Farther along, on the corner where the famous Arlington Hotel stood, workmen are engaged in the feverish erection of a great steel-girdered structure many stories high, that is to accommodate overgrown bureaus of the crowded Treasury. Everywhere it is the war. Across the square is the Treasury itself, its classic dignity appearing strangely out of place in its surroundings of modern activity. A temporary wooden building used in connection with war construction work takes up half the broad thoroughfare of Pennsylvania Avenue. A great hole is dug in the midst of the Treasury's sunken lawn, the begin-

nings of a tunnel leading beneath the Avenue to another great hole, excavated for the foundations of the Treasury Annex to be erected next to the theatre occupying the site of that old red dwelling where Seward was attacked by an assassin, and where Blaine died.

There is the noise of hammers and steam shovels everywhere. Pennsylvania Avenue, from the Treasury, past the White House to the building that sheltered the Departments of State, War, and Navy before the war compelled them to overflow into whatever accommodations might be found, is crowded with hurrying thousands of soldiers, sailors, marines, civilians, all engaged upon this business of war. The White House grounds, once a public thoroughfare, are no longer open. Their gates are guarded by policemen by day and soldiers by night. Every passer-by seems to be anxious to reach his destination in the least possible time. It is not like the old days when Washingtonians strolled along saunteringly, when one was not jostled by alert young men and women. In crossing at a street corner one seeks the protection of the traffic policeman, the vehicles come so thickly.

But it is so everywhere in Washington. The "overgrown country village" is alive with activity. Every day is like the firemen's parade day in other country villages in the apparent congestion of population and the general spirit of "something doing." The streets are thronged. Motor cars are parked thickly. The great, broad avenues are seemingly too narrow for the uses to which they are being put. The street railway systems have been unable to handle the situation with satisfaction to themselves and their patrons.

There was a time, not so many years gone, when the street cars would stop in the middle of a block to take on passengers. Such was the accommodating disposition of those days. Conditions in Washington have changed so completely since America entered



Looking along the south front of the new National Museum building, located on the Mall in accordance with the Park Commission plans



Department of Agriculture, laboratories A and B. The central administration part is to be added



the war that the local public service authorities felt obliged to adopt the non-stop system for street cars. Under this, cars do not stop at every street corner as heretofore but only at certain designated places. The crowds seeking to board the cars became so great in the more congested centres that there was danger for them from passing automobiles. Washington streets are broad and one must be quick and nimble to gauge a dash from the sidewalk to the car track just in time to reach the car as it stops. So the crowds gathered in the roadways alongside the tracks and obtained heart and limb exercise dodging the automobiles. To overcome the danger, long platforms, a foot or so high, have been erected, parallel to the tracks at many or the "stop" corners, and

on these islands of safety the street car patrons wait in security.

The theatres and moving picture houses are crowded, the hotel lobbies are crowded, the streets are crowded. There is an animation that suggests a holiday. But Washington is no holiday town. However devoted it may have been in the past to getting its share of enjoyment, there is a deep seriousness pervading the capital's atmosphere in these days. The town and its life centre around the war, perhaps more so than in any other large American city. Washington thinks and breathes the war, at least in those circles that comprise the great bulk of the population. There is a new and strange stimulation. The determination to win is in the very air.



Ready for one of the "Allied rides." From left to right: Captain de Courtivron (with the French Commission), Lieutenant L. Ames Brown, Mrs. Thomas F. Logan, Mr. Joseph Davies, Major Ahearn, Mr. Charles Richardson, Miss Marie Sims, and Colonel George Downey, U. S. A.

WASHINGTON'S COUNTRY LIFE

By HOBART BROOKS



IT IS generally true that the habits of those high in office set the fashion in country living as in other things. There is, however, one notable exception to this rule in Washington at present. The President has a habit of appearing on the golf links about eight o'clock in the morning. Even the Presidential example is not enough to incite any

large number of golf enthusiasts to reach the first tee at this early hour. The President rises before seven and has had a vigorous course of calisthenics and a hearty breakfast before he appears on the links at eight. This hearty breakfast may be generally in vogue, but calisthenics about seven A. M. will probably remain the habit of a small minority.

The President usually plays golf with Admiral Grayson, his physician.

Both are good golfers and both play hard to win, so that there is keen competition as well as good exercise. These early hours on the golf course have much to do with keeping the President in excellent physical condition.

While golf is the President's chief sport, he seeks other opportunities to get out in the country. He likes to get away from the beaten paths and main highways, and there is hardly a

negotiable road 'round about Washington that he and Mrs. Wilson have not explored. At times he and Admiral Grayson tramp the woods, a five-mile hike being much to the President's liking. He and Mrs. Wilson are also both fond of riding, and their mounts are frequently seen on the fascinating bridle paths out toward picturesque Carlton Lodge.

Riding has always been popular in Washington, which



Diversion at the Montgomery Country Club, in the Bradley Hills, not far from Chevy Chase



This skyline panorama of Washington, looking southeast shows how the Washington Monument towers, sentinel like, above the city. It is a little over 555 feet high, and is visible from the Blue Ridge Mountains, more than forty miles away

is not surprising in a city situated between two such centres of interest in horses as Maryland and Virginia. This year there has been an added impetus given by the so-called "Allied rides." Mr. William Phelps Feno, as president of the Riding and Hunt Club, inaugurated these rides on Tuesday evenings especially for officers of the allied armies stationed in Washington, who wish to ride. Those who do not have mounts are furnished them by the Club. As spring came, the evening rides were turned into afternoon rides, with a special hostess for each one, who received the riders either at her own home, at one of the country clubs, or at Carleton Lodge, the summer quarters of the Riding Club.

Washington's country life, like everything else in the city, thrives in times of national excitement. It took the Civil War to raise the national capital into a city, from a village of interminable

muddy roads. In recent times, before this war brought a little of every part of the United States to the capital, the most exciting thing, and therefore the most invigorating, that had happened to the city was the administration of Colonel Roosevelt. And his inspiration was particularly in the direction of country life. Many an army officer comfortably along in years, who had forsaken the saddle for the office chair, was stirred from his comfort by the President's ruthless order that no man was fitted to command troops in the field who did not have the stamina to ride a certain number of miles in two consecutive days. And the strenuous President demonstrated the reasonableness of his order by meeting the test himself. His other chief outdoor recreation was tennis, and the White House courts were in constant use.

One noticeable evidence of the growth of outdoor activities in



The President's favorite bridle path through Rock Creek Park on the way to Carleton Lodge. Washington abounds in such beautiful places, and they are being made more and more available to the people



Friendship, the suburban home of Edward Beale McLean

point in the focal city of the world, is a pretty good country estate in itself. It is true that trolleys do run in front of it, along an asphalted street, and that it is flanked on either side by Government office buildings, but on the other hand it is surrounded by some seventy-five acres of land, and the main view south toward the river is nearly as free from the disfigurements that make up a city as it was when the White House was first built—and at that time General Washington's residence at Mount Vernon was almost as much of a town as the city that was named after him.

But admitting that the business and residence sections must be classed as city, although of a pleasantly modified variety, it is only a short dis-

Washington is the increase in the number of country clubs around the city. But a few years back there were only two. Now there are nine, and all prosperous. Man has two conflicting longings—his primal thirst for life in the open, and the hunger of the man of culture for the quickening communion of the city. Washington, more than almost any other city in the United States, combines the two conditions. The city itself has a country aspect. There are only three or four streets that are not lined with large trees that would be a source of pride to any "garden city" thirty miles out from New York or Chicago; and in his city yard in Washington Mr. Frank Chapman, the ornithologist, has reported hearing more different kinds of birds in an evening, under the daylight saving plan, than an ordinary man will hear in three weeks in the woods.

The White House, which is now the central



The new home of John Hays Hammond on the banks of Rock Creek
Photograph by Harris & Ewing



Carleton Lodge, the summer quarters of the Washington Riding and Hunt Club

tance from the very centre of town to places that can in all accuracy be counted as the country. Less than three miles from the White House, for example, is Woodley, where Mr. Cleveland used to spend the spring and fall months when he was president, and which is now the home of Mr. William Phillips, the First Assistant Secretary of State. Looking out from Woodley, the view is as country-like as if it were in the heart of Maryland, except that in the far distance there arises the majestic shaft of the Washington Monument. Real country life is as near the heart of Washington as this.

Next to Woodley is Grasslands, which in Cleveland's time was the home of his Secretary of the Navy, Mr. William



Wakelield Manor House in Rappahannock County, Virginia, the country home of the Commandant of the U.S. Marine Corps, Major-General George Barnett



Lily pond in the Charles J. Bell garden at Twin Oaks, on picturesque Woodley Lane

C. Whitney, and which has since become the Grasslands Country Club. As is natural in a community that loves the outdoors as much as does Washington, country clubs play a large part in the scheme of things. Among them there is always, first and foremost, Chevy Chase. The picturesque old red farmhouse of ten years ago has been superseded by a very imposing stone club house, and the membership has grown to such proportions that the service flag which testifies to the patriotism of the club has 700 stars on it. Just as the political character of Washington gives the city a different atmosphere from that of any other place in the United States, so the atmosphere of the city imparts to Chevy Chase a different atmosphere from that existing in the country clubs elsewhere in the United States. Nowhere else are generals, judges, and ambassadors so common as to cause no comment, and one is more apt to see



Chevy Chase, one of the most fashionable country clubs in Washington. Note the stars in the service flag



In the Woods is the well-chosen name of the country home of Mr. and Mrs. David Fairchild

a cabinet member than a banker, which is not the rule in out of town clubs the country over, by any means.

In the Bradley Hills not far from Chevy Chase is the Montgomery Country Club. In this same general section is the Columbia Country Club, while across the Potomac the Washington Golf and Country Club boasts one of the most interesting mountainous golf courses to be met with anywhere.

Chevy Chase is about seven miles from the centre of the city, and about this same distance out, in what might be called the country club area, there are growing up various little communities which could be called suburban in that the houses are set in neighborly fashion, but which are pretty much real country in that the communities are small and entirely surrounded with woods and fields.

One of the most secluded and charming of the country homes beyond Chevy Chase is In the Woods, owned by Mr. David Fairchild, which for two years after his coming to Washington was the home of Secretary of War Baker. In the Rock



Cabinet and Congress members at early morning exercise in Potomac Park



A polo game in progress at Potomac Park. Before we entered the war, when sports were more in evidence than now, the casually passing motorist could often witness a hotly contested game here

Creek section, not far from the Connecticut Avenue Bridge, is the John Hays Hammond home; and in the outskirts of Rock Creek Park, on quaint Klinge Road, Causeway, the sequestered home of Mr. James H. Parmelee is one of the few places left which still maintains a deer park.

Outside the country club area and the country communities, lies the territory of the large estates both up and down the Potomac and stretching into Maryland and Virginia as well, for a good portion of these neighboring states get the inspiration of their country life from the capital. The Potomac south of Washington is, in most people's minds, a scene of purely historical interest. This is, of course, on account of Mount Vernon. But there is another side to this country. Washington and his neighbors made the lower Potomac the centre of country life in America in their day. The memory of that life, which fell

somewhat into decay at one time, is experiencing a revival at present.

Let us take one house as an example. In the times that tried men's souls, Gunston Hall belonged to George Mason. He has not maintained the reputation with historians that he had with his neighbors, for although we hear comparatively little of him now, he was one of the leading men of Virginia, with Madison, Jefferson, and Washington, and was particularly valued as a counselor and friend by the first president. In the days of its founder, then, Gunston Hall was accustomed to hear the weightiest matters of state discussed within its walls, by people in a position to make their words count. But it did not keep up its high estate, and with the passing away of the Masons, Gunston fell a good deal into disrepair. Moreover, the dignity of the old house as George Mason built it in 1758 was very considerably damaged by later "improvements." It seemed to be faced with a disintegration of structure and lapse of character. The outlook was very bad, and then came the beginning of the resurrection. A Chicago family started it on its upward journey. Then it came into the possession of Paul Kester, the author and playwright. He restored Gunston to its original simplicity, removing a modern wing which had a bay window at one end, and taking off a double-decked cupola which had settled with questionable effect on the roof of the old house. Now Gunston belongs to Mr. Lewis Hertle, and the days of the automobile and easy transportation have brought it into the life of the capital, so that again affairs of state are discussed within

its walls by people who know whereof they speak. Moreover, the house has recovered its early character. It has been remodeled back again into its original style. With the exception of such conveniences as bathrooms, steam heat, electricity, and a garage, the place is now as nearly as possible in the form that George Mason left it. In the work of doing over (or back, as it really was) the dining room, the workmen scraped through many layers of wall paper until they finally came to the plaster. This was so broken in places that some of the wood-work underneath showed through. There was something about this wood that called for further investigation, and the plaster was all removed, revealing handsomely paneled walls and ceiling of oak. Now this room, where Thomas Jefferson had his conference with Mason over the Constitution of the United States, and where Mason worked out the Virginia Bill of Rights, is



Photograph by Harris & Ewing

Causeway, the country home of James H. Parmelee, on Klinge Road

Charles A. Platt, Architect



The Columbia Country Club, only a short distance from Chevy Chase, has a splendid golf course

again in shape for any visiting statesmen to set therein new standards for the world.

Another of the old estates, and one of the most beautiful, is the summer home of the Commandant of the Marine Corps, Major-General and Mrs. George Barnett, down in Rappahannock County, Virginia, about nine miles from Front Royal, right up in the mountains. It is Wakefield Manor House, the home of the Gordons of Maryland and Virginia, an original grant from King George to Huntley Gordon, which has descended to a Gordon ever since.

Of course, all the estates around Washington are not the resurrected houses of the fathers of the republic, but there are enough of them to give to the country life around the capital a very appropriate and unique flavor. Woodlawn, once the home of Nellie Custis, is the spring and autumn home of Miss Elizabeth Sharp of Boston. Mt. Eagle, the second house of the Fairfaxes on the Potomac, built just after the Revolution, is now in the hands of Mr. Francis Connolly of Washington. Friendship, the home of Mr. Edward Beale McLean, retains the old-fashioned simplicity of a typical Southern country home. Twin Oaks, the home of the C. J. Bells on picturesque Woodley Lane, is another of the places identified with a former generation. And so the list goes. The revival of these old estates and the building of the many new ones that have sprung up in the last few years have given the country surrounding Washington a new life.

A little further from the city than most of these estates, but

still contributing very vitally to the life of the capital, are two very remarkable districts where country life has flourished consistently without the relapse which overtook the land along the Potomac. These communities are not dependent on any city for their existence. Neither the enervating effects of peace nor the excitement and destruction of war has been able to dampen the spirit of the Green Spring Valley, in Maryland, nor to prevent the hounds or the hunters of Loudon County, Virginia, from following the fox. In this war, as in the Civil War, there may be a temporary interruption in this ancient sport while the men are at the front, and their wives and daughters doing their part elsewhere, but the Hunts will revive again, for they are as indigenous to the country as the people themselves and their love of good horses.

From the embankment half a mile from the White House, where before we entered the war the casually passing motorist could often watch a polo game, through the fascinating bridle paths of Rock Creek Park that lead from the heart of the city out beyond Chevy Chase, around the



Photograph by Clinedinst

The Speedway. Forty years ago the Potomac River flats covered this area. Potomac Park has been reclaimed merely as an incident to channel improvement, and without direct expenditure for that purpose



Historic Gunston Hall, the Colonial home of Washington's friend, George Mason, which has been relieved of its questionable "improvements," and stands forth once more in its original simplicity and beauty. It is now owned by Mr. Lewis Hertle

various country clubs, up and down the Potomac, and into Maryland and into Virginia as far as the beautiful Blue Ridge, the country life of Washington extends, with a flavor all its own, and no one can know Americans and their life in the

open who has not at least tasted a little of this life, just as no one can know American cities who has not stayed, for a little time at least, in New Orleans and San Francisco as well as in Chicago and New York.

The WASHINGTON of the FUTURE

By ARTHUR BARTLETT MAURICE



PICTURING the New York or the Boston, the London or the Paris, the Vienna or the San Francisco, of the future, is a pleasant venture into the realm of conjecture. Fancy is untrammelled. Imagination may run riot along avenues of magnificent proportions; buildings may be tossed a hundred stories into the air; rivers may be spanned by bridges of vast dimensions and striking beauty; all kinds of "stately pleasure domes" may be decreed in the manner of Kubla Khan of Coleridge's broken dream. For, after all, it is conjecture and nothing more. But the Washington of the future is not only a vision but a promise. The number of years to come before we are to see that promise realized is problematical. But for the dawn of the vision we turn back 128 years to the lusty infancy of the Republic.

Day after day, in the spring and summer of 1790, over a stretch of marshy land along the Potomac two men trudged. When a slight eminence was found they paused to study the outlines of the surrounding country unmarked by human habitation of any kind. Theirs were eyes trained for the work in hand. One of the men had been in his youth a surveyor in Virginia. Later he became the commander-in-chief of the Continental armies, and then the nation's first president. Washington's companion was Major Pierre Charles L'Enfant, a French engineer, who had come to America in 1777, and served in the War of the Revolution under Count d'Estaing, had rebuilt the New York City Hall, had erected on the Philadelphia house of Robert Morris the first mansard roof ever seen on this side of the Atlantic, and had been selected by Washington and his Secretary of State, Thomas Jefferson, as the man to plan the nation's capital to be.

During the Revolution the United States had had six capitals, one after another. When the war was over, New York was the seat of government. Then a furious debate began as to the place for the permanent capital. New York, having the honor, wanted to hold it. Pennsylvania, New Jersey, Maryland, and Virginia all coveted it. In the course of the long argument twenty-four sites were suggested. The House passed a bill selecting Penn-

sylvania. The Senate, on account of the opposition of the Southern members, led by Madison, who was supposed to express the views held by President Washington, defeated the bill. The result was a compromise. The strip of land on the eastern or northeastern bank of the Potomac, designated on July 16, 1790, was between two of the states of the original thirteen. There, from nothing, was to spring up the capital of the future.

"I want a city that will hold 800,000 people," Washington told L'Enfant. The population of the entire nation was then less than four million. At first there was grave danger of a false and fatal step. The plan of Major L'Enfant was not the original plan of the capital, but an afterthought superimposed upon it. There were the first commissioners of the District, honest and well-meaning men. Of his city Emerson once said: "They say the cows laid out Boston, and there are worse surveyors." The Washington commissioners were not wise enough to leave the matter to the cows. Rather they followed the method of the New York Commission of 1807, of which the story is told, that, at the beginning of their labors, when they were discussing a street system, one of them laid a mason's sand-sieve upon the map of the island and triumphantly inquired: "What do you want better than that?" On the map of the swamp land along the Potomac they laid the gridiron, and for a moment Washington seemed destined to be a reticulation of squares and oblongs. Some of the squares and oblongs differed in size and shape from others, but that was all. Then L'Enfant came and planned with amazing vision.

Both Washington and Jefferson were familiar with the stately art of landscape architecture that had been brought oversea by royal governors and wealthy planters. Jefferson, from his library, sent to L'Enfant plans on a large and accurate scale of many of the cities of Europe: Paris, Milan, Orleans, Amsterdam, Frankfort, Turin, Strasburg, and Carlsruhe. With the work of the great Lenôtre, L'Enfant was already familiar. He tramped through the woods and marshes, weighing the advantages of this site and that as a place for a great edifice of the future. He held ever in mind that he was not merely providing for a human hive, but planning

for a capital city of which the parts should be related and interdependent. And when the preliminary work was done, he superposed upon the gridiron of the commissioners his own scheme, which was the admiration of his time, the model which the Commission of 110 years later found impossible to improve, and which, when ultimately carried out, will make the wonder city of the future.

As Shakespeare planned his greatest tragedies, L'Enfant planned his city. In great art there is repose, simplicity, dignity. There were in immediate project two edifices about which the city was to grow. One was the Capitol, at first known as the Congress House, and the other the residence that was to be the home of the chief executive. Finding the eminence upon which to place the Capitol—the most commanding ground the district contained and the centre of such a radiation of streets that, in the scheme, sixteen vistas converged upon it and were closed by it—L'Enfant conceived his main axis, which, in the form of a Grand Avenue, was to sweep superbly to a far-off point on the banks of the Potomac. Crossing the main axis at right angles was to be the secondary axis, beginning at the president's house, and carrying to another point on the bank of the winding river. Looking over the swamps and woodland along the line of the main axis of his imagination, he saw at its end the great monument that was to balance the Capitol. He saw, at the spot where the axes crossed, another great monument. He saw, at the river end of the secondary axis, the monument that was to balance the chief executive's residence. Thus there were three systems with three centres, the centres being the capitol, the president's house, and the focus furnished by the establishment, due west a mile and a half from the Capitol and due south a mile from the president's house, of the site for the Washington Monument, voted eight years before by the Continental Congress, and then expected to consist of an "equestrian statue." Running diagonally from the open space in front of the Capitol, and balancing each other, were to be the broad thoroughfares that later became Pennsylvania and Maryland Avenues.

Major L'Enfant had the attributes of greatness. Also he had some of its drawbacks. He and Washington were not always of

a mind, and the latter deplored on paper that men of artistic genius should almost invariably be "of an untoward disposition." Later others found it out. L'Enfant was ever in a hotbed of turmoil. He became more and more irritable with the years. Finally the execution of the scheme that he had planned was taken from him and placed in the hands of Major Ellicott. Thereafter, to the day of his death, he was a man with a grievance. He haunted the Capitol, protesting his wrongs. He spurned the pension voted to him by Congress, and subsisted somehow on the bounty extended by sympathetic strangers. But after all these years, the personality of the man matters little. What counts is that he did his work so well that it has stood the test of time, and the work of the Commission of 1901 was mainly to vindicate it.

For seventy years, from 1830 to 1900, L'Enfant's plan was forgotten. Yet, imperceptibly these years were at work in the molding of the city that is to be. Washington, to an extent beyond all other world capitals, is the result of the impetus given by successive wars. In a sense it was born of the War of the Revolution. For the next twenty years the minority in Congress fought to remove the capital elsewhere, and Washington owes its final victory and permanence to the War of 1812, when Congress was forced to choose between removal and rebuilding. Washington remained the capital, but it stagnated. No one pretended that it was a real city. It was more like an annual circus, and everyone who could folded his tent and migrated for the summer. Then came the Civil War, from which Washington emerged with new energy and civic pride. Thanks to Alexander R. Shepherd, who reaped the ingratitude that is the usual reward of men who do things, Washington at last got the street pavements and the gas and water system that she needed. But the impetus of the Civil War had spent itself, and Washington again sat still for a generation or so. It was not until the Roosevelt administration, following the Spanish War, that another big awakening came. Incidentally it is interesting to note that it was at this time that the White House was renovated—not one American in a thousand knows that this meant the stripping out of the internal wooden skeleton and substituting a modern steel framework—and after a lapse of a century the east and west colonnades were added in



The Mall, a garden approach to the Capitol from the White House, planned by L'Enfant (1791) under the direction of President Washington. The view is directly east from Washington Monument. In the centre is the Capitol, flanked on the right by the office building for the House of Representatives, and on the left by the Senate office building. Farther to the left is the monumental Union Railway station and the new City Post Office. The Library of Congress appears beyond the Capitol. In the foreground on the right are the new wings of the Agricultural Department building, and on the left the new National Museum. These structures are located on either side of the Mall with reference to an axial line beginning at the Capitol and extending through the Washington Monument to the Lincoln Memorial. Compare with picture on page 32

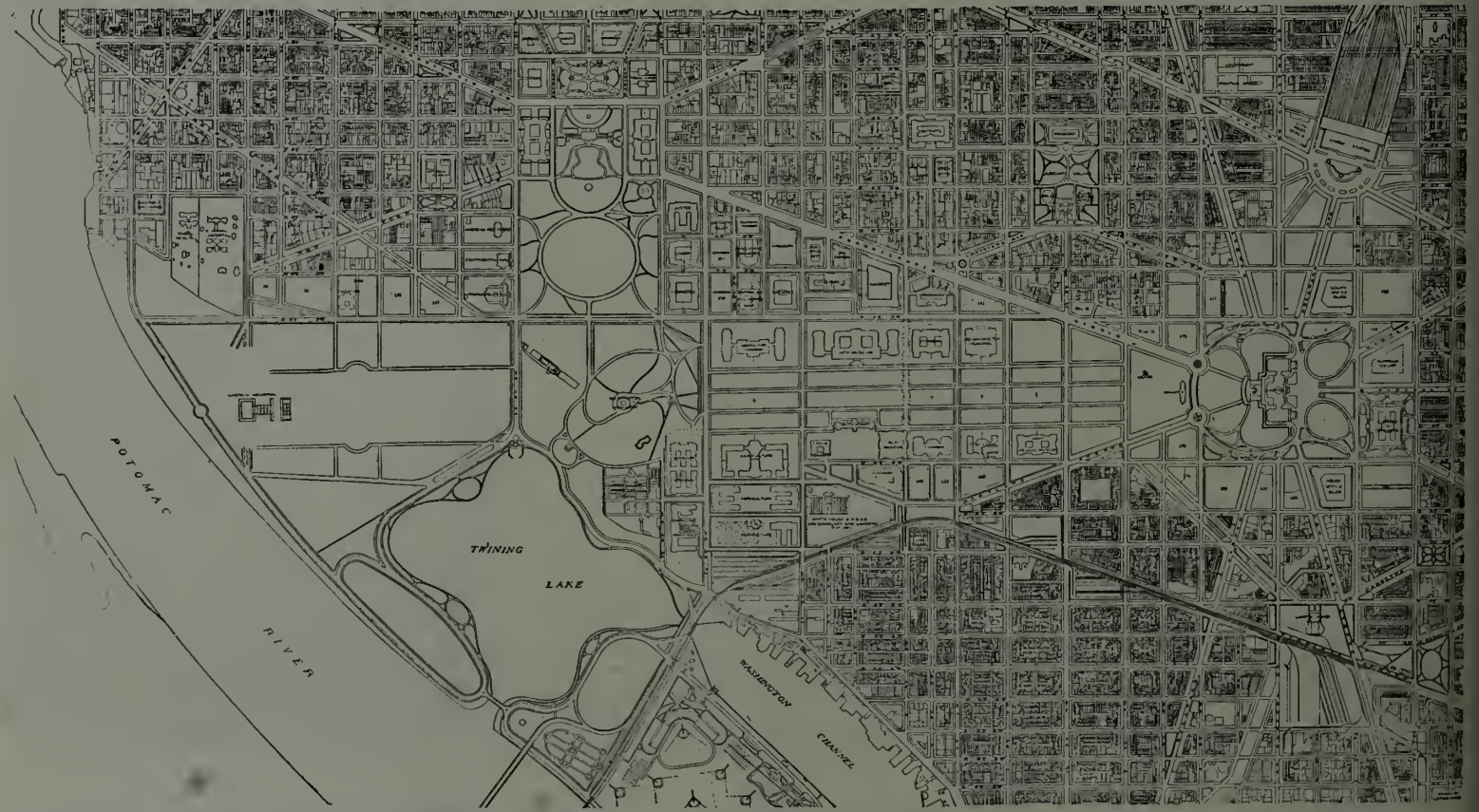


The Mall and vicinity, showing existing conditions in 1917, from a map prepared for the Public Buildings Commission of Congress. This Commission was created "with a view to ultimately providing permanent quarters for all the Governmental activities in the District of Columbia in buildings owned by the Government." This Commission investigated and ascertained what public buildings are needed in the District of Columbia to provide suitable and adequate accommodations, with allowances for future expansion for all of the offices, establishments, and public services of the Government in the District of Columbia, the proper location of such buildings, the probable cost thereof, and the probable cost of such new sites as were deemed necessary for acquisition

accordance with Hoban's original design. Then, in March, 1901, the Commission was formed for the preparation of a general plan for the development of the Washington of the future.

At the suggestion of the American Institute of Architects, Daniel H. Burnham of Chicago, who had been Director of Works of the World's Columbian Exposition of 1893, and Frederick Law Olmsted, consulting landscape architect of the metropolitan park system of Boston and its suburbs, were employed as experts, with

power to add to their number. These gentlemen accepted the task, and subsequently invited Augustus St. Gaudens and Charles F. McKim of New York to act with them in the preparation of plans. In order to make a closer study of the practice of landscape architecture as applied to parks and public buildings, the Commission made a trip to Europe, visiting London, Paris, Rome, Venice, Vienna, Budapest, and their suburbs. Then the Commission came home, took up the plans of Major L'Enfant, and



Map of the Mall and vicinity, as prepared for the report of the Public Buildings Commission of Congress, which shows the arrangement of public buildings in that area in harmonious and effective relation to each other, according to the Park Commission plan



By courtesy of the National Commission of Fine Arts



From the painting by
JULES GUERIN

Birdseye view of the general plan of the Mall, taken from a point 4,000 feet above the St. Elizabeth Hospital. This plan, prepared by the Park Commission of 1901, shows the proposed grouping of the buildings of the legislative (around the Capitol) and the executive (around the White House) branches of the Government; also the most prominent site in the national capital for a great memorial on the White House axis, now that the Lincoln Memorial has been placed on the Capitol-Washington Monument axis

decided that he had done his work so well, and builded for the future with so sure a vision, that to follow his scheme was the best and only way to provide for a city that should be symbolic and representative of the greatness of the Republic.

The city that L'Enfant foresaw is in a nutshell in the "Observations explanatory of the Plan" engraved upon its margin. They are as follows:

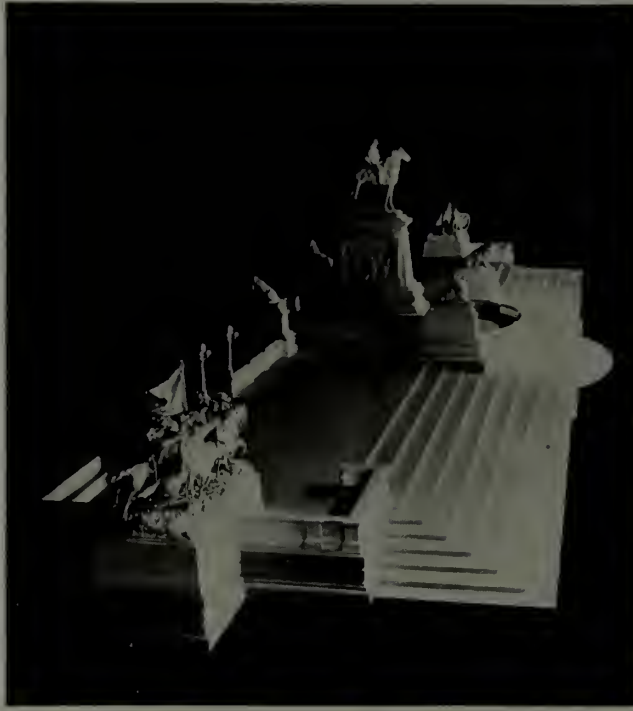
I. The positions for the different edifices, and for the several Squares or Areas of different shapes, as they are laid down, were first determined on the most advantageous ground, commanding the most extensive prospects, and the better susceptible of such improvements as either use or ornament may hereafter call for.

II. Lines or Avenues of direct communication have been devised to connect the separate and most distant objects with the principal, and to preserve through the whole a reciprocity of sight at the same time. Attention has been paid to the passing of these leading Avenues over the most favorable ground for prospect and convenience.

III. North and South lines, intersected by others running due East and West, make the distribution of the City into Streets, Squares, etc., and these have been so contrived as to meet at certain given points with those divergent Avenues, so as to form on the Spaces "first determined" the different Squares or Areas.

To rescue and reclaim that plan, and then to go beyond the most soaring dreams of L'Enfant, is the aim of the men at work to-day.

As the Washington of the future is to be different from any other city upon which the sun ever shone, so the problems it presents and the advantages it possesses are different from any other municipal problems and advantages. To-day it represents the evolution of a Virginian village to an amorphous thing, which might be called, instead of the "City of Magnificent Distances," the "City of Magnificent Intentions." But those who, with well-meaning intent, have erred, have merely delayed. To block effectually the future has happily been beyond their power. For, as it was planned, it has remained, a city not as other cities, but a city for the business of government only, and for the people who dwell therein as incidental to or ornamental of that business, and of those other people necessary to take care of the needs of their daily life. Imagine New York without its Third Avenue and its Ninth Avenue. It would not be New York. Rail as you will at their sordid ugliness, they are vital arteries. But in the scheme of things of Washington there never were a Third and a Ninth Avenue and there never will be. Nor, again thanks to L'Enfant and his plan, is there any great need of Haussmannizing. The sweep of the main axis was arranged for before the first wooden shack invaded the stretch of thick brush, naked fields, and treacherous swamps. It is a mere matter of razing an occasional home and of removing buildings that are of a purely temporary



Preliminary model for the Grant Memorial, designed by Henry M. Shady. The Memorial is being erected at the head of the Mall, with but few modifications from this model, and will be unveiled shortly. When completed it will be one of the finest memorials in the world

nature. The problem is one, not of making the open spaces, but of utilizing them. Figures tell the story. The area of the streets, squares, and parks of New York is 35 per cent. of the total area; Boston, 26 per cent.; Philadelphia, 29 per cent.; Berlin, 26 per cent.; Vienna, 35 per cent.; Paris, 25 per cent.; more than half of Washington, or 54 per cent., is open space.

Although it is a Versailles on a vaster scale rather than a Paris, it is to Paris that Washington is most frequently compared and contrasted. One way, and one of the simplest, to draw the picture of the Washington of the future, is to visualize a part of the Paris of the present, and then to expand on that visualization. As yet man has achieved nothing finer architecturally than the stretch from the Place du Carrousel to the Arc de Triomphe. Back of the Place du Carrousel is the Palais du Louvre, and between the two are the statues of Gambetta and Lafayette. In front, facing toward the setting sun, is the Rue des Tuileries, the gardens of the Tuileries, the Place de la Concorde,

and the sweep of the Champs Elysées to the Rond Point, and on to the Etoile. It was a vastly different Paris that L'Enfant had known, but standing in imagination at the eastern end of that stretch, one can build the mental picture of the main axis of the Washington that is to be.

From the steps in front of the Capitol, look out over what has always been known in Washington as "The Reservation," toward the stately shaft of the Monument. The Monument corresponds to the Rond Point in the Paris stretch. Beyond, as the Arc de Triomphe is beyond the Rond Point, is the Lincoln Memorial, on the banks of the Potomac. For the Memorial there is no need for calling upon the imagination. It is there now, rapidly approaching completion, a splendid temple, the work of Henry Bacon. Soon, in its centre, there will be the figure of the martyred president, by Daniel Chester French, a statue seated, that if erect, would rise from its base twenty-eight feet; and on the end walls, twelve feet high by sixty feet long, the decorations of Jules Guerin, the main groups symbolizing Dedication and Union. Between the Capitol and the site of the Washington Monument, L'Enfant had conceived the "Grand Avenue," flanked by his "well improved fields," the intended route for inaugural and other processions. The "Grand Avenue" did not come, and the processions were diverted along Pennsylvania Avenue. But already the way is paved for the far more astonishing "Grand Avenue" of the future.

Imagine a strip of land a mile and a half long and 1,600 feet wide; that is to say, twice as long as the parked part of the Champs Elysées, and 300 feet wider, carrying from the Capitol to the



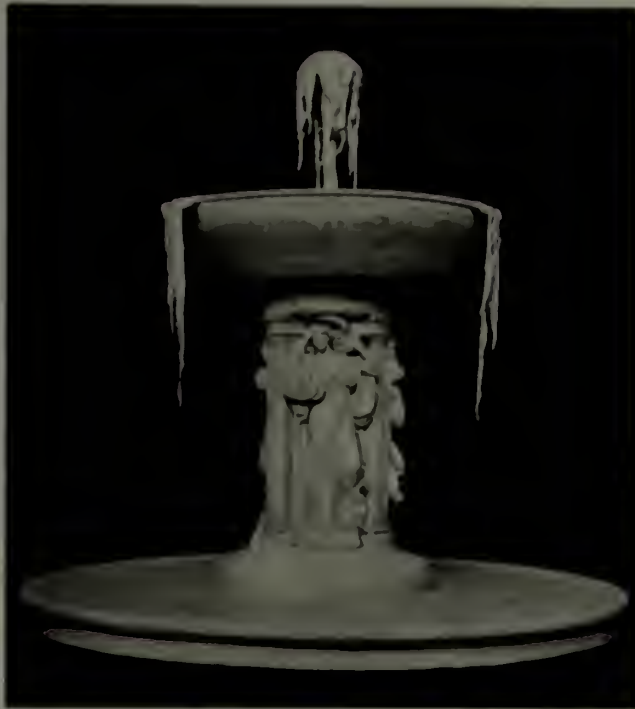
The design for the George Washington Memorial Hall, south elevation, to be located on the Mall

Tracy & Swartwout, architects

Washington Monument. Behind the Capitol the Congressional Library, to its right and left the vast buildings devoted to legislating, as those about the White House are to be executive. In front of the Capitol great basins and fountains, and beyond the "tapis vert," or green carpet, flanked by colonnades of elms, the tree chosen on account of its architectural character, its columnar trunk, and delicate traceries of wide-spreading branches; the whole Mall giving ample room on each side for a row of public buildings—in the words of the Commission, "white marble buildings devoted to the scientific work of the Government," and "museums and other buildings containing collections in which the public generally is interested, but not to department buildings."

As Voltaire summed up his impressions of Holland in the words "*Canaux, canards, canaille*," the visitor to the Washington of the future may speak of it as the city of "water and then more water." The basins and fountains to be will be designed both as ornament and to furnish relief. The exaggeration of the carper who described the Federal city in midsummer as a place where the fire engines were called out at every hour of the day to rescue the men stuck in the asphalt, may be understood and forgiven. While weather conditions cannot be changed, much can be done to mitigate the strain of the intense heat. In Rome, Washington has an illustrious example. The pride of the Eternal City, under emperor or pope, was to build fountains—jets flung up in columns, or gushing in cascades. A great point in the original design, the ornamental use of water is a still greater point in the revised design. L'Enfant's idea was to pump the water from the creek in the northwest to the Capitol grounds, where after watering that part of the city "its overplus will fall under the base of that edifice in a cascade of twenty feet in height and fifty in breadth, thence to run in three falls through the garden into the Grand Canal." For his "grand fountains, intended with a constant spout of water" he relied upon the "above twenty-five good springs of excellent water within the limits of the city." The Commission of 1901, in addition to the pool and canal to the westward of the Washington Monument, proposed an adequate aqueduct as an essential of its plan, and "a water supply that shall serve every purpose of public ornament as well as of private use."

The road to the future has its pitfalls and obstacles as in L'Enfant's day. The race of well meaning bunglers and foes to real progress and beauty did not pass with the commissioners who tried to lay out Washington in 1790, and those who did lay out New York in 1807. The battle has still to be fought with the congressman who wishes to transplant to the national capital



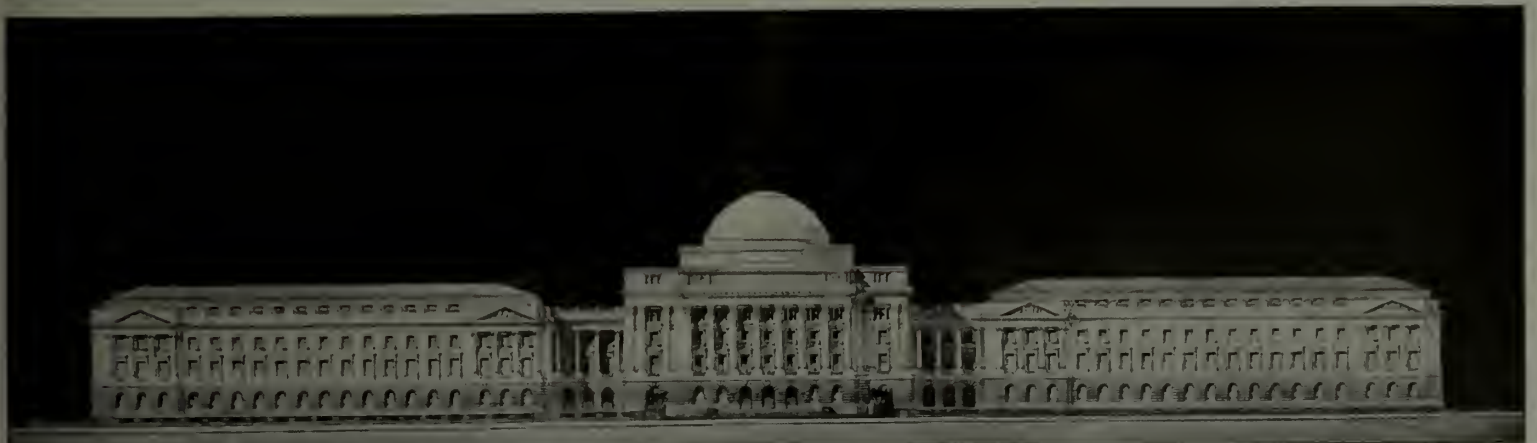
Henry Bacon, architect
Preliminary model for the exquisite fountain by Daniel Chester French that with the express sanction of Congress is to be erected in memory of Admiral Dupont in place of the mediocre statue now in Dupont Circle. The figures represent The Sea, The Wind, and The Stars

some well-liked vista of his own home town, to his mind for the greater glory of them both, and with those high in temporary authority who cannot or will not see. Again and again the men who are building intelligently for the greater Washington have to marshal the old and simple arguments. "We cannot build the Memorial now? Very well. Don't build it now. But don't put anything in its place that will prevent our building it when the time comes that we can afford it." Or, "A statue would undoubtedly look well in that spot, but don't put up the statue until you have some one to put it up to." In short, "Don't throw a wrench in the gearbox and interfere in a programme of events that will take place in God's good time."

The story of the Lincoln Memorial is, in epitome, the story of the development of all Washington. Years ago the statue was decreed. Then some one suggested that it should take the form of a road to Gettysburg. A road to Gettysburg, it was pointed out, was unquestionably a fine idea, but it was not a statue. So plans for the statue were resumed, and all went well until an ingenious Senator discovered a new place in which to put it. In the hot pride of discovery, the fact that the point already selected on the banks of the Potomac was the one spot on earth for the memorial was quite forgotten. The Senator had found a place in front of the Capitol where there was room for two statues. Why not put Lincoln there, he persisted, and he had great influence and power. To Mr. Arnold W. Brunner, who designed the new Department of State, fell the task of diplomatic enlightenment. "A splendid idea, Senator. You should have been an architect. But there is one objection. Lincoln was not twins."

In the vast scheme of the main axis from the Capitol to Lincoln Memorial, the modern experts who are carrying out the original plan are coping with the task of disassembling a curious irregularity. The Washington Monument, originally planned as an equestrian statue, was erected about the middle of the last century. It is neither in the axis perpendicular to the Capitol, nor in the axis perpendicular to the White House. L'Enfant had marked the intersection of these two lines, but the engineers who established the monument were either ignorant of the intersection, or had forgotten it, or regarded it as without motive. As Mr. Burnham has expressed it, they thought that "about there" would be a good place.*

*The reason for the irregular position of the monument is said to be that when it came to be erected, tests of the ground showed that in order to get a safe footing it was necessary to move a little to the eastward of the intersection of the axes, which was done.—EDITOR.



Rankin, Kellogg & Crane, architects
Design for main building of the Department of Agriculture. Both wings have been finished (see lower right picture, page 39) only the central administration feature being lacking



From the painting by
BIRCH BURDETTE LONG

By courtesy of the National Commission of Fine Arts



Design by Henry Bacon for a Lincoln Memorial on the Potomac Park site in Washington. This design was approved by the National Commission of Fine Arts, accepted by the Congress of the United States, and is fast nearing completion. There is but one opening to the Memorial inside the colonnade—that facing the Washington Monument and the Capitol. The marble seated figures of the Emancipator and the immortal words of the Gettysburg and the second Inaugural speeches, in bronze, under Guerin's mural paintings, are seen by the light that filters through translucent marble ceiling panels between the bronze beams

The Capitol, the white shaft to the memory of Washington, the Grecian temple to that of Lincoln—that is the great sweep and the great idea. After the monument to the country's father, a memorial at the end of the main axis to any other than the Liberator would have been an anti-climax. The "lapis vert" is to run from the Capitol to the edge of the space of which the Mon-



The design for the Freer Art Gallery, north elevation. This gallery is now nearing completion
Charles A. Platt, architect

ument is the centre. Beyond the Monument, to the west, the effect will be one of splendid waters. From the top of the 555-foot shaft the observer will look down upon a sunken garden. Then a basin in the form of an ellipse, crossing the Mall, with three spurting jets at each end, almost in the shadow of the flanking trees. A narrow strip of land, and then more water, a lagoon running to the base of the Lincoln Memorial. It is the sunken garden that is, to the minds of the designing architects, the gem of the system. To quote from the report of the Commission of 1901: "Axial relations between the White House and the Monument are created by the construction of a sunken garden on the western side of the great shaft, the true line passing through the centre of a great round pool, to which marble steps three hundred feet in width lead down forty feet from the Monument platform. Surrounded by terraces bearing elms, laid out with formal paths lined by hedges and adorned with small trees, enriched by fountains and temple-like structures, this garden becomes the gem of the Mall system. Seen from the lower level, the Monument gains an additional height of nearly forty-five feet, while at the same time nothing is suffered to come so near as to disturb the isolation which the Monument demands."

Once the White House grounds almost skirted the banks of the Potomac, and the space which L'Enfant foresaw as the site of the Washington Monument was at the very edge of the river. But in the course of time, vast areas were reclaimed. What once were Potomac flats is now the mile of firm land to the west of the Monument, at the end of which the Lincoln Memorial is rapidly coming into finished being. Also wrested from the waters is the stretch to the south, which, in the city of the future, is to allow of the extension of the southern arm of the cross. There, at the end of the secondary axis, and balancing the White House, from which it will be separated by a mile of park, as the Lincoln Memorial balances the Capitol, is to be the monument to the Founders of the Republic, a pantheon breathing reverently the spirit: "*Aux grands hommes la Patrie reconnaissante.*" The

space between the Monument and this pantheon is to be a kind of Washington Common, a place of recreation for the people. "Here," the Commission has recommended, "should be constructed a great stadium arranged for athletic contests of all kinds and for the display of fireworks on festival occasions. Ball grounds and tennis courts, open-air gymnasiums for youths, and

sand piles and swings for children, all should be provided, as they are now furnished in the progressive cities of the country. The tidal basin should have the most ample facilities for boating and for wading and swimming in summer, as well as for skating in winter. To this end, boat pavilions, locker houses, and extensive bath houses should be constructed with all the conveniences known to the best-equipped institutions of like character."

But the realization of the main axis and the secondary axis will not be enough. The pentagon that is to enclose the heart of the Washington of the future must be complete. Pennsylvania Avenue, leading diagonally from Union Square in front of the Capitol to the group of executive buildings that surround the White House, is balanced by Maryland Avenue to the south, leading from Union Square to the proposed Washington Common. From the White House to the Lincoln Memorial, skirting the parks holding the Pan-American Building, the Daughters of the American Revolution Building, the Red Cross Building, and the Corcoran Art Gallery, is New York Avenue. Across the reclaimed land there must go the balancing thoroughfare, corresponding to New York Avenue, and connecting the Lincoln division with the pantheon division. Then and not before, will be linked symmetrically the head and arms of the cross.

But it is not in the development and beautifying of its heart alone that the greatness of the Washington of the future lies. Beyond the limits of the pentagon goes the scheme of redemption and renovation which includes one of the most ambitious and far-reaching series of plans for a coöperative and unified attempt to beautify a city that has ever been put in force. In the vision there is the great bridge spanning the Potomac, symbolizing the reunion of the North and the South; the development of Anacostan Island and Potomac Park; the reclamation of the wild and picturesque banks of the river; the linking of the vast series of parks encircling the city. In the work of bringing this vision to reality, as well as to the task of coördinating the architecture of the public buildings that belong not only to the city but to the



Preliminary designs for the proposed buildings for the Department of State, the Department of Justice, and the (then) Department of Commerce and Labor, secured by the Treasury Department by competition in 1911. The view is from the Treasury Department, showing northern elevation of the proposed building for the Department of Justice. The architects for the buildings are, for the Department of Justice, Donn Barber; for the Department of State, Arnold W. Brunner; for the Department of Commerce and Labor, York & Sawyer

nation, a grim dictatorship is bending every energy. There is a benevolent watch-dog at the door.

In 1910 the permanent National Commission of Fine Arts was created. Congress recognized that some Federal supervision was necessary over the large number of public buildings proposed and going up in the city; that in order to prevent mistakes in location and design, and to avert the erection of unworthy "works of art," somebody should be appointed having supervision over such matters. The result was the Commission, which constitutes the official supreme court in art matters in this country to-day. Its members are seven "well-qualified judges of the fine arts," three architects, one sculptor, one painter, one landscape architect, and one layman, who are selected from the most eminent men in their respective professions in the land, and who serve without personal compensation of any kind.

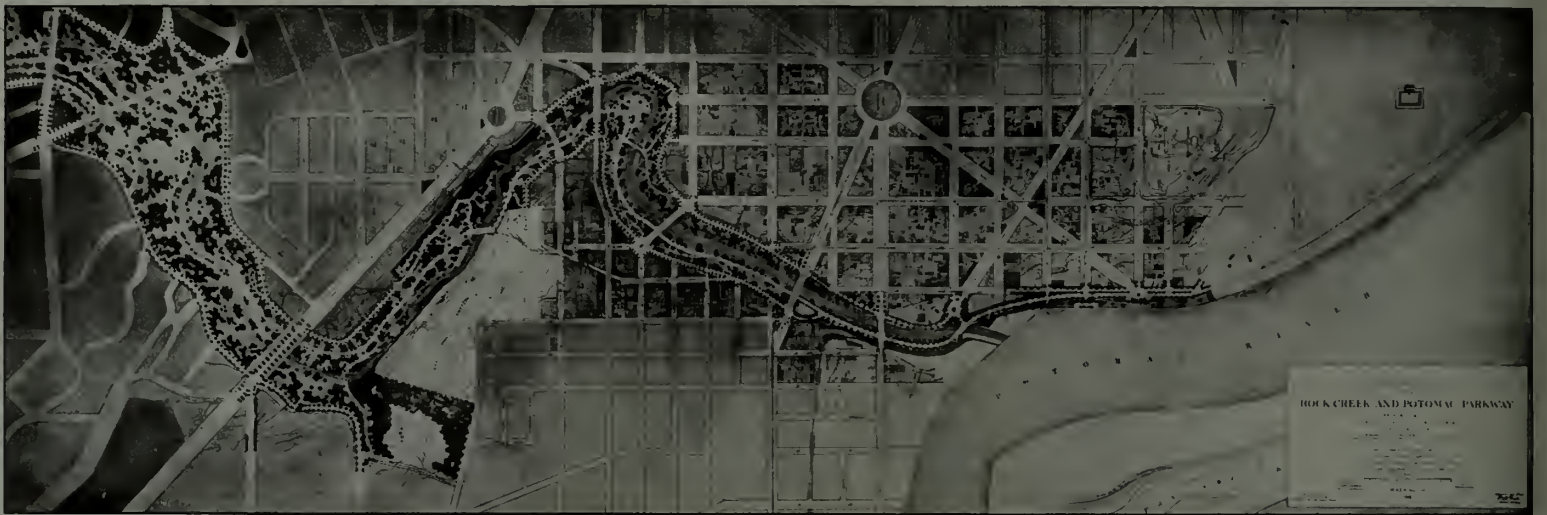


Charles A. Platt, architect

Fountain designed by Herbert Adams and erected by the citizens of Michigan in memory of James McMillan, United States Senator from that State, and foremost in the ranks of those who fought for the artistic development of the national capital

In looking to the Washington of the future we see a city giving material evidence of a greater veneration for the past. No other city of the land compares with Washington in the vast number of historical associations. Even the stranger soon acquires the feeling that every shabby, insignificant house that he passes has at one time or another harbored greatness. Yet in all of Washington, up to a few months ago, there were a bare half dozen commemorative tablets. The future city of white marble is certain to brush aside hundreds of shabby old buildings hallowed by tradition. And it is devoutly to be hoped that the same generosity which bestows millions upon a new edifice will also spare a pitance for a few bronze tablets to commemorate the old. For example, the Washington Memorial building ought surely in some way to mark the spot where President Garfield was stricken down.

Throughout its whole history, what Wash-



The plan for a connecting parkway between Potomac and Rock Creek parks, the two most important parks in Washington. This, one of the most interesting park projects in the country, is being carried forward under annual appropriations by Congress

They yearly give many days of their valuable time and experience to the Government, freely and without stint, solely with the patriotic desire to do all in their power to make the capital of the nation the most beautiful city in the world. So long as the Commission guards, such ineffectual memorials as the Dupont statue, and such monstrosities as the Pension Office, will be impossible in the future.

All public buildings, whether municipal or national, are to be, so far as their purpose will permit, in general conformation with the Colonial or Georgian style, in harmony with the Capitol, the White House, and the old City Court House. Private buildings are not to be interfered with. But perhaps Henry Ford set a worthy precedent in voluntarily submitting the plans of his automobile warehouse to the censorship of the Committee. For consider that on approaching Washington by train from the south—the only point from which a view of the city may be had—the three landmarks that loom up are the Capitol, the Washington Monument, and this warehouse.



This small memorial fountain to the memory of Frank Millet, first Vice-President of the National Commission of Fine Arts, and his comrade, Archibald Butt, Military Aide to President Taft, both of whom lost their lives in the *Titanic* disaster, was erected by their friends, with permission of Congress, near the White House. It shows what a small amount of money will do in the achievement of something really worth while. Water effects by means of fountains are particularly refreshing in the humid climate of Washington, and the National Commission of Fine Arts approves of such features

ington has suffered from, and what has hampered its civic development, has been a lack of common interest, and consequently a lack of team work, between the permanent citizens and the great transient body of the nation's representatives. Congressmen took pride in the Capitol buildings; the big Government departments took pride respectively in the Post Office, the Treasury Building, and the colossal State, War, and Navy edifices. But the sordid, ramshackle conglomeration of two- and three-story brick buildings, that so long have lined block after block of the city's principal thoroughfares, stood unmolested because they were not the business of any one in particular. The Washington of the future will be in a large measure due to a nation-wide civic pride, awakened by this war and shared by every loyal citizen, in the beauty and prosperity of the nation's capital city. Then we shall know in its full richness the Washington that will be symbolic of the greatness of the Republic, and will stand for the triumph of democracy as expressed in cities.



Photograph by Edwin Levick

Watching a practice polo game in the care-free days before the war. At left is Captain Tomkinson, No. 1 on Lord Wimborne's invading polo four of 1911, now reported as killed in action. Seated in chair is Major Barrett, captain of Lord Wimborne's Hurlingham four. The Hon. Mrs. F. W. Barrett is seated behind Captain Tomkinson, and Hal Phipps, substitute on the Meadowbrook international four, is seated in front of Major Barrett

SPORT ANSWERS REVEILLE

By LAWRENCE PERRY



ALL impressions of the placidly beautiful early summer days of 1914, the most memorable to me lies in a setting of noble trees, gaudily decorated stands, and glowing

sward—the Meadowbrook international polo field on the Hempstead Plains. The American four was holding one of its last practice games preparatory to the first of the series for the famous Westchester Cup against Lord Wimborne's Hurlingham team, which had come to this country to recover laurels lost by Hardress Lloyd's invading outfit in 1911, and in 1912 by Captain Ritson's four.

Watching the Meadowbrook horsemen from a corner of the club veranda was a



Photograph by Paul Thompson

Thomas Hitchcock, Jr., one of the most promising of our younger polo players. He was captured while flying for the French army and is now in a German prison camp. For gallantry he was recently promoted to a lieutenancy by the French government.

group of British players—Leslie Cheape, Captain Tomkinson, Major Barrett, Lord Wodehouse, and one or two others. With them were women of the Wimborne party and American women, all in summer gowns and gaudy parasols. The men, lounging negligently, laughing and talking, were in flannels, their faces bronzed by the June sun, their eyes glowing with health and manly vigor. They were soldiers, most of them. British soldiers, and the young women mainly were soldiers' wives. The day was June at her rarest; the breezes were laden with bloom and the clean tang of well nurtured turf.

"Soldiers!" murmured an American, viewing with artistic appreciation the amiable summer scene. "Well, let me tell you, the life of a British soldier is the life for me."



Photograph by Paul Thompson

Maurice McLoughlin—"the comet" several times national tennis champion, and now in the Navy



Photograph by Edwin Levick

Lindley Murray, first in 1917 Patriotic Singles tourney, is engaged in electro-chemical work for the Government

Well, the British won the cup and took it to England. Within two months those lusty young men, who in June had stood by the Meadowbrook club house with nothing more serious on their minds than a game of polo and the enjoyment of a day in June, were immersed in deadly conflict. Within a year or two Captain Tomkinson, the brilliant, hard-riding forward was dead; Capt. Cheape was missing; Lord Wodehouse was desperately wounded and out of polo for good, while of those who had figured at Meadowbrook as members of preceding Hurlingham fours, all were in the war, and Captains Edwards and Grenfell had paid the utmost price.



Paul D. Mills of Philadelphia (shown above at Narragansett Pier and at left in uniform) is one of the prominent polo players now in the service



Photograph by Underwood & Underwood



Photograph by Edwin Levick
Gardiner White, who is considered as being among the first flight of American golfers. Now in the service

Polo promptly languished in England. Polo mounts were thrown into France and in general the sport became practically a dead letter—at least from the standpoint of club playing. At Aldershot in the past year or two the soldiers have been playing, but little or nothing is said of the games, which are designed entirely for the diversion of the officers and men. It is not too much to say that when peace comes, England will have to begin to build up her polo practically from the bottom.

Our entrance into the war has not as yet resulted in so complete an abandonment of the sport of polo; nevertheless, the effects of our entrance into the European conflict were distinctly marked last summer and at the present time are even more evident. Of the 1,440 members of the American Polo Association, 985 are known to be in the American Army or Navy; practically every member of the Association who is qualified for military duty is serving his country in one way or another. This may be accepted as meaning that there will be very little polo in this country this season. There may be scratch games among club members, but they will be purely for exercise or for the purpose of raising funds for the Red Cross or other patriotic enterprises. And there is no assurance that it will be possible to do even this.

that will be held under the ægis of the Polo Association this year. There have been informal matches at the Whippany River Club at Morristown, among members, and polo has been played at Rumson, with occasional scratch games. The splendid fields at Point Judith will lie idle this season as last.

There has been a splendid response of ranking players to the call of the nation. Mr. Devereux Milburn, rated at ten goals, the greatest back who ever played the game and a member of all international fours since and including 1909, when the Meadowbrook four invaded England and recaptured

Edgar W. Leonard, who was so active last year in arranging for the Red Cross series of the Rockaway Hunting Club, is now a lieutenant in the aviation corps, and James C. Cooley, who performed similar service at Meadowbrook, is a private in Co. K, 14th U.S. Cavalry. Early last winter Mr. Cooley raised a polo four in his regiment and took part in the tournament at Coronado, Cal., which was held in January. Few, if any, of the well-known polo players who have been wont annually to play in California tournaments participated, the teams for the most part being made up of officers from the various regiments encamped in the West. This tourney and the polo at Camden, S. C., March 15th to April 4th, are the only tournaments



B. Warren Corkran of Baltimore, a well-known Chevy Chase golfer, now a lieutenant in the Army



the Westchester Cup, is a captain in the National Army—at this writing at Camp Devens, but perhaps at this reading in France with his regiment.

Harry Payne Whitney, the captain of three international teams, is beyond military age, but his son, Lieut. Cornelius Vanderbilt Whitney, is in the aviation corps.

The Polo Association is entitled to a gold star on its flag through the death in camp of Major Augustus P. Gardner, who played for Myopia under a three-goal rating, while Lieut. Thomas Hitchcock, Jr., rated at six goals, served valiantly as a member of the Lafayette Escadrille, and later, as an American Army aviator, was captured by the Germans and is now a prisoner. He wore the Aiken colors, while his father, Thomas

rating, and one of our most promising young players, a lieutenant in the Army; N. M. Collins, Bryn Mawr, four goals, a major; J. W. Converse, Bryn Mawr, three goals, a captain; Richard Coulter, Westmoreland (Pa.) Country Club, a brigadier general; J. R. Fell, Bryn Mawr, three goals, a private in the Army; W. M. McCoy, three goals, Aiken, an Army captain; Barclay McFadden, three goals, of Bryn Mawr, in the Army; while other leading poloists now in the Army are Fred McLaughlin, five goals, of Outwentsia; Paul A. J. Drexel, three goals, of Devon; A. P. Perkins, four goals, of Camden; Thomas Stokes, of Philadelphia, four goals; J. Watson Webb, of Meadowbrook, eight goals;



Photograph by Edwin Levick
Hobey Baker, the Princeton hockey and football star, and a proficient golfer, who has been mentioned in dispatches for service as an American Army aviator in France



Photograph by Edwin Levick

D. Clarke Corkran, crack Chevy Chase golfer, now an aviator in the United States Army



Photograph by Edwin Levick

Robert D. Wrenn, former national tennis champion and Harvard football star, now in the Army



another gold star. He was killed in France. In polo he wore the Myopia colors. Elliot Cowdin, of the Rockaway Hunting Club, is reported from France as incapacitated. He is an aviator.

Of other well-known polo players now in the service there are Messrs. F. K. Appleton, of Meadowbrook, a captain in the Army; C. F. Burke, four-goal rating, of Midwick, a captain in the Army; August Belmont, of Meadowbrook, three-goal rating, a major in the Army; Raymond Belmont, Meadowbrook, six-goal

Adelbert Ames, of Myopia, four goals; James W. Appleton, of Meadowbrook, three goals; Gilbert W. Mather, of Bryn Mawr, and Victor Mather of Bryn Mawr, two and three goals respectively; Paul D. Mills, of Philadelphia, four goals; Arthur J. McClure and Walter C. McClure of Rumson, two and three goals respectively, and Robert E. Strawbridge, of Bryn Mawr, two goals. Malcolm Stevenson, a nine-goal man whose brilliant backfield game as a member of the Cooperstown four and of teams organized to play international fours brought him fame, is a naval cadet.

In all, the American Polo Association counts among the commissioned officers now serving in the Army, six major-generals; six brigadier-generals; thirty-nine colonels; ninety lieutenant-colonels; two hundred and thirty-nine majors; two hundred and thirty-eight captains; and twenty-five lieutenants. There are twenty-one sergeants and corporals represented, and three hundred and twenty-one members whose rank is not known.

The number of amateur sportsmen listed as jockeys with the Jockey Club and National Steeplechase and Hunt Association who are serving with various branches of the army is so great that a special dispensation from the Government authorities was necessary to enable them to fill events and thus make successful the



Photograph by Edwin Levick

Lieut. George M. Church, Princeton tennis star and third in national tennis ranking for 1916. Now an American Army aviator



Photograph by Edwin Levick

J. J. Topping, of golfing fame, is now serving in France



United Hunts Meet at the Belmont Park Terminal on May 25th last. Since the cavalry is not affording great promise of service in France, a majority of the horsemen have gone into the aviation branch. There are, however, a sufficient number of gentlemen horsemen over or under military age who are not in service to suggest that further equine events among amateurs arranged for the present summer will be successfully carried through.

In tennis the list of summer tournaments is about seventy-five short of the number that would have been arranged had we been at peace. In all there will be one hundred and sixty-five tourneys under the auspices of the United States National Lawn Tennis Association, whereas last spring when war was declared some two hundred and twenty-five meets were on the schedule. The falling off this season is noted among

have seen their best days and upon the youngsters who have been steadily coming to the fore.

R. Norris Williams, who won the national championship in 1916, is now in active service in France. The gradual development of his game in the big tournaments of the country and also as a member of the Harvard tennis team was followed with interest by all tennis enthusiasts, as his culminating victory over William M. Johnston, at the West Side Tennis Club at Forest Hills two years ago was extremely popular among Easterners, who had sat year after year watching Californians snatch the championship laurels.

William M. Johnston, the 1915 champion, is now in the Navy, and so is Maurice McLoughlin, the famous "comet," whose game when he was at his best was practically unbeatable. Clarence J. Griffin, another Californian, who with Johnston held the championship in doubles, is in the Army, and George M. Church, the flashing Princetonian, is a lieutenant in the Army aviation corps. Watson M. Washburne, another ranking player, is in the Army, and Lindley Murray, the meteoric, is engaged in chemical work for the Government. Robert D. Wrenn is a captain in the Army, and Dean Mathey is a soldier. Charles M. Bull, Jr., the Crescent Athletic Club crack, is an officer in



Photograph by Edwin Levick

Devereux Milburn, the greatest polo back in the world, is now a captain in the National Army

summer resorts in which a floating population is depended upon to fill the various events. The National Championship in singles and in doubles will be held as usual, and all the state tournaments will be played. There will be as usual from sixty-five to seventy-five junior tournaments.

But this does not mean that the sport of lawn tennis is not doing its bit in the war. Not at all. Headed by the president of the National Lawn Tennis Association—George T. Adee, who is a major in the Army—the Tennis Association has sent all of its leading players into the service, and the attractiveness of events throughout the season will depend upon the play of those who

the National Army, and S. H. Voshell is in the aviation ground school at Princeton. Harold Throckmorton is in the artillery, and Fred B. Alexander is in a dental surgeon's hands in an effort to qualify himself to pass the physical examination for the Navy.

All these expert players have offered not only their lives to their country's service, but their skill in tennis as well. Few of them, perhaps none, will regain their pristine skill once the war is at an end.

Of those who remain in civilian life who may be expected to appear in the various important tournaments, we have Beals C. Wright, F. Binzen, F. B. Alexander, Holcombe Ward, Walter Merrill Hall, Theodore Roosevelt Pell, Lindley Murray, and Karl H. Behr. There are, again, a host of youngsters coming up from the junior ranks who will make themselves felt in the season's play, and altogether the follower of tennis will have no occasion to feel that war has deprived him of the enjoyment of watching his favorite sport strenuously contested and well played. At the same time we have word of the intended presence in the national championship of Kumagae, the Japanese player who was rated fifth in the 1917 ranking. With the exception of Kumagae and Murray, the first ten ranking players are in the war, together with thousands whose game is above the ordinary.

Besides the men who remain, there are a number of excellent women players who will participate in tournaments throughout the summer, these include Miss Molla Bjurstedt the national woman's champion; Miss Marie Wagner; Miss Eleanor Goss; Miss Florence Ballin; Miss Clare Cassel, and Mrs. Wood.

In golf tournaments, up to this writing, an effect of the war has been a falling off in the number of entrants at the various tournaments, and with many of the leading players in the service and the diversion of interest to the war, we



Photograph by Edwin Levick
Philip Carter, leading junior golfer, and a Yale athlete, now in the Army



© International News Service
R. Norris Williams, national tennis champion in 1916, R.O.T.C. fledgling below, now a lieutenant on the staff of a Major-General in France



© Underwood & Underwood



© Underwood & Underwood

Malcolm Stevenson, substitute back on international polo fours, and now serving as a naval cadet

are justified in the assumption that tourneys of the year will be marked by greatly reduced numbers and by a predominance of the "old-man" element. It may be prophesied that scores will not be as low as in past years, and that the sport generally will rest more upon the solid devotion of individuals to their game than upon the prestige of such tournaments as will be held. There will be no national tournaments of any description in this country this year.

The foremost figure in American golf, Francis Quimet, is in the National Army. He is the present Western amateur champion, a former national champion, and winner of the open championship against Messrs. Vardon and Ray of England. This title was won in what was undoubtedly the greatest and most sensational golf tournament that this country has ever known. It will be recalled that Harold Vardon



Photograph by Edwin Levick

Dean Mathey, a ranking tennis player, who received a commission in the Army after graduation from Plattsburg



and Edward Ray came to this country with the intention of lifting the American laurels. At the end of seventy-two holes of play Ray, Vardon, and Ouimet were all even, but in the playoff the young amateur, practically unknown outside of Massachusetts, finished several strokes to the good. That this achievement was no flash of form has been amply demonstrated in subsequent years.

Anson F. Robinson, of Ardsley, the former chairman of the Metropolitan Golf Association Handicap Committee, is a lieutenant in the Army. Robert Gardner, of Chicago, the former national champion, is also a soldier. Hamilton F. Kerr and James R. Hyde of New York are both ensigns in the Navy. D. Clarke Corkran and B. Warren Corkran of Baltimore are in the service, and J. J. Topping and Philip Carter of New York are both in France. Cecil Calvert, of Philadelphia is a soldier, and Harold Sterner of Innwood is in the aviation corps. G. Mortimer Barnes, of the Englewood Country Club, is in the Army, and D. E. Sawyer of Chicago, the former Western champion, and Chick Evans's great rival, is in the Government service. So is Gardiner White of New York. Ray Gorton, Ouimet's side partner, is in the Army, and Mr. George T. Brokaw of Garden City is in the Army, also. Some of the best known professionals who have entered the service are Tom Kerrigan, of Siwanoy, Frank Belwood of Garden City, and Eddie Loos of the Philadelphia Cricket Club.

It has been said that if all the good golfers who are not in the service were to enter the various local and resort tournaments to be held throughout the season, there would be nothing for the golfing enthusiasts to complain of so far at least as comparative numbers are concerned, but as already said, the minds of a majority of players are not on golf this season.



Photograph by Edwin Levick

Clarence J. Griffin, ranking sixth in the 1916 lawn tennis list, is now in the Army



Photograph by Edwin Levick
D. E. Sawyer, a high-ranking Western golfer who is in the service

The summer has seen a number of golf exhibitions East and West for the benefit of the Red Cross, the most notable of which is the tour of the country by Alexa Stirling, the woman's national champion, and Bobbie Jones of Atlanta, playing against Elaine Rosenthal of Chicago and Perry Adair, the Southern golfer. This quartette in the course of their long journey have been received everywhere by immense galleries who have been unbounded in their enthusiasm, and large sums of money have been realized for the Red Cross. The Western Golf Association hopes late this summer to hold a four-ball match with Chick Evans, the national amateur and open champion, paired with Francis Ouimet, against James Barnes, the Western open champion, and Walter Hagen the former national open champion. These four players are undoubtedly the best in the country, and there are those who believe that the four could meet the great English group, Vardon, Ray, Taylor, and Braid, upon even terms and stand a good chance of defeating them. That an immense gallery would be attracted and that a large sum would be raised for the Red Cross is not to be doubted. If the East will produce anything to equal this proposed encounter, that fact has not as yet been made known.

In intercollegiate sport the spring season saw the resumption of major and minor sports by Yale, Harvard, and Princeton, who withdrew from contests with other colleges when war was declared last year. The crews indulged in short races on home courses, while the baseball and track teams were conducted at a minimum of expense and with none of that fervid intensity which in days of peace marked college rivalry. These three universities, commonly known as the "Big Three" because of nearly half a century of rivalry in various sports behind them and their important positions in the world of university athletics, stood throughout the spring and fall and winter of 1917 in almost complete aloofness from nearly everything in the way of intercollegiate sport.

This stand was opposed to that of a very great majority of colleges and universities throughout the country, all of whom took as sanction the expressed wishes of the President and the War Department that the young men of our colleges continue to fit themselves bodily for such demands as the nation might eventually make upon them. As a matter of fact, Yale, Harvard, and Princeton held no theory in their abandonment of athletic contests against other seats of learning, at least not after the baseball and crew season. As it now appears, all three could have pursued a normal course on river and diamond and track in the spring of 1917. But it was deemed fitting—more by way of a patriotic gesture than anything else—to dispense with organized teams. In the fall, when the authorities at New Haven, Princeton, and Cambridge had had time to digest the situation, it was found that the football players at each of the three institutions had practically, to a man, entered the Army or the Navy. Football of the sort that these universities have been wont to play was out of the question, and rather than patch up makeshift elevens to be riddled by rivals large and small, "informal" teams were organized and games mainly against service outfits were played.

Watson M. Washburne, the Harvard tennis star who ranked seventh in 1916. He is now a lieutenant in the Army.



© Underwood & Underwood



Photograph by Edwin Levick

under twenty-one, usually well under that age. The quality of play is not likely to be so good, and injuries may be more frequent—this last not only because of the youth of the participants but because, for reasons of economy, there will be among many teams a less rigid supervision of diet and of physical condition.

And in the meantime, the experiences of the past year, which saw students leaving for the war week by week—red-blooded boys unable to stand the strain—may be expected to continue. All in all, with the war continuing into 1919, it will be surprising if college sports do not automatically decline into nothingness in many of our institutions.

The Automobile Racing Association last winter decided not to sanction professional racing of speed cars this year, but in the spring it reversed its stand, and the present season has seen the Sheepshead Bay, Indianapolis, Uniontown, and other ovals in service. But the outlook for racing in the future is dubious, assuming that the war lasts another year.

We are, as a matter of fact, just beginning to have the war

brought home to us. Casualty lists have been flowing in, and the Government has been settling ever more vigorously into the enlisting of man power, machine power, and in fact gathering together all resources directly or indirectly associated with prosecuting the war at the very highest pressure. That sport in 1917 was pretty generally carried on in the old way has proved the most futile precedent for what we have begun to face in the past months, and will the more rigorously face in the months, it may be the years, at hand.

The time is coming, or, rather, the time may be coming, when much of our heart in competitive sport will be lost. None the less, athletics must be maintained among our boys and young men as a matter of



Photograph by Edwin Levick

Robert Gardner, winner of many golf championships. Now in the Government service



Photograph by Edwin Levick

William M. Johnston, former national tennis champion and now serving in the United States Navy

The past months have seen a rapid falling away of athletes, not only at Princeton, Harvard, and Yale, but at Cornell, Dartmouth, Columbia, and other large universities. Yet football will be generally played. Most of the college teams will carry on schedules of about the normal length, while others will play only from four to six games. There is a strong likelihood that the Big Three will be represented by teams, and that at least games will be played upon a triangular basis, with perhaps one or two contests against other college teams, as was the case in baseball this season.

Throughout all the colleges, football will be affected by the fact that almost without exception elevens will be composed of boys



Photograph by Reily & Way
Barclay McFadden, the Bryn Mawr polo player,
rated at two goals. Now in the service



© Underwood & Underwood
Charles M. Bull, Jr., Crescent Athletic Club tennis expert, and
now captain of a company of infantry



Photograph by Edwin Levick
Francis Ouimet—former open and amateur golf cham-
pion. Now a sergeant in the National Army

preparedness, if nothing else. Already, our educators are looking ahead to a time when sport for the sake of sport will have lost its zest, and when exercise on the field of play will in large measure have to be enforced as a definite college duty and not as now, an extra-curricular undertaking. There is talk of the application of rigid systems of intramural games, while in our preparatory schools there may be noted a growing tendency to heighten the premium upon physical and mental development on athletic fields. In this way only can well-regulated competitive sport in this country survive conditions which in England and Canada have left little but professional sport, and not a great deal of that.

If experience in the past intercollegiate baseball season be regarded as reflecting the future of such college sports as depend upon the support of the box office, the outlook may be regarded as dark indeed. At Harvard, Princeton, and Yale spectators at important games were numbered by hundreds instead of by thousands as in normal years, while the ebbing tide of enthusiasm found its lowest level at the annual Stevens-Columbia game at South Field in New York. Precisely forty rooters sat in the stands.

It all boils down to the fact that we are much deeper in the war than we were a year ago; than we were, in fact, last fall when the success of the football season led many of us to draw false conclusions regarding the feasibility of going on with our games despite the conflict on the fields of France and on the high seas. We did not then realize that undergraduates of twenty-one were liable to the draft, and that not one in fifty students was minded to wait until the Government called him. Realization, in fact, came that the time to prepare for service for men, whether freshmen or seniors, was at hand; wherefore, the absorbing interest in military studies tending to lead to commissions or fitness for special branches of service which, combined with scholastic duties, left the average scholar with little time and less energy for indulgence in athletic pursuits, or even for attendance at games.

Yale's artillery, engineering, and naval courses have now be-



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come so comprehensive that students engaging therein have been permitted to drop the regular work of the curriculum, and even so the boys find their hands full and their minds completely occupied. At Harvard, with her various military and naval courses, and at Princeton, Cornell, Dartmouth, and other large seats of learning, similar conditions prevail. Where there is time, there appears to be no heart for competitive sport, at least on the old scale and under former conditions.

Again, there is the dropping away of athletes from various teams—boys with classmates and friends at the front who find interest in their college careers and in athletic pursuits swiftly waning. No coach is in a position to count upon the services of any particular star, for the reason that it is beyond the powers of human intelligence to determine just when that valuable player, unable to stand the strain, will come to the athletic office, turn in his uniform, and announce either that he has enlisted or will shortly do so.

Reaction from the field of play to the field of battle, as already said, is direct and irresistible, especially in institutions where the national cause in the present emergency has been promulgated as the only cause worth considering. In our outlook toward the fall and winter athletic season we should keep in mind this fact, as well as other facts set forth in the foregoing. Football, basketball, hockey, and the like will obtain throughout the country, but younger men will participate in games, and support in the way of attendance will in many cases be reduced to the minimum. Also, there will be frequent losses of accomplished athletes at times when such defections can least be afforded.

Not only this: there is talk at some of the smaller institutions where athletic pursuits have been emphasized, of the necessity for not only curtailing sports, but if the war endures of facing a situation where it will be a fight to keep the colleges open. Princeton's decision to instal a purely military course is one sign of the direction from which the wind is blowing.

The Inviting Allurement at the Hampton Shops

THAT grateful mingling of the becoming and dignified which so surely stamps the well-arranged rooms of Georgian times with their lofty windows and discreet draperies, their paneled walls and classically devised mantels, gives worthy suggestions to us of later days.

The admitted ascendancy of the Hampton Shops in all that makes for fitness in interior embellishment is due, in no small measure, to the wise selection of the Furniture here to be seen — the boxed-fronted Cabinets of painted Satinwood, the rich-toned Mahogany Chairs, Chaises-longues and Table with their hint of Chinese influence—as well as the other enticing examples so allusively grouped in its many Galleries.

Hampton Shops

18 East 50th Street
facing St. Patrick's Cathedral
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Decoration

Antiquities

Furniture



HERE AND THERE

Highway
Freight
Trains

One of the foremost engineers in the country remarked recently that the exigencies of war had laid the foundation for a revision of freight transportation as revolutionary as that worked by the coming of the railway. He developed his theme by saying that he expected to see, within five years, motor freight trains operating over all our roads, the power unit of which would be a powerful double-ended tractor, freight-carrying trailers taking the place of the freight cars in the present-day railway train. Each of these trailers will be equipped with a storage battery, so that as the train passes through a village, the rear trailer may be dropped off on the main street and will proceed to its destination under its own power. After discharging its load, it will be driven back to the main street to be picked up later by the returning motor freight train.

This is going to work a tremendous revolution in all rural values. The transportation problem, which has hitherto been the farmer's greatest handicap, will have been practically eliminated. No longer will transportation and handling represent four fifths of the cost of rural products to the inhabitants of cities. Incidentally, this transportation revolution is going to bring some problems for our law makers to solve. With motor freight trains running on our highways, how are state automobile laws going to stand, in view of the precedents of Federal control of interstate commerce? By the time we get through thrashing the boche, we are likely to find many of our cherished ideals of local law-making rights altered beyond recognition.

Price up,
Cost
Reduced

One of the big tire manufacturing companies recently called attention to an interesting commercial paradox indicated by its statistical department. According to this authority, while the prices of tires have increased considerably, the actual cost of "tiring" a car is less to-day than it was a year or so ago. This condition has been brought about by improvements in manufacture which have lengthened the life of the average tire, so that to-day it is somewhat between 4,500 and 5,000 miles instead of between 3,000 and 4,000 as it was in 1913. The tire manufacturer's ideal is to produce a perfectly balanced casing; that is, one in which the rubber tread and the canvas carcass will wear out together. Until this condition of balance is produced, either the tread or the fabric base wears out ahead of the other element, which means that just so much of the composition of that tire was waste effort and expense. We are faced to-day with a possible rubber shortage, just as the gasoline supply may not be enough to go around. If the manufacturers could all produce exactly balanced tires, the smaller supply of rubber available would go so much further, that any fear of shortage would be averted. In the picturesque vernacular, it seems to be up to the tire manufacturers.

Three New
National
Forests

President Wilson has issued a proclamation establishing three new National Forests in the East—the White Mountain in Maine and New Hampshire, that will ultimately embrace above 391,000 acres; the Shenandoah in Virginia and West Virginia, totaling about 156,000 acres; and the Natural Bridge in Virginia covering some 102,000 acres. Each Forest represents the final step in carrying out the law passed by Congress in 1911 providing for the purchase by the

Government of forest lands on the watersheds of navigable streams. Not only will they protect the stream flow of these territories, and produce valuable timber, but also they will provide invaluable playgrounds for our outdoor-loving population. Additional lands which have been purchased in the White Mountains and Southern Appalachians will be proclaimed National Forests as soon as their accumulation reaches a point justifying the step.

Ginseng
Culture
Redivivus

A brief item in a medical magazine noted recently to the effect that medical science is beginning to believe that the Chinese root known as ginseng has very real medicinal value in certain diseases, opens an interesting field of speculation. For years we were told that the credulous Chinese used ginseng simply because the forked root bore a rough resemblance to the figure of a man. Now, however, our medical men are beginning to swing around to the idea that the unfathomable Chinese have all this time been wiser than they. Which brings us to the enhanced possibilities of ginseng culture, with a market for it in this country and in Europe as well as in China.

The best grade of ginseng sells to-day somewhat under \$10 the pound, and an acre's yield will often run to 1,200 or 1,500 pounds, so that a man with a productive acre of ginseng is fairly sure of a comfortable living. This plant is peculiar in many ways. To begin with, the seeds must be kept for eighteen months before being planted, and all this time they must be maintained in a certain condition of dampness without being wet. Then after the plants have grown, the patient ginseng culturist must wait for five years before the roots are of sufficient size to be placed upon the market. However, with a new market open to it, ginseng would seem to be one of the profitable crops of the future and one which will repay careful study and investment.

Can You
Help Build
an Airplane?

The country must have air-planes and guns—we all know that. Perhaps we are equally aware that black walnut timber is an essential factor in the making of both, being used for propellers in the one case and for stocks in the other. Unfortunately, this tree is one of our natural resources which no longer exists in abundance anywhere in the country; dependence for an adequate supply must therefore fall upon scattered privately owned woodlots from which an occasional isolated tree can be culled out. The War Department and Forest Service are enlisting Boy Scouts and every other available agency in their search for such specimens, and if you have on your farm a grove of black walnuts or even a single tree you can give yourself the satisfaction of having done a real service if you will report its location, dimensions, and condition to Washington, or, simpler still, to the nearest scout or scoutmaster.

Hastening
and Bettering
the Harvest

An interesting method of drying out wheat stacks so as to prevent heating and spoiling of both grain and straw, is reported in *The Implement and Machinery Review* of London. The invention, developed and used on a farm at Pershore, employs a 2-horsepower gas engine, a centrifugal blower (such as we use on silo fillers), and a wooden pipe lead-

ing from the fan into the centre of the rick. With this apparatus a strong draft of air is driven into the midst of the straw which, thereby cooled and ventilated, is enabled to stand till threshing time with a minimum of loss. Ten ricks measuring about fifteen by twenty-four feet at the base were so treated for about half an hour apiece when the temperature of one, chosen as a test, was found to have been lowered from seventy-four to fifty-six degrees F. Three of the ricks contained, in addition to the wheat, considerable clover which had been cut while in bloom and put up while still moist. But even in these cases, the ricks did not heat and when threshed out some two months later, the grain was dry and the straw sweet and clean.

Double-
edged
Conservation

It is probably well known to a good many persons that one of the functions of the Bureau of Biological Survey of the Department of Agriculture is the destruction of animals that destroy crops, injure stock, and otherwise prove more harmful than they can possibly be helpful. Nearly 200 hunters have trapped, shot, and poisoned well over the actually recorded totals of 1,201 wolves, 51,230 coyotes, 144 mountain lions, and 6,521 bobcats between January 1, 1918 and the autumn of 1915 when the work started. But knowing even this, some readers may be astonished to learn of the secondary phase of this conservation work, that is, the monetary extent to which the Government benefits by it. In 1916 the sale of furs and pelts from the destroyed "varmints" brought in \$8,614; in 1917, the receipts increased to \$34,751; but last year (the fiscal year ending May 20th) they reached the very considerable figure of \$79,780. While part of this steady increase of the result of higher prices for furs, a considerable share is due to the better organization and greater efficiency of the work.

What the
Irrigation Projects
are Doing

The fact that no gigantic new irrigation projects have been opened or started within the last few years has caused some people to overlook the achievements of those projects that are now saying little but doing much toward the feeding of the world. According to recent reports, the 29,000 farmers on about 1,000,000 acres of land reclaimed by the U. S. Reclamation Service made, in 1917, crops worth \$50,000,000. This means that an acreage within the arid section of the country, smaller by one sixth than the state of Delaware, produced \$11,000,000 worth more crops than Maine, \$7,000,000 more than New Hampshire and Vermont, or only \$4,500,000 less than Massachusetts and Connecticut.

At the present time constructive work is still under way on thirty projects in fifteen states. Eventually these projects will include about 3,112,655 acres; to-day water is available for 1,750,000 acres, or about 37,000 farms. That farming under these conditions is successful and satisfying is shown by the fact that as fast as new lands are irrigated and thrown open for entry, they are quickly snapped up and set to work producing. The engineering achievements of the Reclamation Service in creating these projects are fully as marvelous in their way as the farming results they have brought about. Their success is the best of all arguments for continued effort along similar lines.

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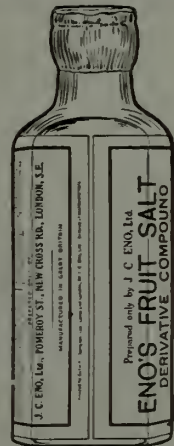
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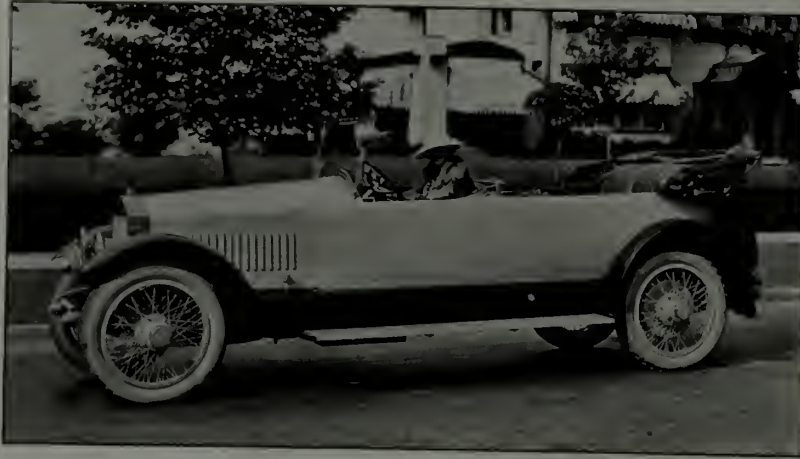
Two years ago it would have been a matter of the utmost difficulty to write informatively on American automobile body design, for the simple reason that this phase of the motor car industry was at that time still in a condition of what we may call primeval chaos. It would have been possible to point out a few individual designs of obvious merit which were beginning to emerge from the general mediocrity, but there were no definite tendencies as yet apparent, by means of which we are able to comment intelligently on the work of any industry.

To-day all this is changed. The past two years have served to bring about a crystallization in the body-building branch of the American automobile industry, so that we are now able to group and classify body design in accordance with certain definite tendencies and ideals that have become manifest.

To understand the rather anomalous situation that has existed in the American automobile body field, there are certain facts and conditions that the reader needs to understand beforehand. It seems ridiculous that we who have for years past manufactured ten times as many motor vehicles as all the rest of the world combined, should still have lagged far behind the comparatively small European makers in the not unimportant matter of body building. There is, however, a very good reason for our relative backwardness in this field.

Vehicle body building has been an established art and industry in England and in France, not for decades, but for centuries. The aristocracies of these older countries have always been liberal patrons of the coach builders, paying for finely finished equipages for use with horses sums of money that would purchase a superlative American motor car to-day. In England such firms as Mulliner, Barker, and their fellows have ideals and traditions stretching back to the days of the bucks and bloods of the Regency. Gregoire and the other French builders can boast of having supplied coach bodies to kings and emperors, as well as to presidents and premiers of their glorious land.

Naturally enough when the motor vehicle arrived on the transportation scene, the new industry that produced it maintained the ideals of its predecessor. The French and British automobile industries from the beginning adopted the custom of supplying their patrons with the chassis of the vehicle alone, allowing the owner to go to his coach maker and have a body built to suit his individual needs and tastes. With the knowledge gained in centuries of coach building, these body specialists were able to turn out handsome car bodies almost at once. Many of the early English bodies, while far removed from present-day ideals of



A touring car on Cadillac chassis, with body specially built by Rubay for Mr. J. O'Brien of Cleveland, O. Note the Rolls-Royce type of radiator and hood

The CUSTOM-MADE MOTOR CAR BODY

By ALEXANDER JOHNSTON

form, were finished products of great intrinsic beauty.

In America, on the other hand, conditions were very different. We had and have our special body builders, whose work is on a par with that of their European rivals. But these American artists in vehicle bodies were not so numerous as those in France and England, nor had carriage building ever assumed in this country the position of importance from the artistic point of view that it held abroad. In our newer land, utility ruled the transportation field. We had work to do in reducing a great continent to cultivation, and consequently we had less time to bestow on beautifying the vehicles that helped along this all important task. The real leaders of the American body building industry in the days before the motor car came into being were such concerns as the Durant-Dort organization at Flint, which turned out no fewer than 100,000 horse drawn carriages of a single model in a year. The Studebaker Company at South Bend devoted its attention to producing, not fine coachwork, but sturdy and dependable

carriages and wagons in annual lots of 100,000 or so. The Concord organization in New Hampshire had given America hundreds of thousands of excellent horse-drawn vehicles, yet it had never devoted any particular attention to beauty of line and finish.

So it befell that Europe had an established industry with definite traditions and ideals, with practical experience in combining utility with beauty in the design and construction of vehicle bodies, ready and waiting at the beginning of the motor era to transfer its art from horse-drawn to self-propelled equipages. On the other hand, we had a body industry imbued with the traditions of utility and quantity production. This latter characteristic became the ideal of the American automobile industry, almost from the day of its birth. The necessity for providing bodies for a constantly increasing number of chassis left American manufacturers little time to devote to the artistic side of the production. They were hard put to it simply to stamp out metal forms that would hold seats and protect the

mechanism. In the meantime the comparatively few American carriage makers were producing notably fine special bodies to the order of their customers, but without the traditions of the European coach makers behind them, they have never persuaded more than an inconsequential fraction of our people to spend the money necessary for a special body. The vast majority has been content to take its motor cars complete from wheels to top from the one manufacturer.

With this preface, the reader can understand the developments of the past two years, during which the American motor car manufacturers have discovered that quantity production, even of motor car bodies, does not preclude artistry of design and finish.

A critical examination of the bodywork of the 1918 cars in America discloses the fact that certain definite classes of body design have been formed. It is not that a number of makers have adopted exactly the same design, though this has happened in some cases, but simply that certain groups have accepted one or more distinctive characteristics of form and line and have built individualistic bodies around those dominant features.

One of these groups has adopted a narrowed front, a slightly crowned hood and cowl, with a definitely accentuated line running back from the radiator to the windshield, which latter is given a rakish tilt backward. A notable example of this class is found in the new Packard body, which has retained the distinctive Packard hood and worked it into the new body. Another exponent of this body style is the Scripps-Booth, which attracted much favorable comment for its beauty of line upon its initial appearance a couple of years ago. The Locomobile, Cadillac,



Square-cornered limousine with same type of radiator and hood as that shown above, designed for Miss J. B. Lissberger of New York, by Holbrook



The Marmon body that represents a definite type which is now popular



Another Holbrook body on Packard chassis, built for Mr. E. V. Neal of New York

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Liberty, and Stearns have definitely committed themselves to this type of body. It may be noted that this body form is taken directly from individual designs of the custom makers in past seasons.

A second definite class has been formed, which has adopted a hood line higher than the line made by the top of the sides and embodying a rounded hood. The windshield in this design is given a decided rake to the rear. One of the earliest makers to adopt this body type was the Marmon, and others now included in the class are Hudson, Mercer, Jordan, Premier, and Paige.

A third class takes an entirely different method of obtaining attractive bodywork, by adopting without alteration the Rolls-Royce body design from England. This embodies a square-cut hood, with a sharp line from radiator to blunt cowl. The first American car to adopt this design was the Roamer, which was quickly followed by Murray, and now by the new Bowes electric.

Perhaps we shall see another group accepting a definite foreign ideal in copying the high slanting oval radiator of the Fiat and Peugeot



A Holbrook touring landaulet on Packard chassis, especially designed for Mr. C. J. Hoster, Columbus, O.

designs. The Oldsmobile is hinting at this design and the new Holmes air-cooled car, despite its unique arrangement of louvers, embodies the general lines of the foreign type.

Beyond these definite groups with basic relationships among the individual members depending on one or more distinct characteristics, there is the great standard body class or perhaps we might say unclassified. We do not mean this disparagingly at all, for many of these individual designs have attractions all their own, but in the main utility reigns. It will be some time before the utility body gives way to a definite attempt at artistic effect in the lower price ranges. When cars are being manufactured in hundred thousand lots, even a small change involves a prodigious outlay for new manufacturing equipment, and this added cost must be reflected in the ultimate price of the product. The lower priced cars are so distinctly utility vehicles, they are such a vital contribution to the efficiency of the country, that we can very well afford to sacrifice some "style" to increased production and use.

While the humble utility body is likely to be with us for many useful years, an increased tendency toward attractive bodywork is likely to be in evidence from this time on, or perhaps we would better qualify that by saying that it will be, after we have finished our task of thrashing the Hun. To-day mechanical construction has become so standardized that few cars have any distinctive superiority of mechanism that can be employed as a sales talking point. More and more the manufacturers are going to feel obliged to increase the appeal of the body design in order to attract prospective customers to their vehicles. It will be extremely interesting to watch the formation of new groups with new ideals and characteristics of body design. From it all there is no question that the American stock car of to-morrow is going to be a mighty handsome production, as well as a useful one. Incidentally, it is interesting to note that British and French car manufacturers are planning after the war to deviate from their established policy, by offering completely equipped cars, bodies and all. With their traditional skill in coachwork, our American makers are going to be put to it to keep pace with their present allies and future friendly trade rivals.

In passing, we must note the developments of the past few years in another phase of body form,—that which relates to the passenger-carrying

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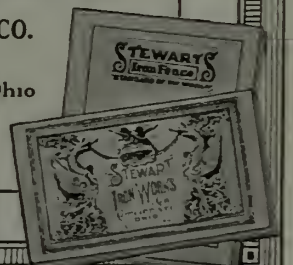
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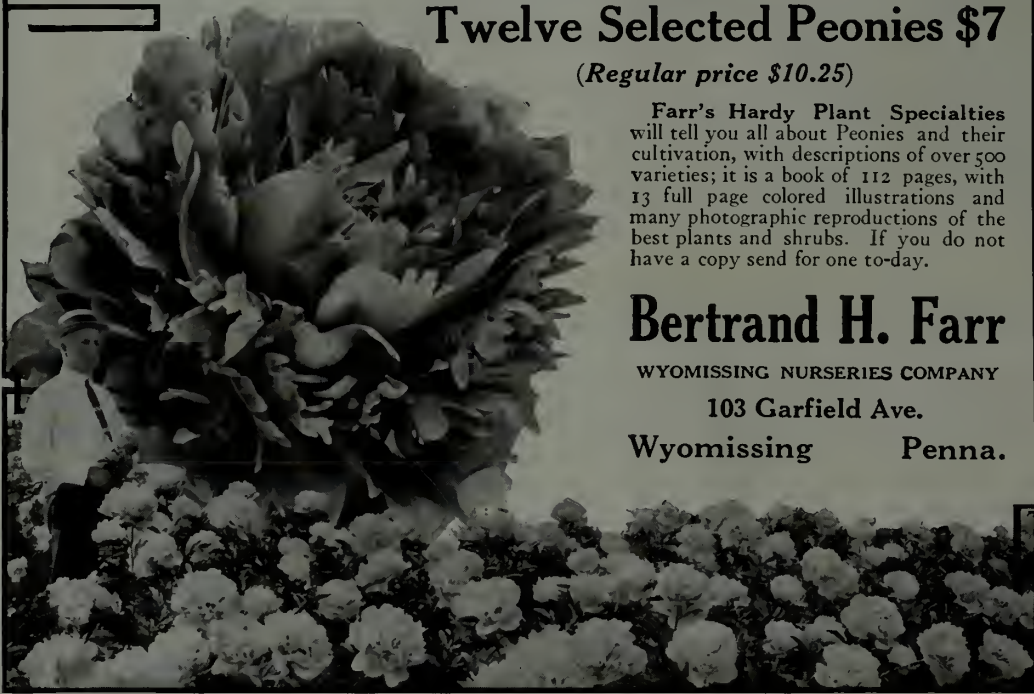
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capacity of the vehicle. Up to a few years ago the standard bodies had seating accommodations for two, five, and seven passengers. These are still very much with us, but there are now interesting variations of the types. A couple of years ago there was an outbreak of three-passenger models, "cloverleaves," "shamrocks," "clubbies" and various other names being used for bodies in which ingenious staggering of the seats made room for three people. This development proved only a passing phase. Three-seated models are still being offered, but the seat is usually of the conventional type, extra width being allowed for the possible extra passenger. The four-passenger roadster is the predominating size in these special models. These are close coupled bodies, the extra compartment frequently being so made that it can be closed in when not in



A Blue-Ribbon Sedan body on Marmon chassis, built for Mr. J. R. Wettstein of Mt. Vernon, N. Y.

actual use, becoming a sort of rear deck. Really remarkable progress has been made in achieving maximum comfort for the passengers with the amount of space available.

The custom body builders naturally find their greatest opportunity in the design and construction of closed bodies of the various types. The average car owner who has to be content with the body offered by the car manufacturer has little conception of the truly sumptuous productions that are turned out by the best of our American body builders. It is no unusual matter for a wealthy enthusiast to spend a sum that would purchase a half dozen medium priced cars in putting a specially designed and constructed body on his new chassis.

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The custom body makers will meet any demands that may be made upon them. They have certain stock models, which are available for any customers that may find them satisfactory. These are far finer in design and construction than any automobile manufacturer could afford to fit on a car that sells within our American price range. But beyond this the custom makers will carry out the designs or even the ideas of individual buyers in special creations that must give the fortunate possessor a con-



A Locomobile custom body designed for Mr. George Perkins, of Hartford, Conn.

siderable amount of the pride of creation. A great many veteran motorists will remember a special body that was built some years ago to the design of William K. Vanderbilt. There were many more curves embodied in this body than is considered good practice at the present day, but Mr. Vanderbilt certainly had the satis-

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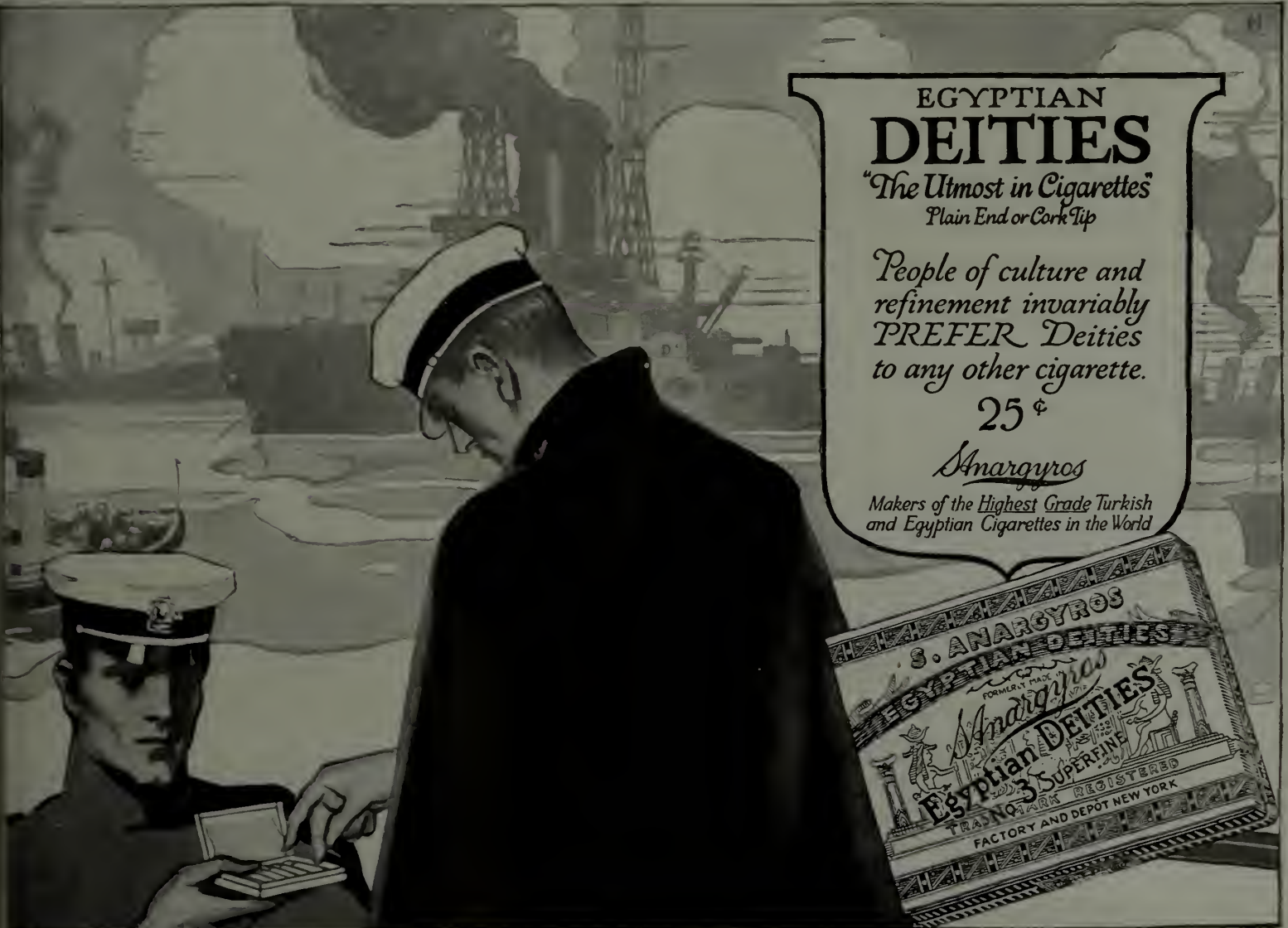
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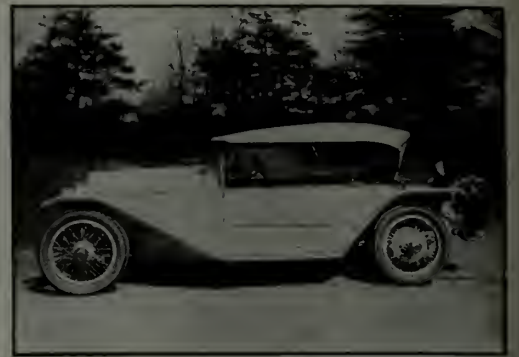
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Worcester, Mass.



A canoe-roadster (Locomobile) specially designed and built for Mr. George T. Brokaw of New York City

fraction of having achieved something that expressed his own individuality.

There is little question that as the motor car becomes more and more intimately associated with our daily lives, this idea of embodying in it the individual tastes and preferences of the buyer is going to become increasingly popular. When the motor car owner is wealthy enough to gratify all his tastes, there is no reason why he should not express his individuality in his motor car, just as much as in the planning of his house. As the trained architect will take the hazy visions of an ideal and convert them into a reality far beyond the owner's dreams, so the designer of custom bodies will take the fragmentary ideas of a client and give him a car body that represents them translated into terms of good art, combined with reasonable utility. This work is certain to become increasingly popular with the passing years.

About five years ago a number of wealthy New Yorkers formed a company to produce a high class automobile chassis, embodying all the best points of European practice with American ideals of a reasonable quantity production. In addition to offering the chassis, special bodies were to be produced to the customer's order. A staff of skilled body designers was retained to carry out the ideas of possible clients. The plan was ingenious but unfortunately the attempt was premature. Our motorists had yet to be educated to the possibilities of having better and more individual car bodies than those offered by the regular manufacturers. The company failed in spite of its wealthy backers. If a similar company were launched to-day it would stand at least an even chance of winning out, but if not to-day certainly at no distant to-morrow. We stand on the threshold of a considerable development in the field of custom body building in America, which will undoubtedly see the business raised to the plane of a definite industry, from its present somewhat sporadic position.

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WHEN using leather soles to stop bad snow balling, rub on a little neatsfoot oil before going out, as it is a help against sogginess of leather. I use ordinary shoes, as in summer, and employ frost nails instead of the usual shoe nails. These nails have a calk head and last about two or three weeks; then the shoe should come off to trim up the hoof anyway, and new frost nails can be put in. (These nails cost 5 cents each). I have had no trouble with calking; my horses stand up well on bad going. It is inexpensive and the horses get a more level footing than with long calks. We shoe all the riding horses of the Nagawicka Club in this way, and so far have had no reason for changing. The horses are used all winter and over rough country, getting all kinds of going from glare ice to deep snow.

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individual reader of this magazine as to the merits of Cottage Gardens products.

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SPRUCE CONES *with* QUEER SEEDS

By EDITH M. PATCH



HAVE some abnormal spruce cones, here," said the Botanist, entering the office of the Entomologist and laying down a twig. "Can you tell me what is the matter with them?"

"They are not cones at all," was the calm reply.

The visitor jumped. He was not only a botanist but he was a morphologist as well, and didn't he know a cone when he saw one? So although he was a very polite person, he stood his ground sturdily.

"Why, certainly they are cones!" he protested. "See those flattened scales, how they lie in place?"

"Well," said the Entomologist evenly, "I have been calling those 'flattened scales' abnormal needles."

"They do not look it," remarked the Botanist.

"No, they do not," the Entomologist agreed sociably.

The Botanist took a twig back to his laboratory and the next day he con-



FIG. 1. Two galls of *Chermes pinifoliae* on black spruce

FIG. 3. A, normal cone; B, normal shoot; C, deserted gall

fessed, "You were right about those specimens. They are not cones at all, but twig tips shortened and their leaves grown flat and compressed."

Now, what had tampered with a spruce branch that it should have come to look enough like a cone to fool a botanist—and a morphologist at that? Nothing more than a small insect, called *Chermes*, and her progeny. After wintering on the spruce, she had stationed herself at the twig tip and in the spring each one of her brood had selected a starting needle and nestled at its base. A spruce bud just ready to grow, with the sap fast flowing to make the process rapid, and a tiny *Chermes*, just hatched, in need of that same sap! Which would win?

Chermes—be confident of that! Each six-legged speck pressed its sure beak into the tender green, and in response to the stimulation each leaf, which normally would have grown straight and slender, became flattened, broadened, and curved up in a protecting scale about the little mischief



FIG. 2. Black spruce twig with single young cone at A; at B are four normal spruce tips; at C four young galls of *pinifoliae*

maker at its base. This accomplished, the twig stopped growing; the insects appropriating what sap came that way.

Each minute mistress of her solitary chamber had but to tap the wall of her cell and drink her fill. Or on those several occasions in her life when it was time to change her clothes, she had but to sit quiet and safe while her confining skin cracked open and let her creep out of it for the next period of growth. Food and habitation combined for as many as 140 little *Chermes* in a single gall—a good use for a spruce tip, from an insect's point of view!

The full name of the species under consideration is *Chermes pinifoliae*. Why named for pine when it lives on spruce? Well, after reaching the development to the winged stage in the spruce gall, these little migrants take flight to the white pine, upon which they were first recorded in 1858. About twenty years later they were given a second name for the spruce, their identity not being guessed until 1909, when these insects were under special observation in Maine and it was discovered that the migrants from the spruce galls sought the white pine and took up the characteristic life of *pinifoliae* on that tree.

Perhaps "characteristic death" would be a more appropriate if not a happier sounding phrase, for upon arriving at their destination each migrant settles on a pine needle with her head pointed toward the base, inserts her beak and dies—but not before her eggs are provided for; trust an insect

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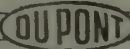
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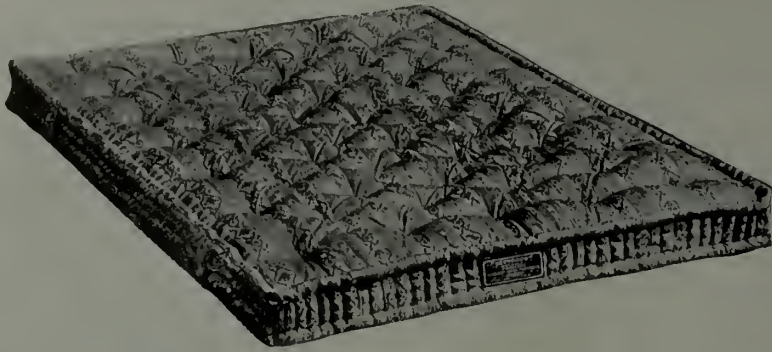
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FIG. 4. White pine needles with *Chermes pinifolia* settled head toward the base, sheltering their eggs with their wings

for taking care of that item in her life before she quits. In this case, however, it is to be said that *Chermes pinifolia* does not oviposit in the usual sense of the term, as eggs are not expelled from her body. She just sits down on the pine needle after leaving the shelter of the spruce gall, an animated little bag of eggs. Her closed wings, after their one sure flight, fold quietly over the precious burden beneath them as though brooding them even in death.

One hundred eggs for those frail wings to shelter! However, they hatch in about ten days and the young rascals stab the new-growth pine as vigorously as their mothers did the spruce. With no such results, though, for the pine offers no hospitable retreat. What life is this for the daughters of an insect reared in the safe seclusion of solitary confinement! Exposed to sun, rain, and wind, how will they meet the world?

Quite adequately, for they are Chermes. They are provided with numerous glands, and setting these to work, they manufacture a beautiful white waxen fluff which spreads out over the whole colony, a fleecy coverlid between them and what dangers the elements might otherwise hold for them.

They have no wings, these little daughters of the mother migrants, and they pass their whole life upon the pine. But after the proper number of apterous daughter generations, there appears a brood equipped for flight which takes wing to the spruce; and their progeny are the over-wintering mothers whose daughters produce the cone-shaped gall out of a spruce tip.

Just mothers and daughters? Well, perhaps not, though if there are fathers and sons among them, no one in America has ever mentioned seeing one of them. And it would be futile to go abroad on such a quest, for this species has never been recorded outside this country.

There are other species of Chermes producing galls on spruce. Five others have been taken in Maine alone, and in the western part of our



FIG. 5. Progeny of migrants from spruce, at home on white pine, where they would be exposed but for their blanket of wax

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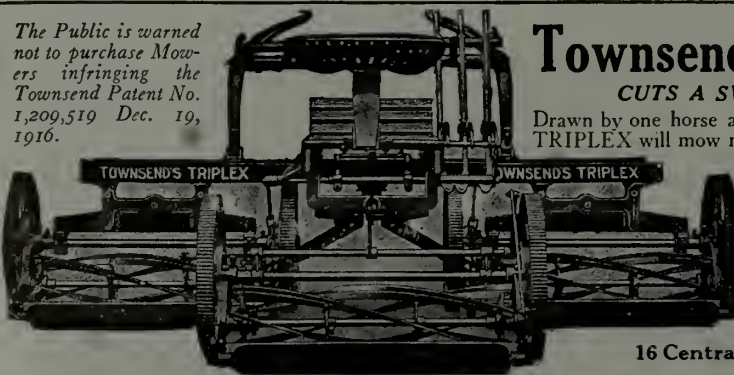
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country some of the same ones and some others; and in Europe some of the same and others still. One of the most common of these and the most widely distributed is *Chermes abietis* which produces the pineapple gall, a name suggesting a real resemblance in shape but not so perfect a likeness that an entomologist has ever needed to explain to any botanist that this structure is not really a pineapple.

If you have been looking at the pictures, you may be interested in a word of explanation.

Figure 1 shows two galls of *Chermes pinifolia* on black spruce. Do you wonder that the botanist called them cones? Under each scale is a solitary cell with a single *Chermes* inside, and as many as 140 of these may be present in one gall. These galls are full grown and at this stage green. The gall when young is slender, about the same length as the young cone, and often about the same purple color, which is lost later.

Figure 2 shows a black spruce twig with a single young cone at A, the tip of which is un-



FIG. 6. Three pineapple galls of *Chermes abietis* on white spruce. The galls of this species do not resemble cones, six of which are also shown

fortunately broken; at B are four normal spruce tips; at C are four young galls of *pinifolia*. This photograph makes plain the distinguishing features of these three growths—the normal shoot, the modified shoot or *Chermes* gall, and the normal cone.

Figure 3 shows the normal cone at A, which at this stage is purple; at B the normal shoot, which is green; at C the deserted gall, which is bright reddish brown. After the migrants take flight, the gall leaves flare out from the stem, throwing the chambers wide open. About this time the gall becomes bright reddish brown—that is, the galled terminal shoot dies in this characteristic way. The resemblance to the cone is by this time lost.

Figure 4 presents a few white pine needles with the migrant *Chermes pinifolia* settled head toward the base and sheltering their eggs with their wings.

Figure 5 is a picture of the progeny of the migrants from spruce, at home on the white pine, where they would be exposed except for their flocculent blanket of wax.

Three pineapple galls of *Chermes abietis* on white spruce are shown in Figure 6. It will be seen that the galls of this species do not resemble cones, six of which are shown in the same picture. These galls comprise about fifty, or fewer, cells, in each of which are developed from eight to twelve of the *Chermes*, this species being more social in its habits than *pinifolia*.





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By

Marion C. Taylor

THERE is always something quite refreshing about French clothes designed for wear in the country, particularly those of sportsmanlike character. Perhaps it is because French country life differs so essentially from American country life, and also because the French dressmaking houses have only seriously considered clothes for sports within the last few years, that the results are so often both interesting and unexpected.

In design, in the materials chosen, and in color one almost always finds a novelty of some sort that is a real boon to country sports clothes, which unfortunately reflect all too often the narrow bounds of convention which must of course govern them. But the French have a way of ingeniously getting around these conventions, not ignoring them quite, but at least treating them with scant consideration, and taking every possible advantage of all the latitude that is permissible. And as the successful dressmaking houses of Paris realize the constantly increasing time that Americans are spending out of the cities, they are quite naturally giving serious thought to the designing of clothing to fill the needs of the large clientele.

Chanel has for a number of years been notably successful with frocks, wraps, and suits ideally suited to country wear, and with an air of youthful charm that has made them most welcome in America. Bernard and Lanvin have always turned out excellent country suits, and a list of houses who have been successful with top coats, capes, etc., for country wear would read like a directory of Paris dressmakers.

The young coutouriers who appear each season are apt to be well known designers from the bigger houses who start for themselves, and it is significant to notice the number of country clothes of the sports type that one finds in their collections. They seem to realize that this is a decidedly profitable field and worth earnest consideration.

A NOTABLE FALL COLLECTION

This season's collection of models at one of the prominent Fifth Avenue shops is a particularly pertinent illustration of this tendency, for besides the many successful country suits, frocks, and wraps that are their own original designs, one notices in the large foreign collection coats for country use from practically all of the big houses—even from Poiret, who seems to go right on designing wherever he may be, as well as the younger ones; and frocks for the country from many of the foremost houses; suits from Chanel and others, and such attractive novelties as the sweater coat shown, which is quite the smartest thing at the moment.

CHANEL INTRODUCES THE COAT SWEATER

Chanel has made it of a heavy crocheted worsted with collar,

THE purpose of this department, conducted by Country Life's Readers' Service, is to give information of any sort regarding country clothes.

It will gladly furnish the names and addresses of establishments where correct country clothes may be found, as well as those from which the clothes in the accompanying articles are chosen.

Write, telephone, or consult Miss Taylor personally on country clothes problems.

COUNTRY LIFE

120 West 32nd Street

New York City

cuffs, and pockets trimmed with the delightful coarse, long-haired angora that the French introduced last season. One house shows this coat sweater in a delightful soft shade of rose with just enough warmth in it to make it ideal for fall.

THE COAT DRESS MAKES ITS APPEARANCE IN A NEW FORM

The dress shown in the middle is not only decidedly surprising in appearance, for surely it looks far more like a suit than a dress, but it is eminently practical for fall country or town use. Lanvin evidently knew full well when she designed it just what the modern American woman, with her busy days, would have to have in her wardrobe. Made of wool jersey—which has seemingly a firm hold on the affections of smart women—it has a deep waistcoat attached at the sides, under the coat section, of a cool tan tricolette. The unpretentious one-button fastening of this waistcoat, the narrow plain belt, and the simple under cuffs of the tricolette are all carefully worked out details which spell unpretentiousness.

Lanvin is very fond of pockets. In fact she oftentimes uses families of them on her coats, big ones and little ones in groups. The two on the coat section of this frock are stitched at the opening and held in place by a button and a bound button-hole. The unusual collar, one end of which slips through the other when the coat is closed gives an added warmth which renders the frock still more useful for autumn use, and make it possible to hide the waistcoat entirely if one chooses.

Frocks of just this character with small furs are the best possible choice for general wear in the fall, for if one is in the country, one may wear an out and out country hat, or one of the type shown with it in the sketch, which is a cross between a town and country hat; while if one is coming in town one may quite change the complexion of the costume by a wing hat or some similar tailored model.

THE SMART MOTOR COAT IS NOW OF LEATHER, WOOL-LINED

The black leather motor and country coat of Cheruit's is one of the smartest coats to be seen. It is notably distinguished and unusually smart, with its gay black and white lining of wool velour.

Leather coats, as I have said before, are liked more and more by well dressed women since they have been made soft, pliable, and lustrous. Wool linings, already referred to in the August article, are quite the best thing in coats of this character. In fact no other lining would really look right in this sort of a coat. One notices again and again in the new French coats, and in some suits and frocks as well, a horizontal treatment such as appears accented by rows of stitching in this coat. Lanvin employs it often, Chanel uses it, Poiret treats it in his own fashion, and here we see it interpreted by Cheruit. The pockets and the cuffs are both worthy of attention, and the collar is both practical and becoming either open or closed.

With the coat is worn a close fitting, down-turned brim hat of seal brown velour with quite a deep knap. The rather high and decidedly unusual crown has four deep dents ironed in it. A narrow grosgrain ribbon of



Fig. 1. Long haired angora trims this rose worsted sweater of French design. An ideal accompaniment is the soft velour hat, banded with an odd, new ribbon. (Hats on this page are from Knox.)



Fig. 2. Odd pockets and an unusual waistcoat of tan tricolette distinguished this imported green wool jersey coat-dress. English in type is the felt hat of sage mixture. Three models from Bergdorf & Goodman Co.

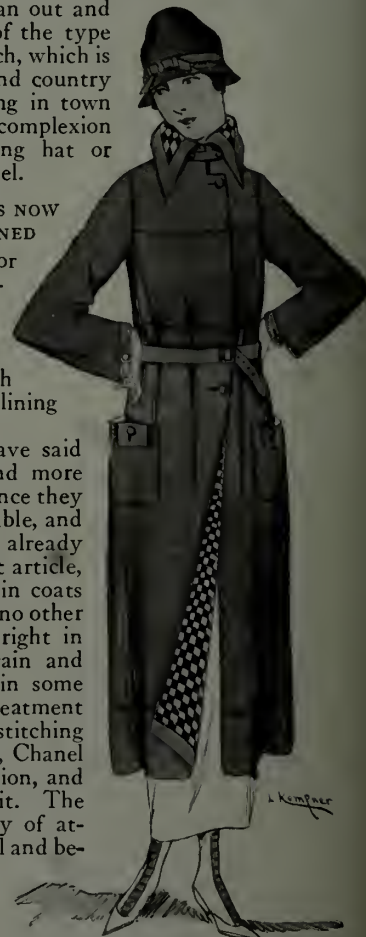


Fig. 3. The Cheruit model black leather coat with its gay black and white wool velour lining is unusually smart and effective. The close fitting velour hat worn with it is seal brown in color.



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Fig. 4. An excellent quality of satin and fine pearl buttons are sufficient to recommend this simple blouse, suitable for country or town use (\$8.75).

the same color (and of course the hat comes in a variety of shades) ties about the crown. This is an excellent hat, not only for motoring but for general country use, particularly with the extremely plain type of country suit that is growing in favor. With the Lanvin dress is worn a larger hat of a sage mixture. A brown silk braid encircles the crown and a small feather fancy is posed at one side. This hat is quite English in character and is intended for the woman who looks her best in just such severe styles.

Many interesting fabrics of the felt and beaver type made up into country hats are shown this season. They are generally quite simply trimmed, if at all, and depend for their success upon their line, color, and fabric. The one worn with the coat sweater is of precisely this type, its material velour, and the band about the rather high crown of a matching color of ribbon—an odd satin cloth ribbon.

In July, reference was made to an interesting collection of clothes shown by one of the

shops for which if one could not be fitted in the models carried in stock, measures would be taken and the model chosen made up in about ten days' time. The fall collection shown by this house is, if possible, even more attractive than the spring and summer line, and one is impressed again by the diversity of design, the invariable excellence of all materials used, and the really beautiful workmanship.

STREET FROCK FOR EARLY FALL

The model shown is one of the many simple, charming frocks that are in the collection. Made of soft, lustrous, black charmeuse it has a touch of scarlet at the neck and sleeves and waistline and a pretty cross stitched scarlet embroidery of dots on waist and sleeves. The panel sections of the skirt fly back as its wearer moves while the back of the frock shows a buttoned straight-hanging waist and a wide knotted sash



Fig. 5. A youthful frock of soft lustrous black charmeuse, effectively trimmed with touches of scarlet at neck, sleeves, and waistline (\$140.00). Hat of satin-edged grosgrain ribbon, with head band and crown of silk plush (\$30).

of the satin cut in one with the front of the waist. The general idea was taken from a Callot but recently imported, and is being developed in many different attractive color combinations.

It makes a particularly youthful frock and has the straight lines that are so well liked to-day, with the collarless neck that continues to hold its own. For wear in and out of town early in the fall it is the wisest kind of a choice, for it is simple enough, particularly under a coat, for morning shopping and yet is quite smart enough for luncheon and informal dinner use.

The hat which accompanies it is one of those ribbon models beloved of Reboux, that seem always to introduce the fall season and make a nice step between the straws of summer and the felts and velvets of winter. The ribbon used is a satin edged grosgrain; the crown and the head band are of silk plush. It may be had of course, in a variety of plain colors and combinations.

TWO NEW BLOUSES

For simple country blouses suitable to wear in town as well, one could do no better than either of the two new models shown. The careful attention to details, plus the cut of the smart reverse collar distinguish the satin model, which has a three-button front closing and a two-button cuff; while the interesting revers and the surplice chemisette, of crêpecharmante, make the second model notable. The cuffs have a pretty method of closing with four pearl buttons, and one large pearl button with a bound buttonhole fastens it in front. Excellent materials and the best of workmanship make both of these blouses most reasonable in this day when a good looking blouse usually costs far more than these.

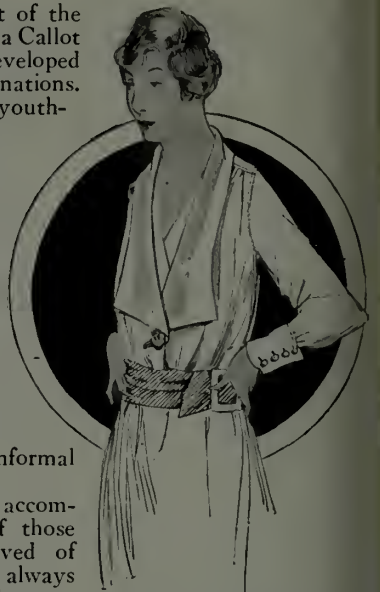


Fig. 6. Deep revers and a surplice chemisette are interesting features of this heavy crêpe charmante blouse fastened with one large pearl button; \$11.50.

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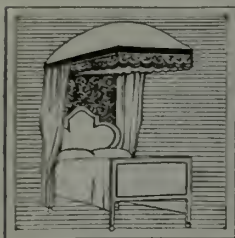
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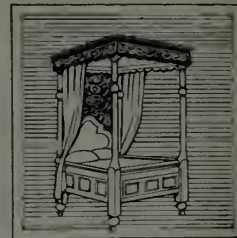
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By JESSIE MARTIN BREESE

Inquiries regarding home decoration—color schemes, furnishings, art objects and interior arrangement—should be addressed to Mrs. Breesse, of the Decorating Service of *The New Country Life's* Advertising Department, 120 West 32nd Street, New York

AMONG books and pictures and old furniture do we find the joy that comes of intimate, personal contact with beauty. "And the greatest of these" is—old furniture. For while books and pictures are but creatures of a single mood with us, furniture is the thing with which we spend our lives, and if we have furniture that was designed in the days when furniture makers were artists, we have beauty for a daily companion. So, collected in these pages this month, are choice pieces that have come down to us from the artists of past ages.

First we have a quaint old needlework tapestry from the eighteenth century—quaint in use, in design, and even in the fact that it is signed by the four people engaged in working it, with the dates at which each person finished. It is not a tapestry to be used merely as a wall hanging, for it is so stitched that the design follows the outline of the headboard of the bed behind which it was made to hang. Masses of fruits and flowers in gay, cheerful colors make a pleasing design on hanging and valance. The two sketches above the title show two ways in which it could be used to-day. Between them is shown the fringed valance which hangs from the canopy on three sides.

For those of us whose thoughts are centred acutely on the war-map, it comes as rather a shock to find a chair of rare old Italian frame covered in Hungarian silk needlework. Trite though the fact be, it may be well to remind ourselves here that art is international, and though wars may disrupt peoples of many nationalities, the beauty of the work that their fathers accomplished together need not be lost thereby. Hence we find such things as this chair.

The simplicity of its frame is typically Italian, with its plain curving back legs and simply turned front legs, with low-set stretchers. On the other hand, the needlework is done in a most characteristic Hungarian design that in its primitiveness is almost like that done by our own American

Indians. Very beautiful are the designs of the Hungarian peasantry, but this is by no means the least effective of them. Its soft blue and yellow tones are those which are so popular among decorators to-day.

There are but six of these chairs to be had, though I have recently found a few more of them with a settee as well, but in different colors. There is no reason why these should not all be used together, however, if the person desirous of using them should need more than the half dozen.

A sofa of fine lines and beautiful colors is this one covered in an Aubusson tapestry. These were much used in the time of Louis XV, from whose time this piece comes down to us. Trees of a soft but still brilliant green, with delightful birds resting on their branches, make up the design. No less lovely in color is the frame of carved walnut.

From Sheraton, the exponent of the straight line in furniture making, comes this exquisite little desk-cabinet of hore-wood. This wood of which it is made is in itself very rare, and it is inlaid with satin-wood, tulip-wood, mahogany and boxwood, in delicate and colorful design. The desk is built on the best lines of Sheraton's designs, its proportions being lovely beyond comparison. Even the little drawers of the cabinet have a beauty that is not so much that of construction as of proportion. The delicacy of this piece makes an instant appeal to any woman who has a room which is hers alone and expresses her own individuality as well as the decorative principles underlying all pleasantly furnished rooms.

Among the smaller furnishings that have come down to us from the past are many delightful dishes. All of them are quaintly designed and some are very lovely. The one shown here has a charming design in soft tones of pink, green, yellow, and lavender, with a gold outline. A high salt-glaze which characterized much of the porcelain of the period was applied to the plate before firing. This it is that lends



In the unworked portion of this needlepoint tapestry, which is left for the headboard of the bed, behind which it is supposed to hang, are lettered the names and final working dates of those who designed and made it



A desk-cabinet of unusual beauty



In olden days pictorial tapestries were cut for upholstery



A needlework chair of odd design

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New York Galleries

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the peculiar luminosity to its coloring. It is one of a Lowestoft dinner set of about 1780.

But little is known of Lowestoft ware, there being some doubt as to whether it was really made in Lowestoft, England, or merely imported there from China and widely copied. One thing, however, is certain, and that is that two different kinds of it were made, one for England and one for the Colonies. As might be imagined, that which was made for England was of a superior grade, although many of the Colonial pieces we have to-day are most interesting. The plate shown is English ware.



One of a dinner set of Lowestoft porcelain dated about 1780

Another small piece is the French directoire clock in chased ormolu and bronze, with green lacquered base. It is charmingly designed and in a perfect state of preservation, with the old works in running order.

A panel of sixteenth century Flemish stained glass, representing Mary and Joseph on the eve of their flight into Egypt, is a lovely bit from the past. Lucas von Leyden is the designer of the panel. Rich blues and warm reds are its chief colors.

Perhaps the most interesting remainder of the past is its houses. Those of us who have entire rooms from centuries gone by, have a treasure indeed. Pictured on this page is such a place, for the paneling is old brown oak of the period of James II. Overmantel and columns are elaborately carved, as well as the cornice and the two doors. The mantel itself is of old carved limestone of the period.

Not only is the room itself of Jacobean times, but all of its furn-



An old French clock whose original works are in running order

ishings have come down from that period. There is a small walnut gateleg table in the centre, and an elm refectory table under the window, dated 1645; a Jacobean carved oak day-bed, a small oak side-table, and an oak grandmother clock. Next to the fireplace is a carved and inlaid oak armchair.

From the same room originally came the andirons and pot hooks of wrought iron with chased tops. The windows contain five old English sixteenth century heraldic panels of stained glass. In the middle panel of the overmantel is a picture by Joost Van Cleve.

We find the rooms of our medieval ancestors as charming to-day as when they were first designed.



From the sixteenth century comes this panel of Flemish stained glass



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looks well in the room under either of two very different conditions.

Then too, there is the question of whether the rays of light will fall where illumination is wanted. While a purely physical requirement of the room, this must be neglected no more than its decorative demands. We must remember the important part that artificial light has played in the lives of men who have accomplished big things. There was the tallow candle by which the young Benjamin Franklin worked. And who of us does not think lovingly of the firelight by which the boy Lincoln studied! In later days, one of the greatest editors of our time—Charles Dana—



became almost blind, due to hours of study by candlelight. Remembering these, we cannot but respect the physical demands of the light in our home.

Aside from either beauty or usefulness is the ancient veneration for light that still flows in our modern blood. Dimly, in our all-pervading memory of things long dead, we see altar fires and altar lamps which take us even farther back to the worship of the father of all light—the sun. Hence it is with the greatest care that we

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The first lamp shown was made from an old Chinese bronze vase of 200 B. C. Its colors are all the softly radiant ones that Mother Earth could give to it as it lay entombed for many long centuries. These colors were followed in the handsome brocaded silk of which its shade is cut. Mounted on a small teak wood

stand, it has all the dignity of its years to add to its loveliness.

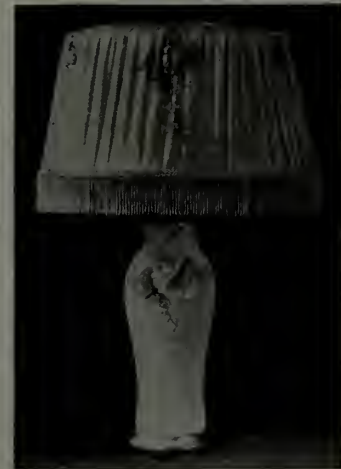
Quite different is the modern little cloisonné elephant who stands patiently holding the vase in which is set an electric light. Although he is gorgeously trapped in blue and gold and deep tones of old red, he is no mean creature himself, being a mauve elephant. Mauve silk with brocaded plum blossoms makes a particularly lovely shade. An amethyst finial glows with all the concentrated color of the lamp.



Colorful simplicity characterizes the club-shaped Chinese porcelain lamp. With a black standard that scintillates with rainbow lights during the day or when illuminated, and a shade of handwoven gold-thread tapestry depicting scenes in Chinese history, topped by a carved white jade finial, in richness of effect it almost surpasses the handsome little elephant which seems on first sight to be so much more brilliant.

Like the first lamp shown, the next one comes from ancient China. But, unlike that one, this has been a lamp for all time, and was not recently made into one. It has changed, though, since it left its temple home, for it has taken unto itself electric arrangements, and a beautifully shaped brocaded silk shade of rich color. No less fascinating than the intricately carved bronze, is the lamp's graceful shape.

A more entirely modern lamp than the one last shown would be difficult to find. It is one of those made, even in these war times, in vast potteries in Denmark, from designs by men and women who devote their lives to this interesting work. The blue-toned butterflies and pure white flowers which appear on the white porcelain standard are painted again on the shimmering white silk shade. Opaque white beads make the fringe. Illuminated or not, this lamp has all the freshness of flowery country lanes and dewy mornings.



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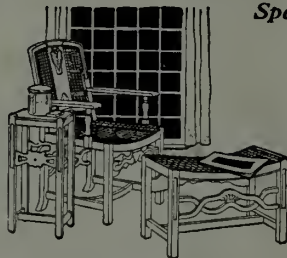
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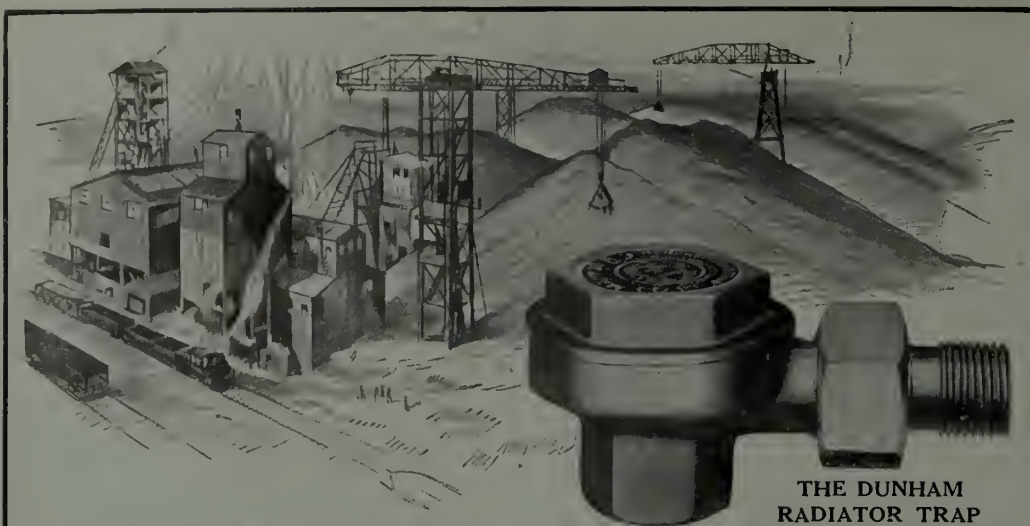
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THE FIREFLY'S LIGHT



WHAT kind of a tail light does the lightning bug carry and how does it light?

This is the question that nearly every child has asked himself. The explanations that children formulate in answer to the question doubtless would often be highly amusing in their naïve disregard of scientific probability. But the scientist himself has had only partial success in finding an explanation for the phenomenon. What he has learned may be stated briefly.

In the firefly's abdomen is a special organ for the production of light. This organ is penetrated by a number of minute air tubes, called tracheæ, and is also connected with the rest of the body by nerves. The cells of the organ secrete a peculiar substance, called a "photogenic substance" because it is capable of producing light. Just what this substance consists of is still a mystery to the chemists. It has so far succeeded in eluding their skill in analysis. It was once believed that phosphorus was an important part of it but that theory has long since been exploded. This much is certain about the substance—in order for it to emit light it must be moistened and must come in contact with oxygen.

It is probable that the luminous organ always keeps the photogenic substance well supplied with water. Light is emitted, then, whenever the firefly draws air into the organ through the air tubes. The insect evidently controls its intermittent flashing by means of its breathing apparatus and the nerve connections with the organ.

If the luminous tissues from several fireflies be dried rapidly and ground up, the powder will preserve its light-giving properties for an indefinite period. All that is necessary to make it glow is to moisten it while it is exposed to the air.

These curious insects often make light the early darkness of a summer night. Who has not, in walking down a lonely country road, felt just a little more comfortable because the fireflies were there and doing their best to light the way? The shadows cease to be oppressive when they become an effective background for the hundreds of tiny outbursts of light.

For the greater part of the time the firefly's light is merely a faint glow. But at intervals of a few seconds it flashes out with marked intensity. Although both sexes of the insect are luminous, the male carries the more brilliant light. The flash of the female is, however, of longer duration.

The males of some species signal their mates by a double flash, i. e., by two flashes in quick succession. After a brief interval the double flash is repeated. The female answers with one flash. In another species the male's signal is one short flash and the female's reply a longer one. The female of this species is wingless.

A chief purpose of the firefly's light, it seems, is to attract the sexes to each other and lead to their mating. This theory finds support in the fact that fireflies in captivity soon cease to flash.

The firefly is said by some naturalists to possess the most efficient light-making apparatus in all nature, not even man's inventions being excepted.

Although men know how to make lights of dazzling brilliancy, they use up a large amount of fuel in making them and even then the greater part of the energy produced is lost as heat and other invisible vibrations. Nature, as represented in the firefly, is fifty times as efficient. So far as scientists observe, she, in this little insect, makes light without heat.

In tropical America the firefly often becomes a jewel for evening wear. A dusky belle who wishes a brilliant for her hair merely imprisons one of the insects under her hair net.

Cuban women like to wear the cucujo thus at the opera. This is a large beetle with two great shining oval spots like eyes on its body. Sometimes two cucujos are tethered with gold chains to the bodice of a ball gown. The steady glow of the spots intensifies with the rhythm of the dance until there seems to be on the dancer's gown four great jewels sparkling in a maze of light.

A large number of encaged fireflies sometimes serves for a lantern. There is to be seen, in the National Museum at Washington, a much perforated cocoanut shell that came from a tropical country, where it was the body of such a lantern. Enough light to read by may be had in this way.

The glowworm is nearly as celebrated for its power of shining in the dark as is the firefly,



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but to speak of it as another kind of insect is incorrect, for it is only one form of the firefly. There are, in general, two kinds of glowworms: those that are merely young fireflies still in the larval stage, and those that are the females of certain species whose males always have wings.

From the beginning to the end of its existence the glowworm is a shining light. Even the eggs are luminous, the grubs glow brightly, and the full grown females give off a remarkable amount of light. Some glowworms even produce lights of two colors. Luminous organs at the head emit a reddish light, while the two or three organs in each segment or section of the body shine with a pale green light.

The tiny animal seems to have the same control over its light that men do over electric lights. It can turn it on, make it brighter, or turn it off at will. Gilbert White, a close observer, declares that between eleven and twelve o'clock it puts its light out for the night. The light is not intermittent like the firefly's, but glows steadily. The male, flying about in the free spaces of the air, is therefore never at a loss where to find his humble mate in the grass, a mate that never knows the delights of aviation.

There is another secret the glowworm possesses, that of anæsthesia. It can administer a nerve-deadening drug even more deftly than the surgeon administers chloroform. But while the surgeon gives chloroform that his patient may not mind the sharp edge of the knife, the glowworm gives its victim an anæsthetic so that it will not mind being devoured.

When the worm intends to make a meal off a snail, its favorite meat, it begins by giving the snail a few gentle tweaks with its beak-like fangs. At each tweak there is injected in the animal a minute dose of a virus that soon completely paralyzes it and deprives it of all feeling. The glowworm can then feast at its leisure.

It seems therefore that the glowworm anticipated man many thousands of years in the art of anæsthesia. The action of its virus, moreover, is less fluctuating and violent than that of the drugs which man uses. A snail rescued from a worm will remain paralyzed for nearly two days but it will then recover its normal state.

After a hearty meal the glowworm always takes a sponge bath. It never loses its sponge, for the sponge is a sort of brush that grows on its tail. It is very particular about its bathing, spending much time at it. It curls itself first one way, then the other, so that the brush will not miss any part of its body.

The ancient Greeks poetically called the glowworm "the bright-tailed." The common name is somewhat of a misnomer, as the glowworm is not a worm at all. Worms do not have legs, but the glowworm has six. It also has rudimentary wing cases. True worms do not wear a variety of colors. But the glowworm has its dark brown set off with pale pink on the under side of its body and with two spots of bright red at the rear of each segment.

Fireflies and glowworms are not the only members of the animal kingdom that carry lamps with them. This power of emitting light is, in fact, quite widely distributed.

The common screech owl and the white barn owl have sometimes been observed to shine by night. Pliny and other ancient writers mention birds with luminous feathers. Superstitious persons have often, when passing by a swamp at night, hastened their steps when they have seen the mysterious will-o'-the-wisp, a tiny spot of light, hovering over the waters and darting among the trees.

These phenomena, however, have another explanation than that for the luminosity of the firefly. Certain bacteria are luminous. The bacteria may grow on the owl's feathers and make them shine. The apparition of the will-o'-the-wisp, it is probable, is due to the fact that some ordinary night-flying insect, becoming infected with these bacteria, glows like a wandering star.

There is, happily, no suggestion of ghostliness about the fireflies. They are nearly as necessary to the perfection of a summer twilight as are the eternal lights above. And as they gleam forth for an instant, to be swallowed up again in the darkness, they remind us of how soon we ourselves shall disappear from under the light of the stars.

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MULE BREEDING



AN INTERESTING commentary on the reputation of the United States as a mule-breeding country is involved in some correspondence that has recently passed between a farmer in Australia and Professor E. A. Trowbridge of the University of Missouri. The former wrote to ask about prices of American jacks and the probable cost of shipping one to Australia. He asks for information as to the best manner of handling jacks and breeding mules, for he says, "Mule breeding so far has been more or less of a failure in Australia."

"The largest breeder only averages 10 per cent. of mule foals. He uses three Spanish jacks, two from Spain, and had one from America which died. Could you give any reason for his non-success? He has unlimited first-class horse country. Perhaps mule breeding will never be anything of a success here, for in my jacks die and fail to breed. It may be that one bred in this country will do better."

In reply, Professor Trowbridge outlined the mule-breeding business and pointed out some of its difficulties and problems in brief, concise terms that should prove of interest to persons in various parts of this country who are unfamiliar with the industry that produces one of America's most typical and most effective power plants. He wrote, in part:

"The production of mules in this country is conducted about as follows: the native mare stock here ranges from mares of practically pure Thoroughbred breeding to high-grade draft mares. The draft mare has become more popular in the last five years owing to the increased demand for weight in work stock. The mares are worked on farms and produce their mules usually in the spring. Jacks do not normally mate with mares unless properly trained. If you are buying a jack you ought to request that he be guaranteed to mate with mares. Jacks to be used for mule production are handled in about this way: at weaning time, they are put in a paddock to run with a filly of the horse kind, and usually about the same age. They are kept running with her until they are old enough to use and then they are used on mares exclusively for a while when first put to work. Usually this makes a jack that will mate with either mares or jennets. If they are permitted to run with only animals of their own kind and to mate first with jennets, they usually refuse to mate with mares. This is one of the biggest difficulties which we have to contend with in the use of jacks.

"The average mature jack should mate with as many mares during a season as the average stallion. He should handle fifty or sixty without any difficulty, if mature and properly handled. The average percentage of mule foals does not differ materially from the percentage of horse foals, although it might be a little less in some cases. I should say 60 to 70 per cent. would be a good average.

"I note that the best breeder in your country averages only 10 per cent. of foals. It may be that his jacks have not become acclimated as yet, and consequently are not sure breeders. I see no reason why, with proper acclimatization, they should not do as well there as here. It is true that the trip is a long one and across the equator, and it is a great change for an animal, consequently, there would be danger in shipping a jack that far and to such a changed environment. If the breeder referred to is trying to run the jack on the range with these mares, then that may account for lack of success, because hand breeding is the only successful method found in this country.

"I assume that if mule breeding has never been successfully practised in Australia, some trials and experimental work will be necessary before it does become successful. I suggest that you get in touch with the Agricultural College or Experiment Station in your country and see if they cannot take up the problem, secure some jacks, and investigate the proposition, before you, or any other individual, spend very much money on it."

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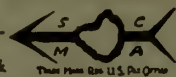
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NEWS of the BREEDS and the BREEDERS



ISTORY is being made so rapidly by the Holstein cattle of the country and their breeders that the Holstein-Friesian Association of America has recently issued a résumé of the breed's accomplishments during the past six months. The record is certainly one to be proud of in more than one direction. Under the heading of production figures, world's records in butterfat production in seven- and thirty-day and yearly periods have been made since January. Early in the year Lady Netherland Pontiac, a junior four-year-old, a member of Mr. Oliver Cabana's Pine Grove herd, took the lead over all seven-day producers with 43.59 pounds of butter (583 pounds of milk). Later on another cow in the same herd made the unprecedented thirty-day record of 185.32 pounds of butter or 148.25 pounds of fat. The two-year-old champion for yearly yield is Rose DeKol Wayne Butter Boy who produced in 365 days 20,830 pounds of milk, equivalent to 1,142.32 pounds of butter.

In these days, however, production is only one of a number of factors that must be taken into account in judging the worth of a cow. One of equal importance is the feed requirement of the animal. In this connection a purebred Holstein owned by the University of California is making a name for herself by averaging more than 50 pounds of milk a day on nothing but alfalfa hay, of which she eats about 60 pounds daily. She is being kept on a semi-official test and early in its course made nearly 355 pounds of milk, or the equivalent of about 17 pounds of butter, in a week.

Prices for Holsteins have in the last six months reached heights never before attained by any breed of cattle. Accounts of the Milwaukee sale at which the average for 175 head was more than \$2,000 and where a bull calf sold for \$106,000; of the Pine Grove sale when 145 head brought an average of \$964, and one cow the record figure of \$16,000; and of other significant transactions, less important only by comparison with the above, have been given in these columns in the past, so it is sufficient only to mention them at this time.

An additional 1,900 members of the association, bringing the total to more than 11,500, is another good sign. There were, when the report was issued, 180 local clubs in thirty-four of the states, all characterized by the typical Holstein thrift, success, and enthusiasm. The energetic results of the organization have kept pace with its increasing numbers.

These members at their last convention in Milwaukee put through one interesting amendment by which cows meeting the requirements in long-time, semi-official tests shall be eligible for advanced registry in an A.R.S.O. class, just as winners in the seven-day class are designated as A.R.O. cows. Sires may now also be credited with A.R.S.O. (Advanced Registry, Semi-Official) daughters.

Lastly there has been a further spread of democratic, help-along spirit to such an extent that it has leveled certain of the walls that had been built up between Canada and the United States. One of its recent decisions says that Canadian and American breeders may enter their cattle in the herdbooks of both the countries simultaneously, or rather that registration in one qualifies an animal for registration in the other without further trouble or delay. Clearly, Holstein breeders have found and staked out the road along which they must travel in order to benefit not only themselves but also the country

and the dairying industry in general. And what is more, they are already well along that highway to success.

THE spirit of organization is making itself felt to an unusual extent among Guernsey breeders of New England. On July 26th, sixty Massachusetts enthusiasts attended a luncheon given by Mr. Charles H. Jones, owner of Wellesley Farms, and before breaking up formed the Massachusetts Guernsey Breeders' Association for the purpose of promoting the breeding and distribution of Guernsey cattle, of urging the use of purebred Guernsey bulls in grade herds, and of advancing the breed's interests in all other possible ways. The officers elected were: President, F. L. Ames, owner of Langwater Farm, North Easton; Vice-president, A. L. Lincoln, Norwell; Secretary, R. G. Harwood, Littleton; Treasurer, L. E. P. Smith, Holliston. To work with them as an Executive Committee, there

of the several states. Of this number only 593 reacted, and of these 521 were slaughtered. By far the greatest number tested were in Montana, for which state the figure was 5,078. The two next highest were Virginia with 1,440 and North Dakota with 1,096. The staff of employees engaged in the work included seventy-four members of the Bureau and fifty-eight officials of the states.

Similarly encouraging reports of the work of Texas fever tick eradication are received from Oklahoma, where it is expected that twenty-two counties will be released from quarantine by December, 1918. During May, 987 vats were utilized in carrying out 889,164 dippings of cattle; in June, 995 vats were available and 841,263 dippings were accomplished. The effect of a state-wide tick eradication law in getting and keeping cattle free of this costly and destructive pest is illustrated by the progress in Louisiana. Here the law enacted in 1916 did not become

effective until April, 1917. During the preceding month 250,000 dippings were made under either state or federal supervision. During April, however, when the new legislation was in force, there were 1,700,000 dippings, and in each of the next two months 2,000,000 or more. It is by such methods and vigorous prosecution of such a righteous cause as this, that the Southern States are ridding themselves of an unnecessary burden, and developing into one of the greatest livestock producing territories in the world.

PLANS for a National Dairy Show of unprecedented completeness, usefulness, and timeliness go on apace, and it is high time that all breeders and dairymen who can possibly do so definitely reserve at least one of the days during which it will be held, for a trip to Columbus, O. It has been announced that the special breed days will be as follows: Monday, October 14th, Ayr-

shire and Brown Swiss; Tuesday, the 15th, Jersey; Wednesday, the 16th, Guernsey; Thursday, the 17th, Holstein. On these days it is planned to hold the bulk of the judging of each of the breeds, in addition to such meetings and demonstrations as each breed organization may have scheduled. The International Milk Dealers' Convention will be held on the 14th and 15th; the National Ice Cream Manufacturers' Conference on the 17th and 18th, and other bodies will convene at other times not yet determined.

The visitor on any day is, however, assured of enough interest and downright valuable information to make the trip superlatively worth while. In view of the world-wide demands for food, the dairy industry has assumed greater importance than ever, and recognizing this fact the U.S. Department of Agriculture has arranged for an exhibit more varied and comprehensive than anything it has attempted in the past. Particular emphasis is being laid upon the relation between infants' welfare and the use of milk products. While war aims and conditions will be given all the attention their vital importance warrants, there will be no diminution of instructive interest in the many other departments, including the students' judging contests, the machinery exhibits, the refrigerated dairy products displays, the evening horse shows, and the showing and judging of the cattle.

THE American Angora Goat Breeders' Association has recently published an interesting and informational little pamphlet of forty-eight pages dealing with the animal and the



Mr. Dwight L. Cutler, one of the prominent business men of Detroit, and his prize winning Aberdeen Angus bull Enos of Woodcote, on Mr. Cutler's estate at Ionia, Mich. Enos of Woodcote, although a holder of trophies from the International and of a great producing record, is but one member (needless to say a mighty important one) of the admirable beef herd that Mr. Cutler has built up and is maintaining on his farm

were elected: Mr. Jones; Dr. S. J. Mixer, Hardwick; G. A. Cluett, Williamstown; and W. K. Hepburn, Ipswich.

On August 29th, preceding the Albamont Farm field day, the Guernsey breeders of New England generally met to form a New England Guernsey Breeders' Association, which should serve to affiliate all the local organizations of that section in one. The detailed results of this gathering, not being available at this writing, will be reported in a future issue.

TO TAKE the place of the splendid bull Don Lago of Linda Vista, who recently died the untimely death that comes to all really great dairy sires no matter what their age, the Oaks Farm of Cohasset, Mass., has purchased another bull of the same family lines, namely Red Pharon of Linda Vista, who however has the distinction of carrying more than 28 per cent. of the blood of May Rose 2nd, and of being one of the most intensely inbred of May Rose Guernsey bulls. The promptness with which Manager Kerr located and secured a sire meeting both his and Mr. Barron's critical requirements, is a good sign that The Oaks will go right on turning out splendid cattle as a side-line to its certified milk business, without pausing or any lowering of its high standards of type and accomplishment.

SUMMARIZED figures recently published by the Bureau of Plant Industry of the U. S. Department of Agriculture show that during the month of June 16,408 head of cattle were tuberculin tested in thirty-five or more states by Bureau officials working in cooperation with those

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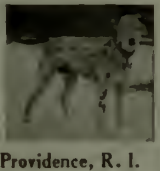
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Boglebrae Kennels
Huntington Long Island

A DAUGHTER OF THE LAND

By Gene Stratton-Porter
"Honest, sincere, big-boned, strong"
Doubleday, Page & Co. Net, \$1.40

NEWS of the BREEDS and the BREEDERS

(Continued from page 12)

lustry that together mean so much to its mem-
bers, and with the methods that some of the
most successful breeders in different states have
found most productive and most profitable. In
view of the heavy demand for wool for uniforms
and of the many admirable qualities possessed
by mohair, the fleece of the Angora goat, any
practical and practical advice about the raising
of this many-purpose animal should be of real
value to a good many farmers who are looking
for a new and promising side-line. This pamph-
let, which may be obtained from Secretary C. E.
Groff, Reeds Springs, Mo., is made up entirely
of this sort of material.

ALL information from any of the European
and Allied countries as to how they are carrying
their agriculture in the face of war difficulties
is of a very significant interest for farmers of this
country. Consequently the following statements
of the high regard in which Milking Short-
horns are held in England, submitted by Secre-
tary F. C. Curtin of the New England Shorthorn
Breeders' Association, is of real interest even
though it reflects conditions during a period when
the war was still somewhat young.

The English method of registering the records
of milking Shorthorns is somewhat different from
our own, the milk yield being recorded from Sep-
tember 30th to October 1st of the following year,
regardless of the time at which the cow may
be bred. Thus while a very large number of cows
are entered in their year book, not all of them
have any means have complete records. It is
interesting to note, however, that for the year
ending September 30, 1916, to October 1, 1917, of
the cows entered by seventy-two members of

the Dairy Shorthorn Association, there are five
cows which made more than 13,000 pounds; two
cows gave more than 12,000 pounds; ten cows
more than 11,000 pounds; thirty-three cows
more than 9,000 pounds, and sixty-six cows
more than 8,000 pounds.

"At the Show of the Royal Agricultural Society
of England, in 1916, Milk Yield Classes were pro-
vided for the different breeds and the following
is the return, showing the average number of
points gained by the 1st and 2d prize winners of
the various breeds:

Shorthorn	83.07	points
Lincoln Red	75.32	"
Jersey	74.78	"
Holstein Friesian	74.09	"
Ayrshire	71.70	"
Red Poll	71.33	"
Guernsey	64.35	"
Dexter	57.35	"
Kerry	54.08	"

"The following is a return of the highest
number of points awarded to each breed, for
cows more than 900 pounds live weight in the
Butter Test Competition held in connection
with the same show:

Shorthorn	55.00	points
Jersey	41.20	"
Lincoln Red	40.70	"
South Devon	39.50	"
Guernsey	32.45	"
Holstein Friesian	31.05	"
Devon	28.90	"

MIGHTY Monarch, the Holstein bull that
heads Mr. Paul T. Brady's Broad Mead-
ows herd at Pawling, N. Y., is, we presume,

one of the few creatures of his noble kind that
enjoy the distinction of owning a life insurance
policy as well as ample fire insurance on them-
selves. Mr. Brady recently announced that he
had taken out a \$25,000 policy on the bull, and
that it was only the unwillingness of the insur-
ing company to increase its risk that prevented him
from making it \$75,000, the acknowledged
value of the sire. The premium, as it is, on an
8 per cent. basis will amount to about \$2,000 a
year. Although many Holstein breeders know
Mighty Monarch by name and reputation if
not in the flesh, they are not often given an op-
portunity to study him outside of his own do-
main, for Mr. Brady values him above any in-
creased fame or trophies that travel and com-
petition might bring, and has consistently re-
fused to subject him to the possible dangers in-
volved in exhibiting him at any local livestock
shows, let alone on the regular exhibitors' circuit.

TWO interesting long-distance records have
recently been added to the Advanced Reg-
istry annals of the American Ayrshire Cattle
Club. Lochfergus Soncie 32357, owned by Mr.
H. L. Higginson of Massachusetts, has completed
three mature records with a total production of
42,512 pounds of milk, 1,745.32 pounds of fat,
and a yearly average of 14,171 pounds of milk
testing 4.11 per cent. Skylands Mary 29401,
owned by Francis Lynde Stetson of New York,
now has a six-year cumulative performance to
her credit which totals 59,424 pounds of milk,
2,240.4 pounds of fat. It is records such as these
that make cows valuable in the larger sense, and
that have contributed so largely to the fame and
popularity of the Ayrshire breed.

THE POULTRY DIRECTORY

In this department are printed the advertisements of reliable poultry breeders and dealers in poultry supplies. The Poultry Department will send to readers any information about poultry which they may desire. Address POULTRY DEPARTMENT, The New Country Life, 120 West 32nd Street, N. Y.



Dog Kennel

No. 4 Poultry House for 200 hens—5 units

No. 3 Poultry House for 30 hens

REMEMBER how your poultry suffered from the cold last winter and how it affected their laying? It may be just as cold this winter and it may be colder, but this does not mean that they will have to suffer again. Quarter them in a Hodgson Poultry House. They are storm-proof, comfortable, sanitary, well ventilated, and free from drafts. Send for a Hodgson Poultry catalogue.

It shows poultry and pet stock houses, kennels, etc., in various styles and sizes. They are shipped in sections already painted, and can be assembled without the use of the toolbox.

E. F. HODGSON CO., Room 301, 71-73 Federal St., Boston—6 E. 39th St., New York

HODGSON PORTABLE HOUSES

Positions Wanted

Position Wanted

By a thoroughly proficient, general farm and private estate manager of proven ability and exceptional record.

Present position includes successful management of one of the most extensive and prominent private estates in the east.

Well qualified in construction, improvements, reclamation of soil and animals.

WILLARD BEST Claverack, New York

POSITION WANTED

Thorough farmer, practical experience in all lines relating to farming; qualified machine man, able to handle all kinds of agricultural machinery. With my services can offer the services of two sons 15 and 17 years of age. Am strictly sober, conscientious and feel confident of meeting the requirements of estate manager or farm superintendent.

Box 909, care of Country Life Garden City, L. I., N. Y.

WANTED

An elderly responsible man for personal Kennel Care to a pack of American Foxhounds.

D. C. SANDS, Middleburg, Va.

THE MACKENSEN GAME PARK

- Bob White
- Pheasants
- Partridges
- Quail
- Wild Turkeys
- Deer
- Rabbits



- Peafowl
- Cranes
- Swans
- Ornamental Geese and Ducks
- Foxes
- Raccoons

Everything in wild animals, game, fancy birds for parks, menageries, private preserves and collections of fancy fowl.

WM. J. MACKENSEN, Yardley, Pa.

Barred Plymouth Rocks



Four Firsts, Four Seconds, Three Third Prizes, besides other Awards have been won by us at a single Madison Square Garden show.

Highest Grade Breeding and Exhibition Birds For Sale—New York Winners and Birds Bred from Winners.

Four Firsts at Boston 1917
Illustrated Circular Free
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Turtle Lake Game Farm

HILLMAN, MICHIGAN

Orders now being booked for

Pheasants and Wild Ducks

FOR FALL DELIVERY

WM. COOK & SONS

Originators of All the Orpingtons

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As we MADE all the Orpingtons it is natural we are RECOGNIZED HEADQUARTERS for the Best. We have won over fifteen thousand first prizes and many government laying contests in which our birds each averaged 259 eggs in a year.

SEND for our new Annual Catalogue and mating list, also hints on poultry. Advice free. Ornamental land and water fowl for sale.

We have for sale:

Silver, Golden, Ringneck, Lady Amherst, Formosan, White, Mongolian, Reeves, Swinhoe, Versicolor, Impayan, Soemmering, Manchurian Eared, Melanotus, Black Throat Golden, Linnatead and Prince of Wales Pheasants.

Wild Turkeys, Japanese Silkies, Longtails, Mallard Ducks, S. C. Buff and Blue Orpingtons and R. I. Reds.

Five varieties of Peafowl, Crane, Swan, Fancy Ducks, Doves, Deer, Jack Rabbits.

Send \$1.00 for new Colortype Catalogue. Where purchase amounts to \$10.00, price of catalogue refunded.

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Improved Parcel Post Egg Boxes

New Flats and Fillers, New Egg Cases, Leg Bands, Oats Sprouters, Butter Boxes, Poultry Boxes, Shipping Crates.



Catalogue free on request

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Birds for the House and Porch
Birds for the Ornamental Waterway
Birds for the Garden, Pool and Aviary
Birds for the Game Preserve and Park
Special Bird Feeds

I am the oldest established and largest exclusive dealer in land and water birds in America and have on hand the most extensive stock in the United States.

G. D. TILLEY, Inc., Naturalist, Box C, Darien, Conn.

DO YOU WANT A

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|-------------------|---------------------------|
| Police Dog | Irish Setter |
| Airedale | Irish Terrier |
| Boston Terrier | Irish Wolfhound |
| Bull Terrier | Newfoundland |
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| Chow Chow | Pomeranian |
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| Doberman Pinscher | Scottish Terrier |
| English Mastiff | Sealyham Terrier |
| Esquimaux dog | St. Bernard |
| French Bull | W. Highland White Terrier |
| Great Dane | Whippet |
| Griffon | White Collie |
| Hound | Wire Haired Fox Terrier |

If you can't find the dog you want in this issue, write to

COUNTRY LIFE

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Names and addresses of breeders sent free on request. Write now for your Christmas gifts.

POSITIONS WANTED

YOUNG woman with experience in training and teaching backward and nervous children, desires private pupil. Capable of taking entire charge. References. Box No. 912, care of New Country Life, Garden City, Long Island, New York.

Ferris White Leghorns

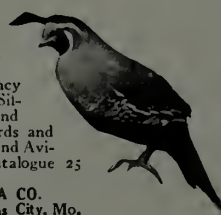
200 Egg Strain. Eggs, chicks, pullets, hens, breeding males. Satisfaction or money back. 40-page catalogue free.
POULTRY SUPPLIES and equipment. Everything from legbands to incubators. Free catalogue gives lowest prices on hundreds of articles.

GEORGE B. FERRIS
931 Union Av., Grand Rapids, Mich.

Pheasants, Peafowls,

Swans, Wild Ducks, Cranes. Wild Geese, Parrots, Canaries, Dogs of all breeds, Persian Cats, Squirrels, Fancy Pigeons, Doves, Elk, Deer, Buffalo, Silver Foxes, Mink, Odorless Skunks and all other varieties of Ornamental Birds and Animals for Country Estates, Parks and Aviaries. Big beautiful illustrated catalogue 25 cents. Price lists free.

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Dept. C. L. Kansas City, Mo.



Situation Wanted

as general farmer and working manager on private estate. Practical up-to-date experience with all farm, garden, and fruit crops, cattle, hogs, dairy, poultry, etc. English (American citizen), strictly sober, honest, and energetic. Excellent references. Please state full particulars and salary when answering. Address Box 913, care The New Country Life, Garden City, N. Y.

RETIRING Horticulturist of exceptional experience (Landscape gardening included) soon open for any confidential position. Highest references.

Box 917, Country Life, Garden City, L. I., N. Y.

POSITION REQUIRED

As manager or head gardener on large estate by married man, age 36. No children. Thoroughly experienced in all branches. Landscape gardening a specialty. Highest references, English and Canadian. Open for Fall engagement. Box 911, care Country Life, Garden City, N. Y.

5 NAMES ARE LISTED IN PERSHING'S SECOND DAY'S REPORT ON MA

ounded on the Long Army List;
10 Marines Killed and 138 Wounded

AMERICAN CASUALTY LIST

Day's Last Swells Grand Total
In Army and Marines to 21,567
NEW ENGLAND MEN
ON CASUALTY LIST
KILLED IN ACTION

OVERSEAS CASUALTIES

CHICAGOANS IN LISTS
ARMY
KILLED IN ACTION.
PRIVATE
Almonrocks, Kasin, 2127 West Twenty-
first street.
WOUNDED SEVERELY.
PRIVATE
Mr. David, 1810 North Campbell
PRIVATE
Capt. Edward J. 1118 1/2 street.

Our Casualty Lists—

Let's not get used to them—
Let's STOP them—quickly!

HOW? By rolling up an overwhelm-
ing subscription to the Fourth
Liberty Loan.

After four long, frightful years the tide of
battle is turning! The time has come at last
when MONEY MIGHT will go far toward
hastening the Victory that will stop these
dreadful casualty lists and bring our boys
home again.

Buy Liberty Bonds—to the very limit of your
means! Never mind how many you have
bought already—buy more, and more, and
more!

Don't think about the money—that will all come back to
you with interest. Think about the brave young Amer-
icans who are fighting and suffering and dying Over
There for you.

Don't make excuses—make sacrifices!

BUY U.S. GOVERNMENT BONDS FOURTH LIBERTY LOAN

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Division of Advertising



United States Gov't Comm.
on Public Information

This space contributed for the Winning of the War by

PUBLISHERS OF COUNTRY LIFE

Aug 18
Killed in action 57.
Wounded severely 241.
Wounded 1,100.
Missing 1,517.

CHICAGOANS IN LISTS

ARMY

KILLED IN ACTION.
PRIVATE
Almonrocks, Kasin, 2127 West Twenty-
first street.

WOUNDED SEVERELY.
PRIVATE
Mr. David, 1810 North Campbell

PRIVATE
Capt. Edward J. 1118 1/2 street.

Californians
Are Named in
Casualty Lists

KILLED IN ACTION
Private
Charles E. 128 West
Los Angeles

Wounded severely
Wounded 1,100.
Missing 1,517.

Wounded severely
Wounded 1,100.
Missing 1,517.

Wounded severely
Wounded 1,100.
Missing 1,517.

Daily
Casualty List

ARMY.
KILLED IN ACTION
WOUNDED SEVERELY
WOUNDED
MISSING

ARMY CASUALTIES TO DATE, 17,269

the Corps List to 2750
Names, Says Weekly Report
of War Department
3568 DIE IN ACTION
Missing, including Prisoners, 1125
—Only 115 Marines in
Hands of Enemy

THE SPOKESMAN
Killed in Action—Private, John
L. 1118 1/2 street.
Wounded severely—Private, John
L. 1118 1/2 street.
Wounded—Private, John
L. 1118 1/2 street.
Missing—Private, John
L. 1118 1/2 street.

ST. LOUIS POST DISPATCH

One St. Louisan Killed; Two Wounded in Action

Sunday's Casualty List Also Includes Five Mer-
From Near-by Places—Dead Hero Was
a Post-Dispatch Newsboy.

ARMY CASUALTY LIST SHOWS 57 AS KILLED IN ACTION

10 Others Die of Wounds, 2
of Disease, 4 of Accidents, 2
225 Are Wounded and 7
Missing

GRAND TOTAL TO
DATE IS 17,667

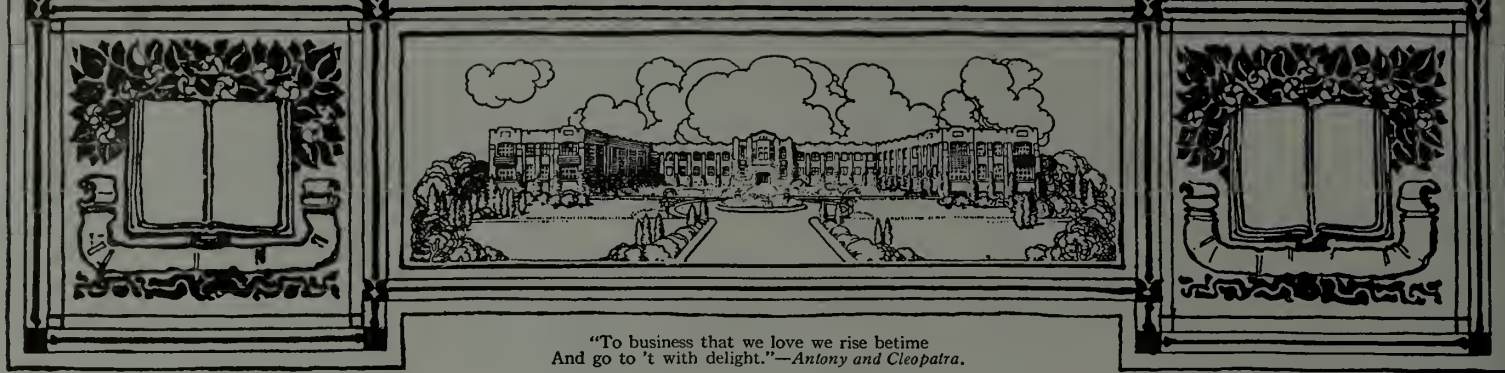
Of These 3631 Have Died in
Battle, 1115 of Wounds,
1536 of Disease and 67
in Accidents.



AMERICA'S ROLL OF HONOR

of the army and marine corps to 2750
names, says weekly report
of war department
3568 die in action
missing, including prisoners, 1125
—only 115 marines in
hands of enemy

THE TALK OF THE OFFICE



"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*.

RUDYARD KIPLING

A COUPLE of years ago we printed figures which showed the continuing popularity of Kipling's books. Now in all the camp libraries both here and overseas he is reported by the librarians to be the first choice of the soldiers.

In a letter of London literary gossip Shan F. Bullock, the well-known critic, speaking of the effect of the war on English authors, recently wrote:

What are the customary evidences of popularity? I know of none save public interest. . . . Certain men, at due times, get certain prominence in a certain precious portion of space. But so far as the rest are concerned—and the rest include the whole artistic tribe—they have apparently all gone under.

But I was talking of Kipling. He, I say, is one of the few who keep prominent. His books are everywhere, in all kinds of editions. A certain propagandist speech he made is on all the stalls, is published at a penny, is used to advertise our war bonds. I see his portrait in the papers. His little book of selections is selling fast. I should say that he, Chesterton, Hall Caine, Conan Doyle, and Wells are the only authors among us who count at present, and I would put Kipling high among the five.

This is surely just as true here in the United States as it is in England for the announcement of Mr. Kipling's two new books for this Fall, a volume of poems and "The Eyes of Asia," has drawn forth a hearty response in the way of advance orders and letters of inquiry as to when they will be ready. The book of poetry comprises all of the author's later war poems and several pieces never before published. "The Eyes of Asia" is made up of the "Indian Letters," supposedly written by an East Indian officer, who has been wounded in France, to his loved ones at home. They not only bring home the meaning of the war to world civilization, but critics who have read them see in them the Kipling of "Kim," "Plain Tales from the Hills," "The Day's Work," and the other well loved stories of the East.

FROM LORD NORTHCLIFFE

A recent letter from Lord Northcliffe, said of Frank H. Simonds's "History of the World War" that he had just finished the perusal of the first two volumes and continued as follows:

I have watched Mr. Simonds's work since the beginning of the war, and was in close touch with it in the United States, where I spent some six months last year. Mr. Simonds has been right about the war more often than any of the many who have endeavored to forecast the future of this complicated catastrophe. His clarity of vision is a great joy amidst the surfeit of "over-by-Christmas" prophets.

Mr. Simonds has large views of the wars—I purposely use the plural. He has another quality. He makes the wars as simple as possible. The war itself is a daily study which must occupy hours of the time of those who desire to know what is happening and what will happen, and I say with admiration that I do not know of a better guide to the war than Mr. Frank H. Simonds.

"GENTLEMEN AT ARMS"

A new war book which we published as one of the early titles on our Fall list has been attracting much attention lately not only as a war book but also as a work of genuine literature, for the author has given what people apparently have found to be an unforgettable picture of the life of the fighting men on land and sea. Consequently, there has been much speculation as to the identity hidden under the nom de plume of "Centurion" under which the author chose to hide his identity. In the confidence of these pages we may say that "Centurion" is Captain J. H. Morgan whose name is new to American readers, for so far as we know he has had no book published in this country before. Until he went into the war he was a professor of Constitutional Law at the University of London.

AUTHORS AT WAR

More and more of the authors whose books we have taken so much pleasure in printing are now serving in France. The latest to go, so far as our very incomplete records show, is Captain Peter B. Kyne, whose new book "The Valley of the Giants" we shall publish in October. Captain Kyne went over in command of a Battery of the 144th Field Artillery from California. Before him went Major Stewart Edward White also of the 144th Field Artillery.

Others we think of off hand are:

Captain Franklin P. Adams, doing a mysterious job somewhere over there;

Lieutenant Wadsworth Camp, who wrote those thrilling mystery stories, "The House of Fear" and "The Abandoned Room";

Major Stanley Washburn, whose books on the early stages of the war in Russia attracted so much attention; Frazier Hunt, whose "Blown in by the Draft" gave such a human picture of the great National Army and who is now over there as a correspondent for the Chicago Tribune;

Peter Clark Macfarlane, whose novel "The Crack in the Bell" we shall publish this Fall, and who is also on the other side as a correspondent;

Ray Stannard Baker, in France upon a special mission;

Colonel F. C. Bolles and Majors E. C. Jones and J. S. Upham, authors of "What a Soldier Should Know";

Colonel Harrison S. Kerrick, author of "Military and Naval America";

Captain Donald C. Thompson, whose "From Czar to Kaiser" we shall publish this Fall;

to say nothing of many others who are doing special war work on the other side. It goes without saying that none of them here at home is missing any opportunity to serve.

Of course, this list has not touched upon the Englishmen, Captain Alan Bott of "Cavalry of the Clouds," Sub-Lieutenant William McFee of "Aliens" and "Casuals of the Sea," "Centurion" above mentioned, etc.

SCOUT JOE CASSELLS

A typical British soldier is Scout Joe Cassells who tells the story of the Black Watch regiment and its heroic deeds in those first tragic days of the war when the order of the day and every day, was retreat and ever retreat to the Marne where the French and that "contemptible little army" of England stopped the wheels of the Juggernaut with their bodies. Cassells story is a vivid account and one which will live as the story of one of the few survivors of that historic Scotch regiment, which has fought so heroically.

Much of the fighting that he saw might be a description of the present-day open warfare, for Cassells and his regiment covered the very territory over which the British have been fighting in the last month or so.

In spite of the terrific losses of the regiment (and Cassells was in the thick of the fighting all the time) he came out with wounds from which he recovered. He is now lecturing for the United States Shipping Board and one of the interesting features of his talks is the comparison between the fighting in 1914 and the present time over the places where he saw action. He is a typical British soldier and as Scotch as any man who ever wore a kilt. Hearing Cassells describe his experiences one comes to understand a little better how it was that the German plans for a quick occupation of Paris were blocked by the bulldog tenacity of the British Tommy.

"THE SPIRIT OF AMERICA"

Our Educational Department, which was organized recently to meet the changed and rapidly changing conditions of the present time in our schools, is about to publish a series of books for use in grammar school and high school classes in Americanism. The series, called "The Spirit of America" has been prepared and edited by Dr. A. R. Brubacher, President of the State College for Teachers, Albany, New York, and Miss Jane L. Jones, of the English Department of the same school.

Letters from many teachers and conferences with a number of them confirm our sincere belief that "The Spirit of America" will contain just the sort of material most needed for instruction in patriotism, and the kind of material not obtainable heretofore in any single book or series of books especially prepared for this purpose.



Wounded English soldiers enjoying themselves in the grounds at Gifford House, Roehampton, which has been turned into a military convalescent home
 Photograph by Underwood & Underwood

COUNTRY LIFE—OCTOBER, 1918

CONTENTS

England—Our Ally



Article Titles and Authors



Cover Design - - - - -	John H. McCracken	The Concentrated Home Orchard - -	M. G. Kains	58
When the English Countryside Went to War		War Measures on the Colgate Estate		
	Arthur Gleason		Edward Mott Woolley	60
The Englishman and His Country Home		Here and There - - - - -		62
	Allen W. Jackson, A. I. A.	An Opportunity for Self-Respect - - - - -		62
Country Houses that We Owe to Old England - - -	40	Painting for Protection - - - - -	L. W. C. Tuthill	64
Achieving the Picturesque in Building		Gothic Sculpture from France -	Jessie Martin Breese	66
	Ernest Thompson Seton	Patriotism and Overhauling - -	Alexander Johnston	70
The Soul of Our Colonial Architecture	Murray P. Corse	Books for the Country Home - - - - -		78
From a Country Window - - - - -	52	What Will To-morrow's Weather Be?	Warren Mason	84
New England Rustic Wit; War Bread Philosophy; The Mirror of History		A Light on English Poise in War Time - - - - -		101
Fireplaces and Personality - - -	G. W. Harting	Mule Breeding - - - - -		11
Why I Chose the Guernsey Cow	Charles D. Cleveland	News of the Breeds and the Breeders - - - - -		12

Subject Index

Achieving the Picturesque, 44	Country Homes of England, 26	French Gothic Sculpture, 66	Mule Breeding, 11
Architectural Influence of England, 26, 40	Country Houses, 40	Fruit, 58	Municipal Fuel Yards, 62
Architecture, 26, 40, 44, 48	Dairy Cows, 12, 56	Gardening, 60	News Notes, 11, 12
Art, 25, 28, 29, 32, 33, 36, 66	England in the War, 24, 26	Gothic Architecture, 48	Orchards, 58
Automobile, 70	England's Response, 24	Gothic Sculpture, 66	Overhauling, 70
Book Reviews, 78, 101	English Country Homes, 26	Guernseys, 56	Painting, 64
Breeds and Breeders, 11, 12	English Orders and Medals, 37	Home Orchard, 58	Paintings, 25, 28, 29, 32, 33, 36
Cattle, 12, 56	English Poise in War Time, 101	House Painting, 64	Personality in Fireplaces, 53
Colgate Estate, 60	Essays, 52	Liberty Bonds, 62	Picturesqueness in Building, 44
Colonial Architecture, 48	Estates in War Time, 60	Livestock, 11, 12, 56	War Time England, 24, 26
Colonial Houses, 48, 64	Fireplaces, 53	Medals, 37	Weather Signs, 84
Country Homes, 26, 40, 44, 48	Foretelling the Weather, 84	Motor Repairing, 70	What Farmers Raise, 62
	Fourth Liberty Loan, 62		

HENRY H. SAYLOR, EDITOR

TO CONTRIBUTORS—While we are always glad to receive and examine manuscripts and photographs, we cannot hold ourselves responsible for them. All manuscripts must be accompanied by sufficient return postage. **TO SUBSCRIBERS**—Expirations: An advance notice of expiration of your subscription will be sent you ten days before actual date of expiration. We enclose an additional reminder in the last magazine of your subscription, if you have not responded to the first notice. By remitting promptly then, you will insure the regular receipt of the magazine. **Change of address:** Change of address must be received prior to the tenth of the month to affect the forthcoming magazine. If you change your address between this date and publication day, notify us and send word to the postmaster at your former address, enclosing 7 cents postage, and the magazine will be forwarded.

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Tremont Building, Boston
 Van Nuy's Building, Los Angeles
 RUSSELL DOUBLEDAY, Secretary



COUNTRY LIFE

VOLUME XXXIV,

October, 1918

NUMBER 6



WHEN *the* ENGLISH COUNTRYSIDE WENT *to* WAR

By ARTHUR GLEASON



HERE is scenery more massive and startling than England's, but none anywhere lovelier, in its silence of peace. There stretched the lawns under soft suns and gentle rain and the steady stars, untroubled for eight hundred years. The villages carried on their ancient simple tasks as in the days of the yeomen. Little gray-lichened churches had survived changing dynasties and were still stanch against time. Down those green lanes and over those fertile fields men went to their sowing and reaping, their merry-making and their courting, as their fathers had done in unending line back to the rule of Rome. In eight centuries no invader had reddened the kindly soil. The great world might toss uneasily, but no fretful murmur was heard in the meadowland where the lark rose.

Suddenly the great war came. The cities, swift in their nervous response, mobilized. Without losing their stride, they used the same enginery, the same machinery, whose processes were their life-habit, and merely made them yield a different product. And the city people, always eager for a new thing, leaped to the great adventure as to a change of job. There was no marvel that the cities mobilized.

But the wonder was, that the countryside, hushed in its age-long trance of peace, awoke and put on power. The call went out that the regiments should come, county by county, so a man entered his new life side by side with the pals he had known from boyhood. And he came in the full pride of affection for his countryside. England to him was not an empire nor a militant state. It was a bit of land which he had plowed, and the curve of the hill across his valley. An Englishman is never an Englishman. He is a Devon man, and a Yorkshireman, and a lad from Sussex by the sea. And he and the group with whom he went out to die carried the name of those acres that he had known and loved. So the slow and silent countryside mobilized, and the numbers were equal with those of the cities where news flies swiftly.

And the older people of the country who could not go to Flanders but could only send their sons, changed the habits of a lifetime. They had been the finest folk in the modern world, these farmers, self-dependent, who called no man master. Livestock to them is a precious possession. It has represented daily care and nurture. But they sent their horses to drag ammunition wagons. They killed their cattle before the due time for food for alien people. For generations, the good wives of Devon have made clotted cream—the richest sauce for porridge, berries, bread, and tea which nature's bounty and woman's skill have yet devised. But the family at Lewdown, Devon, where I used to live, make clotted cream no longer. The farmer and the farmer's wife throughout England have suffered themselves willingly to be stripped of the products, the processes, the raw material, and the exercise of their skill, in which they and their forebears had found all the expression of their lives. The mechanic in the city factory still tends the machine to which he served apprenticeship in the days of peace. The process is the same trained manipulation by which he found himself. But the country folk of England have been deprived of half the material of their functioning, and so of half the meaning of their life. Yet they carry on with undiminished zeal, and turn

the farm of many activities into the one appointed task of growing the crop which will win the war. They brought a million acres from meadow into tillage.

The face of the land is changed by war. On Dartmoor, where the sheep roamed, there is a great artillery range, and when the flag is hoisted, all that is living, herders and sheep and angry dog, are cleared away, and the ground rises in a smudge of dirt and smoke where the latest three-inch shell explodes. Level fields are made into aviation grounds, and each morning we saw one and two and ten machines rise and pirouette in the air. And once a couple of machines fouled in midair, and a flier tumbled to his death a few rods from my home.

The garden allotments are now numbered by the thousand. Out from Brighton and Hove, I see them each day. In the late afternoon, and all day Sunday, the owner comes and works to grow food to save England, after his day's work and his week's work is done. He builds a tiny wooden shack where he stores his utensils, and the landscape for acre on acre looks like the gathering place of a tribe of squatters. Elderly gentlemen, who in gentler days would have been busy with their bowling, go trudging by with a spade. Parks, whose lawns have been nursed into loveliness for a hundred years, are chopped up into vegetable patches.

The great estates are no longer the scene of the most graceful idleness that the world ever knew. They too are producing potatoes and the cereals. The stately house has become a war centre. The only Earl I ever met has made his famous country seat near Rugby into a hospital for wounded soldiers, and has sold his noble collection of Van Dyke portraits. His sons are dying one by one in action. There will be nothing left to him in his old age but a memory.

When the Duke of Sutherland parted with his Shropshire seat at Lilleshall, an estate of 7,500 acres, he said: "The prospect of a severance from the property and old associations, which have become so dear to me, is a bitter one."

On the stone pillars of the country church are printed notices, giving the list of those that have gone from the parish—old names they are: old names of young men. And starred among them the names of the dead. I have read them at Stratford on Avon, and Rottingdean in Sussex. The English are of one blood in these parts—one blood and one belief.

Now through the countryside they are cutting their forests. As I see England losing her beauty in order to hold firm to the end I think of that story of O. Henry, "The Gift of the Wise Men" where the young wife sells her beautiful hair in order to make a gift of love to her husband. The highest gift of all is not money. For a high-spirited man, it is not even to give his life. It is to give the thing he loves the best of all. The English have been willing to spoil beauty and their own home of beauty for a higher end.

A little while before Lieutenant Lord Newborough died from trench fever he asked to be buried on the summit of Newborough Hill, "as from that spot is my favorite view down the Vale, leaving my burial place free for sheep and cattle to roam all around the actual grave."

There spoke the love of the Briton for the place he knows, the bit of earth that nourished him, in whose defense he dies.



THE AMERICAN SQUADRON IN BRITISH WATERS
John: "God bless you for it. Come in, mate!"

From the cartoon by Louis Raemackers

The ENGLISHMAN and his COUNTRY HOME

By ALLEN W. JACKSON, A. I. A.



IT WAS in the seventeenth century that Sir Edward Cooke said that "The house of everyone is to him as his castle fortress, as well for his defence against injury and violence as for his repose." It would be impossible better to give in a sentence the whole spirit that has permeated the history of English house building. It is a lightning flash that illumines the whole subject, and the idea there expressed unconsciously governs most of the changes that have come about and which have finally produced the English manors, country houses, and cottages as we see them dotting the fair English landscape to-day. Here indeed we have sermons in stone. Every race, if left to itself, will unconsciously display its secret longings, its convictions, its aspirations in its architecture; man will unknowingly write large in three dimensions, so that all may see the secrets of his innermost being, of which he himself is only half conscious. He raises in his building a statue of his inner self.

As long as his architecture was unaffected from without, he owned these houses in a very real sense, and it is no small part of their charm and spiritual appeal that the stolid Englishman, who guards his real feelings so carefully, does, in this indirect and subtle fashion, stand up and recite his creed throughout the broad countryside in the full light of day. Nor are we at all sure that the Englishman, in spite of his protestations that "talking this sort of rot isn't done," is not quite content to express his inner feelings in just such a detached and secret language. He likes and understands those who do not express themselves too fluently. And then he can pooh-pooh the whole thing if accused of it. Yes, it is just the sort of confession of which he can approve. No slopping over, no "damn silly sentimentality." It is a document that he is quite content only those should read who have the secret key of understanding — for they won't tell.

The detail and ornament that these old houses have chosen to beautify and deck themselves in is peculiarly their own, inspired by what their builders met in their daily lives, wrought out lovingly and



Ightham Moat, in Kent. "silent and placid amidst its verdure"

painfully with many slips and failures, improving slowly as they came up out of the darkness of ignorance and poverty.

Before being shown over the house it is customary to listen to the history of its building, and we cannot well understand its descendant, the modern English house as it is being built to-day—or, for the matter of that, the very houses that we ourselves live in—unless we glance back over the road that it has come, and see what influenced its growth and finally produced what we see to-day.

Starting anywhere in the Middle Ages in England, we find the nobility living in castles of stone and their subjects in huts of various materials—stone, brick, and wood. The castles were half dwelling, half fortress, uncomfortable enough to our eyes, for it was not till the end of the fifteenth century that the window openings had any sash, and household fires were generally provided.

The fortress character of these buildings is shown in the watch towers with crenellated tops and machicolated walls, all built about an enclosed court containing the well. A drawbridge spanned the surrounding moat. This court, for the purpose of allowing the dwellers to take the air in time of siege, was probably the first garden spot, and the well heads which every properly appointed Newport estate has somewhere in its garden pleasure is a fresh assertion of its vested immemorial right to be in the midst of the



Convalescent wounded soldiers in England find that, in the eyes of the home people, nothing that will give them pleasure is too much trouble. In London taxicab owner-drivers are devoting their week-end leisure to taking groups of *blésés* on country rides. Here is one such group enjoying tea on the lawn of a resident of Sutton

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dowers. As time went on and the feudal system dashed itself to pieces in the intricate warfare that ushered in the spacious day of good Queen Bess, the dwelling character asserted itself more and more over that of the stronghold, and the development of the house begins its march. Having no longer anything to fear from belligerent neighbors, it ceased to be needful to have conveniences for greeting a caller with molten lead or for dropping rocks on him. First the stuffy enclosed court was opened to the air by the throwing down of the entrance wall with its drawbridges, leaving a U-shaped plan with open court and towers at the angles. The entrance, going back into the far wall of the U, was approached through the width of the court. One wing was used by the family and the other by the servants, and these were linked by the Great Hall, still used in common as a dining room and meeting place.

A little later houses were planned without these side wings, and the old corner towers, former bulwarks of strength against the besieging foe, were reproduced in miniature as gentle gazebos, summerhouses, or shelters for garden tools, the wings formerly connecting them with the house becoming mere balustrades. This house, shorn of its wings, thus presents itself with the old glowering courtyard turned into a flowery forecourt surrounded by a wall or balustrade, with its towers become tea houses, and the old portecullis with its great tower is emasculated into a tame entrance gate. If it is an actual old establishment which is trying to keep up with the times, the old moat will have a permanent bridge, but the fosse itself, long dry, will become a sunken garden full of flowers or shrubbery.

Heron Castle, the historic home of Anne Bolingbroke in Kent, has been destroyed, the old moat being retained, but crossed now by a stone bridge instead of drawbridge.



It is not meant, in following this disintegration of the old castles, that the amputations mentioned were actually performed in the case of many old buildings. It was rather a case of the builders of new houses seeing the uselessness of first one and then another of these outgrown features as they appeared in the old, and so dropping them off, or at least subordinating them in their new work. Later these corner houses, the *raison d'être* of which men had long forgotten, disappear, and we have only a fenced in garden in front of the house, the fence marking where embattled walls once stood. At this point the house and its English owner have arrived in America and we see the old modified plan, erected in the new Georgian fashion to be sure, everywhere throughout the Colonies. The square Colonial house with its garden in front elaborately fenced, with enriched posts, four square, its gate glorified with a rather monumental touch on a small scale, the old feudal style forgotten, the old brick

and stone given way to Yankee pine, still links itself as a lineal descendant to the ancient houses as directly as the new inhabitants to their grandsires across the seas. This is perhaps the only instance of the ancient plan touching, even to this meagre and unrealized extent, our houses in this country.

In the matter of architectural style, the continuity is quite unbroken. It was planted and took vigorous root here. If the fruit was later affected by the grafting on of a civilization laboring under somewhat different climatic, social, and industrial conditions, it is not to be wondered at; but it does make it necessary almost from the first for us to find a new name, "Colonial," for the transplanted Georgian work. As the lives of the colonists were affected

in so many ways by their surroundings and they ceased to be Englishmen and became that quite different thing, Americans, it is not strange that the architecture which they brought with them should not remain static.

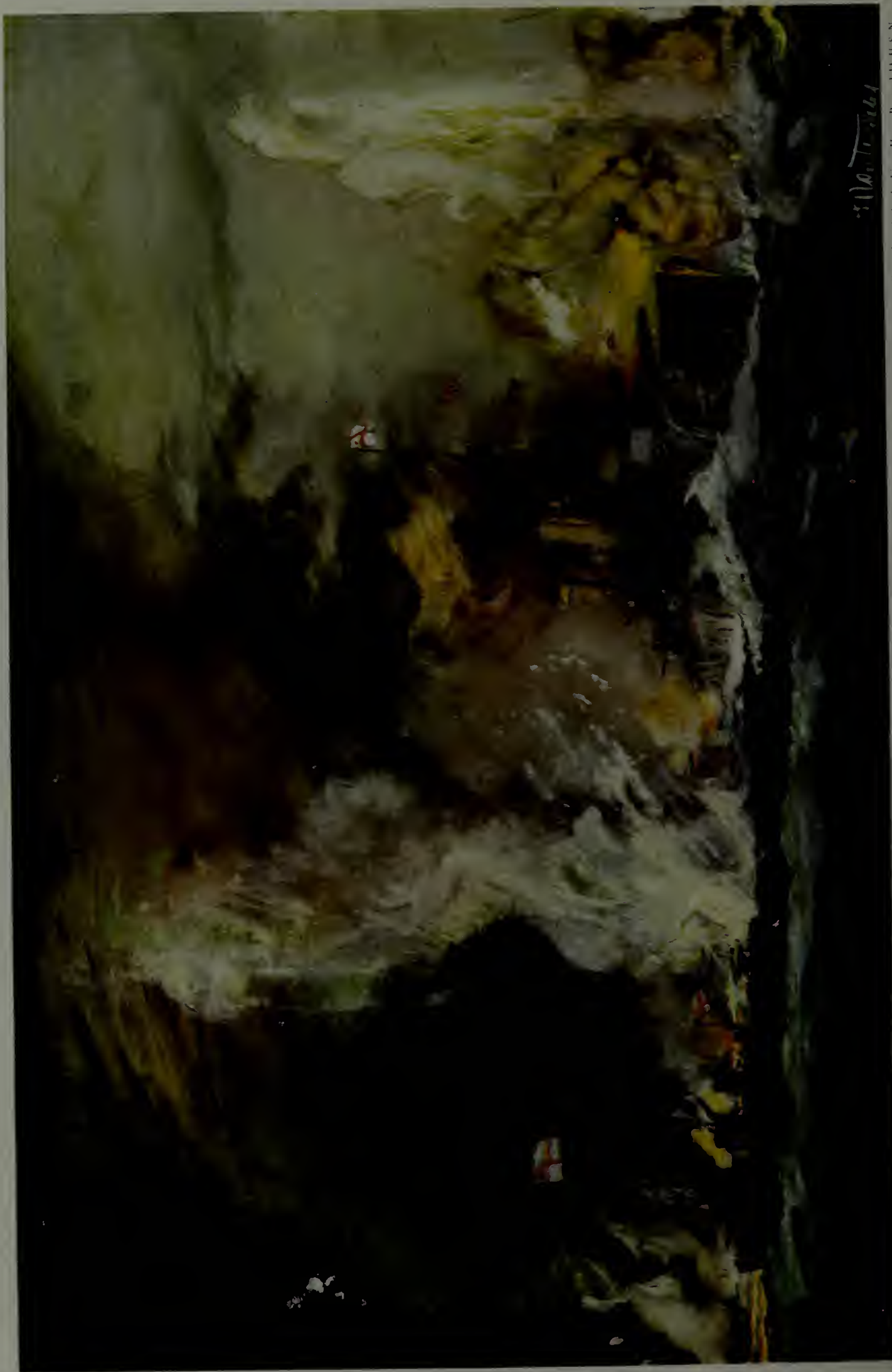
If, then, we understand how the modern Englishman came by his house; how it is an age-long heritage with all the patching and adding which that naturally implies; and realizing that he was not brought up on economic and scientific house planning, we should not be surprised to find him content in dwellings the plans of which seem to us extraordinary.

To look over a book of the plans of modern English country houses by the best contemporary architects is a real architectural adventure that leaves the American practitioner fairly gasping. The exteriors are delectable, charming,



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Not the least of the metamorphoses brought about by the great war is the change that has been wrought in the Englishman's proverbial attitude against admitting strangers to his home. This country house at Paignton, England, with its beautiful grounds, has been turned over to the Red Cross by Mr. Parassinger, its owner, and is now known as Red Cross Hospital No. 21.



From the painting by Lieut. Henry Reuterdahl, U. S. N.

THE BATTLE OF JUTLAND



Long Wittenham, Oxfordshire The typical English cottage that we all admire and envy, but which we cannot duplicate

From the water color by Wilfrid Ball, R. E.



By permission of John Lane Co., New York, and The Studio, Ltd., London

Steep, Hampshire, the sort of week-end cottage that the Englishman builds for himself and covers with a roof as with a blanket

From the water color by Walter Tyndale



Photograph from Paul Thompson

A garden party at Milton Hall for wounded soldiers. It is a far cry from fighting the boche to trimming hats, but these convalescent Anzacs seem to enjoy the contrast, and wear proudly the product of their prowess as milliners in the hat-trimming contest

beautiful—you may use what words you will, so long as they stand for all the building virtues—but the layout! the plans! The youngest housewife will pronounce them “impossible.” A pantry, a gun room, a sillery, a brushing room, and a still room are all useful, no doubt, but why must they intervene between the dining room and the kitchen? Why must they be thrust between us and our hot soup? Why must the cauliflower scent the circumambient air during such a parade? The procession may not take long in passing a given point, but it will certainly be altogether too long passing from one point to the other. Add to this that in the Sir Roger de Coverly papers we read, “I have known my friend Sir Roger de Coverly’s dinner almost cold before the company could adjust the ceremonials of precedence and be prevailed upon to sit down to table.” One must evidently allow plenty of time for his meals in England. Perhaps the housewives among us will be mollified at finding that the pantry is very large—usually larger than the kitchen—and has a fireplace! In the jumble of rooms, however, it sometimes happens that it is impossible to get in a window. Some large country houses have a bathroom, not always on the second floor, to be sure, but there is often one somewhere. Some have tubs in them, some not—anyway the agent advertises that water is “laid on.” One is not quite sure what this expression means but it certainly sounds as if a bath were hidden in it somewhere. Water closets are tucked about in little closets often with outside air. In one of the finest modern houses is a room about the size of the owner’s library marked “Croquet Mallets.” We have often read of the Englishman’s fondness for sport and here we fairly catch him at it. Croquet at wholesale, mallets by the cord—the countryside must be black with eager players! The gaps in these plans which wander about inconsequently are filled in with cubicles marked “Boots,” “Scullery,”

“Dairy,” “Coats,” “Coals,” and “Lamps,” and if any are forgotten they can always be slapped on to the living room or entered off the library or the boudoir—which is quite as apt to be downstairs as up.

Now these extraordinary layouts are thoroughly typical of the best modern English country house work. They are not old houses altered over and added to. They might perfectly well, with the same amount of money, build as we do at Tuxedo, for instance, if they liked. If they do not, it must be because they prefer this kind of house.

After we have examined the unmethodicality of these plans, their careful avoidance of any attempt at being compact, and economical of space, steps, or building material, we may note that

while the rooms are sure to be attractive in themselves, they have no relation whatever to each other, they never open out of one another as with us, there are no double doors to throw two rooms into one, no group of rooms leading off by great openings from a central hall; but instead, rather an unimportant main hall, stairs that shyly hide themselves in some corner, and each room, no matter how many, will be entered grudgingly by a small door at the end, but so placed that when opened one outside cannot rake the whole apartment at a glance.

If there seems to be a lack of expansive hospitality in this architectural expression it is only a way of guarding the *sanctum sanctorum* more carefully, making the compliment the greater when one is elected for admittance. We are not to take these peculiarities as an expression in any sense of a lack of cordiality on the part of the owner. We must remember that

“Through this wide open Gate,
None come too early, none return too late”

is a motto over an English door. Your Englishman has a passion for



The chimneys of Kent are always picturesque and easily recognizable as belonging to that county. In this cottage chimney at Penshurst various methods of laying brick are employed, the whole resulting in a charming example of Kentish chimney

*This and the other drawings by Mr. Jones are reproduced by permission of John Lane Co., New York, and The Studio Ltd., London



© Clarke & Hyde

"All things in order stored, a hunt of ancient Peace." When it means going home to scenes like this, is it any wonder that blighty holds no terrors for the Briton in the trenches? And to the convalescent stranger within her gates the charm of England's countryside insensibly makes gentle but irresistible appeal.

privacy and coziness, and nothing is so important. He has a constitutional repulsion for the monumental and formal, so much so indeed that when he comes to build public buildings which demand such treatment, he fails repeatedly and is totally unable to change his point of view and carry over the sense of architectural fitness which never fails him in his domestic work. This love of informality makes itself felt in the eschewing of any symmetry or use of axes in the plan, and is further evidenced by the low ceilings, love of fireplace and ingle, and walled gardens without. He builds his house as far away as may be from any road, and then plans it so that he and his guests may have all the privacy and quiet possible.

We in this country, on the other hand, are bored and restless if we are too far away from the street to see the passing, and our first thought is to throw a piazza across the front to get back into things again. Our houses must open up well; the entertaining idea is in the backs of our heads, no doubt, and we too often forget the maxim of old Thomas Fuller that "A house had better be too little for a day than too big for a year." The home idea is too seldom the motive; while we may think that we are getting exactly what we ourselves want, without regard to any one else, it is a question if sometimes we have not perhaps unconsciously one eye on our neighbor. We notice with the Englishman how well his houses are adapted to him; with us one feels how cleverly we adapt ourselves to our houses. His house comes about not only as the result of a cumulative accumulation of building traditions which have taken their color from his peculiar temperament, but is quite as much a reflection in bricks and mortar of the national life.

If we understand clearly that, first, England is a man's country; and, second, that that man is a sportsman, we shall have a key to many of the otherwise inexplicable things we meet. To convince any one that it is a man's country one only need look at the shop windows and see all the best of them given over to riding appurtenances, haberdashery, sport-

ing articles, etc. And it is well known that the men of the upper classes have more clothes and spend more for them than do their women folk.

The London season is from May till grouse shooting begins in August. Why, through this hottest and driest part of the year, he kept in the city by social functions? Because the men are shooting up to Christmas and hunting after that. The women adapt themselves and take what is left—and then are forced to read in the words of the most brilliant present-day English novelist that "The last thing man will civilize is woman!"

If English country life is universally acknowledged to be not intellectually brilliant it is partly because these out-of-door men are too hungry and tired by 8 p. m. to contribute much to the brilliancy of a social occasion. It is no wonder that "Just fancy,"

"By Jove," and such other old reliable substitutes for ideas play so large a part in the dialogue.

The houses are designed more with the man's comfort in view than the woman's, and if the reverse is true with us, it is logical in both cases. The Englishman spends more time in his home than does an American. An Englishman is continually going home, an American always rushing to business.

The whole history of England has made the man who can stay at home more important than the man who must go to business, hence the pose that one is much at home, and doesn't bother with business. With us the big man is the big business man, and so we like to have it understood that we can't be spared from the office, and assume a busy-ness even if we have it not.

It is the male, then, who is primarily being housed. That he will explain it—we should be lacking in understanding indeed if we said "excuse it"—by reminding you that he is an empire builder and his duties to England so exigent that it is a matter of proper patriotism to have his home life as free from irritation and as full of recreation as possible; that in the hurly-burly of modern competition, where one meets the inevitable law of the survival of the fittest, it is necessary

Drawn by
Sidney R. Jones



A gabled cottage at Arlington, Gloucestershire. There is a general appearance of weight and substantial solidity about the English cottage that is painfully absent from our flimsy wooden houses



Inside the Englishman's home there is to be found the reflection of his fondness for simple dignity without ostentation, honest workmanship, established traditions. He will not sacrifice comfort to mere appearance in his clothes nor in his living room



From "Rhododendrons and the Various Hybrids," by J. G. Millais

LEONARDSLEE IN JUNE

From the water color by Beatrice Parsons

Sir Edmund Loder's estate lies in a part of the old St. Leonard's Forest, near Horsham, Sussex. Sir Edmund himself has produced many of the hybrids in its rhododendron collection, which is probably the largest in the world. It is in just such glorious homes of the English countryside that Britain's wounded are brought rapidly back to health and strength.

to "keep fit." However, the reason does not concern us here. It is a man's house, and he a sportsman. It is perhaps this latter phase that will give us the most esoteric reasons why the country house and its life are what they are; and one of the valuable things that we have there illustrated is the faithful manner in which the builder houses what he finds. The sportsman has become the architect. That the English are the world's greatest sportsmen *par excellence* needs little proof, and has always been a matter of astonishment to his neighbors. It is his creed and he firmly believes that Waterloos are won, and won only, on the playing fields. We see a peer of the realm standing up in the House of Lords and saying with much emotion and to the accompaniment of loud applause that "Lords Cricket Ground is one of the most sacred spots in England"—when it was threatened by a tram line. We read in the headline of the morning paper that "England is in Danger"; we think of risings in India, of native outbreaks in Africa, of the failure of the fleet, only to read and find that what the danger consists in is that the visiting Australian eleven stands a good chance to win the cricket match!

It may be reduced to a matter of cold figures. In 1905 the amount of domestic exports of the United Kingdom averaged about \$38 per capita, while the expenditure and investment for sport was about \$10 per head, or one fourth as much. Some years before the war it was a fact that the 40,000,000 inhabitants of Great Britain spent nearly \$224,000,000 annually in sport. To put it in another way, the expenditure on troops serving out of England in 1907 was \$75,000,000, which plus the cost of the naval armament of \$167,000,000 for the same year, was together less than she spent on her games.

When people tax themselves thus heavily, that is, at the rate of \$5 a head for every man, woman, and child in the kingdom, we may be sure that here we have a people who will go without



Drawn by Sidney R. Jones
The lodgekeeper's house at Haddon, England, "so smothered in verdure as to look almost like some plant of a larger growth"

tennis or croquet up at the Hall, or has a frightfully exciting time taking the Honorable Evelyn and her mamma out in a punt on the river, with tea basket stowed snugly away. To go alone with the Honorable Evelyn would not be considered "quite, quite nice," as even curates at play do not escape the watchful eye of Mrs. Grundy.

House parties are often gathered together for the sole purpose of playing tennis, golf, or polo, and oftenest of all, of course, for hunting. There are the cricket games in which the whole household takes part, including the butcher and baker and candlestick maker, and likely to be captained by any one of them; games in which grandsons bowl out their grandfathers—if they can—and at which the girls play almost as well as their brothers and know quite as much about it. They are forever in boats, and their

delightful little rivers, especially at the weirs and locks on a holiday, are fairly carpeted with craft.

This love for sport, this love for the country, it is that makes them lavish their time and money on their country houses. They are comfortable and substantial because they expect to spend the greater part of their lives there, and their children after them. They are not mere summer places, they are family shrines. A feeling hard for us to understand, who expect to move every decade or so, and avoid having anything individual about our homes as it might interfere with selling them.

This hardy sporting spirit permeating down through the entire mass of the people is of a character so solid as to make us as a sport-loving people seem rather in another class. For we must remember that two centuries and a half ago the settlers



Photograph from Paul Thompson
Taking a well-earned holiday—a party of wounded soldiers being punted across the Thames to Tagg's Island, where they were entertained

of New England ran away from sport in the old country to found a settlement where diversion was but another name for the devil. And we have never quite caught up.

We are more intensive, perhaps, but more sporadic in our sports. Matthew Arnold's analytical mind was not impressed by our devotion to sports because of the child that roller skated up and down the hotel corridor outside his door. Such precocity *did* draw some remarks from him, to be sure, but they had to do with quite another phase of American life. We might also warn the gentle curate in his punt, that when he is asked to go boating here, it means balancing himself on a "scooter" in a bathing suit behind a 60 H. P. motor boat which is being zigzagged over the course, in an endeavor to spill him off, by an even prettier girl than the Honorable Evelyn, and one who has no doubts whatever about its being "quite, quite nice"—she says it's "bully"! Whether or not it will ever be possible to make baseball popular in England, there is no question about the impossibility of Americanizing cricket. Imagine our boys rushing off to play a game that drags its soporific pleasures along from morning to night for three whole days! Or imagine the Harvard-Yale game being halted at the beginning of the fatal 7th while they all sit down for tea! Whether it is ice boating on the Hudson, racing "red bugs" in Florida, or sea sledding on the Sound, there is a general hectic air about our sports, a speed that touches only the high spots.

This same feverish quality it is that impels us to hasten from one place to another in search of adventure and to escape the dreaded bugbear ennui. If we find that we have stayed in one place until there are only a few more "attractions" than can be crammed into a day, we have the trunks packed and the car brought out. Mt. Desert, Lenox, the Adirondacks, we swing around the circle keeping a lap ahead of "nothing to do." Our idea of a desirable country place is one near a railroad station having good connection with the city. It is desirable to have it easy to get to, but imperative that it should be easy to get away from—otherwise father would *never* come!

All this hustle naturally has its effect on the character of the country estate as a whole. The mere fact that it has to be brand new is a problem that the Englishman only occasionally has to face. With a race that stamps "R U S H" on all its commitments it is quite on the cards that they should expect to get-art-quick. Our Tired Business Man goes to England for a holiday, and insensibly the charm of the English country, perhaps dormant in his blood, rises up and takes hold gently on his spirit. The lack of sun which he noted in the cities he finds pleasant in the country, and the soft mist forms



A stone cottage at Ducklington, Oxfordshire. The peaceful fenced-in garden is the descendant of the gloowering courtyard of medieval times

a medium in which the gently rolling landscape, lush with heavy foliage, seems to swim before his eyes as in a mirage. It is like a coat of varnish over the picture, blending and softening the colors together. The hedgerows, dusted over with hawthorne blossoms, run up and down the little hills and around the cottages which are so smothered in verdure as to look almost like some plant of a larger growth. "All things in order stored, a haunt of ancient Peace." He notes an absence of hard lines and sharp angles and a general appearance of weight and substantial solidity absent from the flimsy wooden houses that he is used to at home. He discovers that the Englishman, realizing the charm that goes with age, does not hesitate, if he has to build a new house, to use old material, or at least to use material and methods that produce the effect of old work. It is common to tear down old buildings for the brick and slate to be had, and even for the locks and hinges. Add to this as much hand work as is feasible, and he will have gone far toward getting the old "smell" that he is after. For half-timber work he will use old railroad ties or other weathered stuff. He

thatches his roofs—when the building laws will let him—and uses a variety of different materials in one building, giving his artist's eye a chance at composition, and in fact does everything possible to avoid the smooth, enemic look so common in this country.

It is not hard for the American to understand the feeling about these homes of England, that are so interwoven in our art and literature and which led Sir Francis Bacon to say, "When men do not love their hearths nor reverence their thresholds, it is a sign that they have dishonored both." Charmed with it all, he resolves to go home and throw up a country place like one of these in New Jersey. Proceeding to look into the matter farther, this American "live wire" receives the same jolt accorded his compatriot when he demanded of the old Scotch gardener of a famous estate how



British and Colonial soldiers enjoying a sun bath at Cliveden, the Astor estate in England, which has been converted into a great war hospital

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From the water color by E. A. Chadwick

Whitbourne, Herefordshire, where house and garden are not two things, but one



From the water color by Mrs. E. Stanhope Forbes, A. R. W. S.

Landewednack, Cornwall, the Florida of the British Isles, where winter is almost an unknown quantity



ORDERS AND WAR MEDALS CONFERRED BY ENGLAND

Top row, left to right: The Order of St Michael and St George, limited to 100 Knights Grand Cross (G.C.M.G.), 300 Knights Commander (K.C.M.G.), and 600 Companions (C.M.G.), and awarded to subjects of the Crown for services in relation to foreign affairs. Distinguished Service Cross (navy), awarded to warrant and commissioned officers below rank of lieutenant-commander for services not sufficient to merit the D.S.O. Military Cross, instituted in this war, the counterpart of the D.S. Cross, awarded to warrant and commissioned officers in the army. The Order of the Bath, limited to 50 military, 25 civil, Knights Grand Cross (G.C.B.), awarded to officers ranking as or above rear-admiral or major-general; to 125 military, 80 civil, Knights Commander (K.C.B.), to none below naval captain or army colonel, to 600 military, 200 civil Companions (C.B.); to none below commander or major. In middle; the Victoria Cross, the highest award for both officers and men of the army and navy for signal act of valor in the presence of the enemy. The Distinguished Service Order (D.S.O.), for officers of army and navy recommended in despatches for merit or distinguished service. Bottom row: Distinguished Conduct Medal, to non-commissioned officers and men in the army for gallantry in action; reverse, "For Distinguished Conduct in the Field." The Military Medal, instituted in this war, for non-commissioned officers and men in the army in recognition of bravery in the field, individual or associated; reverse, "For Bravery in the Field." The Meritorious Service Medal, for soldiers and marines who have distinguished themselves or who have given good and efficient service; reverse, "For Meritorious Service." The Conspicuous Gallantry Medal, navy counterpart of Distinguished Conduct Medal, for petty and non-commissioned officers in navy and marines for conspicuous gallantry in action; reverse, "For Conspicuous Gallantry."



Drawn by O. R. Eggers
A modern American living room adapted directly from English traditions. "We notice with the Englishman how well his houses are adapted to him; with us one feels how cleverly we adapt ourselves to our houses"

John Russell Pope, architect

he has good luck he will commonly get the drawings done for the carpenters before the work which they are to explain and illustrate is finished. Meanwhile, the interior decorators are sending water color drawings and estimates in duplicate about the country trying to catch the Owner somewhere. A bevy of landscape architects with portfolios under their arms are hovering about in ambush hoping by studying his schedule to waylay him at some of his haunts. The Owner is constantly having charming gentlemen introduced to him who quietly but firmly lead the conversation around to sewage disposal, refrigerators, artesian wells, vacuum cleaners, and heating systems, until to see any one approaching him with a smile makes his heart sink. He goes to see the work and finds his beautiful grounds looking like a battlefield. Riveting machines clatter in his ears, great cranes side-swipe him, tugging horses lashed by cursing drivers run him down. He thinks sadly of old Ightham Moat, silent and placid amidst its verdure, and tries to imagine that this will ever be like it.

he got such a velvety lawn, to have him reply "Well, ye fust roll it, and roll it—for about 100 years." Such methods hold difficulties for the man who wants to get it in shape before the snow flies. If he admires a certain English yew hedge he is told that rare old prints show it to have been even thicker in King Charles's time. If he asks about the timberwork in some *new* house, he learns that the beams were cut on the estate, stacked and seasoned for a year or so before being used, and that in the old work the stone, after it was quarried, was seasoned for three years, first under sheds and then in the open, and all the time watched over by the master. He is further disheartened at being told that these same stones were laid up with mortar for which the owners were expected to furnish ox blood, beer, dung, sugar, buttermilk, and eggs, for mixing with the lime, and that the plaster always stood and seasoned for a year before it was used. He admires the soft beauty of the whole, the colors laid on by the wind and rain, and tries to believe that he can get the same thing with gray stains from a can. He admires and yet views doubtfully the patched roof and crooked timbers, certainly warped and badly out of plumb, and wonders what the neighbors will say if he builds a new house and yet has it look as old and nice as that! Will he dare to have his specifications read "All timbers shall be crooked, cracked, and rotten, and in every way the worst of their respective kinds. Roofs shall be covered with misfit slate with large patches of red tile; if these give out the rest may be thatched." That certainly looks like the description he will have to give if he wants to reproduce these houses, which—hardened old Philistine that he is—he yet secretly hankers for. With a sigh he is forced to the conclusion that no house is fit to be seen until it is unfit to be lived in, and that it will be as hard to produce mellowness in a house by brute force as it would in a peach. He hardly dares think that the ultimate "I don't care what it costs" will meet its match.

But he gives orders to his architect to rush out his plans, gets an estimate good for seven days, conditional on strikes, lockouts, and acts of God, and with a bonus for quick work. His wife is chaperoning a party up the Saguenay so she hasn't a chance to see them, but *he* looks them over carefully on the Twentieth Century all the way from Albany to Toledo, where he wires the architect to go ahead and *rush* the work. The architect starts the cellar while the drawings are being finished for figuring, and if



Returned soldiers in the horticultural class at Winnipeg, Manitoba, where reconstruction work with wounded soldiers along agricultural and horticultural lines is already well established

But if he have fears for the house, his heart may well sink when he contemplates the garden. "For a man shall ever see that when the ages grow to Civility and Elegancy, men come to build stately, sooner than to garden finely; as if Gardening were the Greater Perfection," says wise old Sir Francis Bacon. Ah, the garden is another matter!

Aside from the mellowness that age gives to the planting of a garden, it wins another advantage over the new work in point of human interest. It would, for instance, be as silly to build a moat in a modern garden, as to build a powder closet in a modern bedroom, but how charming they are if we come by them honestly! How ridiculous if we manufacture them out of hand. And so a wise garden planner will not seek to reproduce some charming garden that he has seen in England, but will seek rather by the study of these famous examples to win the secret of the principles that underly their design, the application of which makes each different from all the others and yet all delightful. The site having been selected, he will find that the scheme of the garden layout followed the line of least resistance as a guide. The

designer had taken things as he found them. On a flat terrain he has not insisted on reproducing a terraced and stepped effect, neither on a hillside will he call for lawns and pools.

The English have adopted a happy compromise between the austerity of the Italian work and the untamed beauty of nature, that seems particularly happy and perfectly adapted to our conditions. We shall hardly be willing to forego flowers as the Italians do, and our summers are sufficiently long to make them one of our chief delights. Whether our nerves will ever allow us to spend decades quietly and happily in hybridizing and cross-breeding experiments, that give very mild triumphs at the best, is doubtful. We are likely to get much more satisfaction from pulling everything up each year, and starting a brand-new scheme.

We may learn many things from this English work which we can turn to good account. We may well adopt their attitude of considering the garden to be really outdoor living rooms and tying it up closely with the house. We can, by playing that the garden is

In the matter of fountains we should certainly go as far as the water meter will allow us, and if we are at all clever and our garden has more than one level, we should be able to use the water several times over. Sundials and statues add greatly to the charm and distinction, but in the case of the latter one must temper his enthusiasm with discretion.

The rule as to the use of stone accessories which one gathers from the examination of many English gardens is that the more impressive and grandiose the view, the simpler and broader must be the use of balustrades, ornaments, etc., so that we shall not distract the eye from the distant prospect. If, on the other hand, there is not much to look at beyond the confines of the garden enclosure, we may well make it gather all the interest to itself as a focus. If there are disagreeable features in the landscape that are beyond one's control we may follow the lead of Repton, the old English landscape gardener, who "planted out" such things in various ingenious ways and often changed the appearance of the scenery in the most surprising manner.

The contention of the strict formalist that as man cannot imitate nature, he should not inspire himself from her, but should forget her altogether and design his gardens in a formal, balanced, and geometrical manner, is as unjust as the contention of the "natural" school, which says that nature abhors a straight line and hence it should not be used. They are grieved over man's having the audacity to interfere with nature by clipping a hedge, though they think it perfectly natural and proper to cut grass. The English in their work, it would seem, have steered a happy course among all these difficulties, and we cannot do better than to go to school to them in these matters. Of course the real completion of a garden is a slower process even than of the house, and our hustling do-it-now business man must not expect it to have the real look on the completion date mentioned in the contract. However, if he is a person of some insight and has studied the old English places to any purpose, he will acquire a conviction, growing ever stronger with time, that he has obtained in his house and garden two of the solidest satisfactions and interests in life, and he will be dull indeed if he does not learn from them to grow more mellow and gracious as he grows older, and much quiet philosophy besides.



Photograph from Paul Thompson

Two heroes of the Somme on the croquet court at Betchingley Castle, whose owner, Mr. Bampf, has given the dower house as a hospital and is bearing all maintenance expenses.

a house without a roof, coax the two into joining hands and thus avoid any abrupt transition anywhere. That the walled garden with its espaliered fruit trees has been used as a dining room before now we know from the biographer of Thompson

— he of "The Seasons" — who tells us that this worthy used to wander about his host's garden in a dressing gown, biting off the sunny side of the peaches.

We may use deciduous or evergreen hedges almost as successfully as do the English, and the accessories of stone steps, balustrades, urns, and statues we can employ much more freely than we do. Flowers are never so beautiful nor show to such advantage as when contrasted with stonework of this character. Pools are ever delightful, where "birds float double, swan and shadow."



Photograph from Underwood & Underwood

Tea on the lawn at Hampton Court, where the Eccentric Club entertained 600 wounded soldiers not long since.



Theodate Pope, architect
 Dormer House, the home of Mrs. Charles O. Gates at Locust Valley, N. Y. Few of us have the courage to gain such a lovely exterior at the expense of our bedrooms



Pond & Pond, architects

COUNTRY HOUSES

owe to

Photographed by
 and



The home of Mr. W. Woodbridge Dickinson at Hadleigh Hill, Royalton, Mich—a distinctly American adaptation of the Elizabethan

A little English cottage on the estate of Mrs. W. K. Vanderbilt at Jericho, L. I., with a sanitary substitute for the thatch roof



A glimpse of the simple and consistent interior of the Orvis house pictured at the top of the opposite page



Warren & Clark, architects



J. A. Bodker, architect

Particularly pleasing roof lines mark this half-timber and stone house of Mrs. P. C. Orvis at Scarsdale, N. Y. Its steeply pitched roofs are of varicolored slate.

that we
OLD ENGLAND

JOHN WALLACE GILLIES
 others



The Stuart Duncan place at Newport is a real achievement in textures, particularly in walls and roof.

The Hanna house on the outskirts of Cleveland, O., is a dignified and restrained adaptation of Tudor architecture.



McKim, Mead & White architects



John Russell Pope, architect



The oak-paneled dining room in the Woodbridge Dickinson house—a very free handling of English motives



The Arthur Scott Burden house at Jericho, L. I., is one of many successful adaptations of the Georgian period of English architecture that are entirely at home here

John Russell Pope, architect

The library in the Washington home of James Parmelee—a pure Georgian room in finish and in fittings



In the stair hall of the Stuart Duncan house at Newport, showing the lovely combination of oak and stone



Charles A. Platt, architect



Trowbridge & Ackerman, architects



Charles A. Platt, architect
The stately Georgian stone hall in Mr. Clifford V. Brokaw's house at Glen Cove, L. I.

The well-known Long Island home of Mr. George Pratt—a notably successful use of Early English Renaissance



Up to the middle of the century, the houses of the South, in the familiar combination of brick and limestone, are indicative of how greatly we are indebted to Georgian traditions.



Charles A. Platt, architect

Architecture Georgian from that of the early days, and so well as the living room in Francis I. Jones's Lakota Valley home.



Walker & Gillette, architects



Grosvenor Atterbury, architect

A room in the W. A. W. Stewart house at Cold Spring Harbor, N. Y., that harks back to Tudor days.



Lewis Colt Albro, architect

A bit of the stair hall in the home of Mr. Geo. Arents, Jr., Saye, N. Y.



James Brite, architect

Mr. Herbert Pratt's home overlooking Long Island Sound—still another of the many types that we owe to England.

(A witty Frenchman, I think it was Talleyrand, said, "All sweeping generalizations are wrong, including this one." Let this, then, be my preface and my apology in advance, if I am tempted into some over-sweeping general statement.
—E. T. S.)



ACH year, in times past numbers of Americans touring Europe

have fallen in love with the picturesqueness of the antique buildings and determined that when they went back to America they would set about erecting just such buildings on their own country places.

Then, on returning, they were usually met by the building expert who advised strongly against it. "Never try to be picturesque; that quality comes only of age, decay, or fortuitous surroundings," is one familiar phrase in use; or, "The practical difficulties or the expense are prohibitory," etc., etc.

I have met such cases many times and am much interested in the question; I am, moreover, satisfied that these objections are wrong, and therefore venture to offer some observations.

When one carefully examines any number of unquestionably picturesque buildings, he finds that they have the following characteristics:

1st, *Complete adaptation to service, or the principle of growth.* In every case, the purpose of the building dictates the plan; modifications to meet the needs of climate and material are admitted, but never a modification of the interior to meet the academic theory of exterior. Such changes must always be false art and repellent to good taste. This obvious growth is essential; and we are beginning to use a little of it in stepped windows on the stairs, etc., always with good results.

As a converse of this, no structural element is ever to be added for the sake of ornament. Thus, a turret added where it has no function, or an unnecessary flying buttress, merely because the turret or the buttress seem ornamental, is so certainly in bad taste that in time it will become repulsive to all who see it.

2nd, *Sound construction, or the principle of strength.*



Parham Old Hall, Suffolk, England, a famous embodiment of all the principles of picturesque building

ACHIEVING *the* PICTURESQUE in BUILDING

By ERNEST THOMPSON SETON

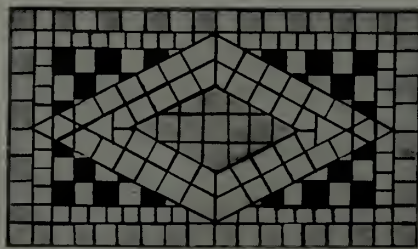
I want visible architecture as the remedy. I want my building not only to be strong but to look strong. The beauty of obvious power is one of the best adornments. The dignity of strength in structure or material cannot be too highly valued.

3rd, *Honesty* might almost be considered a part of sound construction. The element of sincerity is essential. No man ever yet found anything picturesque in the artificial ruins that a perverted taste has established in Kew Gardens, England, or the artificial scenic mountains in our pleasure parks. What possible beauty is there in a cement floor marked out to pretend that it is tile? Nothing can make respectable or pleasing the flimsy box shams that pose as beams in many New York houses.

"How can you find any pleasure in such a contemptible sham?" I asked of a rich New Yorker, as he proudly pointed out the fake beams in his fake castle with their fake carvings of fake wood.

"Don't they look just like real beams with real carvings—at a distance?" he responded; "the strength is supplied by steel girders in the floor above."

"Yes," I said. "I can show you a chromo of a Titian portrait that, to a casual eye, looks like the original and fills as big a wall space; but a second glance shows that it is a cheap copy and devoid of

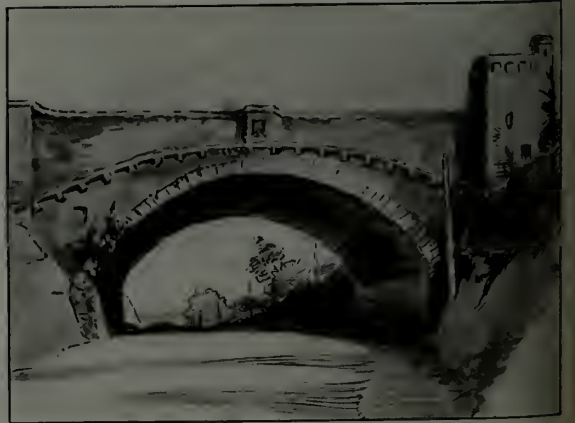


The spirit and the letter: at left, mosaic from a recent church piece, illustrating the charm of variation and the human touch. At right is the same piece "corrected" to show the deadliness of the letter perfect



A good possibility ruined by the machine symmetry, the network of tuck pointing, and the knife-edge straight line at the top

Sketch of the same bridge, showing how it would appear without the tuck pointing and with the machine symmetry broken by the usual lookout or belvedere



A close kin of service is good construction. A building that is not of sound construction is not a building in any proper sense, and unconsciously we take this into consideration, finding no satisfaction in a structure that is evidently doomed to early collapse.

When we look at a typical American town, we find that everything is obviously temporary; no notion of building for the next generation seems to come in. Wooden buildings, with frail wooden floors that cannot last twenty years and poor wooden roofs that cannot last ten years, are almost universal. Nine out of ten are fire traps and doomed to burn down.

We can all remember the condition which a generation ago resulted in visible plumbing. The same sort of thing, in even worse degree, exists in our building.



This 300 year-old cottage at Monsale Dale, Derbyshire, illustrates the principle of growth. Without symmetry, straight lines, balance, or correct spacing, it is yet beautiful. The flimsy bridge in the foreground is a jarring note.

One of Haddon Hall's famous towers that violates all the academic rules, and yet is loved by the world of art.

The exterior of the Cluny Musée, Paris, is everywhere shaped by the inside needs. The turret door from the courtyard.



all of the qualities that give the trained eye peculiar pleasure in the original."

Not long ago, a man, who should have known better, for he was an architect, announced triumphantly that he had perfected a trick by which new beams could be made to look like antiques.

"And why do you wish to perpetrate such a petty fraud?" I asked, as soon as his first spasm of joy was somewhat spent. "I don't want my beams to *look* old; they are not old; they are brand new; and I don't want them to look what they are not. If you have any honest scheme for making them beautiful, I'd like to know; but this continued piling up of fake on fake simply nauseates me. Good things are often costly, and we all want them; but, if my means limit me to a mud hovel with a tar paper roof, it will at least be sincere mud and honorable tar paper, un concealed and unashamed."

Time, erosion, and perspective will often do wonders for a building of poor lines and plan; but no amount of disrepair, short of conflagration, or of perspective, short of the vanishing point, will discover anything picturesque in imitation stone blocks of cement, or tin-front houses. It is beyond question that, thanks to their sincerity, the back views of most modern houses are more pleasing than the front or show views.

Of all the degrading frauds that have been established by builders in modern times, I know of

none more contemptible than *tuck-pointing*, or line pointing. Originally, some contractor who was building a wall of poor brick undertook to give it the appearance of pressed brick by covering it with a coat of horrible red paint, and then laying out on it straight lines of white paint, all with machine precision, thereby losing the pleasant terra cotta reds of the brick, and the varied lines of the honorable mortar; setting up a contemptible fraud and producing a thing unspeakably hideous to a person of artistic training.

It was so easy to hide bad work by this trick that it became popular and was applied to stonework; rough stonework could be passed off for cut stone, if it were cleverly tuck-pointed.

It seems to me that there are few things more agreeably picturesque than an honest piece of

rough stone masonry, carefully flushed up; and few things more contemptible than the imitation square-meshed netting with which so many of our stone buildings are now disfigured in their noisy clamor to be taken for something which they are not.

Of a slightly less offensive nature is the present craze for elaborating each stone and compelling you to look at it as it shrieks out, "See me; a real boulder, or a real piece of marble; how proud I am!"

Many country houses run mad on this idea. They select the most aggressive stones they can find and purposely omit as much of the cement as possible, in order that each stone may intrude its noisy, naked charms on your attention.

One proud owner, a man of literary culture, who showed me his latest insanity asked what I thought of it.

I responded, "What is your favorite poem?"

After some thought, he replied, "Whitman's Lincoln."

Then I said, "Suppose I recite it in this way: 'O,' an exclamation sometimes spelled 'Oh,' but nearly synonymous.

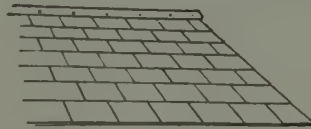
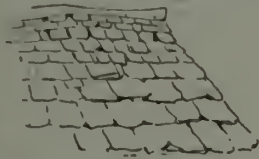
'Captain,' merely used in a symbolical sense, and originally there was an 'i' between the 'p' and the 't.' 'My,' the first personal possessive pronoun; it is here spelled with a capital letter, because it is the first word of the new phrase. 'Captain,' a repetitive verbalism, in this case, helpful for emphasis and rhythm;" etc. etc.

"Now of what use is the poem so rendered? What do you get of the big thought? That is what I think of your framed and outlined boulders. And the old missions, whose convents and chapels you claim to love and find inspiring, were far too simple and sincere to indulge

in any such atrocity as your freak wall of selected boulders."

Take a walk along almost any of our great thoroughfares, if you wish to see how completely massive, costly, and otherwise respectable buildings can be made tawdry and vulgar by this offensive disfigurement. Imagine the temple of Karnak with such a mutilation that one could see neither temple nor column for the stones.

We are quite safe in laying it down as a law that any builder calling attention to each separate and visible stone in his building is going



A picturesque cottage gable in Sussex, charming in line variety and human touch; and the same gable "corrected" to modern standards, ugly in its machine-made regularity and unfeeling monotony.

West Gate, Southampton, England. How much would be left of the charm of this old gate if all variation of surface were removed and features added to make it symmetrical?

A famous old Cromwellian inn at Saffron Walden, Essex, England, which illustrates the first four principles. Contrast it with the machine-like regularity of the new building at extreme right.



A piece of old and good work spoiled by recent additions in the shape of stenciled patterns masquerading as timbers in the second-story panels, and simulated beams painted on the ground floor wall.

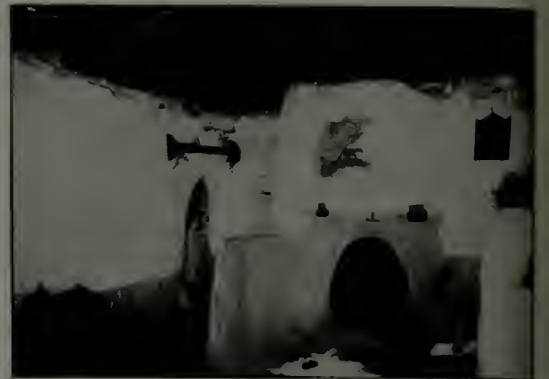




The only lapse from the seven rules in this pueblo interior is in the heavy beam over the alcove being plastered instead of exposed



An archway in the Cluny Musée which is redeemed from the stigma of symmetry by the chimney, the tree, the stairway dimly discernible within at the left, the details, and the adjoining masses of buildings



Another pueblo interior whose genuine hand-finished walls, massive beams, and honest simplicity are superbly picturesque

wrong, and it is ten times worse where this affectation is allowed to appear inside the house.

4th, *Variety*. An artist who does not constantly vary his tone values and lines is not likely to reach a good result. My painting professors, Gérôme and Bouguereau, used to tell me that there was no such thing as a repeated value; always there are shades of difference.

What should we think of a statue or a picture of which one side was an exact reversed replica of the other? No such thing ever happened in building where the law of growth was allowed free expression.

There is not a famous building in the world, any more than a forest tree, of which one half is an exact replica of the other, reversed. This machine symmetry was unknown to the great masters, and it is impossible, if we admit the law of honest service.

The Parthenon, which is the final refuge of the symmetrists, was wholly redeemed from machine symmetry (if it ever had it at all) by its absolutely asymmetric and enormously important decorations, as well as by the fact that it was part of a wholly asymmetric group of buildings.

As to the Parthenon and its influence, it is generally conceded that it was the most beautiful building of which we have any knowledge; its proportions and decorations have been accepted as standards by all builders and architects; and yet, I venture to say that that same Parthenon has been the greatest curse to architecture of any building on earth, because our modern builders have attempted blindly to copy it, ignoring the fact that it might be perfect for a Greek temple in a southern clime, and yet wholly unsuited to any modern purpose in our climate.

What should we think to-day of a steel ship-builder who persisted in modeling his vessels after the Greek galley—even though he sacrificed both strength and speed in doing it—because they were classics? Besides all this, the Parthenon is now a mere bleached remnant, which has not prevented our copyists from slavishly repeating even the bleach; so that its offspring are everywhere as absurd whited sepulchres, always pretending to be something different from what they really are.

There can be little question that the Golden Age of domestic architecture was about the time of Elizabeth; then men first realized that houses might be made comfortable as well as strong. Their simple sincerity in seeking for service and good structure with native material produced ideal dwellings of which the keynote was the roof. An offer of hospitality is "Come under my roof," not "inside my walls."

Then the dreadful thing happened. The madmen of the Jacobean time discovered the Parthenon and determined to be Classical, rather than honest. They built the monstrosities that yet disfigure the Strand in London, and even talked about "correcting" the Gothic cathedrals.

Their attitude was very exactly reflected by an architect who recently showed me his plan of a new mansion *with the roof and*

chimneys left out. "I wish I could forget the accursed things altogether!" he exclaimed; although he knew they were the essentials that must dominate the final building, for the fireplace and the roof-tree *are* the home. But the Parthenon had none and he knew not how to handle them. Can stupid servility go farther?

Why did he not look at some honest Tudor buildings, if he had to copy something?

If we wish to see the evil of mere copying, we need but glance at some of the "grand old Colonial mansions." They consist usually of a square, uncomfortable, box-like house, in front of which is built a huge Doric portico that has absolutely no relation to the house, the structure, the country, or the comfort of the indwellers. The porch darkens the upper rooms, where one wants sunlight, and turns neither the sun nor the rain from those

who would sit outside under it; while the preposterous columns shut out the view for which the house site was most likely selected.

In contrast, let us turn to such buildings as Haddon Hall, Cluny Musée, etc., and see how they would look if corrected into classical structures of machine symmetry. One might as well correct the Phidian Hermes into symmetry by the same process. Even the face of that classic statue is wholly asymmetrical; indeed this is true of all the famous faces in statuary, as of all the famous buildings in existence.*

There is nothing, perhaps, more fatal to the picturesque than machine multiplication, no matter of what part. The Venus of Milo may be ideally beautiful, but a thousand of them in a row would hardly be pleasing. The lowest and ugliest type of modern house is one with all the windows the same; and the most picturesque is one with a variety of windows suited each to the place and purpose; which, of course, presupposes that some will be duplicates of their neighbors, if they are obviously of the same series—that is, have a function of the same nature and magnitude.

A Western artist who drew and painted many of the exquisitely beautiful Indian mesa dwellings, determined to build himself a studio along the same lines. He made a pleasing rough sketch and then actually allowed a local architect to "correct it;" that is to remove all curves, all variants, all knots of the wood, all asymmetry, all hand touches; and to substitute boxes and thin sawn lumber for the honest untouched or hand-tooled beams, i. e., he allowed the architect to eliminate the very things that made it charming—the hand touch, the color, and the honesty. He wonders why people shudder as they see it. And yet there can be little doubt that the model he had in mind was one of the finest pieces of architecture in America. It is safe to say that, with some notable exceptions, many of our great cities are on a lower architectural plane than any typical Indian pueblo, such as Laguna or Walpai.

*Since writing the above, I have come across the following: "I found the love especially of symmetry invariably associated with vulgarity and narrowness of mind." Ruskin's "Seven Lamps of Architecture," page 216.



A dwelling in Laguna, N. M. Many of these Indian houses antedate Columbus

Variety of surface or texture is as important as variety of line; but the best of all variations is that which comes from the loving human touch. How quickly it makes one feel the unpleasantness of anything approaching machine work; far better have imperfect work by the human hand than the obviously exact work of the machine. A Rembrandt etching, with its many tentative lines groping after the exact one, must always be a nobler thing than the letter-perfect steel engraving of the same subject.

In the Alcazar, at Seville, are rooms decorated with wonderfully fine Moorish tiles, hand painted, of course, and each of a unique pattern, though they are enough alike to be in series. The effect is superb. A section of the tiles had fallen and been carried off long ago, and the modern authorities decided to restore the wall. They selected one very good tile and had a thousand made like it. These were used to fill the blank, and the effect is deadly, they are so obviously ground out of a machine.

5th, *Color*. Of all elements of the picturesque, beautiful color is the least expensive, the most easily obtained, and the most ignored by builders. Some of the buildings now accepted as delightfully picturesque were not originally designed in colors, but have been helped by the accidents of material and climate so that they are now favorite subjects for the canvas. On the other hand, many of the greatest buildings were color studies.

6th, *Curvature*. A straight line is less beautiful than a curve. There are no straight lines in nature. When man makes a straight line, nature speedily sets about bending it. Much of the charm of the old buildings is in the curvature of most of the lines. We may, indeed, accept it as a rule that straight lines should be avoided, except where they are essential to the stability of the structure.

This principle may be denied by academic builders when brought in in the natural way of structure; but they do not hesitate to bring it in artificially, when they plan a pagoda roof, a curved mansard, or an imitation thatch. They use it because some previous building had it; but do not dare to do so for the sake of its beauty, and, in the case of naturally curved timber, for its strength.

An architect friend approved one of my down-curved roof lines because it was like a bent old tile roof; and another of reverse or up curves, because it was like an old thatch; both of which I resented. I didn't make them to imitate anything. I made them so because the timber was naturally

bent and I wanted the curves. He was too blinded by the rules to see it.

I have used great restraint in expressing this idea. My conviction is that a long, absolutely straight, unbroken line is always ugly; there is no such thing in nature or in any standard work of art.

7th, *Simplicity*. There was a time when builders in New York seemed possessed of the idea that complicating the surface was beautifying the building; and many pretentious structures went up, having every portion of the inside and out cluttered over with the most appallingly ugly machine-made ornaments. There are not a dozen buildings on Fifth Avenue below Fifty-ninth Street that could not be vastly improved with an ax, a jack-plane, or a hundred years of sand blast. Fortunately, the epoch of vulgar, tawdry ornament has passed, or nearly so.

These, then, I consider the prime elements of the picturesque. They are the basic elements of every building that I know of that is by common consent called picturesque; and I defy anyone to make an unpicturesque building if these principles are employed. It is not to be supposed that they were consciously incorporated by the builder of every picturesque old barn, with the exception of the first two, service and strength; the others were fortuitous; but, granting the same, there is no reason why we should not go directly to them. This I have tried to do in my own build-

ings. Some think them a success; some do not. They certainly are a success in one particular, which cannot here be demonstrated—that is, they are, in places exquisitely beautiful in color. They bear precisely the same relation to the very big, very modern buildings of a rich neighbor that a living tree trunk does to an iron standpipe. In short, they are, I think, exceedingly picturesque.

Now, it is to be noticed that I have not yet attempted a definition of picturesqueness. I see no fun-

damental difference between picturesqueness and beauty; the converse of both is ugliness; I cannot recall any beautiful thing that is not also picturesque or any picturesque thing that is not beautiful.

In this article, I have sought my illustrations of the picturesque in the field of architecture; but the principles herein set forth are universal. Unfortunately, we have been blinded by academic rules in architecture, just as we once were in painting and sculpture, and can only hope for an early revolution.



Mr. Seton's woodshed and toolhouse—one of the group of buildings on his own estate upon which he has put into practice the theories expressed in his article



Structural timbers are frankly recognized as timbers, not as geometrically sawed pieces of wood. Unfortunately the chief charm of this garage, its color, cannot be reproduced

Upon the plaster panel over the windows are incised these words: "God's work is good and given free, "Man's work dear-bought and bad, "So marvel not I use the tree "As God it finished had."

A detail of the woodshed. One doesn't usually have a dormer window in a woodshed, but that is obviously where the pigeon loft belongs



The SOUL of our COLONIAL ARCHITECTURE

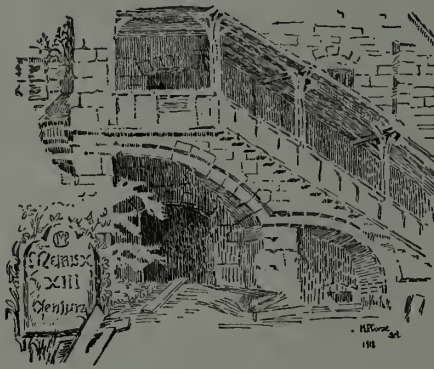
By MURRAY P. CORSE



AN ART student in one of our colleges, recently, on being asked for a definition of Gothic and Classic, produced the eminently satisfactory answer: "Gothic is anything with a pointed arch; Classic anything with columns or pilasters. A mixture of the two produces early Renaissance." This definition, which has at least the merit of brevity, produced great hilarity among the well informed. It reduces the architect, they said, to the position of an esthetic bartender, who, if a good mixer, could serve out styles by merely turning on a tap. Unfortunately, the very people who ridicule this crude expression seem willing to accept the point of view involved; while some, even, who have made a careful study of historic styles, will loosely define Gothic as a "system of balanced thrusts."

This whole attitude springs from the deplorable mistake of confounding form and substance, of supposing that a mass of details can make a style. Gothic is no more a system of balanced thrusts than a human being is a "skeleton with a little flesh wrapped round." This may be the more easily appreciated from a consideration of that dreadful caricature of Gothic which became so popular about fifty years ago, and was known as "Victorian Gothic," but wasn't Gothic at all. That some people couldn't tell it from real Gothic proves nothing (or at least nothing pertinent); some people couldn't tell a paste diamond from a real one and there have been made automatons that could walk and speak and generally appear more lifelike than many human beings!

But the soul of the human being has not been reproduced by mechanical means; and the soul of Gothic still defies analysis, although whole books have been devoted to the subject. Sometimes an epigram proves more enlightening to the imaginative, such as Viollet-le-Duc's famous remark: "Given paper and mucilage, the Gothic architects would have found a way to raise their great cathedrals, and to make



In this little stairway at Meaux note how harmonious are the different treatments of the wood and stone parts

them proof against the elements." But the best way, unquestionably, is to go to sources. In the accompanying pen and ink sketches are bits from the middle ages as Gothic as the Cathedral of Amiens itself, yet showing no trace of pointed arch or flying buttress. In spite of diversity, there are certain points of similarity too striking to escape even the least observant. Nor are these points of similarity merely negative, such as the absence of columns and entablatures and other so-called Classical details; they are, on the contrary, most emphatically positive. Conspicuous among them is the manly and virile characteristic of relying on merits of design, good mass and silhouette, and harmonious proportions for the architectural effect.

These qualities, by no means confined to Gothic, but found in their fullest expression in the art of the Middle Ages, can be more easily appreciated than expressed. Too numerous even to be listed, they deserve, nevertheless, more study than they have received. The following points especially should be considered:

I—A certain naturalness or spontaneity, as opposed to the artificiality of the pseudo-Classic. This has been often ridiculed as "naïve," "unsophisticated," and so on, but it is one of the greatest of architectural merits.

II—A careful adaptation of material to needs, and of treatment and finish to material. One sees in the charming little stairway at Meaux how appropriately the wooden parts are treated, how different they are from the stone, and yet how harmonious is the whole. So leaf and bud are different from branch, yet all belong to the same tree.

III—A careful choice of these materials, as well as of outlines and masses, to harmonize with the natural surroundings and backgrounds. This is not so easy to see in illustrations, but is very striking to one who travels. Mont Saint Michel is the most famous example of this characteristic, but even the little peasant's house illustrated shows what I mean. Its rough, unfinished quality harmonizes



The old Paul Revere house in Boston shows Gothic influence in its casement windows and second-story overhang

© Detroit Pub. Co.



Compare these two views of the Nourse house, in Danvers, Mass., and note how naturally the one results from the other, how unmistakably they belong together

charmingly with the rough Brittany landscape.

The whole may be effectively summed up in the phrase: "Gothic architecture springs like a growth of nature from the ground on which it stands." These qualities are unmistakably and unquestionably Gothic. They are the children of nature, radically and fundamentally opposed, as we shall see, to the spirit of the succeeding pseudo-Classic. But on the other hand, no one can help being struck by the continual reappearance of these qualities



in the earliest houses that our ancestors built in this country. This mass of solid and substantial qualities is the backing, the foundation, of our national art, and it should be clearly recognized as such. To it is due the strength and virility of later Colonial. It is, in a word, the Gothic warp in the fabric of Colonial architecture.

Unfortunately there is no one building in which all of these characteristics may be seen at once. Indeed we shall have to travel far and wide to get a comprehensive view. The accompanying photographs, however, offer a suggestion, and will, I hope, prove inspiring. The Ward House in Salem, Mass., and



A fifteenth century manor house as Gothic as the Cathedral of Amiens itself, yet showing no trace of pointed arch or flying buttress

rather fashions, as we can hardly dignify them with the name "style"—which are shocking even to the least observant. Com-

the famous House of the Seven Gables in the same town, show a number of the more important features, such as the steep roof; the large and massive chimneys which more than anything give character to the home; the windows exquisitely proportioned and placed; and that curious and romantic mystery of the style known as the second-story overhang, with its carved "drops." Originally these houses were also furnished with casement windows, frequently leaded with diamond panes, but of these,

although there are many charming restorations, the few remaining originals are in museums. The general impression produced by these exteriors is thus not only one of great beauty, but, what is of far more importance, it is strikingly harmonious and consistent.

The interiors are as lovely as the outside, and also in perfect harmony. This is another vital quality of Gothic, which is Gothic through and through, from top to bottom, inside and out; a severe commentary on much modern work which presents a variety of styles—or

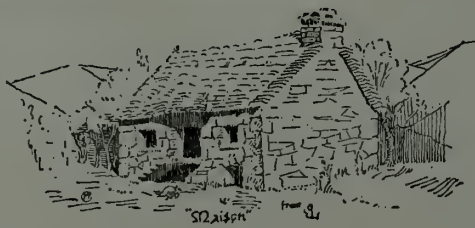


The John Ward house at Salem, Mass., built in 1681

pare the two views of the Nourse house in Danvers, near Salem, Mass. How naturally the inside results from the façade. How unmistakably they belong to the same house, or at least to the same style. The outside, with its simple, sturdy lines, depending, as we have seen, for architectural effect entirely on mass and proportion; the inside with its huge summer-beam and open rafters, the magnificent fireplace, symbol of warmth and hospitality, the simple and dignified sheathing on the walls, than which no more effective background has ever been devised. But if you still persist in taking these features for the all-in-all of the style, the whole story, I have spoken in vain, for they are but the outward and visible signs of an inward and spiritual grace.

As the human soul must manifest itself in physical acts, so in these and similar details does the soul of an architecture find expression. In the skilful handling of these simple elements, in combining them into a perfect and harmonious whole, the Gothic spirit shows its strong contrast to the ensuing pseudo-Classic—a style that could never rest content without the introduction of strange features having nothing to do with the structure itself: pilasters and entablatures stuck on as an after-thought; which seeks to disguise the roof back of balustrades where no one goes; or even attempts by various subterfuges to turn an honest wooden building into stone. Observe that I do not criticize this latter method. One is surely at liberty to do what he likes with his own home. Indeed, like the old sailor, homesick for the sea, one would much better make his dwelling resemble a gunboat, thus putting his own personality into it, than to accept blindly the dictum of some one else. For the present I am only drawing a distinction, though later I shall hope to show the serious consequences of artificiality.

At this point some one may object that I deliberately discredit



This little peasant's house shows a choice of materials as well as of outlines that harmonize with the natural surroundings

thatched cottages might be said to have come down almost to the present day.

Of still greater importance was the religious aspect. The whole Puritan movement was of course largely a protest against the paganizing influence of Rome. Although this statement may require qualification, the fact remains that the Pilgrims as well as the Puritans associated everything evil with the Eternal City, and the Classical influence in architecture must have reminded them of what they most hated.

Our ancestors, educated among sound architectural traditions, were thus fortunate in having a clear field, free from the trammels of fashion that were steadily enslaving Europe. They obtained much inspiration from nature, which has always proved the noblest source of inspiration; and their work reflected two of nature's most important characteristics: namely, adaptability to surroundings, and substantiality of construction. The style that they developed is, of course, primarily a domestic one. Nothing but their houses have come down to us; and while it is to be regretted that we can form no idea of how they would have handled a cathedral or a large public building, let us put aside regrets for what is not, and accept appreciatively the few examples that survive.

These fine old buildings have suffered from a shameful neglect; at first because the encroaching tide of Classicism made them appear old-fashioned; more recently because they are held to be

later work by insisting too strongly on the term "pseudo-Classic." "What of the real Classic?" they demand. This term seems as hard to define as that of gentleman. If it means anything we must, to be logical, give it an astonishing breadth of application. If not, we may as well leave it out of the discussion. Webster gives among other definitions the following: "Conforming to the best authority in literature or art; chaste; pure; refined." Which leaves us where we were before, as no two people ever agreed on what constitutes the best authority in either literature or art. But truly, if our language is to retain its force, the term cannot be applied to anything showy or in dubious taste; nor to anything dull, prosaic, or uninspired. Thus guide books grow more than usually fatuous when they speak of the miles of deadly colonnade in Washington as "Classic." And those who have learned to appreciate the fine points of architecture will not hesitate, though it may shock the Philistine, to pronounce the façade of Notre Dame of Paris one of the most Classical of façades; and the south tower of the Cathedral of Chartres as Classic as the Parthenon itself.

Similarly, the Gothic spirit survived long after its form had apparently passed. Indeed the Gothic spirit has never completely expired; though never was it less in evidence than during that horrible pseudo-Gothic revival of the last century, which was even farther from real Gothic than the baroque is from real Classic. Naturally, however, not only the spirit, but the forms as well, survived longer in small and domestic building than in the large and monumental; so that when our ancestors came over to this country, early in the seventeenth century, they were by no means so far removed from the Gothic era as is commonly supposed.

Even though we were to find a full-fledged Gothic cathedral somewhere on Cape Cod, unmistakably built by our first ancestors in this country, it need not necessarily surprise us, when we consider the historical settings in which they immigrated. "The light of the Renaissance, sweeping before it the darkness and super-

stition of the Middle Ages, dawned over Italy at the beginning of the fifteenth century," it is true, but it reached France considerably later, and only trickled through to England in a somewhat diluted form still later. Moreover, the Renaissance was for a long time the architecture of kings and courts; even the higher *bourgeoisie* did not take kindly to it at first; and the Gothic was so deeply rooted in the hearts of the people that an unbroken Gothic tradition in

unsuitable for modern requirements. The small windows do not let in enough light; the casements cannot be made weather tight; the façades, while possessing a certain picturesque quaintness, are not at all suited to our ideas of magnificence. The objections, especially about the light, are generally made by critics who have never been inside the houses that they abuse, but the attitude again shows the eternal mistake of confusing form and substance, of supposing that a mass of details can make a style. From a careful study of the soul of this art we can learn more, perchance, than is to be found in all the books on architecture, not even excepting Vignola and the furniture makers!

Perhaps the most valuable lesson that these ancient works of art can teach us is the ability to see just where the fault with modern work lies. For the great majority of dwellings to-day are commonplace at best. I say this with no desire to be fault-finding or disagreeable, but we must recognize the obvious facts before we can hope to mend matters. The situation is all the more provoking in face of the magnificent heritage left us by our ancestors. The general public, when it gives a thought to the matter, refers it to some obscure quality on the part of the architects, such as being too "Frenchified" (noble attempt to blame the *Beaux-Arts* for trouble that originates at home), or else as too high and mighty to bother with houses. The architects frequently defend their productions with vigor in just the proportion that they are dissatisfied with them, and then, with fine consistency, demand to know what you can expect with a public so parsimonious and indifferent.

Undoubtedly there are grievances on both sides. The architect of domestic work is scandalously underpaid; consequently he does not and cannot give it the time and thought that it deserves. But the trouble lies much deeper than this. So much has been said on the subject that a long suffering public is apt to turn from the whole business in disgust. But why, may I ask, has it occurred to no one to seek a solution of the difficulty by examining the evidence itself? You can theorize at length on social conditions; on the influx of wealth or the decrease of learning; you can rant against the automobile, labor unions, or the public schools; but would you really know where the trouble with modern domestic architecture lies, go out and look at some houses.

This seemed such a novel as well as sensible suggestion to a certain friend of mine, a person of average intelligence when not on duty (for he is an art critic by profession), that he tried it. The first thing that struck him was the fact that so few suburban houses look like *homes*. His small boy went still farther and announced solemnly: "Why most of 'em don't even look like houses!" Pressed for his opinion of what they do look like, he continued: "Oh, they look like Noah's arks; or they look like overgrown dog-kerinels. And some of 'em look like birthday cakes without candles but full of windows . . ." the list grew quite formidable.

Any one who wishes to try the experiment will arrive at the same conclusion. The old idea that walls and roof and doors and windows make a house has been abandoned in favor of all sorts of weird and start-

ling devices intended to catch the attention by their "originality" rather than by any intrinsic merit. The result is a lack of harmony, to the sensitive painful at best; at worst, something too unspeakable for words. Even this we might be willing to pardon if it in any way expressed our national characteristics or aspirations; but this is just what I complain of most bitterly, it does *not*. The appalling failure of to-day lies in the absence of any personality whatever.

How many of us can say: "This is my home. I live here. I builded it thus and thus, because I wished it so, and here I hope to die." So we can imagine Paul Revere saying, not without pride, as he surveyed the magnificent building where we may go to admire—and worship; and so the old houses echo, though their builders have long since passed into history. To-day it sounds more as if the owner said (and the house will echo him as long as it stands): "I got the best architect that I could afford. The bay window was my idea—I saw one like it at the Jones's. My wife insisted on the sleeping porch, and the architect would put on that funny roof. We compromised on the windows; he wanted small panes, but I couldn't quite stand for that; so we had half and half; small ones above and large below. I'll have to stick here a few years longer; then when I get a raise I'll move into something better."

For this expression of my views I shall doubtless be put down as a bigoted antiquarian, one who hates anything modern and cannot forgive even the Renaissance or the Classical orders. This is far from the case. I have the greatest respect for our eighteenth century Colonial, nor am I insensible to the many works of merit that are being produced to-day. Moreover, I realize that conditions change, and that it is not possible, even were it desirable, to revive the old. But I have expressed myself thus in order to make the lesson more forcible, for I am convinced that the pseudo-Classic spirit with its indiscriminate use of "orders" has led us far afield, and tends to lead us farther every day. We need to get back to nature, to rid ourselves of encumbering conventions (which are not the same as traditions, be it clearly understood), and the only way in which we can do so is by studying carefully the works of art, preferably those of our own ancestors, that are free from such encumbrances. But this study should be undertaken with the utmost precaution.



The south tower of the Cathedral of Chartres is as Classic as the Parthenon



The original of Hawthorne's "House of the Seven Gables" shows a number of Gothic characteristics, such as the steep roof, the massive chimneys, and the second-story overhang with its carved "drops"



FROM A COUNTRY WINDOW



THE OLD-TIME New England farmer is reputed to have been either austere and solemn, with his lips set in a thin, straight line, or else shrewdly humorous, with crowsfeet in the corners of his eyes. From personal observation I can report that these types, in their more intensified forms, have become practically extinct. Now and then, however, one catches a flicker of the old fire.



NEW ENGLAND
RUSTIC
WIT

They say that Amos Pitman is not at all a nice man when in liquor; but I can testify to the calmness of his temper at other times, and to the native subtlety of his humor. Amos comes as near to the old type as any one I know. He is one of the few old-timers left in our neighborhood who can successfully sow clover and timothy by hand on a windy day, or who are really artists with the cradle and flail. And his wit is of the traditional sort, too—dry and crisp and crackling.

Most of the jokes one hears in our community are not remarkable for their originality. They have to do largely with the slowness of horses and the shortness of haircuts. But Amos Pitman is above all that.

I overheard one example last summer. Amos Pitman and Hiram Belden had been threshing my rye on the barn floor in the old-fashioned way, and had stopped for a smoke when young Fred Cooper strolled up to pass the time of day. Presently I heard Fred bragging that he had pitched off four loads of hay in rapid succession, averaging four minutes to the load. For my own part I can believe anything of youth and strength like Fred's, but Amos was disposed to be sceptical.

"How many minutes?" he asked.

"Four," asserted Fred.

"Who timed ye?"

"Gene."

"Four loads?"

"Yep."

Amos took his pipe from his mouth, and rubbed his bristly chin reflectively for a moment, gazing up at the cupola of the barn.

"Wal," he drawled, without the flicker of an eyelash, "I'll think that over, Fred, an' if I can believe ye, I will."

WE HAVE BEEN acquiring a sort of war-bread philosophy, partly from a sense of patriotic duty and partly to make the best of the matter. Incidentally, we have been exercising our mathematical faculties. Our grocer has been selling us wheat flour if we buy an equal amount of other grains, except that rye flour and graham do not count as substitutes. Cream of maize and barley are all very well up to a certain point, but the genial grocer persists in offering cornstarch. There appear to be limitations to the daily domestic consumption of cornstarch.



WAR
BREAD
PHILOSOPHY

However, we have been learning something of the pleasures of variety in breads. The consumption of white bread is, after all, largely a matter of habit, though a habit not altogether easy to break. Put a little rye, barley, or cream of maize with it, and you hardly know the difference. The half-and-half problem is more difficult to solve, but even so one can become mistress of the art of mixed-bread making with a little patience and forbearance on the part of the men folk.

One reads in Scotch novels of the delights of oat-cakes, barley-cakes, scones, and bannocks, which prove to be largely a matter of literary tradition. But why not muffins at least twice a day? Why cling to the wheaten loaf, sliced off with a knife? Cornmeal muffins, graham gems, and rye muffins may be interspersed with muffins in which barley or cream of maize may be mingled

in equal parts with the day's allotment of wheat; while bran, so long the favorite delicacy of our cows, has become one of ours. We have added to our culinary repertoire at least seven new kinds of muffins, and breakfast has become for us a matter of pleasant surprises. Then there is always the delectable buckwheat griddle cake, hot and brown, with genuine maple syrup. Add to these four or five palatable forms of war loafs and you have enough for a change every day for a fortnight. A little barley or cream of maize even goes into the cake or piecrust, and with every mouthful we eat of our newly discovered delicacies we feel that we are saving an equivalent mouthful of the precious wheat to be sent "over there."

Some of our hill-born neighbors, I fear, have not yet acquired a war-bread philosophy. They appear to look upon the bread-stuff situation as a sort of conspiracy on the part of town grocers against the rural communities. There has been a deal of sickness hereabouts, due to the severity of last winter, but Amanda Beaman attributes her own case of March grippe to war bread. "What can you expect," she complained, "where we're compelled to eat chicken feed? And it ain't rightly good chicken feed, either. I fed some of it to my Rhode Island Reds and four of 'em died of the roup. When do you think the war will be over?"

RUMMAGING IN AN ANCIENT, dusty attic the other afternoon, what do you think I found? Why, an old swift, an



THE MIRROR
OF
HISTORY

ingenious, home-made contrivance of Colonial times that had lain there discarded for years, just as ready for use, with a little brushing, as it ever had been and still as eloquent of the days when each pair of hands was so full of good works that nobody could stop to hold a skein of yarn for anybody else. So diligent were they then that little Puritan maidens of six were expected to knit their own stockings and mittens—notable housewives in the making.

But what really interested me so much was that this old swift has now many, many descendants, grandchildren and grand-children, for some clever manufacturer seized the idea, and we war-workers can knit and knit for our men overseas without a remorseful thought of the protesting, prisoned male who used most unwillingly to hold the yarn. We all are so busy nowadays! Perhaps we shall never quite reach the high accomplishment of those patriot women who spun and dyed and wove and made thirteen thousand great-coats for the Continental Army, but, sometimes, I feel as if history were holding up a mirror to us and we were being reflected in it. We have caught not only the spirit but the substance, and definite, concrete things as well as abstract virtues are becoming ours. Do you realize, Madame, when you pick up one of the leaflets that the Food Conservation Committee distributes, and read the recipe for combread with raisins, that it is just an old rule revived, known to the Indians, adopted by the Colonists—"fresh maize-bread, baked in oblong shape, mixed with dried huckleberries, which lie close in it as plums in a pudding."

Again we are becoming nationally self-denying; abstemious that the greater good may be achieved. Our Revolutionary ancestors renounced "all meat of the mutton kind" that the country's cherished wool industry might grow; we that our soldiers may be fed. Once more we are on the road to making the most of what a bounteous nature has bestowed upon us. The eighteenth century farmer was able to record, "Nothing to eat, drink, or wear was bought, as my farm provided all."

Isn't this the silver lining to our war-cloud that, bound with threads of faith and hope and much devotion, our country is being woven into a national fabric as sturdily enduring as the homespun of our ancestors?



The restraint shown here in the use of ornament and decoration bespeaks, the practised hand. It might indicate a man's room—only it doesn't. Fireplace in the living room of Sara Copeland

FIREPLACES *and* PERSONALITY

By G. W. HARTING

Photographs by the Author

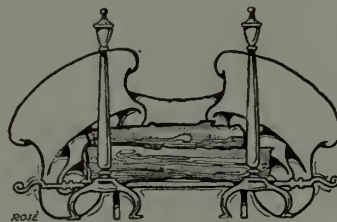


EVER since the introduction of the fireplace as a habitation for the fabled gift of Prometheus the hearthstone has been considered the heart of the home. As such it should be the logical vehicle for the expression of its owner's

personality, but only after long years of evolution has it come into its own.

In my quest for such characteristic mantelpieces, I found many unique arrangements. One had as its motif an old-fashioned Franklin stove; another, with an Oriental aspect, was in the dining room of a well-known designer who had lived for many years in the Far East—years which had left their impress upon him and in natural sequence upon his fireplace. A mantelpiece in the studio of an artist who, in his illustrations, believes in directness and simplicity of composition, carried out these ideas.

The mantelpieces illustrated here are presented not as examples of good or bad design, but merely to show what the individual has created for himself; not the individual who has studied architecture and knows all the rules of the game, but the one who has made something purely to his own liking, regardless of rules. These mantels are widely divergent in type and in color schemes.



Two of them are in the studios of women interior decorators. In one house I found a very pleasing mantel arrangement, not only of the articles about the fireplace, but in the color scheme. It is the photograph showing the Chinese statuettes on the mantel, with the hearth broom at one side. This fireplace was interesting to me by way of comparison with the others using the statuettes. While similar in this one particular

they are so widely different in general conception as to show an entirely different personality.

In a down town studio, I found a very unobtrusive fireplace made most attractive and homelike by the use of Oriental articles. It is in the work room of an artist who loves color and lots of it. The colors in the hangings are varied and rich and this richness in the arrangement is increased by the addition of brasses and copper. In the living room of the house of a poster artist, I came across another color arrangement. The mantelpiece itself is very simple in line, but its color is unusual. It is of foreign stone. The general line of the mantel is accentuated by the addition of book selves on either side.

In fact, among all the fireplaces I saw, not one failed to bear witness to its owner's outstanding characteristics.



Fireplace in the living room of the poster artist, Adolph Treidler. The unusual color of the mantelpiece enhances the poster effect of the flanking bookshelf hangings. It is of foreign marble, said to have been brought to this country by the late Stanford White



A dainty Adam mantelpiece in the studio of a well-known cover designer—Helen Dryden



Plain but distinctly individualistic is the mantel arrangement in Paul Thompson's living room





Ruby Ross Goodrow and one of her distinctive fireplace creations with over-mantel mirror



The decorations of the unobtrusive fireplace in Pieter Myer's studio-workshop speak in no uncertain tones of the influence of the Orient—the same influence that appears in all of his work. Though a Hollander born, his early years were spent in Java



From the fireplace of Charles B. Falls one might know that simplicity and directness characterize his work





The author and his Guernsey bull, Sunnybrook Aristocrat, Junior Champion at the 1916 National Dairy Show

Why I CHOSE *the* GUERNSEY COW

By CHARLES D. CLEVELAND



ALL cows look alike to me" is a remark that one frequently hears. "Of course my cow must give plenty of nice rich milk; she must be good looking; must have a quiet disposition; must be healthy, and must not eat too much." How greatly has the last sentence modified the first! How much has it narrowed down the choice and actually defined the kind of cow that was really in the speaker's mind!

What he wanted was the ideal cow—the breed or variety did not seem to matter to him. But if this man were asked to investigate and study the various dairy breeds; if his intelligence and his powers of observation were appealed to; if he were asked to select that variety which seemed to him best to combine utility and beauty, what would be his choice? To my mind his answer would—and must—be the Guernsey. But why? What are the characteristics of the Guernsey breed that make it so desirable? Are there not good points in all of our best strains and families and varieties of the dairy kingdom?

Yes, truly, all really good cows are wonderful things. They are splendid machines full of vitality and strength and productive ability, yet having highly developed nerves and sensitive feelings which may be overtaxed and injured just as is the case with the human animal. Yet I believe that in the Guernsey cow there exists a combination of virtues that is not to be found in any other breed. And this also means that she possesses a minimum of those undesirable qualities which all despise.

In the first place we must, in these strenuous times, select that breed which produces the most economically. If we are in the least observant we must perceive that some breeds consume more feed than others in producing the same amount of milk and, more particularly, we notice this in the production of fat. Repeated official

tests have shown that the Guernsey is the most economical producer of butter fat, and this places her in a position of true efficiency which entitles her to the highest rank in the dairy world.

There can be no question but that the production of fat is the greatest quality that can be possessed by the cow. The world must have fats, and no fat will equal that given by the cow. Milk is, and will continue to be, bought for the butter fat that it contains, and the higher the fat content, the higher the price. We will soon come to the point where all milk will be paid for in accordance with the fat which is contained in it. The first point in the Guernsey's favor, therefore, is perhaps, the most important item in the list of merits which are attached to the animal. Waste is sinful, and economy in production is the lead which all must follow in every phase of life, "from this time forth forevermore."

The second characteristic that attracts us to the Guernsey is the color of her product. In no other breed do we find in such degree that golden color which marks the Guernsey milk and makes the use of butter color unnecessary. Where Guernseys are kept, the pitchers of golden cream are a reality, and even the fresh milk as it comes from the cow shows that characteristic yellow shade that is so desirable and so rich looking. Further than this, Guernsey milk is different. It has a taste all its own which can perhaps best be described as a "nutty flavor." So marked are these two characteristics of Guernsey milk, cream, and butter that the product of this cow is bringing a premium in almost all markets of the world—and the demand for it is increasing each year. More than 7,000 official records show that the fat carried by the Guernsey milk is 5 per cent., so that it is rich enough for a king, and yet its continued use has demonstrated that it is ideal for the infant or the invalid as well as for the normal adult.

The chief attribute of the Guernsey, therefore, is the most economical production of a product which heads the list as being the best looking, most nutritious, and most palatable of all milks. These points I have placed first because I believe them to be the most important. They make an appeal to the farmer and the millionaire alike; they stamp the animal as a utility machine, and yet a machine that turns out a product that is desired by all—one that will pay a farmer to keep and yet one that a rich man would naturally prefer for her milk alone.

But there are other merits possessed by the Guernsey cow that attract and hold the admiration almost as much as these essential and characteristic utility qualities. Perhaps the first of these is the appearance of the animal. She is of medium size of pronounced dairy type, with a very yellow skin and painted a soft shade of fawn broken irregularly with white markings. Her disposition is placid, yet not dull. Her eye is kindly and soft, but does not lack lustre. She will not fight unless justly provoked. She is a good mother, a steady and consistent breeder, and, moreover, a splendid feeder. A herd of Guernseys quietly feeding in a green pasture attracts the instant attention of the passer-by and invariably elicits a word of praise. The Guernsey bull does not lack life nor power, and yet is easily handled and possesses a dignified and happy disposition which endears him to the herdsman and makes it possible to exhibit him to visitors at all times. The Guernsey is an excellent "rustler" and will pick up a good living on scant pasture in almost any climate. When winter comes on and the herd is taken into winter quarters, the cows at once adapt themselves to the confinement and go on producing a generous quantity of milk through long periods and, sometimes, with very poor care and attention. They are strong, hardy animals and, if given reasonable care and decent quarters, will live a very long life.



Some of Mr. Cleveland's concrete reasons for choosing the Guernsey, being his First Prize Breeder's Young Herd—bred and shown by himself in 1916

A comparatively recent picture from the Island of Guernsey shows one of the Island cows fresh in her twenty-first year. Such cows as these appear ideal for the farmer, and yet they respond wonderfully to what is sometimes known as artificial care.

In this breed all official tests are made for a period of 365 days, and under such conditions, with added attention and an increase of feed, a Guernsey cow has produced 1,098 pounds of butter fat, which is the equivalent of 1,291 pounds of butter; and recently a two-year-old heifer has given 742 pounds of butter fat. The records show that up to May 1, 1918, 7,110 cows had been officially tested. They had produced an average of 8,977 pounds of milk containing 448 pounds of butter fat, testing 4.99 per cent. Such qualities as these are bound

to attract the lover of that animal which best combines beauty with utility. Guernseys are to-day the fashionable cow, and the demand is greater than the supply, with the result that all the breeders are bending their best efforts toward



Jason's Enchantress of Upper Freehold, Grand Champion of New Jersey in 1914 and 1916, is one of the outstanding individuals of Mr. Cleveland's herd

increasing their herds in anticipation of a considerable export market after the war is over. During the past year private sales have been numerous and prices good, and the average at the auctions has been most gratifying. The

latest large sale was held in Chicago at the time of the annual meeting of the American Guernsey Cattle Club. Sixty-seven animals of high calibre sold for an average of \$1,536 and a bull brought \$10,000. At this same auction a two-day-old calf donated for the benefit of the Red Cross soon realized \$20,750 and added prestige to the breed by supplying the highest-priced Red Cross calf ever sold! This calf was not included in the average of the sale but was an added attraction.

I keep cows not only for the pleasure I get out of them, but for a living. I am amazed at the progress that the Guernsey cow is making, and everything points to a still brighter future for the animal which my judgment told me some years ago was bound to succeed on its merits. I have never regretted for a moment that I selected the Guernsey; she has few faults and many virtues; she has proven a "mortgage lifter" for many a man, and will always command the respect and admiration of every person who really knows what good cows should be.



Alpha of Pinehurst 2d, with a record of 810 pounds of butter fat, is also deserving of honorable mention in the herd annals



Sunnybrook Mignonette, one of Mr. Cleveland's Guernsey heifers, bred by himself. She sold at the Chicago consignment sale for \$1,000



HE most notable corollary to the war gardening campaign that has

come to my attention is the interest being shown in the setting of home fruit plantations. Among the questions asked by my clients and members of my emergency horticultural courses at Columbia University and elsewhere are such pertinent ones as the following: What effect is the war having on fruit growing? What are the prospects for securing reliable nursery stock under present conditions? Will fruit be more abundant or less plentiful after the war? Will the planting now of home fruits likely be a good investment? How much of an area will be needed to supply a family of say six or eight the year 'round with fresh and home prepared fruits? What are the best varieties to cover the longest possible season? When is the best time to plant, spring or autumn? How soon may crops be expected?

What is the best arrangement of a new plantation? To answer these and related questions is the purpose of this article.

The effects that the war is having on fruit growing are many. First, countless orchards and vineyards in France and Belgium have been ruthlessly destroyed, as everyone knows. Supposing that men were available to reestablish these plantations, it will be many years before quantities of fruit approximating pre-bellum amounts will be produced. Therefore it seems probable that exports from America will be large, perhaps larger than before the war. Hence in this country we may expect a shortage of commercial varieties of apples and of fruits sold in manufactured forms. Other factors that will help to emphasize this shortage are reduced plantings, especially during the past four years, and to a less extent for several years prior to 1914; the difficulty of getting skilled labor in nurseries and fruit plantations; the efforts of farmers to grow grains instead of fruits, and the losses of fruit because of inadequate transportation facilities. The effects of these and similar factors are to reduce fruit planting and production and to increase the demand and the price at home and abroad. The planting of home orchards and fruit gardens is therefore one of the most profitable investments that can be made.

The area necessary to supply a family for a year will naturally vary. As a general proposition, however, an area of one acre should yield all the fruits and vegetables that a family of six or eight could economically utilize in the fresh state or in prepared forms.

While convenience is perhaps the chief deciding factor as to when planting shall be done, fall planting has such distinct and important advantages that whenever possible preference should always be given to it. Most important of these reasons is the fact that one is surer of securing the desired varieties, because the nurserymen are then less likely than in the spring to be sold out of the rarer varieties specially suited to home plantings; and should one nursery man happen to have sold out there is still time in which to hunt up another who may have a supply.

The second most important point in favor of planting in the autumn is that the trees are ready to begin growth earlier in the spring than would be the case with those planted in the spring.

But while I am a strong advocate of fall planting, I am not unqualifiedly so. My observation has led me to defer planting of raspberries, blackberries, and dewberries until spring, because they



The first aim in setting out the home orchard is to have varieties superior to those obtainable in the market; next, to have as long a period of ripening as possible

The CONCENTRATED HOME ORCHARD

By M. G. KAINS

seem to have difficulty in getting a good root hold when fall planted. Many fruit growers and nurserymen class the peach with these berries, and advise planting in spring rather than in autumn; but I have had excellent results—usually complete success—with fall planted peach trees whenever the leaves have been allowed to ripen and fall off naturally, but not when the leaves were clipped or stripped by the nurseryman. To sum this matter up, I should always fall-plant fruit trees, grape vines, currants, gooseberries, and all ornamental shrubs that drop their leaves, and can be planted three or more weeks before winter sets in; and always plant in the spring raspberries, dewberries, blackberries, and all fruit or ornamental trees and shrubs that hold their leaves until late in autumn.

One reason why many people avoid planting fruit is that they believe years must elapse before the plants will begin to bear. With certain varieties, that is only too true. Spitzenburg, Fall Pippin, Golden Russet, Mother, Northern Spy, Rambo, Westfield, and Yellow Belleflower often resemble the barren fig tree of Holy Writ, and until ten years old or even older bear nothing but leaves. But there are other apple varieties that often begin in five years or less—Oldenburg, Haas, Keswick, Primate, Rome Beauty, Williams Favorite, Tetofsky, Yellow Transparent, Maiden Blush, Early Harvest, Wagener, Jefferies, Newton Pippin, Tompkins King, Pomme Grise, Red Astrachan, Rhode Island, Fameuse, and Winesap. The first six of these frequently start the third year and sometimes the second after being planted, and the next six the fourth, sometimes the third. When they don't start about these ages, the trouble is usually with the management, more especially with the pruning.

Indeed, it is too often true that injudicious pruning actually prevents fruit production.

Whenever I could arrange it I should have the orchard longer than it is wide, because turnings of the horse in plowing and cultivating would thus be reduced in number and time saved thereby. Convenient dimensions for an orchard of approximately an acre are 180 by 240 feet.

By spacing apple trees forty-eight feet apart, six may be set in each of three rows the long way—a total of eighteen trees. At an equal distance six sweet cherry trees may be similarly placed, parallel to the apples. Beyond the cherries a strip thirty-six feet wide will thus be left. If another strip of twelve feet can be added here, six more sweet cherry or apple trees may be set in another row. But if not, there is ample space for two rows of grape vines

twelve feet apart. Preferably the first of these rows should be set twenty-four feet away from the cherry trees, the second twelve feet farther away on the border of the area. It will be scarcely worth while planting grapes nearer than this to the cherry trees, because they will too soon suffer from lack of food and water as the trees grow larger. For the same reason the row set twenty-four feet away should preferably be a duplicate of the varieties in the first row, because when the sweet cherry trees get very large these grape vines will begin to fail, and may then be removed, and yet leave vines of the same kinds in the remaining row.

Of the other fruit trees, the pear is the largest growing. The best position therefore to place these is in the centres of the squares between the apple trees. There is space for ten, or five more may replace plum trees, of which there are eleven in row No. 6, thus making a total of fifteen pear trees and only six plum. In

rows 1, 2, 3, and 4, peach trees are set midway between the apple trees, twenty-two in all. Five quince bushes in row No. 5 are similarly placed, or if this seems too many they may be supplanted by plums. Between the sweet cherry trees are sour cherry trees, S, a total of five. Halfway between the standard trees running the long way of the orchard we may plant dwarf trees and small-growing trees such as plums and sour cherries, D, to occupy the space until the standards need it all. These dwarfs may include all the tree fruits mentioned above, also apricots, nectarines, Hansen hybrid plums, and other small-growing fruit trees. There is space in the tree rows for a hundred. As these plants quickly come into bearing, they may give yields for ten or fifteen years before they must be removed.

We have now to plant the bush fruits. Each of the seven tree rows will provide space for twenty plants set six feet apart between the trees, or for thirty plants if dwarf trees are not planted. Until the trees begin to encroach upon them, five to eight years after planting, these bush fruits should yield an ample supply of fruit for the family. When the plants nearest to the trees show signs of failing, new rows may be planted parallel with and half way between the tree rows—that is lengthwise of the orchard. These bushes will continue to bear for five to ten years or even longer. As there are seven tree rows we can have one each of black cap, purple cane, and red raspberries, gooseberries, currants, dewberries, and blackberries.

As originally planted and until the trees need the full use of the ground the spaces between the tree rows may be utilized for vegetables and strawberries. For the good of the trees and shrubs, however, it is well to exclude vegetables that require stirring of the ground during August and September, because this operation often starts growth of wood that cannot be ripened before winter sets in. The result is the killing of the immature parts. In due course of time the whole area will be needed for the trees, but for ten to fifteen years small fruits and vegetables enough to supply the family and also give a liberal surplus may be secured from this area.

My first aim in setting out a home fruit plantation would be to have varieties of quality superior to those obtainable in the market, next to have as long a period of ripening as possible of each kind, and an aggregate season to extend throughout the whole year. Thus I would start with early, midseason, and late strawberries in late May and June, and have one fruit follow another until the last of the apples would still be in good

condition when the earliest strawberries became ripe the following summer.

Should the local market be well supplied at certain times with fruits of various kinds, I might plant sparingly or not at all of those kinds, because I could buy what might be needed. Rather would I plant varieties that ripen when the local market is bare. For instance, there is generally a dearth of apricots, nectarines, early apples, sweet cherries, late pears, late grapes, early plums, and late peaches. To make sure of an ample supply I suggest that, where attention cannot be given to make each tree bear every year, two trees of a kind be planted in cases such as apples and pears which under ordinary management have their "off" and "full" years, so that one tree would be in bearing while the other is resting. However, by proper attention to feeding, cultivating, and especially intelligent pruning and thinning, it is comparatively easy to make trees bear well every year.

Of the eighteen apple trees I should want nine or ten to ripen fruit between July and November when the market is bare; of the ten pears, one each during August and September, two each during October and November, and the other four later. The sweet cherries and the sour should cover four to six weeks; the plums and peaches two to three months, preferably depending on the late ones for canning, partly because of their general richness and partly because cooking is less unpleasant during cool fall weather. As to the grapes, I should have at least half that can be successfully stored under home conditions for use between Christmas and Easter. Among the remainder of the grapes, have two each for August and September, three for October, and four for November, December, and later. As to the bush fruits I'd choose fall bearing kinds when possible; otherwise, early, midseason, and late. In all this my endeavor would be to avoid the mistake of having too many plants of one kind, too much fruit ripening at one time, and breaks in the continuity of the supply.

In making up the lists which follow, the deciding standard has been quality. Usually this means for dessert, though some varieties of superlative excellence for culinary purposes have been included. These are indicated by the letter C in parenthesis following the name. Similarly, the general purpose varieties have been marked with a G. So far as possible the sequence of ripening from earliest to latest has been followed in the arrangement of the lists. Fuller data on these points are given in THE NEW COUNTRY LIFE for April 1917 and 1918 respectively.

Apricots: Early Golden, Breda Early, Royal, Jemskirke, Peach, Moorpark, Tilton.

Apples for cooking, July to early January: Early Harvest (G), Yellow Transparent (G), Red Astrachan (G), Tetofsky, Oldenburg, Jagloe, Keswick, Maiden Blush, Fall Pippin (G), Fall Jenning, Gravenstein (G), Twenty Ounce (G), Collamer (G), Pumpkin Sweet, Wealthy (G).

Apples for cooking, November to June: Bailey Sweet, Hubbardston (G), Rhode Island, Rome, Baldwin, Ewasi, Smith Cider, Tolman, Yellow Belleflower (G), York Imperial, Stark (G), Whitesap (G).

Apples, Crab: Red Siberian, Yellow Siberian, Transcendent, Hyslop.

Apples, Dessert, July to January: Red June, Early Strawberry, Early Joe, Primate, William (G), Benoni, Sweet Bough, Sops of Wine, Chenango, Late Strawberry, Jersey Sweet, Hawley, Fanny, St. Lawrence (G), Twenty Ounce (C), Mother, Porter (G), Ribston, Fall Pippin (G), Gravenstein (G), Collamer (G), Cox Orange, Fameuse, Shiawassee, Wealthy (G), Blenheim (G), Louise, McIntosh.

Apples, Dessert, November to May: Black Gillflower, Hubbardston (G), Orley, Peck, Tompkins King (G), Wagener, Sweet Winesap, Sutton (G), Winter Banana, Westfield, Canada Baldwin, Esopus, Grimes, Jonathan, Lady Sweet, Opalescent, Red Canada, Northern Spy (G), Pomme Grise, Roxbury, Swaar, Stayman Winesap, Golden Russet, Yellow Belleflower (G), Yellow Newton (G), Green Newton (G).

Blackberry: Wilson, Blowers (long season), Eldorado (short season), Joy (most highly recommended of recent introductions), Mercereau, Rathun (compact grower), Ward (extensively planted), Taylor (old standard), Kittatinny (one of the choicest when fully ripe).

Cherry, sour: Dyehouse, Early Richmond, Montmorency, English Morello.

Cherry, sub-acid: May Duke, Royal Duke, Abbesse d'Oignies, Lake Duke.

Cherry, soft sweet: Black Tartarian, Elton, Wood.

Cherry, firm sweet: Bing, Lambert, Napoleon, Schmidt, Yellow Spanish.

Currant, black: Black Champion, Black Victoria, Prince of Wales, Boskoop (most highly recommended of all blacks).

Currant, white: White Dutch (considered best), White Grape (most planted), White Transparent (highly praised), White Imperial (ditto).

Currant, red: Pomona (early, mild), Diploma (mid season), Wilder (mild, late), Red Cross (good to best), Perfection (noted gold medal winner), Victoria (best late), Long Bunch Holland (very late).

Deeberry: Anstin, Lucretia.

Gooseberry: Poorman (best of sixty-five varieties tested at New York Experiment Station), Downing (old standby), Industry, Chautauqua.

Grapes (in approximate order of ripening—August to March or later; longest keepers in italics): Green Mountain, Jessica, Moyer, Moore Early, Lady Brighton, Diamond, Lindley, Massasoit, Worden, Barry, Brilliant, Campbell Early, Concord, Delaware, Herbert, Martha, Niagara, Victoria, Wilder, Vergennes, Ulster Prolific, Salem, Poughkeepsie Red, Pocklington, Merrimac, Empire, Agawam, Diana, Eumelan, Prentiss, Jefferson, Iona, Goethe, Dutchess, Catawba, Lady Washington, Triumph.

Nectarine: Downton, Early Newington, Boston, Hardwicke, Ehuge, Early Violet, New White.

Peach, clingstone, red flesh: Blood Cling (late); **white flesh:** Waddell (early), Oldmixon Cling (late), Heath Cling (very late); **yellow flesh:** Arp (best early yellow), Leonon Cling (midseason).

Peach, freestone, white flesh: Greensboro, Carman, Belle of Georgia, Champion, Hiley, Mountain Rose, Rivers, Iron Mountain, Stevens, Stump; **yellow flesh:** St. John, Fitzgerald, Crawford Early, Niagara, Chairs, Reeves, Captain Ede, Crawford, Late Lamont, Lemon Free, Crosby, Salwey.

Pear, July to February or later: Madeleine, Manning's Elizabeth, Rostiezer, Tyson, Wilder, Clapp, Flemish Beauty, Bartlett, Louise Bonne, Onondaga, Seckel, Angouleme, Bosc, Comice, Hardy, Howell, Anjou, Sheldon, Superfine, Vermont Beauty, Worden, Lawrence, Vicar of Winkfield (C), Winter Nelis, Dana's Hovey, Barry, Easter Beurre.

Plum, American (mostly culinary. Better suited to the prairie states than to the East): Wild Goose (very early), Milton (early), Hawkeye (midseason), Rollingstone (ditto), Stoddard (ditto), Wyant (ditto), Forest Garden (late), Maquoketa (ditto), Miner (ditto), Wayland (ditto).

Plum, European, culinary (usually fail in prairie states): Damson, French, Shropshire (all three famous for jam), Italian Prune (Fellenberg), Monarch (G), Middleburg (G), Golden Drop (G), Tenant (G).

Plum, European, dessert (all of Reine Claude or Green Gage type, the first, early, the last two, late): McLaughlin, Yellow Gage, Washington, Purple Gage, Pearl, Lawrence, Jefferson, Imperial Gage, Hand, Peters, Bavay.

Plum, Japanese (only first three safe to recommend for general planting): Abundance (early,) Burbank (second), Satsuma (midseason or later) October (ditto), Wickson (midseason, safe only in warm parts of the country), Kelsey (late, ditto).

Quince: Bourgeat, Champion, Orange, Meech.

Raspberry, yellow: Golden Queen; **purple:** Shaffer (C), Philadelphia (C), Columbia (C), Cardinal (C), Royal Purple (C); **black:** Black Diamond, Farmer (highly commended), Gregg (old standby), Gault (bears also in fall), Scarff (improved Gregg); **red:** St. Regis (early, bears also in fall), Brilliant (larger than St. Regis), King (large, long season), Herbert (finest I have grown), Cuthbert (old standard), Marlboro (long season), Perfection (long season).

Strawberry, everbearing: Progressive, Superb, Americus, Peerless.

Strawberry, general season: Premier, Early Ozark, Dr. Burrill, Crescent, Klondike, Senator Dunlap, Bubach, Glen Mary, Marshall, Warfield, Aroma, Brandywine, Chesapeake, McAlpin, Nick Ohmer, Sample, William Belt, Gandy.



Dwarf pear tree. Dwarfs come quickly into bearing, and planted between rows of standard trees will yield from ten or fifteen years before it necessary to remove them.

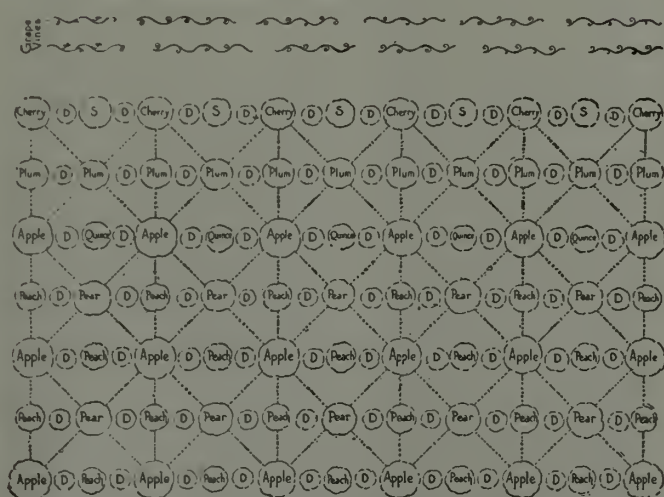


Diagram of orchard measuring about 180x240 feet. The standard apples are spaced 48 feet apart, the space between being temporarily utilized for smaller growing fruits.



The fruit of dwarf apple trees—or of any of the dwarfs, in fact—is every whit as good as that from standard trees, but there are of course fewer apples to the tree.



Colonel Austen Colgate and his brother Sydney M. Colgate. The Colgates are manufacturers, not farmers, but they are utilizing to the utmost every foot of available land that they have to produce food

WAR MEASURES *on the* COLGATE ESTATE

By EDWARD MOTT WOOLLEY



NE of the best examples of intensive food production on private estates around New

York is to be found on the place of Colonel Austen Colgate and his brother, Sydney M. Colgate, in the famous New Jersey suburb of Orange. The Colgates, of course, are internationally known, and their example might well be of great influence in the present crisis of war. They are manufacturers, not farmers, and they make no pretense of being producers of food. What they are doing on their home estate is simply to utilize to the utmost the land that they have available. As men of means, they are able to command the best skill in agronomy, and they are doing it as a part of their contribution to the cause.

This Orange estate is the old place where they were born, embracing thirty-five acres that lie in what is now Orange itself, and not far from the well populated sections. Although it is still a country estate in the most realistic sense, the Oranges, in which lie many of the gems of New Jersey country life, have developed amazingly all about it. Fortunately, however, it has not succumbed to the urbanizing influences. In one or two instances the threatened invasion of apartment buildings on adjacent property has been nipped in the bud by the Colgate brothers. They are country life people, and hope to be such all their lives.

It is not possible to cultivate all of the thirty-five acres. There are stretches of lawn that are shaded by mammoth trees, where the soil is in the grip of immense roots that eat the sustenance out of it. Experience in attempting to cultivate such tracts has taught the owners the wisdom of letting this land play its proper function. There are other patches, too, that are wooded and quite outside the pale of food production. But at



Stretches of lawn shaded by mammoth trees have not been impressed into war garden service, for the tree roots absorb most of the soil's sustenance and render tillage next to impossible

least twenty-five acres of the estate are devoted this summer to the producing of edibles of one sort or another. Field corn, vegetables, fruit, cattle, pigs, and chickens all enter into the Colgate scheme of feeding as many people as possible from the old homestead. I believe it gives them an added patriotic thrill to devote their native soil—every possible foot of it—to the cause that means so much to the nation and to our soldiers in France.

From the road, which is now called Centre Street, one would not imagine the place as big as it is. A winding driveway ascends a gentle incline through an expansive lawn, past a little English garden, and to the porte cochere of the large and dignified old mansion of dark-colored brick. It is one of those houses that have an atmosphere of old-time romance—without pretense architecturally, yet standing in a class of its own and giving hints of artistic luxury within. These hints, indeed, are no idle ones. The interior of the mansion is rather incongruous, from the ordinary standpoint of the agriculturist.

Yet if you follow another driveway that circles toward the rear of the house, you come suddenly upon evidences of the intensive gardening. True, your first glance falls upon some greenhouses, of no mean proportions, and through the glass

panes you see a wealth of blooms—if you go at the proper seasons for indoor floriculture. The Colgates are lovers of flowers, even in war, but it is not for themselves especially that they grow them. The churches of Orange are heavily indebted to this estate for a continuous bounty of decorations, and many other institutions and persons share in this floral generosity.

But flowers do not interest you especially just at the moment. The best patriots among country estate owners are radically curtailing all their ornamental activities and devoting their labor, capital, and individual energies to the grim work of producing things of practical utility. Aside from the greenhouses, a cement tennis court, and a bowling green of small proportions, you see on the Colgate estate little evidences of the ornamental or of play.

In my quest for good instances of food production, I have come across many estates that still devote large areas to the old pastime of growing beautifying plants and flowers. Here on the Colgate place the settings are ideal for pergolas, trellises, and statuary. Formal gardens, with stately vistas of cement steps, would indeed grace the grounds. Botanical gardens and aquatic growths, ponds, fountains, sundials in floral settings, and thatched gates, most certainly would be in keeping with such a country estate. But you will not see them here. Whatever gardens and ornaments of this sort may have been there in the days of peace, now some four years back, are gone; at least for the most part.

The 1918 Colgate food gardens are much more extensive than those of 1917. There will be very largely increased amounts of all sorts of products, and the possibilities in the soil will be crowded to the utmost. This summer a record will be established not only for ground space but for production per square yard.

The food producing tracts, however, are not all together, but are scattered wherever the different crops can be grown to the best advantage. No exact measurements have been made, but the estimate of the gardener, William Reid—who, by the way, has been in charge of the Colgate estate for fourteen years—is approximately as follows:

Six acres in vegetables for the table and allied products, four acres in field corn, two in sweet corn, two in potatoes, and several in mangels. The remaining areas devoted to useful purposes are given over to large and small fruits, milk and egg production, and the like.

Much of the land under cultivation is irrigated by the overhead system, the water being supplied from a driven well and pumped with an engine into a tank at the top of a tower. Thus, with the proper soil and fertilization, crops are practically assured. Seeds are tested before planting, for perhaps no other single factor contributes more to the success of a garden than the right kind of seeds and the predetermined knowledge that they will sprout and grow promptly and thriftily.

Not far from the house is a tract embracing about two acres that is being gardened with especially intensive methods, and a rather astonishing estimate was given me as to its probable products this season. These two acres will yield as much food as any commonplace tract of twenty acres that is cultivated in the usual indifferent fashion.

This, indeed, gives the estate owner something to think about. With his money, and the power to command the soil to give up its full quota of food, he possesses a marvelous opportunity to help the food situation by supplying substitutes for the foods necessary in the feeding of our own soldiers and those of our allies.

On any one of these country estates it isn't a question of producing a large quantity of food. There are few estates which individually can raise very much. In the aggregate, however, an immense lot of food can come from them. In the vicinity of New York alone there are thousands of estates that might be made amazingly productive. Most of them could do relatively what the Colgates are doing. In these days of desperate war emergency it isn't a question of profitable gardening. The business end of the thing can be forgotten by many of these owners. It is a question of getting food, no matter what it costs. The ordinary farmer must consider costs and must earn a living; but with the estate owner—at least in the majority of instances—gardening is a side issue, anyway, and per-

haps in the past has been a mere pastime. This year it cannot be a hobby; it is a serious war necessity.

The Colgates do not commercialize their estate. A considerable part of the food produced is consumed by the family and those employed on the place, and what remains is usually given away. But in spite of the expense of gardening on such a scale, it is probable that this place would yield a considerable profit if the owners went out after that sort of thing.

It is the purpose in working these gardens to utilize the land continuously during the growing season, without the lapses that ordinarily occur in the vegetable garden. A rotation of crops is planned so that one follows another quickly. Beginning with asparagus and rhubarb in April, these gardens will produce up to October or November.

This rotation of crops is a gardening science of itself, and to a knowledge of it is due a large share of the extraordinary production of such a place as this. I am not a gardener myself and I attempt no technical description of this art, but intensive cultivation consists in making every inch of the land do its utmost. Here at this Orange garden new crops are put in on the very day the maturing ones are harvested.

In all this work, efficiency is the watchword, as might be expected from owners who in their business conduct great industrial plants on a highly productive basis. Thus in the gardens, for instance, the tomatoes are trained on trellises from six to eight feet high, not only improving the size and quality, but saving valuable land usually wasted by the amateur gardener. As

another instance, thinning is practised in a way that would make the haphazard gardener stand aghast. But what seems to be a reckless waste of good plants is really conservation, for the resulting product is vastly increased and improved. The estate owner can do these things—can surround himself with the men who know. Skilled organization in every line of war activity is needed, not amateur experiments.

Half a dozen men, not all of them working continuously, do the labor on the place, and no special trouble has been found in getting these workers.

The orchard contains 160 trees, and covers an acre and a half. Some of the trees are very old. Two big Baldwins are believed to be about seventy years of age, but because of the best tree surgery and dentistry they are still bearing fine fruit. All the trees are tended with a solicitous care that would put to shame the apparent indifference most farmers show their orchards. Perhaps the farmer is not wholly to blame, for his capital is not reinforced with industrial dividends; yet, after all, scientific food production of itself creates capital.

The same care is given the small fruits, and the results are apparent in the abundance of luscious strawberries, blackberries, raspberries, gooseberries, currants, grapes, and the like. There are no loose ends to be seen anywhere. Such vines as the blackberries are trellised, cut, and cultivated as carefully as if they were the choicest species of flowering plants. In the Colgate kitchens great quantities of these fruits and vegetables are put up. There is no waste during these years of food shortage abroad.

Four or five cows are maintained on the place, much of their feed being produced. Mangel beets form part of this. Several pigs, too, are kept. Then there are some 600 chickens, big and little, and at the time this information was gathered they were producing from seventy to a hundred eggs a day. At that time about a thousand eggs had already been put down in waterglass for next winter.

Usually from six to ten chickens are killed each week. The Colgates are expert chicken breeders, and the poultry houses devoted to this purpose, as well as the incubators and brooders, are thoroughly up-to-date. Most of the chicken feed is raised on the property, including potatoes, which are cooked for the flock and used with good results.

Unfortunately, this Colgate centre of food production is not typical of the American country estate as yet. The average estate owner hasn't really visualized the war.



Showing various parts of the Colgate food gardens. Even the flower beds have been pressed into service and converted to vegetable production. The irrigation system (see detail at left below) is a crop insurance of the first order.



What Our Farmers Raise

A summary of the percentages of crops and livestock raised on the farms of the country, as based on the 1910 census, but as published in the May Crop Report of the Department of Agriculture, contains some interesting and some surprising facts. It will be especially interesting to compare it with a similar summary for this year, and future years as long as the war lasts. It is estimated that there are now about six and a half million farms, as compared with 6,362,000 at the time of the census. Of these, 75.7 per cent. raise (or at least report) corn, 53.5 per cent.; hay, 50 per cent.; potatoes, 78.1 per cent.; vegetables excluding potatoes, 73.8 per cent.; horses, 68.4 per cent.; swine, 83.1 per cent.; cattle (with 80.8 specifically milch cows), 87.8 per cent.; fowls, 59.5 per cent.; butter, 76.8 per cent.; eggs produced and sold, 60.7 per cent. Of the materials raised on less than 50 per cent. of the farms, the most important are fowls (sold) 47.8 per cent., apples 46, oats 34.2, mules 29.4, peaches 29, butter (sold) 28.1, cotton 26, wheat 22.9, and pears 20.1. Other figures bring out the interesting facts that 10 per cent. of the farms raise geese, but only 7.9 per cent. ducks, and that only .2 per cent. report cheese as a "crop." Although this is probably explained by the fact that cheese making is now primarily a factory industry, the fact remains that the farmers of the country could benefit themselves and the dairy industry by adding more cheese to their dietary, and making it themselves from skim milk and similar by-products.

Woodchucks and Dynamite One way to increase food crops is to decrease the number of insects, birds, and mammals that devour or otherwise injure them. Of the third of these groups, the woodchuck is in some localities a strongly entrenched and decidedly destructive enemy. Various measures employing guns, dogs, small boys, and extensive

digging operations have been used against him for many years, but probably the most effective practice of all is a very recent development, namely, the explosion of a stick of dynamite in each burrow. Fitted with a cap and four-foot fuse, this agent can safely be carried about, the fuse lighted, the charge pushed into the hole, and the opening closed with a clod of earth. The resulting explosion does several things: it chokes up the hole—which is of course an advantage over the old digging method; it kills the woodchuck, if at home, either by shock or gas asphyxiation; and, if he happens to be absent, it requires him to dig a new burrow which is probably soon observed and given the same sort of treatment.

Municipal Fuel Yards for Mississippi

Mississippi has enacted a law authorizing the establishment and maintenance of municipal wood and coal yards during the period of the present war and for one year thereafter, as a means of meeting the fuel shortage. This is said to be the first legislation of the kind by any state. Municipalities taking advantage of this law may provide the necessary machinery, transport, sell, and deliver fuel, and are authorized to use for this purpose general municipal funds, and also, with certain restrictions, to borrow money if necessary.

This Service It is by no means difficult these days to locate men and women who are undergoing personal sacrifices, assuming heavy responsibilities, and accomplishing really gigantic tasks under the influence of that all-pervading war spirit of "do something." And these servants of the common good are to be found in every type and rank of activity, in positions that are not heard of outside of their village limits no less than in those

of which daily news reports are flashed over the whole world. Sometimes, indeed, it is among the former that the most striking and inspiring examples of real patriotism are found. Note, as a single example, the banker in a little country town in Missouri, who wrote to the State College of Agriculture—not boastfully, but merely as a matter of record—as follows:

"One of our boys from this bank is in the army and another retired. Myself and stenographer (a lady) and one boy are running this bank. I am seventy-four years old, chairman of the Liberty Loan Association, chairman of the County Council of Defense, treasurer of the Red Cross, and general factotum around here, and everybody's friend—especially Uncle Sam's."

The Low Cost of Safe Living

Whenever prices of food products are given an upward tendency by national, international, or universal convulsions, there is a strong temptation to lay the blame on what we call our higher standards of living, and especially the refinements and precautions upon which our Government insists in connection with our food supplies. It is only fair, therefore, to point out how very little these precautionary measures cost or rather add to prices in general. For instance, the cost of the Federal inspection of meats during 1917, by means of which we were protected against tuberculosis, trichina in pork, and the various dangers attendant upon the use of spoiled or diseased meat, cost only about 5½ cents for each of the 63,000,000 animals slaughtered. When we distribute this charge among the many cuts of beef, pork, or mutton (as the case may be) that a carcass represents, it becomes clear that safety first insurance is increasing meat cost but a very small fraction of a cent per pound, and an even more infinitesimal charge in proportion to the benefit derived therefrom.

An OPPORTUNITY for SELF-RESPECT



SINCE the outbreak of the war we have had three Liberty Loan campaigns lasting thirty days each. In the first there were 4,500,000 subscribers; in the second, 9,500,000; and in the third, more than 17,000,000. In a total selling period of ninety days, the American people have offered to the Government \$11,822,778,800, of which the Government has accepted \$9,978,785,800.

The bulk of our bond buying effort, however, lies ahead of us. During the fiscal year ending June 30, 1919, we shall need to spend for war winning the sum of \$24,000,000,000. Probably \$8,000,000,000 of this will be raised through taxation. This means that the average person will have to pay twice as much in taxes this coming year and will have to buy more than half again as many bonds as he has during the past year.

Throughout these past campaigns we have been asked for money, not to meet debts contracted by the Government, but rather for money as a positive fighting force with which to win the victory. In other words, we, as a nation, are working on the budget system; as individuals and as families we must arrange our financial affairs on the same system. A great many people spend more than they need to spend simply because they do not know from day to day how much money they actually are spending. Here is a very simple and well tested budget system: open a War Account in your

check book. When you receive your salary or income, satisfy your current debts, allow for a necessary working balance at the bank, then deduct as large an amount as you possibly can and credit it to your War Account, kept in a parallel column in your check book. If a man looks at his regular account and finds its balance low, he will refrain from many an expenditure which he would otherwise feel justified in making. That War Account is a trust fund held by you for the war uses of the Government, and drawn upon only to meet war taxes, Liberty Bond payments, W. S. S., Y. M. C. A., Red Cross, or other definite national war needs.

In order to give to the Government the money it needs, held by us merely in trust, we must actually consecrate ourselves to the saving of dollars and labor and materials. To do less means postponing the day of victory; it means the needless expenditure of the lives of our fighting men; it means that our own efforts here at home are but the most shameful travesty of the sacrifices those boys are making in France. It is not going to be easy. Thank Heaven, it is going to be hard; otherwise how could we hold up our heads in the face of those mounting casualty lists and that never slackening stream of boys in khaki marching away with the pure white light of self-sacrifice in their eyes?

Buy till it hurts? Aye, buy till you can look those boys in the face!

**TO KEEP THE ALLIES' EMBLEM
SUPREME IN THE SKIES!**



Not only to maintain aerial supremacy over No Man's Land, but to carry the war to Berlin itself—this is the work to which the vast resources of this "real fighting industry" are dedicated.

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ELIZABETH



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A REAL FIGHTING INDUSTRY



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PAINING for PROTECTION

By L. W. C. TUTHILL



The famous old Stebbins house at Deerfield, built in the eighteenth century, is a monument to the efficiency of paint as a means of preservation.



In contrast, the Pink House across the way, so-called because of the remains of a prehistoric coat of pink paint, shows cornices in decay and numerous patches.



THE following observations are based on an extensive automobile pilgrimage taken in July of this year, through seven states, with the purpose of noting paint and painting practices from their economical, protective side. Most of the time there were four of us, each approaching the subject from a different angle. The investigation revealed facts of vital importance to any property owner—more vital than ever this year, when the tendency is to let painting go until after the war. But letting the painting go is the surest way to lose existing paint, and only makes more of it necessary when you do paint.

The wonderful preservation of many of the paintless old white pine houses would seem to indicate that painting, after all, was largely a matter of looks. Close inspection of the paint-neglected subjects, however, invariably revealed the fact of replacement of numerous clapboards, and parts of door frames, and sills. The cornice moldings were out of position or in a state of decay, and in all instances, the finer moldings and choice details were badly deteriorated.

The clapboard nails of the older houses were all of wrought iron, hand made. Such nails resist rust indefinitely. But where the cut nails of later-day machine make were used and exposed to the weather's action, the rust had eaten them away, frequently causing the boards to sag or drop entirely out of place.

The finer homes of New England were built largely by wealthy retired sea captains, who, in their nautical training, recognized the value of painting and repainting to keep their barks "trig and trim." To them, an open joint meant disaster. Sound construction and paint protection were its prevention.

Historic Old Deerfield, in Massachusetts, with its houses built when the centuries-old elms were saplings, contains most interesting examples of paint's fortifying powers, as the accompanying pictures will testify.

The protective life of the average outside paint is about three years; while that of the high grade paints, costing at best only 10 to 20 per cent. more, is four to five years.

It is no more an economy to use poor paint than it is a low grade

gasolene giving less mileage and filling your engine with carbon.

But even at the present high prices, the paint cost itself is the minor expense of painting. Labor is the main item, and in putting on poor paint you actually have to pay for more labor and buy more paint, because low grade paints require more brushing to make them spread evenly. If not evenly spread, your building is unevenly protected and eventually the paint goes to pieces in spots.

Any way you figure it, the cheap paints are the costliest: they do not go as far; they do not cover evenly; and they lack durability.

I emphasize the cost phase of the question, because high standard paints now cost from \$4 to \$5 a gallon, and are going to cost more before the war is over, and very likely for a year or two afterward. When you recall that the last time your painting was done, you probably paid around \$2 a gallon, it is only natural to persuade yourself into believing that a lower priced paint, for temporary use, "may not be so bad after all." Temporary paints, however, have unfortunate after-results, making future preparation of the surface cost far and away more than can possibly be saved.

There is no such thing as a so-called chemically pure standard formula for paint, which fact makes it impossible to have a paint standard. There are, of course, certain ingredients that paints for certain purposes all contain in varying degrees, but there is no such thing as established quantities. Of a certainty, however, with linseed oil selling at \$2 a gallon, a painter can neither mix at home nor buy ready mixed a good paint for \$2.25 a gallon. Anything like such a figure at once indicates a colored gentleman in the wood pile.

And again there is as much in the making of a paint as in what it is made of. That is why some paints, made of exactly the same materials and proportions, are so much better than others. Many a good paint, however, is ruined by being put on under unfavorable conditions. For example, many a master painter would berate his men for painting directly on a rain-wet surface, and

still think nothing of putting it on early in the morning, before the dew dampness is off on a shady side. Such painting is bound to blister or peel.

Others, unthinking—or unknowing—use an elastic paint for the undercoat, and cover it with a no-give overcoat. Naturally, the contraction and expansion of the undercoat cracks the rigid overcoat, the protection film is exposed to the weather, and rapidly goes to pieces.

A successful paint meets weather's wear so gradually and evenly that when repainting time comes the remaining surface will be hard and free from chalking off. If it chalks off, the chalky particles will at once grab the oil from the applied paint, robbing it of the binder necessary to hold the particles together as a protective coating.

To overcome this, an excess of oil must be used on the first coat, which in turn requires a second normal coat to equalize the quantities of pigment and oil necessary for a protective wearing surface.

The houses that we saw on the trip above mentioned, with the paint looking the worse for wear and actually in the worst wearing condition, were invariably those of fancy colorings. This was especially noticeable with the brown ones, many of which looked forlornly faded out. Others had varying shades on the same house.

One owner complained bitterly of the paint's quality. But when he named a leading brand, we knew that the trouble was not there. Taking different spaces on that house, we rubbed on some linseed oil, and a uniform color was promptly restored. This proved that the undercoat had in places absorbed the oil, giving the brown overcoat a faded-out look. Browns are particularly greedy for oil, making it necessary for them to be mixed with a seeming excess.

But after all is said and done, the surest way to secure sure painting results is to put your painting problems up to the paint manufacturers' service department. From them you will receive expert advice, based on actual practice, covering years of experience. Your local painter may be ever so good as a painter, but of necessity the paint maker knows the paint best adapted to particular needs.



When the ingredients in paint are wrong it chinks off, the result of saponification and consequent washing off of the oil, leaving the white pigment, which gives no protection.



When paint loses its protective grip on a column base, moisture enters, and it is hard to get it out. Painting simply seals in the dampness, causing paint to peel.

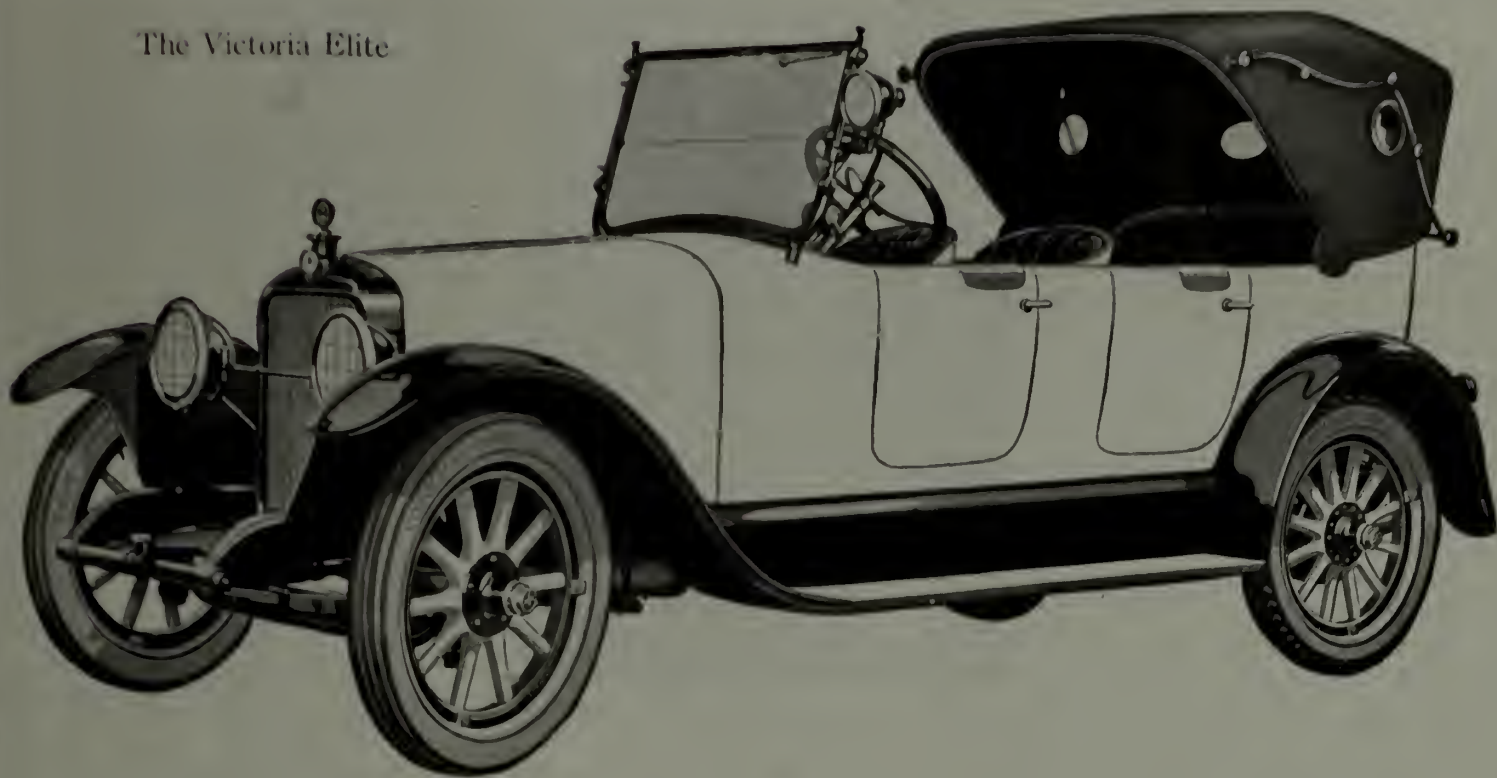


Although paint has preserved the clean-cut wood details of the old Stebbins house doorways, time has noticeably rounded the edges of the stone doorsteps.



An enduring white stain has supplanted the whitewash used in an earlier day, giving the desirable intense whiteness of lime and, like lime, making the shingles lie flat.

The Victoria Elite



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The Victoria Elite is first a thoroughly high grade car throughout in the strictest sense. In design and appointments it is beautiful and complete. In size it is comfortable and convenient—and of course the exemplification of economy in the truest sense.

It accommodates four passengers in roomy comfort for all—each with a separate door to make it easy to get in and out without disturbance and an ample aisleway between the front seats makes it easy to move about without getting out of the car.

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GOTHIC SCULPTURE *from* FRANCE

By JESSIE MARTIN BREESE



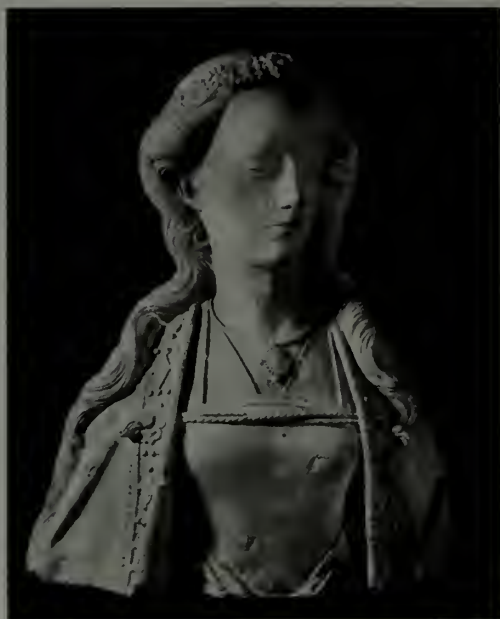
WHETHER or not all art should be condemned to temporary banishment from our shops and studios "for the duration of the war" is the question of the day in art circles and their environs. Accurate classification of essentials and non-essentials is well-nigh impossible, but most people seem to feel that the paintings, sculptures, tapestries, and such things which come under the general heading of art, can be placed with but little thought under the second heading.

On the face of it, this seems to be a reasonable enough conclusion. A few moments' consideration of the consequences of such a sudden and wholesale abandonment would, however, convince us that a drastic measure of this sort is not the answer to this war-time conservation.

An art which needs no great argument to prove its value even as a war-time purchase is the French Gothic sculpture which has but recently come over from France—France of the wonder cathedrals and France of the profaned temples. Three statements will serve to show it. Superlatively human, the sculpture of this period is among the finest that has been produced in any age, and but few examples of this marvelous art will be left when the war is over to carry on the traditions of this old school, if the Hun continues ruthlessly and wilfully to destroy it. France is sending to this country some of the best which has been preserved, parting with it that she may have more money to carry on the war.

The illustrations on this page are photographs of sculptures exhibited in the DeMotte Galleries, New York City, that are examples of the very finest work of that age. Each one is typical of the atmosphere that bred it. The old Gothic sculptors modeled each figure lovingly and reverently that all might faithfully adore the heavenly being whose figure they had conceived in stone. The austere beauty of each one is the result of the simplicity and reality that these workers of the spirit in stone used, all unconscious of its grandeur, to raise the work of their hand to the level of the spirit, while yet they kept it human. No touch of artificiality betrayed them, for they ever bore in mind the sweet personality of the being whom they fashioned.

Such is the art which is now suffering all the mutilation and death that its defenders must suffer also. But not a man who is fighting, who has seen the barbaric destruction of this glorious art of France, fights solely for freedom now. It is to avenge this sacrifice, if possible, and to save that which is left from the hand of the despoiler. These are of the stuff that is being needlessly and horribly shattered at Rheims, at Soissons, and the many churches which we never hear about. Such widespread destruction as is being visited upon the art which is near the lines, will naturally leave a greater responsibility upon the fortunate ones who have examples of the art of this period in their care. For with such quantities lost, that



Portrait bust of Jeanne d'Evreux, Queen of France, dating from the fourteenth century

which is left becomes even more precious because of the danger of oblivion which threatens all.

So France, under the auspices of her biggest collector of French Gothic art, has sent some of that art to America. While some few pieces have been scattered about the country in our museums, with but one exception we have never had here in a single collection such a large assemblage of it. And since it is more than likely that it will before long be scattered among the various public and private collections of the country, every art lover should plan to see this exhibition before it is dismembered.

First, and perhaps most important, of the illustrations, is the marvelously sweet and human Virgin and Child from the Ile de France. The smile of the Virgin, which blends all the sweetness and all the sorrow of the world in a perfect understanding, has been called the "exquisite thir-

teenth century smile." Only once in all the centuries that followed has this smile been seen again in stone or on canvas; that was but a short time later, when Da Vinci left his Mona Lisa to charm the world with her elusive smile. The Child itself is lovingly modeled, but the utmost care seems to have been devoted to the attitude of the Virgin as she holds the Child, the tender beauty of her hands, and the rhythmic flowing of the folds of her garment. Too much cannot be said in praise of this statue, but even the photograph shows how needless is that spoken praise.

Representative of the school of Normandy of the fifteenth century, is the Bishop standing with hands raised in benediction over the Donor, who is characteristically shown much smaller in scale. In this connection, it is interesting to note what the presence of these donors in the statue groups implies. The donor commissioned the artist to carve a statue for a niche in the church, and feeling the need for perpetuating his own generosity, had a portrait-statue of himself included. Manifestly, this could not be made as important as the figure of the saint, so it was done in greatly reduced size. The naïveté of the custom adds to the charm of such groups to-day. On the shield which the Donor holds is the hammer and tongs which are the insignia of the Master Horseshmiths, and which probably denoted his trade. This group is typical of the times, and here again we see the rich modeling of the Bishop's cloak which distinguished the robe of the Virgin. The ancient chapel of Caen housed this group until it became one of this present collection.

A Virgin and Child of the Lorraine school is shown here, the same marvelously fine drapery prevailing. The Virgin holds a small bouquet as well as the Child, whose cape and hood are interesting to note, by the way. Faint traces of polychrome are still to be found on the statue.

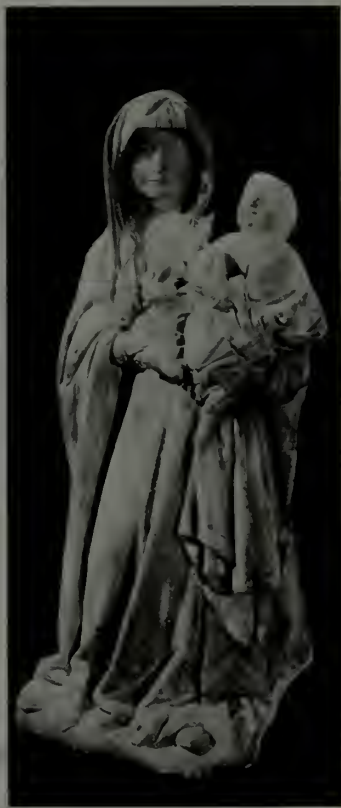
From the Cathedral of Evreux came the portrait bust of Jeanne d'Evreux, Queen of France. This is an example of French Gothic art of the fourteenth century. The fine modeling of face and hair and the delicacy of the detail are very charming.

Many excellent pieces there are which could not be reproduced here. An especially interesting one is a panel in high relief, from a chapel in Bourges, showing the Miracle of St. Hubert and the Stag. The delicacy in the carving of the forest trees and the figures of the hunt vie with the quaint tale that the scene tells, in holding the interest of the beholder.

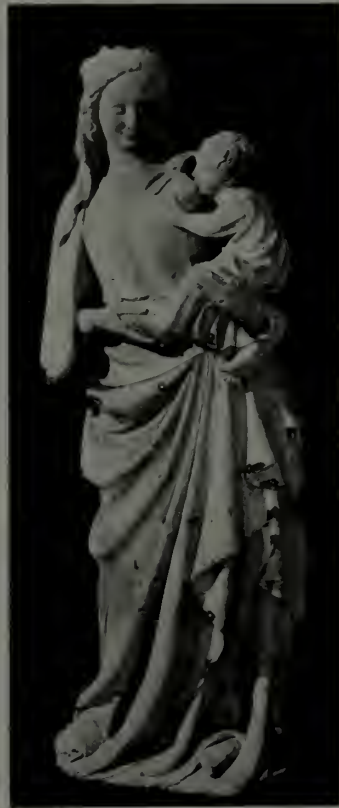
A head of a Bishop of the thirteenth century is a fine type of the period. Two different heads of the Christ are strongly contrasted—the one being quite primitive, while the other is in the Byzantine manner. The school of Toulouse is represented by a quaint but none the less strong St. George and the Dragon. The Dragon itself shows the great range of imagination that the artists of the time had when they created these beasts. There is no piece in this collection which is not worthy of thoughtful study, not to say reverence.



A Normandy statue of the fifteenth century



Virgin and Child of the Lorraine school



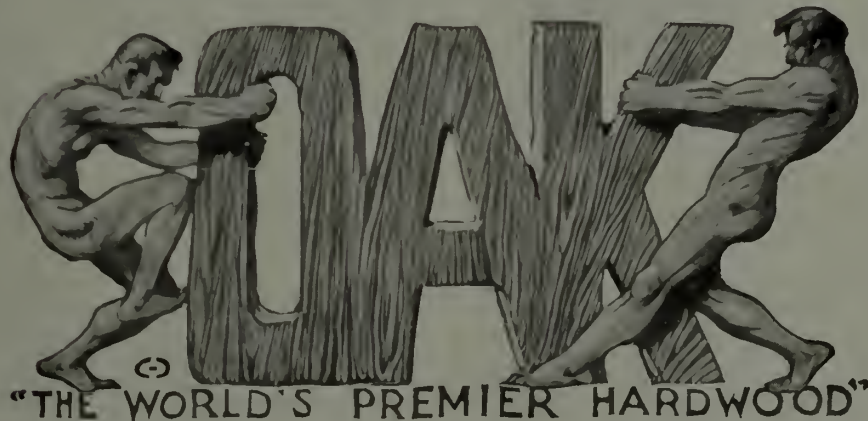
Virgin and child from the Ile de France



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justifies a keen search, a critical insistence and a special order if need be. One can make no nobler or more enduring bequest.



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One of Revillon's main trading stations: Ungava. All buildings built and owned by Revillon Frères. Some are used as homes by agents, others as stores and warehouses for goods, (thus divided to reduce fire risks) and as workshops and mess houses in which Eskimos are cared for on their visits to the post.

REVILLON TRADING POSTS *in the* NORTH

ALL THE ILLUSTRATIONS IN THIS ARTICLE ARE REPRODUCED FROM PHOTOGRAPHS TAKEN BY MEMBERS OF THE FIRM OF REVILLON FRÈRES OR BY THEIR EMPLOYEES.

THE growing appreciation of beautiful furs and the increasing scarcity of fur bearing animals has aroused a keen interest in the fascinating business of fur trading. As accurate information about the taking of furs is difficult of access and our organization is the only one of its kind equipped to gather it, we have undertaken at the request of various friends to relate a few of the more interesting facts about the trapping and collecting of furs in different parts of the world. The present article is devoted to Revillon activities in Canada.

As the trapper cannot bring his skins to the market the market must go to him. Small posts are established all through the wild regions where traders, one or more at each post, exchange the necessaries of life for the pelts which the trappers bring in. Many of these traders hear from the outside world only once a year when they get their supplies.

The trappers are a strange army of Indians, Eskimos and adventurers of many races who trap as much for sport as for necessity. They enjoy hunting, and follow with interest everything pertaining to wild animal life. Fur bearing animals even of the same species differ widely according to climatic conditions, abundance of food and other causes. Sometimes a short distance will show great variation in their development. To get perfectly matched furs it is essential to have skins from animals with a common ancestry. This is impossible when skins are bought in the open market after passing through many hands. It is in order to secure perfectly matched skins coming from the same district that Revillon Frères have established their trading posts in the fur producing regions of both hemispheres.

From Canada they get large supplies of fox, marten, lynx, mink, beaver and muskrat, to mention only a few of the most important species. To obtain these furs at

their best the immense country must be covered from the Canadian border to the perpetual snow and ice of Hudson's Bay.

The Canadian fur trading season must be started early in Summer in order to ship the trading goods to the North. The most remote Revillon posts in Canada are in the Hudson's Bay country, and in normal times are supplied by Revillon steamship going directly to a base post in James Bay. From that point the goods are distributed by a fleet of small schooners to the different posts along the shore. Transportation of freight in this region is a hard task as the straits are open only three months for navigation. A few years ago the Revillon steamship ELDORADO was wrecked on her return trip. Her successor, the ADVENTURE,



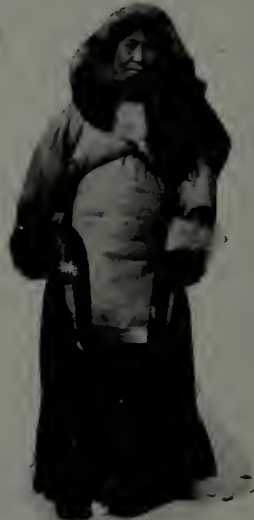
A typical post factor or trader.

was sold to the Russian government in 1916 for breaking ice in the harbor at Archangel. The tremendous demand for Trans-Atlantic tonnage for war purposes made new transportation arrangements necessary for the posts, and a fleet of schooners with auxiliary gasoline engines is now carrying merchandise to the posts and bringing back the furs. In the fleet are the DOROTHY C. SNOW, the ALBANY, the HILDA P., the KING GEORGE, the VIOLETTE, the ANNIE GEELE, the JAMES L., the ROMEO, and the steamer EMELIA. The schooner calls only once a year at each post, but there is communication between some of the posts by dog sledge, and it is remarkable the amount of freight which can be transported in this way in spite of the risky journey among the blizzards of this desolate country.

The only inhabitants of the Hudson's Bay districts are the Eskimos, divided into two main tribes—the Coast Eskimos and the Inlanders. These tribes have a monopoly of the trading. They are hard working and honest, but their mode of living is very primitive and their language is crude and difficult for the white man to learn. These Eskimo



The husky dog—the trolley of the north.



Katalee, an Eskimo lady of quality.



Tukalook and his wife.



Trading schooner "Anna Goole" in winter quarters.

their furs at auction in London, and Revillon Frères, who obtain a good share of each year's catch, which accounts for the beauty of the skins they are able to show at their several branches.

Further West in Canada transportation to the trading posts is by river, light draught steamers being used wherever possible. As most of the rivers are navigable for only about ten days in the Spring at the time of melting snows, the main reliance for freight are fleets of scows towed by power boats. These scows make but a single voyage as there is not time for them to make the return trip before Winter. They are usually given to the Indians who break them up and use the lumber for building huts. The scows travel in large groups, a score or more at a time each carrying about twenty tons of freight. The illustration below shows one of the regular Revillon river transports, consisting of about twenty-five scows which left this year on May 15 for the northern posts.

In the Peace River district civilization is rapidly changing conditions, and driving traders and trappers farther north. No later than 1905 this was still a wilderness, but now regular railroad service traverses the section. At

posts furnish the white furs, the only product from an eternally snow covered land. The Eskimos live largely on flesh and animal fats though there is a great demand now for tea, sugar, tobacco and other such luxuries of civilization. They also trade for pipes and matches, the snow knives with which they cut blocks of snow to build their huts, and for field glasses which enable them to trail the caribou which migrate in large herds and furnish them their yearly meat supply. For hunting they still favor old style muzzle-loading guns with powder and lead balls.

The enormous capital necessary to finance a chain of trading posts in the Hudson's Bay district has limited trading operations in this part of the world to two companies, the English Company, who dispose of

knowing that if these companies did not take care of the Indians in years of famine the burden would fall on the government.

In some districts Indians have sold their claims to the land to the Canadian government and receive in exchange a yearly revenue called the "Treaty Payment". It consists of a certain sum in cash and a specified outfit of provisions. The Treaty Commission makes a yearly trip and is naturally warmly welcomed by the Indians. Revillon Frères Company is often the successful bidder for the delivery of these supplies and the transportation of the Commission which distributes

The "Eldorado" in the ice.



Mr. J. M. Revillon's guide and dog driver on one of his inspection trips to the North.



Dog sledge resting at a post.

them, and it is a very interesting sight to see the Indians gather around the posts at Treaty time enjoying real feasts of their favorite luxuries. The Canadian government takes exceptional care of the Indians, absolutely forbidding the dispensation of liquor to them. In most of the territories even the white agents must have a special permit to bring in a limited amount of liquor for their personal use. Revillon Frères having a Federal Charter under the Canadian government enjoy special privileges which enable them to take advantage of the many opportunities of the northern country. They introduced modern business methods in

the fur trading country and treat the Indians exactly as white people. Transportation is organized and regular freight rates are established between the different districts and posts which enable them to help in the development of new fertile belts. In some places Revillon trading posts were the starting points of new towns; in other places railroads were built with the company's help. The Revillon Frères steamships "Ombabika" and "Minawa" on Lake Ombabika were used to transport men and material for the construction of the main road of the National Transcontinental Line. Dominion land surveyors opening up unsurveyed territory were transported with their supplies by Revillon Frères, and many American prospectors and lovers of wild life took advantage of Revillon facilities for traveling through the North. One of them, a well known magazine writer, has given as a reason of the success of Revillon Frères and their large following in the North the fact that the principal stations are visited at intervals by members of the Revillon family, who control the operations of their trading companies as directly as their establishments in large cities.

At the end of their journey the furs collected in the great chain of Canadian posts find their way to New York, where Revillon Frères have large warehouses for raw and dressed skins in addition to their retail establishment and their separate cold storage building. The finished garments made from these carefully selected and beautiful skins are for sale in the Revillon building at Fifth Avenue and 53rd Street, at Revillon Frères in London, 180 Regent Street, and at the original house in Paris, 81 Rue de Rivoli.



A remote post showing winter snow entrance

the time the Police Road was built from Peace River to the Yukon, Revillon Frères had the contract to supply food to the Northwest Mounted Police engaged in the work. Then all transportation was by man power, ten Indians towing a seven ton scow at the rate of about twenty-five miles a day.

The Indians in Western Canada are mainly of two tribes: the Crees in the South and the Beavers or Chippewyans further north. The Crees have a euphonic language very easy to learn. The Chippewyans are a rougher and less civilized tribe. Still further north we again find the Eskimo. Originally the Indians lived entirely on meat, killing moose, deer and other animals for their food and clothing. Under these conditions it was difficult for the trading companies to induce the Indians to trap fur-bearing animals. Gradually they developed the native's taste for such delicacies as bacon, beans, flour, jam, etc., and soon had no difficulty in getting him to work for this more appetizing food instead of devoting all his time to hunting moose and deer. The Indian trapper's business is precarious. Some years furs are very scarce, whole species of animals practically disappearing temporarily. During these times of scarcity the Indians have to be kept alive. For this reason the Canadian government gives their support to the two large companies operating in this district—Revillon Frères and their English competitor,



One of Revillon Frères fleets of scows leaving for the North, May, 1918.



PATRIOTISM *and* OVERHAULING

By ALEXANDER JOHNSTON



IT HAS been a rather annoying habit of a certain class of our fellow citizens of this Republic to remark on all possible occasions that "America doesn't know that she's in a war."

If there is a man in this country who doesn't realize very vividly that we are in the greatest war of all time, he must be a person of singularly restricted interests. For it is by the rupture of time-honored customs and habits that any great change makes itself apparent, and very few of us are pursuing the even tenor of the way we went in the old placid days of peace.

This applies to all the varied aspects of our national life, and to none more than to the American motoring community. The automobile industry is fundamentally very nearly allied to the business of producing certain war-making essentials. When we entered the war for human decency, the Government was at once compelled to call on the automobile industry for help. This has been granted in unstint measure. In fact no other industry, except possibly that which produces steel, has contributed to our military preparation quite so heavily as has the automobile industry. Inevitably this has led to curtailment of the prime business of the industry. Not so many passenger cars are being produced this year as last in spite of the fact that the demand has increased.

And this has meant that many people who make a practice of purchasing a new car every year have had to forego their custom and get along with the old 'bus. Many other people who might have been able to get cars have decided, for patriotic reasons, that they could very well get along with their old vehicles. So it happens that the word overhauling has a totally new meaning for a large class of our population. By way of consolation to those earnest souls who are forced this year to go without a new motor car, for the first time in many moons, let us offer the assurance that a motor of standard American make, properly overhauled and tuned up, will run better the second year than the first. The various parts of the mechanism have just about had a chance in, say, 5,000 miles of running, to wear in and become supple in action, without developing any sign of excessive play. The car owner who drives an overhauled car for the first time will be agreeably surprised at the behavior of the fabric under his control.

While we are on the subject we may be pardoned for briefly paying our respects to the car owner who, through patriotic motives, purposes putting up his car for the duration of the war. This class of owner is probably not at all numerous and allowing everything for the purity of its motives, we submit that it is lamentably mistaken in its conclusions.

In the first place the only real justification for putting up one's motor car would be shortage of gasoline, which happily has not developed—to an extent at least that justifies or calls for such drastic measures. The car owner who deprives himself of the use of his vehicle during the war, slows down his own efficiency, at a time when we need maximum speed in all branches of our life. May we suggest that this class of "conscientious objectors" instead of putting their cars in storage,

have them overhauled and use them on a strictly utilitarian basis. It must not be forgotten that when the fuel commission issued its famous heatless day order, it specifically exempted motor vehicles, on the ground that they could never be considered in the light of anything but public utilities.

However, from all this it is positively certain that an unusual amount of overhauling will be done. A great many car owners will find themselves face to face with the unaccustomed problem of overhauling the little old last year's car and tuning it up for further service. One class of owner will simply hand its vehicles over to the service station with *carte blanche* to put it in the best possible condition. But there is another and far larger class, to which surely most country life motorists belong, which would scorn to acknowledge the superior ability of any repairman and would refuse anyway to give him as work what they know to be enjoyable "tinkering." For this latter class we venture to offer some suggestions as to the best way of carrying out the very important task of overhauling the car.

To begin with, it is obviously best to start at one end of the car and work back to the other, taking each unit in order, attending to all its needs, and then going on to the next. The owner who jumps from one part of the car to another is fairly sure to skip some in his roundabout journey. Suppose, then, that we start with the engine.

If the engine is of the detachable head type that part should first be removed. The oil pan should next come off, leaving the whole interior of the engine exposed to view and facilitating any work to be done on the bearings. In all probability the first peep into the engine's internal economy will disclose the fact that it has accumulated a sufficient deposit of carbon to require removal. With the engine head off, this can be carried out very comfortably.

I would next examine the valves, which will probably be found to need grinding for which there will never be a more favorable opportunity. In removing the valves to grind them, examine them carefully for warped heads and worn stems. See whether play in the guides has developed, in which case there is the alternative of fitting a bushing in the guide or getting valves with slightly oversize stems. Be careful to see that the valves seat of their own weight after they have been lifted with the hand.

Next we come to the problem of taking up rod bearings and possibly main bearings. Really the proper way to refit bearings is to remove the whole crankshaft, but this is beyond the average car owner's ability. The rod bearings may be scraped without removal of the rods, although when this is done, it enables one to scrape the upper half of the bearing as well as the lower. In most modern engines it is possible to take the rod out through either the top or the bottom of the casting.

The method of scraping bearings is as follows: remove the bearing cap and take out a thin shim, after which the shaft is blackened with lamp-black and oil. Next remount the rod, tighten the cap bolts evenly, and turn the engine over a few times. Remove the bearing cap again, rub it with a bit of cloth, and see where the black spots appear on the metal. These spots should be carefully scraped off with the tool known as a bearing scraper. A bearing that fits accurately will be snug without gripping anywhere so that the shaft cannot turn easily. Scraping bearings is a job that calls for some little knack, and the neophyte will do well to see it done before he attempts it for himself.

The next point of attack will naturally be the

oiling system, and this should be given a thorough cleaning. When the oiling system is a plain splash affair, after the old lubricant has been drained out, the lower half of the crankcase should be wiped out and a flushing with kerosene will do it no harm. If the system involves piping or leads, it is advisable to force kerosene through, under pressure. This cleans out any obstruction which might later develop into a serious stoppage. Almost every oiling system will have screens for filtering the lubricant, and these should be taken out and thoroughly cleansed of foreign matter that may have lodged in the mesh.

This brings us naturally to the question of piston and cylinder condition, for any defect here will be signaled by excessive smoking, from oil leakage. It may be simply that the piston rings are not fitting properly, and renewal of these parts will cure the trouble. On the other hand the cylinders may have been worn out of round, which will be determined by using a pair of inside calipers upon them. If the condition is only slight, there is no necessity for bothering for the time being, but if the cylinders are badly out of round, it will be best to have them rebored, and for this the car owner must call in the services of some concern specializing in the work. Rebored cylinders call for oversize pistons, which may generally be secured from the manufacturer of the car. When an old engine has its cylinders rebored, it is best to fit a scraper ring in the bottom groove of each piston. Also small holes should be drilled beneath the lower groove, to permit excess oil to drain back into the crankcase.

The next unit to attack is the cooling system. It is recommended that the radiator be removed and sent to the service station to be boiled out. It is no uncommon thing for an operation of this kind to bring out three or four pounds of foreign matter, which has collected in the radiator and which impedes circulation without actually stopping it. The formation of scale in the cooling system is one of the troubles to which this part is heir. By filling the system with a strong solution of washing soda and water and then running the engine for half an hour, most of this deposit will be loosened and carried out when the solution is drained out. Finally all the rubber hose connection in the cooling system should be renewed, unless examination discloses that the old joints are perfectly sound, which is not likely to be the case after a year's running. These rubber connections have a way of swelling and shredding off, which impedes circulation of the cooling water and helps to cause overheating troubles.

In case the cooling system employs a pump, this may very probably need repacking. The packing nut should be removed, the packing renewed, and the nut tightened again. In performing this latter operation, be careful not to draw the nut too tight; stop without applying your full strength to it.

While we are on the cooling system, it will be well to give the fan the attention it needs. The belt may have stretched, and if so, this slack should be taken up, and a little oil will not be amiss. While this is being done the various nuts and bolts at the front of the engine should be tightened. The engine supports, the nuts that hold down the radiator, and



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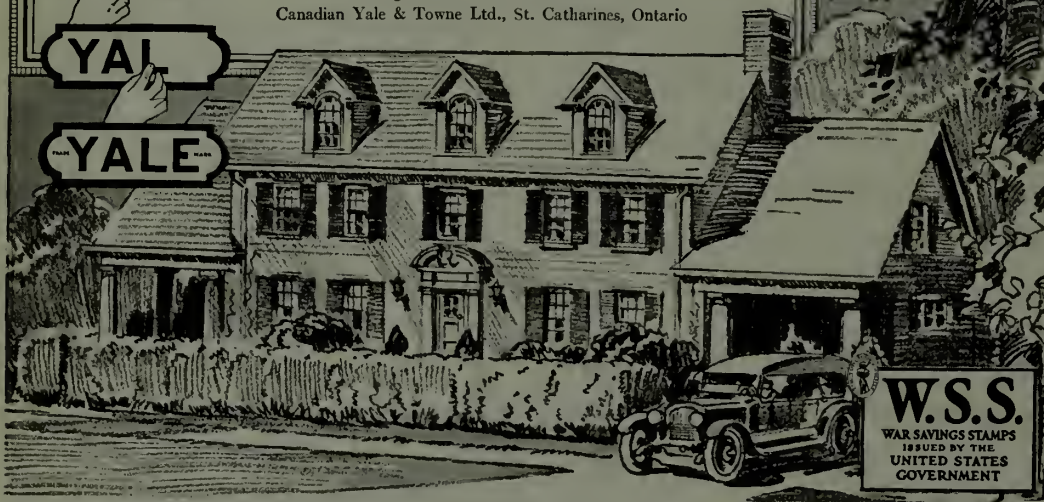
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any others up here at the "bow," had best be drawn tight.

Next in order for attention will come the ignition system, and the energetic owner will here find enough work to keep him busy for the whole of a rainy day. To begin with, all terminals should be thoroughly cleaned, breaks in the insulation should be carefully taped, and connections should be bound down snugly. The various wires should be fastened firmly in such a way that they do not touch hot metal, also they should not be able to swing when the car is in motion. It is a very good plan to enclose all the wiring in conduits, which may be had already made up, or may be improvised from sheet asbestos, fibre tubing, or flexible metal tubing. The great advantage of conduits is the fact that they keep the wires out of oil or water that is certain to cause shorts sooner or later. The ignition itself will need a little attention, a good cleaning principally, and the points must be trimmed down flat. Do not leave the ignition system until you are sure that it is in absolutely perfect condition. Much of the trouble encountered in ordinary running is ignition failure.

The starting and lighting system will not call for very lengthy attention. The battery, presumably, is being cared for at the service station—at any rate that is where it should be. If the bearings of the starting motor and of the generator are given some oil, that is about all that is necessary. If the system employs a silent chain drive, the chain should be cleaned by immersion in kerosene and then given a bath in lubricating oil. It may be necessary to take up the chain for slack; in most chains to-day an adjustment for slack is provided, but if it is not, the removal of a link or so will do the trick.

We have now covered the engine and its appurtenances, and the next unit to demand attention is the clutch. The control linkage from pedal to clutch should be thoroughly oiled, and the bearings likewise. The treatment demanded by the clutch itself will depend, of course, on the type and condition of the device. If it is a leather clutch, a thin coating of leather dressing will not be amiss. Perhaps the leather facing may need renewal. The disk clutch of the type that runs in oil should be cleaned out and fresh lubricant of the proper quality installed. The disks may need renewal and bearings may require taking up.

Coming to the transmission, the first thing to do is to drain out the old lubricant, flush the case out thoroughly with kerosene, and before filling it with fresh lubricant make a thorough examination of the unit. Perhaps the unit as a whole may need renewal, or some of its members may have suffered injury. The bearings may be worn; if the car owner is equal to the task of replacing these latter, very well, but this is a job that is a little beyond the average amateur.

The universal joints should be cleaned out and repacked with appropriate lubricant, and the differential unit should be flushed out with kerosene and then be filled with lubricant.

Next comes the braking system, the first attention to which should be the relining of the bands, unless the linings have been very recently renewed. The system should be tested and adjustments made so that the brakes exert a similar pressure on each side of the car. Unequal braking force—that is, one brake acting more powerfully than the other—leads to skids and other mishaps.

Finally, the careful owner will go all over the under part of the chassis, tightening nuts, bolts, clips, etc. On cars employing torque members, these should be tightened, as they emit a very annoying rattle when they are loose.

The steering system, with the braking system, should have the most rigid scrutiny and careful attention, for the proper functioning of this system means not merely convenience but actual safety. It is best to remove the steering post and examine the parts in the case at the bottom. It is not unlikely that water may have found its way into the gears and caused rusting. Inspect the whole system from post to steering knuckles, oiling copiously and tightening up wherever it needs it.

We have simply suggested the proper procedure to follow in overhauling the mechanism of the car and tuning it up for continued use. It is impossible in the space at our command to give detailed directions in regard to each unit, but the average owner understands the specific parts used in his car.

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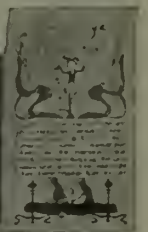


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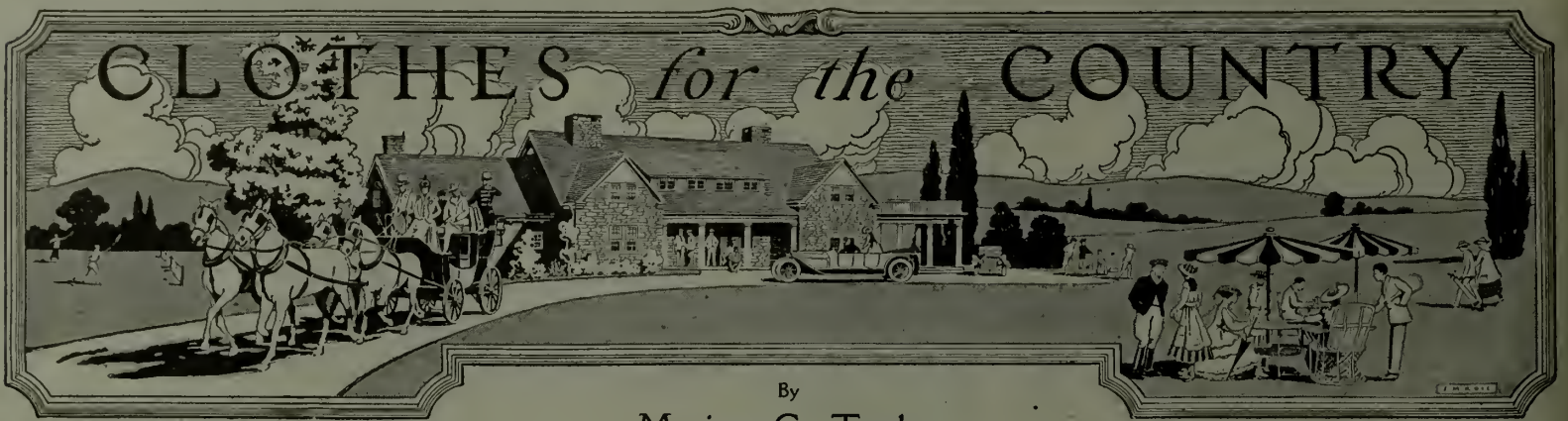
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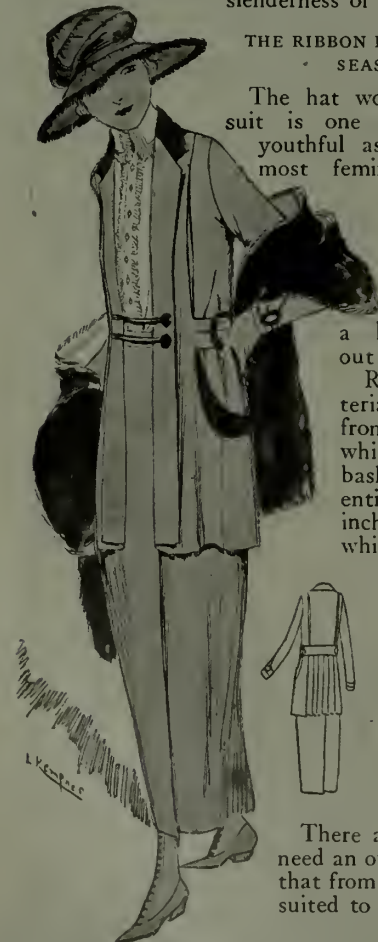


By
Marion C. Taylor

FROM time to time mention has been made in these articles of the difficult problem that confronts the woman of the extremely feminine type in finding suitable country clothes, clothes that are trim and sportsmanlike in character without too great a severity, which to this type of a woman is as trying as it is becoming to another type. She may find it comparatively easy in mid-summer to choose the less severe types of blouses, frocks, and separate skirts. Even sweaters are quite easily softened by a bit of angora trimming, while hats are never a very difficult matter; but in fall and spring, when the question of a country suit is to be decided, the matter is not so easily disposed of.

Most smart country suits are severe, in fact even masculine in type, and to soften them usually spells disaster, so that it is quite worth mentioning when one discovers a suit such as the one shown at the left of the page, which retains its sportsmanlike character and yet manages somehow quite insidiously to be decidedly feminine in character.

It was shown in a soft gray-green mixed tweed, trimmed with a lovely cool forest green suede, and when one studies it carefully its femininity can be traced first to its becoming front opening with its two narrow crossing belts, next to the oval pocket openings, the oval buckles which trim it, and its clever avoidance of the severity of too many straight lines. In fact, in the back only does it really allow itself, by effective plaits and slot seams, to make use of these straight lines to accentuate the length and slenderness of the coat.



THE RIBBON HATS OF THE SEASON

The hat worn with this suit is one of the most youthful as well as the most feminine country

hats that have been imported this season. It is made entirely of ribbon, gros-grain ribbon of a heavy quality, fringed out at the edge of the brim. Ribbon is a favorite material for hats this season, from the narrowest width, which is cleverly woven basket fashion to form an entire hat, to a two-or-three-inch grosgrain or moire which is usually sewed together at the edges or laid edge over edge. Berthe, Lucie Hamar, Reboux, and others use it with great success in berets which are as popular as can be for early wear, in simple mushroom shapes and in such upturned brim types as the one shown on the page 76.



A TOWN OR COUNTRY SUIT

There are many women who perhaps do not need an out and out country suit or who, having that from a season ago, require rather something suited to town use in fall and even winter, and yet possible for a certain amount of country use, other than actual sport wear. The model shown at the right not only answers these require-

Forest green suede successfully trims this interesting country suit of green-mixed tweed. Decidedly youthful is the hat worn with it, of silk belting ribbon, fringed around the edge.

THE purpose of this department, conducted by Country Life's Readers' Service, is to give information of any sort regarding country clothes. It will gladly furnish the names and addresses of establishments where correct country clothes may be found, as well as those from which the clothes in the accompanying articles are chosen. Write, telephone, or consult Miss Taylor personally on country clothes problems.

COUNTRY LIFE
120 West 32nd Street New York City

ments but is one of the most successful of the new long lines suits to be shown—suits that emphasize in the most subtle fashion whatever slenderness and length of line their wearer possesses; quite straight, not as semi-fitted as suits of other seasons, and managing by both cut and trimming to give a straight, crisp look that plainly spells the fall and winter of 1918.

This model has a succession of small, pressed-in plaits grouped at the back, seeming, held in place by odd suspender like straps in one with the half belt. The front is quite plain, a pocket ending the side seam. It is being shown in a soft beautiful shade of tan velour, which promises to be a favored shade of the season. Colors this year are all soft and anything but obvious. One sees green tans, gray tans, browns with a bluish cast on the taupe order, and a host of similar elusive shades that are hard to classify and that bear a dozen different names.

SAND IS POPULAR FOR MILLINERY

Worn with this suit is one of the smartest hats that Paris has made this season. Like many of the prettiest models, it is in velvet, a lovely sand shade much favored in millinery, and has the soft rolling brim which is indicative of the season. These soft velvet brims, generally stitched, are shown by several of the leading millinery houses, particularly Lucie Hamar (who does this sort of hat as well as Chanel does the clothes to go with it) and have much to be said for them in that they have just enough flexibility to be pulled however one finds them most becoming, and just enough stiffness to hold this position. Crowns are oft-times quite high and straight but, like brims, soft so that one may flatten them down or pull them to one side. A narrow satin ribbon of the same sand shade ties at one side in a bow with fringed ends.

A SANE USE OF MILITARY IDEAS

What one might term "military fashions" seem finally to have found themselves, to have settled in-

to definite and acceptable grooves. We have gone through a few seasons of atrocities in fashions that were grotesquely military, and now that we have passed this stage it seems safe to use

sensibly the many quite logical ideas that the uniforms of the allies offer.

For instance, in a coat of the character shown in the centre of the page, we feel unquestionably the military influence in the collar, the belt, and the shoulder straps; but it is so logical and sensible a use of very practical military fashions that one is hardly conscious of source, and the result is the smartest sort of a useful coat, for motor, for country use, for storms or just for anything at all; one of those



An all 'round useful coat is composed of a tan shade of rain-proof covert cloth. The smart tam o' shanter accompanying it is of felt banded with fur (Models on this page from Hickson Inc.)



Slenderness and length of line are cleverly achieved in this suit of tan velour. A most becoming rolling brim velvet hat of a lovely sand shade is trimmed only by the stitching and a satin ribbon band.

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coats which one never dares be without, which one steps into summer or winter, for a hundred different purposes.

This one is made in a good dark tan shade of rain proof covert cloth of an excellent quality, and succeeds in being really distinguished in its trim straight lines with its comfortable large armholes and unusual pockets. Bone buttons fasten it.

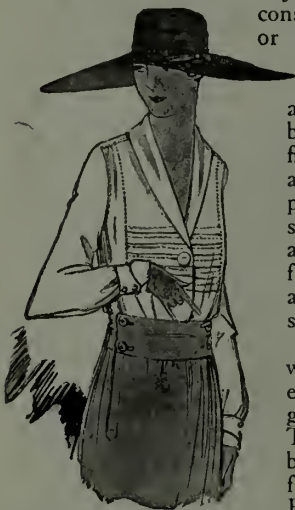
With it is worn one of the smartest of tam o'shanters made by Jean Lanvin, of felt and fur. Its under section coming straight out from the head is entirely of fur, the upper part of cloth matching in color. It was originally developed in gray with the rabbit fur so popular in Paris, but never really taken seriously in America; but it is now being developed in many other combinations, such as tan felt and beaver, which make an excellent combination.

HOW THE FRENCH USE FUR AS A TRIMMING

One wonders, sometimes just why it is that American women seem to take fur, used frankly as a trimming, so seriously; they seem to demand that only the more costly, genuine furs be used, when the French, with the true spirit of the *ensemble*, use fur quite as they would

any other trimming, never considering its intrinsic value or its origin but only the effect it will give. An American woman will wear a frock trimmed with wooden buttons if they be disguised sufficiently to be attractive and are just the thing needed in that particular place, but she will scrutinize some odd piece of fur and upon discovering that it is from a very mundane fur bearing animal will at once demand something better.

But perhaps it is the care with which the French treat even the poorest of furs that gives such excellent results. Their dyeing is an art yet to be equaled in America. Such furs as flying squirrel, rabbit, Belgian hare, ring-tail and rat, if the latter is dyed well, are all excellent and fairly inexpensive may use that term to describe anything in these days. Rabbit is especially successful in



Tucks and hemstitching are an interesting feature of this crêpe de chine shirt (\$7.49). Broadcloth cut in an odd fringe trims the upper brim of the velvet mushroom hat (\$18)



A woolen sweater woven in squares is trimmed with a plain weave of the same shade (\$15.75). Knife-plaited skirt of wool plaid (\$19.75). A simply trimmed beaver cloth hat comes in the loveliest shades (\$20)

natural gray tones when combined with gray for country use, and Belgian hare with its black and gray mixed is unusually smart and still quite uncommon.

THE FIRST NEW FALL SWEATER

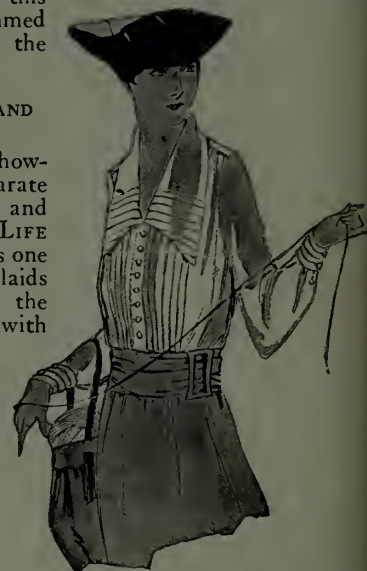
The sweater shown on the centre figure of this page is one of the first of the autumn models to make its appearance. It is of wool knitted to form the square blocks that one has so far associated only with silk sweaters. The collar, a band down the front, the pockets, the cuffs, and belt are of plain weave in the same color. It is very good in a sort of khaki tan and may be had in other shades as well. One needs a sweater with a bit more warmth for autumn days, and this one has just the variety of weave to lift it from the usual run of sweaters.

Worn with it is a rather high-crown, down-turned brim country hat of beaver cloth, which is just as it sounds—a cloth giving exactly the appearance of beaver with its long fuzzy hairs. It comes in the loveliest colors imaginable and is prettiest in hats of this simple character, trimmed with a ribbon round the crown.

THE NEW SEPARATE SKIRT AND TWO SHIRTS

The better shops are now showing accordeon plaited separate skirts such as were shown and described in June COUNTRY LIFE as being made to order. This one is in one of the best sort of plaids for general autumn wear in the country, a dark background with just enough high colors in a wide pattern to give it life without making it gaudy or commonplace. There are so many really bad plaid skirts shown in the shops that one must choose both a distinguished model and a less usual plaid to have a really smart skirt.

The two crêpe de chine shirts shown are excellent new fall models at very reasonable prices.



Horizontal and vertical tucks are effectively combined to form this smart crêpe de chine blouse (\$9.74). The soft, wide grosgrain ribbon brim entirely conceals the velvet crown of this Reboux hat (\$15)



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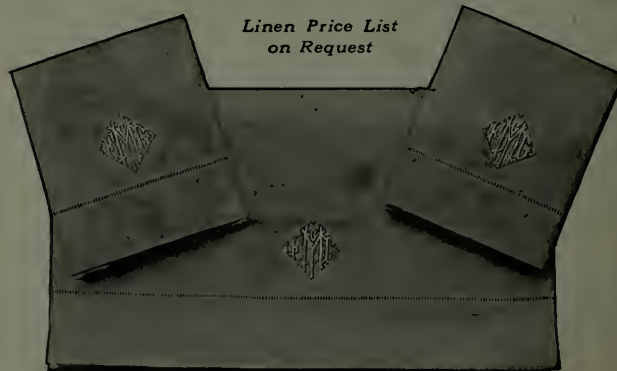
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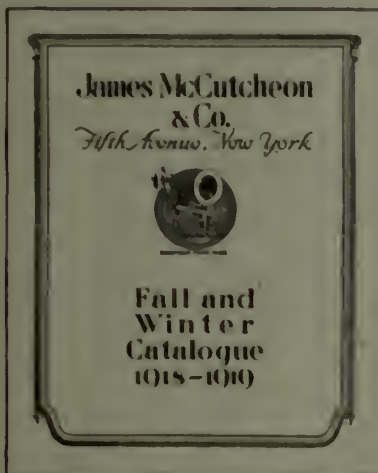
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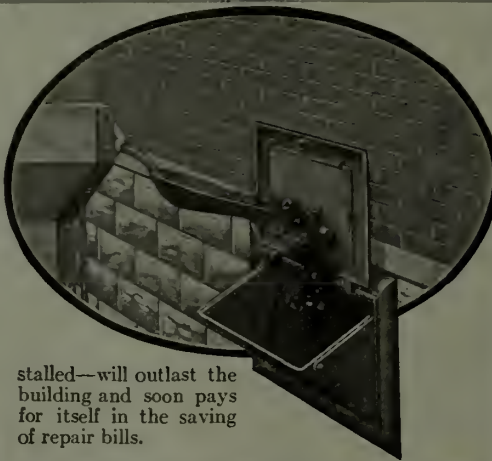
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(Continued on page 100)

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WHAT WILL TO-MORROW'S WEATHER BE?

By WARREN MASON



HAD an uncle who used to go out in the morning, on his farm, where I spent my summer vacations, and, after looking about for a while, would tell what the weather would be, not only for that day, but frequently for several days to come.

"We won't mow the lower field to-day," he would say, "because it will rain before the grass will dry."

And at other times when I felt certain it would be one of those drizzly, cloudy days when I could go fishing with good success, he would make ready to begin the day's haying, saying, "It's going to be hot and dry to-day."

The puzzling part of it all was that he was almost invariably right about it! "Uncle Joe," I would beg, "please tell me how you guess at the weather just by looking at the sky."

"I don't guess at it, Jud," he would reply, a trifle irritated that I should think so, "and I look at more things than the sky. The insects and the birds and animals and the vegetation all tell about the weather. They know more than we do. Spiders and birds and almost everything around you know when it is going to rain."

After that I used to go out with him and make him tell me just what he saw and what it meant to him, and I learned a great deal about such things, until I became known among my friends as "weather-wise." Birds, animals, and insects are so much more sensitive to weather conditions than are human beings that by close observation of them any one can soon learn to forecast the weather with surprising accuracy.

Crows are good weather prophets. When you see them early in the morning soaring to great heights and uttering a hoarse, croaking sound, you may be reasonably certain of a fine, clear day. Swallows flying unusually high in the early morning are another sign of fair weather.

The loud quacking of ducks, geese, and other water fowl is a sign of rain. Just before a storm you will always find swine, roosters, and hens rubbing in the dust and in other ways showing their uneasiness. Cattle and sheep announce a storm long before its arrival by huddling in one corner of the field with their heads turned away from the wind.

Just before a severe rain dogs are apt to be very sleepy and dull and to lie all day before the fire. If they bark long and loud during the night without any visible cause, it is a sign of a sudden change in temperature.

When moles throw up more earth, when numbers of spiders appear on the walls, when pigeons return slowly to their dovecotes, when the frogs croak with unusual vigor, and when the bees are reluctant to leave their hives—all these are declared by close observers to be forerunners of rain.

When the next day is going to be fine it has been noticed that bats continue flying about very late of an evening. The floating of gossamer and especially its presence on the rigging of ships are indications of fair weather, in which from time immemorial sailors have placed much confidence. The appearance of gulls, petrels, and other sea birds at some distance inland presages stormy weather.

Flies are more troublesome and sting for several hours before it begins to rain. When the dew lies plentifully on the grass of an evening you may look for a pleasant morrow, but if there is little or no dew, a wet day is ahead.

The common English sparrow will stop its chattering noise seven or eight hours before the arrival of a storm, and become ominously silent. All birds give some indication of approaching changes of the weather, but with some species the signs are easier to read than with others.

To one who understands the habits of birds, their actions foretell changes in the weather with as much accuracy as the observations of the Government scientists, who base their forecasts on telegraphic reports and their own study of atmospheric conditions. Indeed there is nothing more remarkable in nature than the ability to forecast the weather which most birds instinctively display, and which a little study enables any one to profit by.

If birds which are known to fly high and for long distances, such as martins and different kinds of swallows, are observed flying close to the earth, or keeping near their homes, it is an almost certain indication of a storm, with heavy rainfall.

The reason for this action is simply that these birds depend for food upon insects flying in the air, and insects do not fly high preceding a storm, because the atmosphere is too heavy. During fair weather the atmosphere is lighter, and insects can fly higher, and consequently birds have to fly longer and higher distances to secure their food.

An unusual silence is frequently noticed among birds a short time prior to a severe or sudden wind or thunder storm.

Robins sometimes sit upon a high twig and sing long and loud just before what is called a "growing" shower, but seldom do so if the storm is going to be a severe one.

Migratory birds and fowls that go north in summer are sure to fly south previous to cold and stormy weather, and return north prior to warm or pleasant weather. When these birds are noticed flying in circles, and darting restlessly about, there is usually a severe atmospheric disturbance not far distant, such as a cyclone or tornado.

When chimney swallows, martins, and other species of swallows fly in circles, and cry out loudly, there is certain to be rain in the next few hours.

When cranes scream and make a loud noise, and seem to be restless, and when herons fly swiftly up and down, and seem to be dissatisfied with any location they may take along a stream, it is sure indication of rain soon.

When great horned owls are heard hooting in the deep wood for more than a few minutes at a time, a storm is indicated, either rain or snow, according to the season.

When peacocks and guinea fowls are very noisy we may expect a sudden squall or heavy rain. Their chatterings foreshadow rain and wind as surely as does any first-class barometer.

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well into the forenoon, foretell rains. When they utter very sweet and liquid notes fair weather is indicated.

You can tell whether a winter will be severe or mild by means of the growth of bark on tree trunks or saplings, the growth being much thicker some years than others and an unusually cold winter invariably following when the bark has grown thick. The moss or lichens that grow on the north side of many evergreen trees will be heavier during the season preceding a cold winter.

It is said crickets will chirp slowly if it is going to be colder during the next day or so, and again chirp with greater rapidity if a warm spell is coming on.

Other animals and insects seem to act as barometers: the ordinary frogs, although called green, have a great deal of yellow about them; while this remains a clear or bright yellow, fair weather may be expected to continue, but it is said that when the yellows begin to fade and become rather dull and of a brownish color, bad weather is approaching. Nearly everyone knows about the spider that makes his web on the grass. Throughout the summer one may see thousands of closely spun cobwebs spread out on the grass, under rose bushes and such places, with always a little hole in these webs where the spider goes to hide. If your lawn is well dotted with these webs in the morning, regardless of how cloudy it may be, you are safe in assuming that it will be a fair day, at least for more than half the day. As far as known these spiders will not spin their webs if it is going to rain that day, because they know it is going to rain and that the rain will spoil their webs!

Among the best weather proverbs are those which have to do with the color of the sky and the appearance of the sun, moon, and stars, for changes in their aspect are caused by changes in the atmosphere, which usually appear before definite changes in the weather. Take the following example: "A red sun has water in his eye." Redness of the sun is caused most commonly by a great quantity of dust or smoke particles in a damp atmosphere. When the atmosphere is heavily charged with dust particles that have become moisture-laden, we see the sun as a fiery ball. And, inasmuch as the formation of rain-drops depends upon dust or other particles, about which the water vapor gathers, it follows that a dusty atmosphere is favorable to rain. Molecules of water vapor in the atmosphere have the same sort of optical effect.

There are many proverbs, some of them good and useful, concerning the color of the sky at sunrise and sunset. From Shakespeare we have the well-known lines:

A red morn that ever yet betokened
Wreck to the seamen, tempest to the field,
Sorrow to the shepherds, woe unto the birds,
Gust and foul flaws to herdsmen and to herds.

A jingle that expresses substantially the same idea puts it thus: "Sky red at night is the sailor's delight."

If the evening sky, near the western horizon, is yellow or greenish, the prospect is for clear weather, for these colors indicate a dry air. And so, Shakespeare, it seems, was weather-wise as well as a great dramatist, for he wrote:

The weary sun hath made a golden set,
And by the bright track of his fiery car,
Gives token of a goodly day to-morrow.

If, however, the evening sky is overcast with a uniform gray, then we know that numerous water droplets are present in the atmosphere, and that the dust particles have become loaded with moisture. Such a condition of atmospheric saturation necessarily favors rain, and justifies the familiar proverb:

If the sunset is gray,
The next will be a rainy day.

Many proverbs for telling rain and bad weather are based upon the appearance of colored rings around the sun and moon. Inasmuch as these are observed only when there is much moisture in the air, sayings of this class are well founded.

Through all the ages it has been widely believed that the moon exercises a great influence over weather, and upon this notion many proverbs are based. There is no truth whatever in the idea. Nevertheless, the appearance of the moon depends upon atmospheric conditions, and there-

(Continued on page 98)

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Art From The Trenches

By JESSIE MARTIN BREESE

Inquiries regarding home decoration—color schemes, furnishings, art objects and interior arrangement—should be addressed to Mrs. Breesse, of the Decorating Service of *Country Life's* Advertising Department, 120 West 32nd Street, New York

ART is neither form nor formula. It is neither definite nor nebulous. Let him who will lay down the rules for what is art, and as certain as he does there will be produced some work which will break all these canons, and yet the consensus of critical opinion will be that *it is art*. In the last analysis about the only test that can be applied to art, aside from the judgment born of experience is, like poetry, does it "definitely satisfy the soul's indefinite longing"?

And this brings us to the consideration of these four pieces of art, for they are beyond doubt that, which have come to us from over there—and over here—born of the heat of a conflict which is rocking the emotions of the world. Unlike poetry though, they are not "the reproduction of an emotion reviewed in quietude," but in "Artilleurs" and "Building the Ships," of living, tingling, exultant humanity competing in the great game of war; and in the remaining two, of the short intervals of calm that so strongly emphasize the ferocity of the great struggle by reason of their difference.



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These two physical characteristics in particular mark these works, peace where peace reigns and ceaseless activity where war goes forward.

Why are they art? Because, aside from all consideration of composition and color, they have definitely filled an indefinite desire in the hearts of four painters who have seen and been in the thick of the greatest conflict that has ever stirred a painter's emotions.

These four pictures have been termed "born of the war," and yet it is so hard for us to realize that, unless we analyze the meaning of the phrase, it holds no definite message for us. The war has been so distinctly destructive in character—we do not need to be told that probably no war in history has been marked with such vandalism—that we have come to believe that it can in no way be constructive. It is inalienably associated in our minds with the sack of Belgium and the violation of France. And yet, that it, like all wars, is constructive in some characteristic, we have evidence. First and last we have only to remember that it will assure the world freedom from further depredations of the vandal; it is breeding in the melting pot of America a new national consciousness, and lastly, its emotional extremes are responsible for these and many other fine pieces of art.

Link these three—freedom, a national consciousness, and art—and we see how closely allied they are in character. Beneath them all is the love of the ideal. The artists who did all four works are wholeheartedly in the war. Two of them have been in the thick of the fighting. They all know the spirit of the contest for ideals, the unrelenting determination to win, the living activity of the workers and soldiers. They have been behind the scene of this war when the stage was being set, and in their respective media have caught the spirit that prevails; they have brought the war home to America through art; they have reproduced destruction through construction. It is a peculiar paradox and yet, as these pictures demonstrate, how wonderfully worth while has been their effort.

One characteristic these pictures have which they do not share with



Franck Dupuy Knoedler Galleries
Artilleurs (front de Verdun)



Herbert Pollinger Kennedy Galleries
Building the Ship

all others—they are as historic documents in the museum of Time. The day will come when their possessors will point with pride to them and say, "That is a picture done just behind the trenches by a soldier-painter, of a portion of the battlefield in the Great War which, thank God, preserved the Democracy of the World"!

Sentiment, too, adds interest in the case of the two little watercolors to the right of and below the title, for Franck Dupuy and H. R. Thourel are convalescent soldier-artists whose work is being sold for the benefit of their fellow artists who are in a like condition. The men of whom these two are representative are doing extraordinary work under the most trying conditions, and it is hoped, a little later, to reproduce in these pages other, and perhaps more pretentious, work of theirs. Meantime we shall enjoy these tiny offerings—for the actual paintings are but slightly larger than the photographs of them which are shown, and the price of them is correspondingly small. It is to be regretted that they could not be shown in all their delightful coloring, but no whit of atmosphere has been lost in either one—the calm of peace after storm in the one, and in the other the dogged tenacity of the men who "carry on" in all weathers.

Henri Marret has done much artistic work in battle-scarred France, and is considered by many to be the best of those who are depicting such scenes. But none of his work surpasses the charming woodblock print illustrated. Here we find the tranquillity which the peace-shattering storm was not able to destroy even by physical mutilation.

On this side of the water we have artists working under the same vast inspiration. Shipyards and munitions plants that stand equal to the battlefield in the work they must do to conquer the enemy, have attracted many artists; "Building the Ship" is a fine example of the way the fight on this side is being portrayed in art.

It is through such realistic products of the artist's pen and brush that the war, in all its many phases, is entering the homes here in America. Even the printed word cannot portray it so faithfully and so fully.



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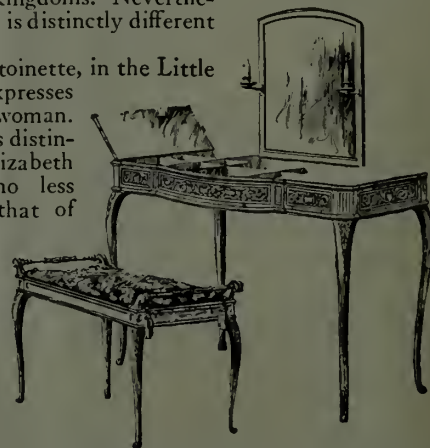
Furniture to Individualize the Bedroom

IN HIS book, "Interior Decoration," Frank Alvah Parsons offers us, for comparison, pictures of the bedrooms of three historical personages of widely differing character, with the request that we consider the characteristic qualities of each room in connection with the qualities found in the character of its owner. Luxury is a feature of each, for the three were all monarchs of important kingdoms. Nevertheless, the essential quality of each is distinctly different from the other two.

In the bedroom of Marie Antoinette, in the Little Trianon, charming simplicity expresses the exquisite daintiness of the woman. Neither femininity nor daintiness distinguish the bedroom of Queen Elizabeth of England, although it is no less simple in its stateliness than that of the other queen. Stately, too, is the bedroom of Louis XIV at Versailles, but with such ponderous ornateness that one cannot but remember the lavishness with which the Grand Monarch carried out all of his plans.

Thus clearly and easily does Mr. Parsons show that the bedroom—that room in all the house which is distinctly one's own—should be a definite expression of one's personality.

Other rooms in the house—general living rooms—cannot but express general characteristics, but in this one room the owner can and should allow free rein to the tastes which best express his ideas of living. To do this,



A dressing-table of unusual charm is this one whose three divisions close to make a flat top when not in use

he must decorate his room and choose the furniture for it with the self-query "Does this fully satisfy my tastes, in being characteristic of me as well as beautiful?"

On these pages this month are gathered together several articles of furniture for bedroom use, which are expressions of quite different personalities. They will serve to typify the various other pieces which are used with them to make a room.

Distinctly feminine is the dressing-table which is first shown. Many pieces have this quality of seeming to have been made for a man or for a woman, aside from the purpose which it serves. Thus a chair, which is an article in common use by both



From the past this beautiful old four-poster has come to dignify the bedroom of some modern beauty lover

sexes, can be extremely feminine in its dainty build and pretty upholstery. This dressing table, with its gentle contour and slender grace, could but serve a woman of exquisite tastes. Aside from its beauty, it has a history which is of interest in that it is a descendant of the powder tables of our



This modern bedroom is a proof of the decorator's ability to achieve cheer and restfulness in the right proportions

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high-coiffured great-grandmother's time, and can, like those old tables, be entirely closed so that only a flat table top is presented to view when it is not actually in use. This enables it to be used in the boudoir instead of the bedroom, or in the room which must serve as both.

While dainty enough for any woman, this fine old four-poster has a quiet sturdiness which appeals to men. It is not, like the dressing table,



A reed chair enameled in two colors, with a silk upholstered cushion, is a pleasant new comer to the bedroom

a descendant of furniture of a past age, but is itself part of a bygone century. Red damask covers and hangings, with valances of red velvet and gold thread lace, make it gorgeous even though it be built on such simple lines. An interesting feature is its damask covered posts, for but few beds were so made and almost none of these have found their way down through the years.

Twin beds are the choice of the day where two people share a bedroom. So in this thoroughly modern bedroom, an interesting treatment of them is shown. Bisymmetrically balanced by the wall-lights on either side, and the picture and table with its lamp between, they illustrate an



An "all-American" bed-side table, being reproduced in this country from one of our own heirlooms

excellent method which decorators of the day are using to secure the greatest degree of restfulness so necessary to the properly decorated bedroom. This idea was also carried out in the color scheme of various tones of mauve-gray. Flowered medallions on the beds, dressing table and chair back, join forces with the brightly flowered chintz at the window and applied on the silk bed covering, to supply a quietly cheerful air.

J. M. B.

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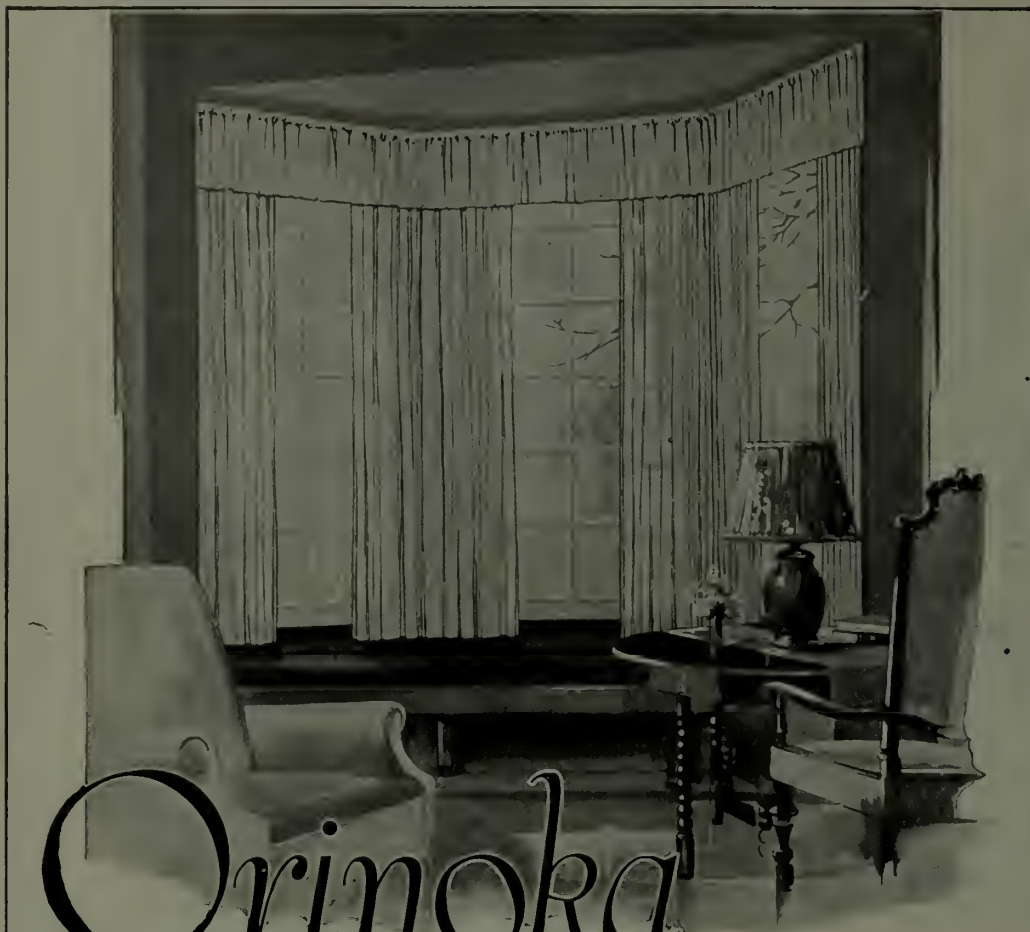
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 In the center, a sketch depicts a room with a thatched roof and large windows. Three people are seated at a table, and a dog is lying on the floor. On the bottom left, a pack of 'S. ANARGYROS EGYPTIAN DEITIES' cigarettes is shown, featuring the brand name and 'No. 3 SUPERFINE'.



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Silver and Glass for the Tables

THAN the dining table, there is no article in the house more in need of its customary cheery decorations in war times. Hitherto, it has been impressed upon us how necessary is the happy influence of a pleasantly furnished



table to our physical being as well as to our mental state. Is this not trebly so in these times, when added to the usual need for beauty comes the call for its aid in suppressing the shadows that may enter the conversation or the demand that it lend its fascinations to some strange item upon the menu?

Color plays no small part in the make-up of our moods, and it is well, therefore, to furnish the table with it generously and judiciously. For this purpose, nothing could be better than the colorful Venetian glass which comes in such great variety and for so many uses. The set shown at the head of the page, for instance, is comprised of two



compotes and four candlesticks, besides a dozen each of the four sizes of glasses and the finger bowl shown in the illustration. Besides these there is a large, wide-mouthed flower vase which is particularly good for the bushy flowers which must so often be banished from our table for lack of adequate housing for them. Marine blue in color, this set is further enhanced by the addition of a tendril-like spiral of white glass.

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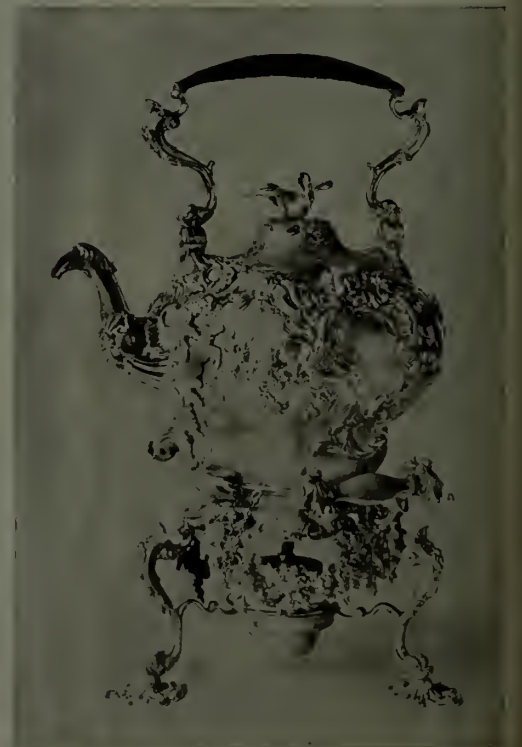
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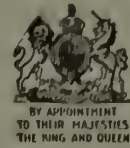
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Its extent, people, resources. What its population and economic strength is. History and description of Trans-Siberian Ry. and its present condition. Its capacity to handle military operations in this war.

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and more often than not with the aid of sundry hits of color. It has been saved to us, however, and no article has made use of it to greater advantage than the candlestick illustrated. One



of its features is a large drip-saucer which is detachable. A similar stick comes in a smaller size, in amethyst. These can be purchased singly or in quantity.

Many of the sets of glass such as were first mentioned have delightfully low centre fruit dishes instead of the flower vase. One particularly attractive dish was even larger and flatter



than the one illustrated here, but its extreme proportions might not prove pleasing to everyone.

Silver, well designed, has never failed to add beauty to the dining-table. From its earliest use, it has proved popular, and in design has followed the furniture of the period in which it originated, even as the furniture so often followed in the train of architectural styles. So it is that in this kettle we find all the ornamental elegance which was used in the furniture of the Chippendale period. It is dated 1752, and was made by William Shaw and William Priest of London. Thus is explained



the charming use of dolphins in legs and handle, the heads of cherubim, and the lavish floral decoration.

Not quite so ornate is the covered cup which comes from the same period. This is dated 1769, and has the mark of Patrick Robertson, Edinborough. Quite different too, is the plain two-handled cup, but its mark "1721 Bwles, Nash-London" is not needed to identify its beautifully simple Georgian lines. All of these pieces are as lovely on the modern dining-table as they were on the one of several centuries past.

J. M. B.

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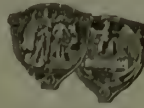
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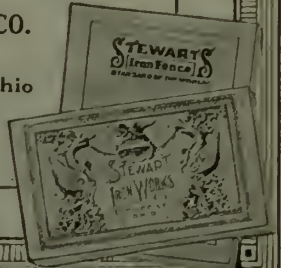
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More than in any other transaction, you must be sure that you are right before you invest. Before making up your mind, you ought to see all the best properties that are on the market. We have collected them for you in the Real Estate Directory at the front of this magazine. If you don't find what you want there, write to the

REAL ESTATE DEPARTMENT
Country Life 120 West 32nd St., New York City

By the Author of "Mrs. Wiggs"

A new book of fiction by Alice Hegan Rice is a welcome event. A critic in "The Book News Monthly" not long ago summarized the never-failing appeal of all the books by the author of the redoubtable "Mrs. Wiggs," who, by the way, continues to go forth in multitudinous numbers in a dozen different languages to delight and help a world suffering from too many tears or too much boredom. The critic of "The Book News Monthly" said: "To make many nations laugh and laugh innocently; to bring entertainment to sick-bed, army trench, throne-room and school-room . . . this is the mission of Mrs. Rice's books, and is their finest achievement."

"Miss Mink's Soldier: And Other Stories" is Mrs. Rice's latest book of fiction. It is published by The Century Co., 353 Fourth Avenue, New York City, and is sold at all bookstores for \$1.25.

(Continued from page 86)

fore proverbs based upon such optical phenomena often have much value.

"Clear moon, frost soon," is true, for on clear nights the heat of the earth is radiated into the sky, thus cooling the land surface. On the other hand, clouds act as a blanket, interfering with radiation and keeping the earth's surface warm.

The stars, like the sun and moon, have furnished a number of weather proverbs, some of which have decided merit. For instance:

When the stars begin to huddle,
The earth will soon become a muddle.

This proverb furnishes, in general, a correct forecast. When a watery mist forms over the sky, the smallest stars cease to be visible, while the brighter ones shine dimly with a blur of light about them, each looking like a small, confused cluster of stars. Hence the notion that stars huddle together before a rain.

In middle latitudes the normal direction of undisturbed winds is from west to east. Therefore, a wind from a radically different direction commonly indicates an approaching, or, at any rate, not very distant, storm. There is, then, some justification for such proverbs as the following: "When the smoke goes west, good weather is past"; "When the wind's in the south, the rain's in its mouth"; "The wind in the west suits everyone best."

The height, extent, and shapes of clouds depend upon the humidity and upon the temperature and motion of the atmosphere, and consequently they often furnish reliable warnings of coming weather. One proverb correctly says, "The higher the clouds, the finer the weather."

This proverb, however, does not apply to the thin, wispy clouds, the highest of all, that float at an elevation of five to eight miles, for, as everybody knows:

Mackerel scales and mares' tails
Make lofty ships carry low sails.

When the air is rather damp and the day is warm great cumuli or "thunderhead" clouds are apt to form, and produce frequent local showers. Hence the following proverb:

When clouds appear like rocks and towers,
The earth's refreshed by frequent showers.

When the atmosphere is damp, and therefore homogeneous, it carries sound much better than when filled with inequalities of density and temperature, such as prevail during dry weather. Hence there is good reason to accept the proverb which says:

Sound traveling far and wide
A stormy day will betide.

One can see best, as well as hear best, in a homogeneous atmosphere. Hence the proverb: "The farther the sight, the nearer the rain."

A number of proverbs are based upon accurate observations of decrease of atmospheric pressure and increase in humidity as presaging storms. Thus it is commonly noted that the approach of a storm is marked by the rising of water in wells, by the more abundant flow of certain springs, by the bubbling of marshes, and by bad odors of ditches—all of which phenomena are due to the lessening of atmospheric pressure which ordinarily precedes a storm.

Increase of humidity (favorable to rain) is noted by the gathering of moisture in cold objects, the collection of perspiration on our own skins, the damp appearance of stone walls, the tightening of cordage and of strings of musical instruments, the settling of smoke, etc.—all of which phenomena are commonly recognized as foretelling a storm.

And so any one who wants to become weather-wise, to be able to foretell with fairly good accuracy whether to-day or to-morrow will be fair or stormy, wet or dry, should learn to use his eyes. Do not depend upon the sky and clouds altogether, for despite all the homely old verses and prophecies regarding clouds and sunsets, remember that insects and birds and even vegetation are better weather prophets than anything else. Make a study of these things about you.



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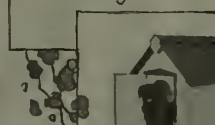
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(Continued from page 82)

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CAROLINE KING'S COOK BOOK. By CAROLINE B. KING, Domestic Science Lecturer for the University Extension Society of Philadelphia. Little, Brown & Co., Boston. Illustrated; 275 pages; 5 x 7½ in.; price \$1.50 net.

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HOW SHALL I TAKE EXERCISE AND SET-UP? By SAMUEL DELANO, M.D. The Four Seas Co., Boston. Illustrated; 135 pages and 36 plates; 4½ x 7½ in.; price \$2 net.

A physician's analysis of the why and wherefore and what's worth while in exercise. An original scheme of chest movements, with directions and illustrated poses.

A HISTORY OF ARCHITECTURE. By FISKE KIMBALL, M. ARCH., Ph.D., Assistant Professor of Architecture, University of Michigan; and George Harold Edgell, Ph.D., Assistant Professor of Fine Arts, Harvard University. In Harper's Fine Arts series edited by George Henry Chase, Ph.D., John E. Hudson, Professor of Archeology, Harvard University. Harper & Bros., New York. Illustrated; 621 pages; 5½ x 8 in.; price \$3.50 net.

Treating of the history of architecture as a living art, down to the present day, and summarizing the latest discoveries and researches, modern interpretations, and restorations.

USE YOUR GOVERNMENT. By ALESSA FRANC, E. P. Dutton & Co., New York. Illustrated; 374 pages; 5 x 7½ in.; price \$2.

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AN INTRODUCTION TO THE STUDY OF LANDSCAPE DESIGN. By HENRY VINCENT HUBBARD, Assistant Professor of Landscape Architecture, Harvard, and THEODORA KIMBALL, Librarian, School of Landscape Architecture, Harvard. The Macmillan Co., New York. Illustrated; 406 pages and 36 plates; 8½ x 11½ in.; price \$6.

Presenting a working theory of landscape design, a discussion of its elements, and an application of this theory to the most important problems. The book is intended to enable a designer to determine for himself the relations of the objects and ideas with which he is dealing, and to use to better advantage his natural aptitudes and acquired knowledge, which are the tools of his trade. The illustrations, consisting of pen-and-ink drawings and photographs, were made especially for the book.

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A practical guide for the amateur, telling how, what, and when to feed poultry, and the best methods to make it pay.

TACTICS AND DUTIES FOR TRENCH FIGHTING. By GEORGES BERTRAND, Capitaine, Chasseurs Alpins, de l'Armée de France, and OSCAR N. SOLBERT, Major, Corps of Engineers, U. S. A. G. P. Putnam's Sons, New York. Illustrated; 230 pages; price \$1.50 net.

Presenting in a clear and logical manner the principles governing trench warfare, fully illustrated with diagrams.

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Help for the home maker, gleaned from twenty years' study and experiment in scientific household management.

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An anthology of garden and nature poems from the modern poets.

LIFE OF CHARLES CARROLL OF CARROLLTON. By LEWIS A. LEONARD. Moffat, Yard & Co., New York. Frontispiece; 313 pages; 6 x 9 in.; price \$2.50 net.

An historical monograph on the man who is said to rank next to Washington in the value of services rendered the cause of this country in the Revolutionary War.

THE EYES OF THE ARMY AND NAVY. By ALBERT H. MUNDAY, Flight Lieutenant, R.N. Harper & Bros., New York. Illustrated; 227 pages; 4½ x 6½ in.; price \$1.50 net.

A handbook on practical aviation. The hints to beginners are sensible and terse, and clearly

illustrated by diagrams, photographs, and useful tables.

THE HOUSEKEEPER'S APPLE BOOK. By L. GORTLEUR and M. KAY. Instructor in Domestic Economy, Shenley High School, Newburgh, N. Y. Little, Brown & Co., Boston. 122 pages, 5 x 7 in., price 50 cents net.

Directions for preparing apples in more than 250 different appetizing ways.

JAPAN DAY BY DAY. By EDWARD S. MOHR, author of "Japanese Homes and their surroundings," etc. formerly Professor at the Imperial University of Tokyo, Member of the Japan Society of New York, Member of the Japan Society of London. Houghton Mifflin Co., Boston and New York. 1917. 120 pages, 441 and 443 pages, 6 1/2 x 8 1/2 in., price \$1.00 net.

A record of Japanese life as experienced by the author during his sojourn in Japan in 1877, '78, '79, '82, and '84, when that country had but recently emerged from its peculiar state of civilization which had endured for centuries, when all the samurai wore two swords, every man wore a queue, and every married woman blackened her teeth.

THE PRINCIPLES AND PRACTICE OF PRUNING. By M. T. KANE. Lecturer on Horticulture, Columbia University. The Macmillan Co., New York. Illustrated, 120 pages, 4 x 7 1/2 in., price \$2 postpaid.

A practical presentation of the really important features of pruning investigations made during the past decade by experiment station and other workers, setting forth, as well, the fundamental principles based upon the laws of plant growth.

THE PRUNING MANUAL (in the Rural Manuals series). By L. H. HADRY. The Macmillan Co., New York. Illustrated, 40 pages, 5 x 7 1/2 in., price \$2 postpaid.

The eighteenth edition, revised and reset, of "The Pruning Book," which was first published in 1898.

FIELD BOOK OF INSECTS. By FRANK E. LUTZ, Associate Curator, Department of Invertebrate Zoology, American Museum of Natural History. G. P. Putnam's Sons, New York and London. Illustrated, 509 pages, 3 1/2 x 6 1/2 in., price \$2.50 net.

This volume is uniform with the Field Books of Birds, of Trees, and of Flowers. The identification of insects is greatly helped by the numerous illustrations, many of them in color, by Edna F. Beutenmuller.

GARDEN STEPS. By ERNEST COBB. Silver, Burdett & Co., New York. Illustrated, 226 pages, 4 1/2 x 7 1/2 in.; price 60 cents.

A manual for the amateur in vegetable gardening.

A LIGHT ON ENGLISH POISE IN WAR TIME



IS IT not a significant side-light on conditions at this time in England, in the midst of war, that the publication of a sumptuous book on gardening* should proceed calmly and without giving recognition in any way whatever of the fact that the country is putting forth its maximum effort to win the war?

Mr. Millais's superb book on "Rhododendrons and the Various Hybrids" is one of those milestones that mark the progress of knowledge. Here is brought together a mass of information regarding this magnificent family of garden plants which in certain forms is a characteristic feature in a garden of pretension. The author repudiates any suggestion that he might be called a rhododendron crank—"I do not insist that the garden should be crowded with these shrubs. . . . My only object is to set before the readers the enormous possibilities which have been opened to us during the last few years." Of course it is of hybrid rhododendrons that the author speaks in these terms. The more equable climate of England makes possible a greater variety of hybrids than is the case with us in America, where, while their intrinsic beauty and sterling qualities are indeed sufficiently recognized, we are yet in the experimental stage when it comes to the question of the selection of varieties. Our climate is not England's.

Hybrid rhododendrons that are strongly influenced by the ponticum blood or grafted on it are decidedly tender, and the superb possibilities of the species of the Himalayan Mountains are not possible in our northern gardens. Sir Joseph Hooker, the master student of the flora

*RHODODENDRONS AND THE VARIOUS HYBRIDS. By J. G. MILLAIS, F.Z.S., author of "The Wildflower in Scotland," "Newfoundland and its Untrodden Ways," "A Breath from the Veldt," etc., etc. With 17 colored plates by Beatrice Parsons, Winifred Walker, E. F. Brennan, and Archibald Thorburn; 14 colotype plates, and numerous illustrations from photographs. Longmans, Green & Co., New York and London. 268 pages; 12 x 16 in.; price \$60. (Edition limited to 550 copies.)



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Ernest H. Wilson's new book, "Aristocrats of the Garden." He tells in a delightful way of his own experiences in searching for rare plants and shrubs, and describes the wealth of new ones now available for American gardens. We have brought the book out in a limited edition, bound in linen and green boards, and with 16 full page illustrations. Boxed, Net, \$5.00. Ask your bookseller.

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"THE FULL MEASURE OF DEVOTION"

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NEW YORK

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of northern India has remarked, "The Himalayan rhododendrons grow better here (in England) than they do in Sikkim." But it's different with us. Notwithstanding these limitations the native American rhododendron has won for itself an unassailable place in the landscape treatment of our gardens. Given the necessary soil conditions, the rhododendron is, above all other broadleaved evergreens, the plant *par excellence* for our own region.

That there are hybrids (with their enormous trusses of gorgeously colored flowers) which will serve equally well, is clearly demonstrated in such plantings as may be seen on the grounds of Mr. Hunnewell, at Wellesley, Mass., and the superb plantings made by Mr. John Dunbar in the parks of Rochester, N. Y.

Even the more tender hybrids, such as the Pink Pearl, can be used with a little management. Mr. Havemeyer, at Glen Head, L. I., uses them with stunning effect every season by a sort of bedding-out process, the plants being lifted and put into the cellar for storage over the winter.

That we are only at the beginning of the possible wealth of material in this wonderful genus will be appreciated when we realize that even in England, where the climate is so splendidly adapted to its cultivation, people are only beginning to understand its great possibilities.

It is a mistake to endeavor to reproduce in American gardens the effects and materials of those of Europe, but with a little adaptation effects that are similar may be produced. To the practical horticulturist, the service rendered by Mr. Millais is in an honest presentation of the intrinsic merits of the different species and descriptions, and an appraisal of their hybrids. Let it be here noted that the author takes the broadest significance of the word rhododendron and includes in his studies the deciduous species, commonly known along our roadsides under the name of azalea, swamp honeysuckle, pinxter flower, etc.

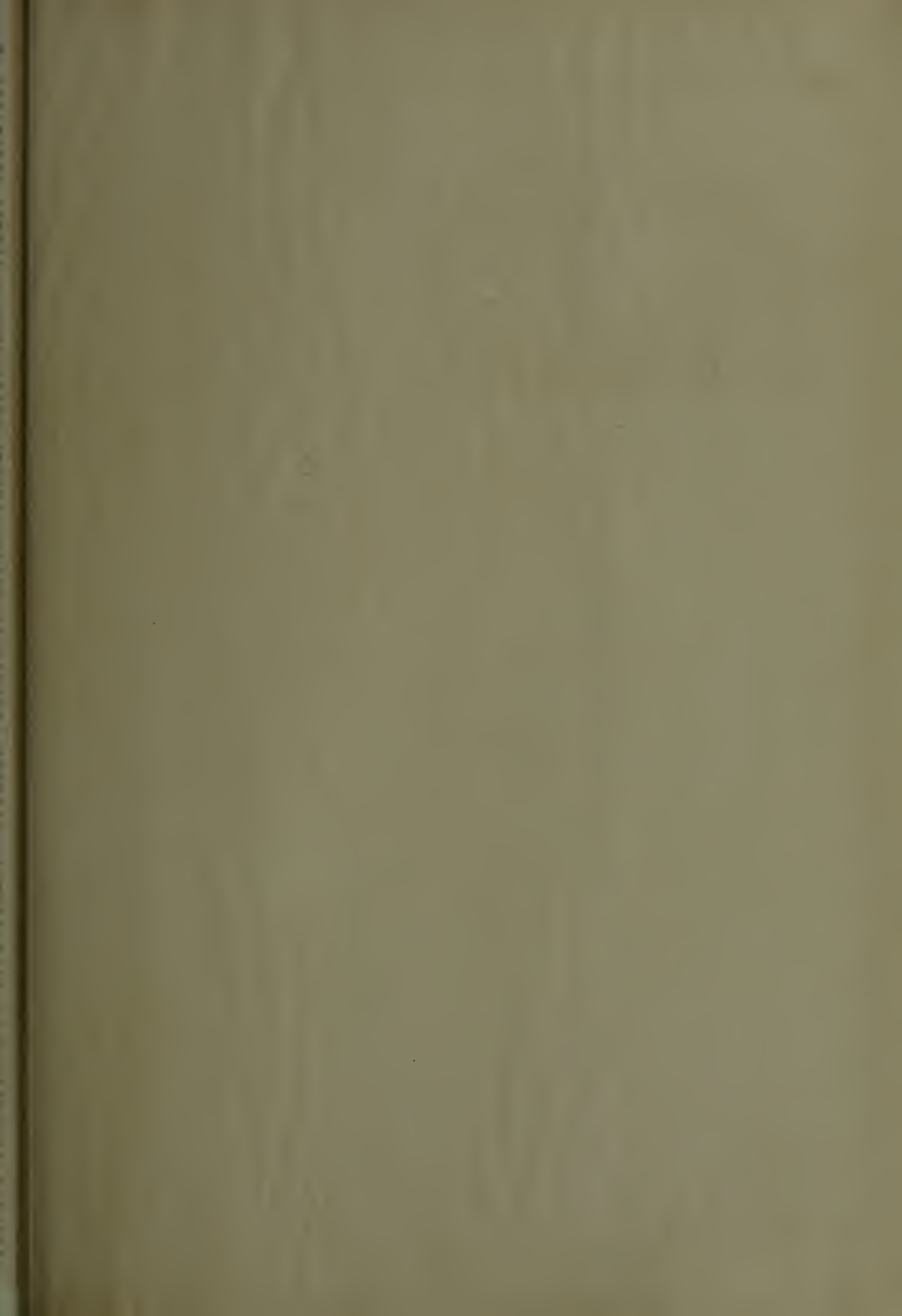
Due attention is given to a discussion from the garden viewpoint of the Chinese rhododendrons introduced within recent years by E. H. Wilson. These are being made known in America through the Arnold Arboretum, and may hold latent possibilities in the production of garden material that are as yet unrecognized. It will be of much interest to have the garden estimates of these species in comparison with the better known ones as they are given in the volume under discussion.

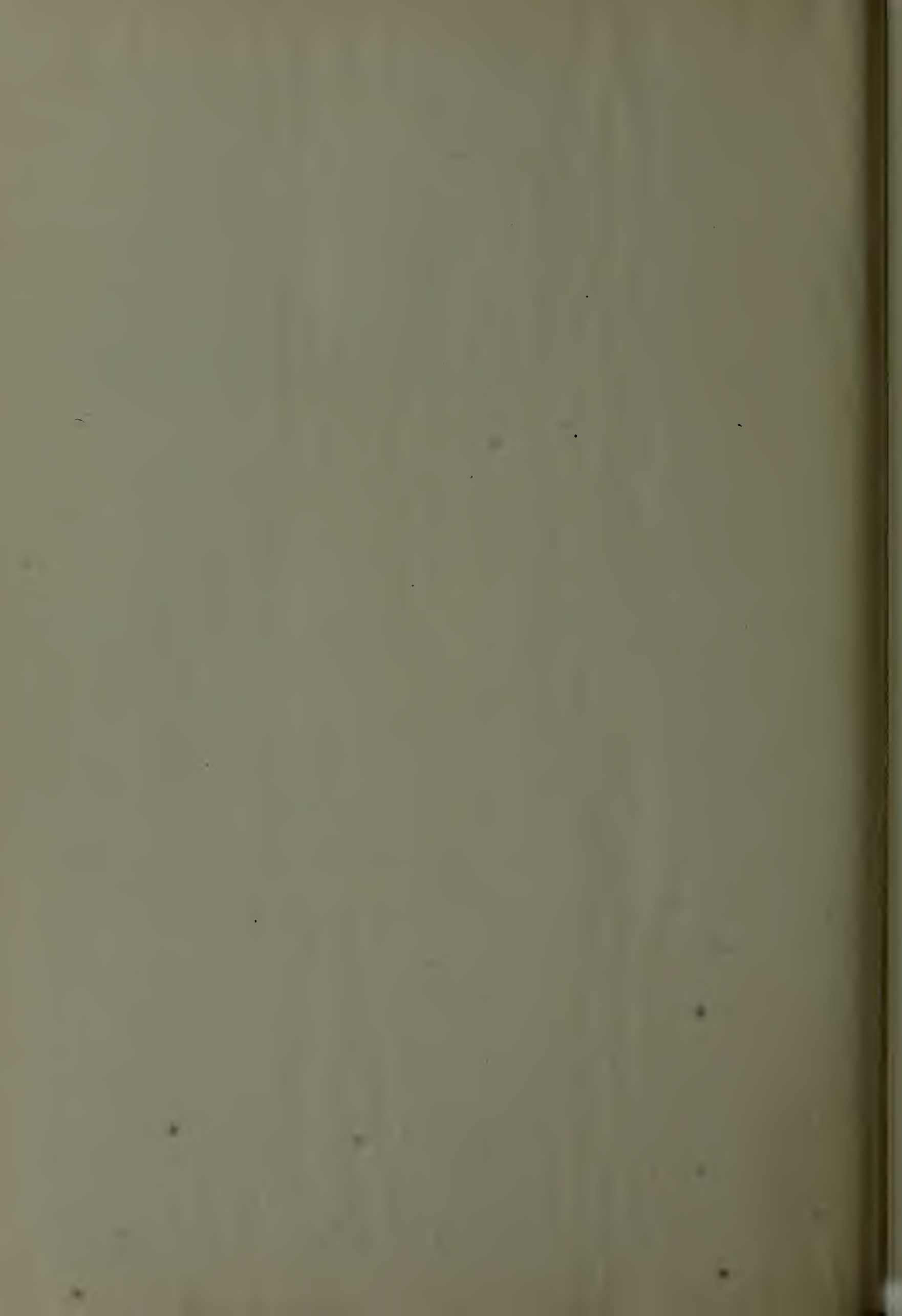
Since the time of Parsons, in the old Kissena Nurseries, Flushing, L. I., very little has been done in America in experimental hybridization with rhododendrons, and yet the results achieved in these early days—the heritage of which we are enjoying in our gardens to-day—should be an inspiration to future hybridists in raising plants especially adapted to American conditions.

The chapter on "Hybrid Rhododendrons" in Mr. Millais's book is a concise, historical presentation, and it is interesting to observe that a fair proportion of Parsons's hybrids have earned international reputation. The selected list of varieties given in the work is based on English conditions and as such must be read with limitations by Americans. A far safer guide for American gardeners would be the lists of varieties reported in various articles in COUNTRY LIFE, particularly the one on "Shrubs in the Garden Picture," by Mr. Hans J. Koehler in the March, 1917, number.

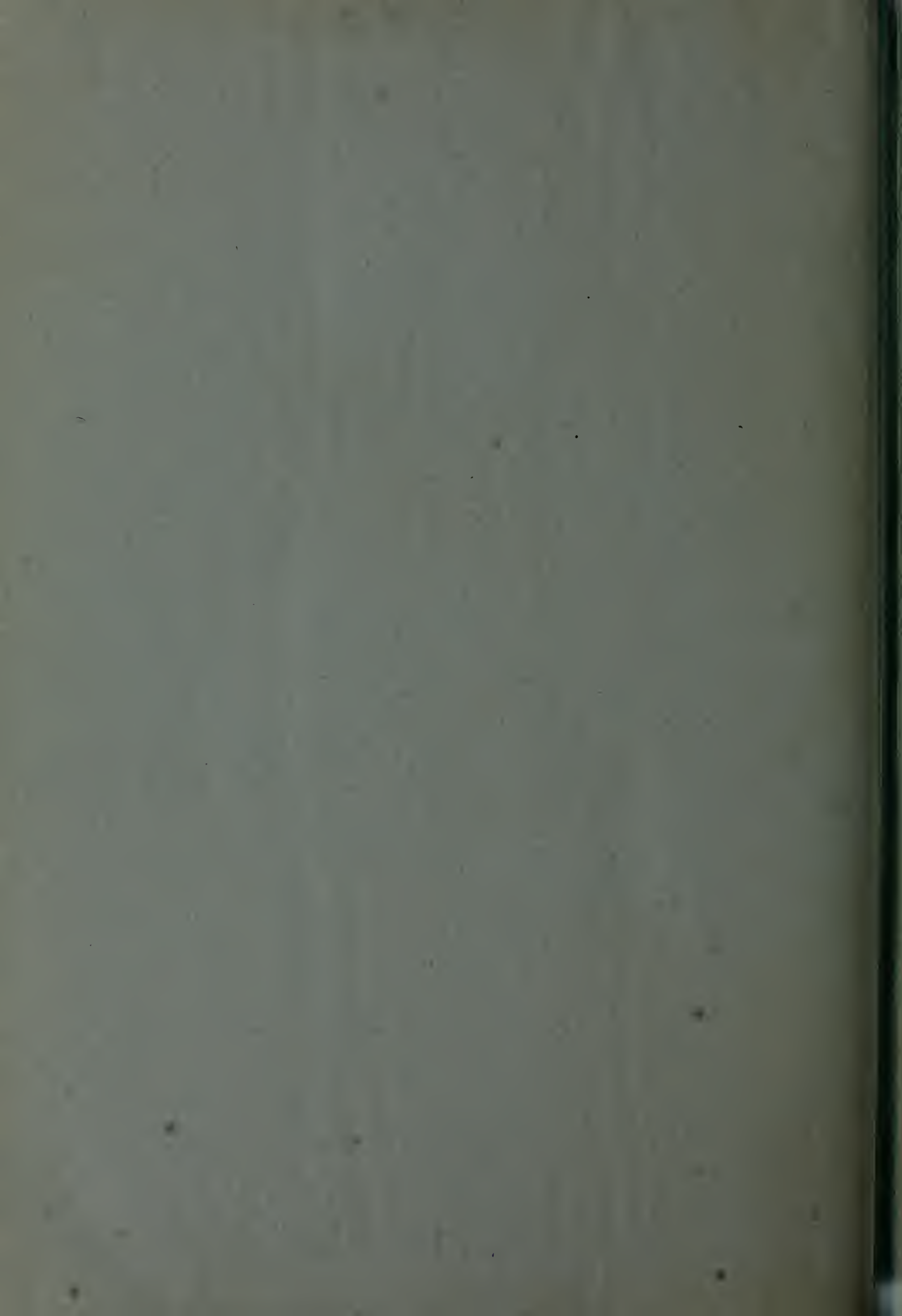
In speaking of the cultivation of rhododendrons the author is insistent on a study of the peculiarity of the plant under consideration. "When all is said and done, rhododendrons will be found to require less attention than any other shrubs, but the preparation of the soil in the first place is of primary importance." The systematic treatment of the genus and the various hybrids occupies considerably more than half of the total space of the book. In the library of the garden lover "Rhododendrons and the Various Hybrids" will surely find a place with the Rev. Mr. Dyke's superb treatise on the "Genus Iris."

A specimen of the splendid color illustrations is shown on page 33 of this magazine. Leonard-lee is famous for its gardens, yet its vistas are not unlike those at Wellesley, referred to above. It is a pleasant reflection at this time to realize that such delightful pictures are opened up to our boys over there, to whom the "stately homes of England" are giving cordial welcome.









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