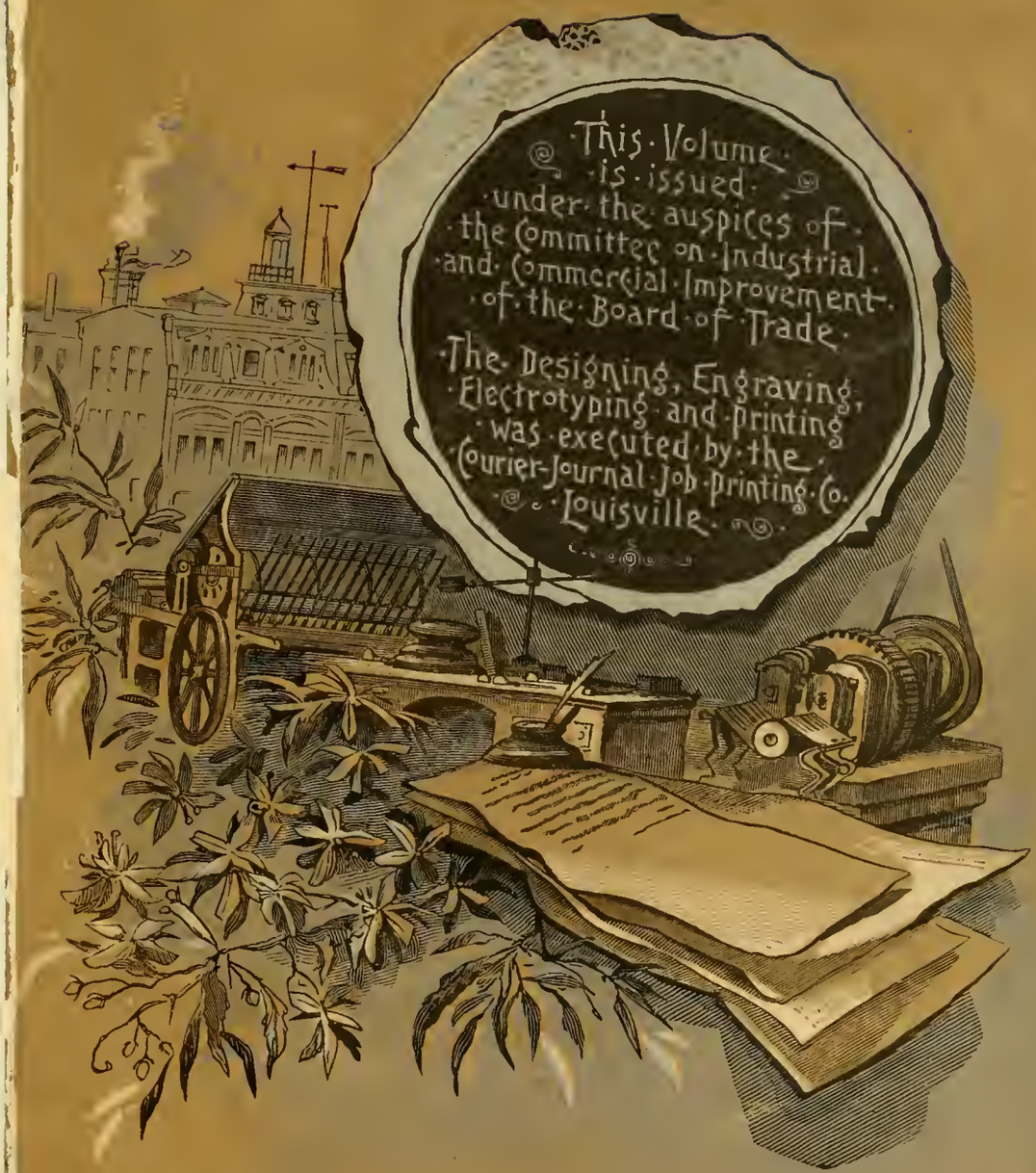

LIBRARY OF CONGRESS
1800


This Volume
is issued
under the auspices of
the Committee on Industrial
and Commercial Improvement
of the Board of Trade
The Designing, Engraving,
Electrotyping and Printing
was executed by the
Courier-Journal Job Printing Co.
Louisville

THE CITY OF

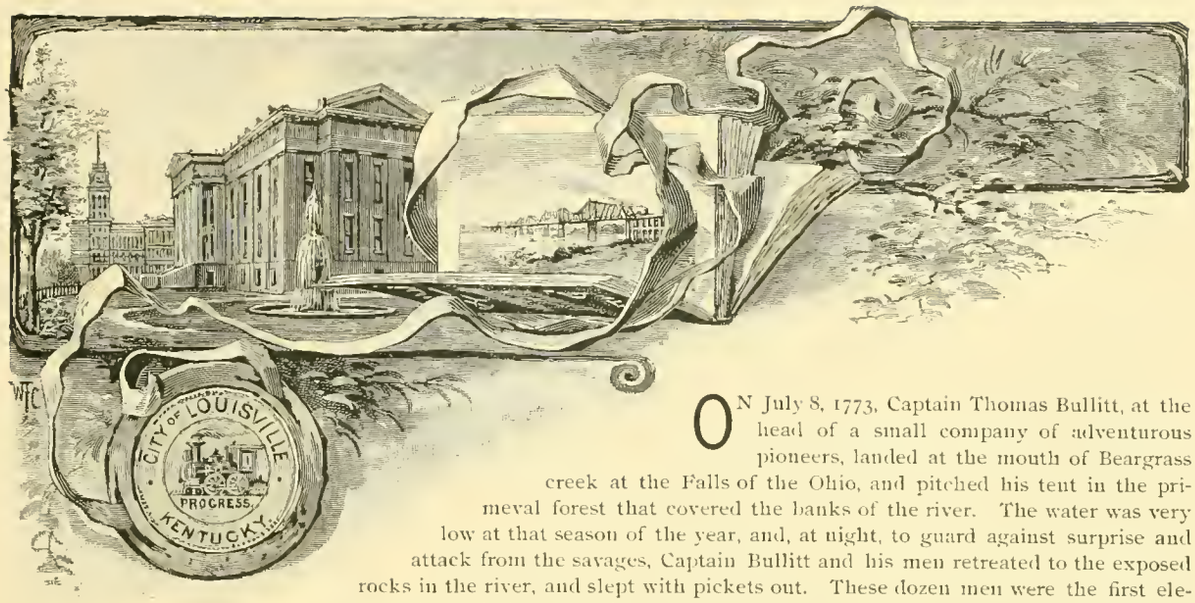
LOUISVILLE

AND A GLIMPSE OF

KENTUCKY.

PUBLISHED UNDER THE DIRECTION OF THE
COMMITTEE ON INDUSTRIAL AND COMMERCIAL IMPROVEMENT
OF THE LOUISVILLE BOARD OF TRADE.
1887.

PRESS OF THE
Courier-Journal Job Printing Co.
LOUISVILLE



ON July 8, 1773, Captain Thomas Bullitt, at the head of a small company of adventurous pioneers, landed at the mouth of Beargrass creek at the Falls of the Ohio, and pitched his tent in the primeval forest that covered the banks of the river. The water was very low at that season of the year, and, at night, to guard against surprise and attack from the savages, Captain Bullitt and his men retreated to the exposed rocks in the river, and slept with pickets out. These dozen men were the first elements of population upon the spot where to-day there is a city, with suburbs, containing 275,000 souls. Captain Bullitt was a land-surveyor, and came to Kentucky to survey, under the warrant of Lord Dunmore, certain lands which were included in what are now Jefferson and Bullitt counties. Before he completed his survey he laid out a town site comprising part of the present city of Louisville, which was called "Falls of the Ohio." It is curious to observe that from the very first beginnings of settlement in Louisville the unusual advantages of the location were seized upon with prophetic instinct. It was before the days of keel-boats even, but the first-comers recognized the importance of a location that was at the head of navigation, even though the growth of the town must wait upon the settlement of the country west of it and along the rivers.

From that day in July, 1773, when the feet of the Virginians first trod the forest on the spot where a great and beautiful city was destined to stand, the history of Louisville has grown to represent the characteristic courage, intelligence, and enterprise of the people who founded the city. When that history comes to be written by the student who can comprehend the many sides and the many causes of events, it will be found full of the romance of actual heroic achievements, not only in the adventures of the pioneers who settled it, but in the social and commercial enterprises of a people who struggled for seventy-five years under the oppression of a domestic institution that was well-calculated to repress, if not to destroy, all enterprise and practical progress. We shall see, also, that, when the weight of slavery was removed, Louisville, more rapidly than any other city in the slave-holding States, comprehended the new order of things, and, before half a generation was sped, had made such an organic change in the character of her interests as to place her upon equal terms with those cities that had been built up in the North by the intelligence, the thrift, and industry of free labor.

Although Captain Bullitt laid out a town site, and a house was built at the mouth of Beargrass the year following, yet the times were not propitious for settlement, and years passed before the town was to be inspired with life. These years were full of feeling on the part of the people against the Virginia government, which was accused of indifference towards the outlying county of Fincastle, which then comprised the present State of Kentucky. Finally Kentucky was created a sovereign State three years after the town of Louisville had been laid out and incorporated. The town was founded upon a tract of one thousand acres of land which had been owned by John Connelly who had forfeited it by being an active Tory during the war with England. Louisville was named for Louis XVI., the ill-fated victim of the French Revolution. There was already a nucleus of French settlers at the Falls corresponding with the movement of French generally through the North-west Territory. Gratitude to the French king for declaring against England in the War of the Revolution suggested the name. At this time the number of settlers was very small and there is no way of discovering the actual population. The number in 1800 has long been accepted as 359, but there are good reasons for believing this an underestimate, and it is probable that there were nearly a thousand inhabitants of Louisville, and the immediate vicinity, in 1800.

This slight nucleus, that existed in 1789, of the great city that was to be built on the spot, comprised men of quick intelligence and foresight. When the town was founded there is reason to believe that the enormous value of a canal around the Falls had been suggested. Certain it is that a map of the town, drawn in 1793, presented the projected canal virtually as it was built thirty-seven years later. It is interesting to know that one of the first agitators of the canal project was General James Wilkinson, who settled in Lexington in 1784, at the age of twenty-six, after having made a fine record in the Revolution. His restless, enterprising, and adventurous spirit, sustained by a manner and

address that were captivating before they were spoiled by dissipation and the turmoil of misconduct, was of great value to the young State. He was a leader in the agitation that—whatever the mistakes of the agitators, and whatever the unjust suspicions that were attached to them under the pressure of excitement attendant upon the discovery of what is usually called the "Spanish Conspiracy"—led to finally securing the Mississippi river as a commercial highway to the United States, and the opening of which built up the great pioneer commerce of the Western States. Up to the breaking out of the War of the Rebellion, and, indeed, for several years afterward, the internal commerce carried upon the Mississippi and the Ohio rivers was the greatest that any country in the world ever developed. General Wilkinson frequently visited Louisville, and the canal project was one that seems to have occupied his mind to a considerable extent. He gave it up with other commercial projects when he returned to the army and was made Commander-in-Chief, but returned to it temporarily, it seems, in 1805–6, when he invited Aaron Burr, then outlawed for the killing of Alexander Hamilton, to go into the project with him. Burr came to Louisville, examined the ground, and consulted with an engineer. He used that project afterward, or at least Wilkinson accused him of having done so, as a cloak for the greater and more hazardous enterprise of conquering an empire for himself in Mexico.

FIRST SETTLEMENT AT LOUISVILLE.

If a history of the genius of the people of Louisville were written, it would be found to comprise three periods, filled with intense energy. The first would be the pioneer period, occupied with the conquest of territory and the courageous scheme of developing a river commerce by establishing trade with the Spanish provinces, and by the building of the canal, through which passing commerce should pay toll to the enterprise of Louisville. This developed into realization in 1830.

The second period would follow the building of the canal, when the settling of the Western and Southern States provided a great population to be supplied by the activity of Louisville merchants. In this period Louisville was purely a commercial city, handling the manufactures of the East and the great agricultural products of Kentucky developed by slave labor. The city grew rapidly in wealth and importance, but it could not grow in an independent and courageous common population because the blot of slave-labor kept white mechanics of the best classes away. It was in this period that Louisville established her social and political power, and became the resort of the most cultivated classes of the South who were attracted by the temperate climate and healthfulness of the place. It was a period of great social brilliance, full of that charm of romantic interest which is so attractive to the student, and it came to an end with the Civil War.

The third and most important period would comprise that of the organic change after the war, when the building of railroads, the abolition of slavery, and the development of agriculture in the new North-west temporarily endangered the future of the city. Then it was that the heritage of courage, intelligence, and independence received from the pioneers of the first period asserted itself, for, notwithstanding Kentucky had been left with a great helpless population upon her hands by the emancipation of slaves, and there was danger that the slave-owners would prove quite as helpless without slave-labor, the people quickly grappled with the problem, and a few years of close application solved it. While Kentucky maintains her great agricultural importance her metropolis has developed into a rich manufacturing city.

It is with the results of this third period that this book is to deal. It is this period which has made the wonderful organic change of a people within twenty years, and has added to a purely commercial city wonderful manufacturing enterprises, and has, without any sort of jar, brought in a great mechanical population which is not alone one of the most thrifty and contented in the country, but which has the satisfaction of seeing great wealth evenly distributed instead of being locked in the chests of a few millionaires. There are no millionaires in Louisville, at least, practically none. There is no other city of its size in the United States where there are so many handsome and comfortable residences, but there are none here that have been built for the mere display of vast wealth. The first thing that strikes the eye of the visitor accustomed to observation is the absence of the soul-crushing tenement house, while the multiplied numbers of comfortable cottages, with yards and gardens that are occupied by the working people, astonish him. A very large proportion are owned by those who occupy them, and there is, indeed, no reason why every industrious mechanic who comes to Louisville should not own a home of his own. Land, offering little choice between a site for a palace or for a cottage, can be purchased more cheaply than in any other city of similar size in the country: building materials are cheap, and living is at the lowest cost. The street-car system, which is the wonder of all who see it, renders distance a nullity. For five cents one can ride all over the city, and the system of free transfers makes it possible for the householder to live in any section of the city he may choose.

Louisville occupies a position, calculated by all the favors of nature, to make her the metropolis of that richest region in America, the Mississippi valley, and the rapidity of growth which she has enjoyed for the past ten years indicates that the conditions are being prepared to realize that possibility. Taking the city as a center and projecting an imaginary circle upon the map of the West with a radius of 350 miles, the rim of the circle will pass near and include Jefferson City, Missouri; Burlington, Iowa; Milwaukee, Wisconsin; Cleveland, Ohio; Pittsburgh, Pennsylvania; Danville, Virginia; Charlotte, North Carolina; Atlanta, Georgia; Birmingham, Alabama; and Memphis, Tennessee. The area thus included contains a large percentage of fertile soil available for agriculture, with more favorable climatic

conditions than any other area of like dimensions on the known globe. A circle of the same radius, with Chicago for a center, must include many thousand square miles of Lake surface and much land unavailable for agricultural purposes. Advantages of central location in a given area may be, in a measure, counterbalanced by railways, and Chicago has been made a great city because railway lines were forced to pass through that city to flank Lake Michigan. But at the rate at which the railway system of Louisville has been increasing during the past seven years she will soon possess every artificial advantage of that character, besides possessing communication with thirty-two navigable rivers and having the richest and most varied territory in America to furnish supplies and create demand. The perfecting of the railway system of the whole country will balance constructive advantages leaving those of nature to preponderate in favor of the cities possessing them.

Professor John R. Procter, for many years Director of the Geological Survey, and who has devoted years to attracting the attention of capitalists to the incalculable value of the iron ores in the field of which the Cranberry mines of North Caroliua are the center, and to the almost limitless deposits of coking coal in south-eastern Kentucky, commenting upon the area described about Louisville, says:

"It already contains a larger population than any other circle of like area in the United States, and it is destined to contain the bulk of the population of the greatest empire that has yet existed in the world. The influence of physical features in population is well shown by the charts and tables prepared by the last United States census. These charts show temperature, rainfall, etc.; and in connection with the tables the following facts: That the greatest absolute gain in population during the last decade was made in the region having a mean annual temperature of from 50° to 55°, and that the circle described above is nearly all of this mean annual temperature. That over 12,000,000 people reside upon the area where the annual rainfall is from forty-five inches to fifty inches, or a larger population than on any of the divisions made according to rainfall, and that the above is the rainfall of the circle under consideration. The same favorable indications are shown on the charts of elevation above sea, minimum and maximum temperature, etc. Thus soil, climate, and all physical conditions point to a future dense population in the region of which Louisville is the center. The center of population of the United States has been moving westward each decade along the degree of latitude a little north of Louisville. The census of 1880 brought it nearer Louisville, and the great movement of population southward will keep it on the latitude of and near Louisville for many years. In 1880, almost one-half of the population of the United States resided in the region drained by the Mississippi river and its tributaries. And in 1890 probably more than one-half of the

LOUISVILLE BOARD OF TRADE BUILDING.

population will reside in that region, and the proportion must increase yearly. So that a larger part of the population can be reached from Louisville by cheap transportation.

"These significant facts insure the merchant and manufacturer of Louisville ample markets for whatever they may have for sale. The South has hitherto been Louisville's best market, and the great industrial development of that region must greatly benefit the city. Louisville has it in her power to become the distributing point for manufactures, mainly of wood and iron, for a large area of the North and West. The iron used in the West must come mainly from south of the Ohio river. In bringing the pig-iron to Louisville, where it may be made into hardware, agricultural implements, etc., it is bringing it in the direction of the market. In manufacturing such articles a higher class and better-paid labor is employed than in the mere making of the pig-iron. And such a population will bring a more substantial prosperity. Already Louisville has cheap coal and iron, and in a few years roads now projected will add greatly to the facilities of obtaining these indispensable articles, and there will be in the city great industries based upon them. Louisville should not only become a great lumber distributing point, but a great manufacturing point for all articles requiring wood for their construction. Already the car shops, agricultural implement makers and builders in the States north of the Ohio river are looking southward for a supply of lumber, and this demand must yearly increase."

Professor Sargent, Special Expert on Forests for the Tenth Census, says in his report on "Forests of the United States:"

"The extinction of the forests of the Lake region may be expected to affect the growth of population in the central portion of the continent. * * * * *New centers of distribution must soon supplant Chicago as a lumber market*, and new transportation routes take the place of those built to move the pine grown upon the shores of the great lakes. * * * * The pine that once covered New England and New York has already disappeared. Pennsylvania is nearly stripped of her pine, which once appeared inexhaustible. The great North-western pineries are not yet exhausted, and with newly-introduced methods, logs, once supposed inaccessible, are now profitably brought to the mills, and they may be expected to increase the volume of their annual product for a few years longer, in response to the growing demands of the great agricultural population fast covering the treeless mid-continental plateau. The area of pine forest, however, remaining in the great pine-producing States of Michigan, Wisconsin, and Minnesota is dangerously small in proportion to the country's consumption of white-pine lumber, and the *entire exhaustion of these forests* in a comparatively short time is certain."

Professor Sargent then refers to the long-leaf pine belt of the South Atlantic and Gulf States, of which he says: "The timber is unequaled for all purposes of construction," and adds with reference to the hardwood forests:

"The most important of these forests covers the region occupied by the Southern Alleghany Mountain system, embracing South-western Virginia, West Virginia, Western North Carolina and South Carolina, Eastern Kentucky and Tennessee. Here oak unequaled in quality abounds. Walnut is still not rare, although not found in any very large continuous bodies; and cherry, yellow poplar, and other woods of commercial importance are common."

In this connection the extension of the Cumberland Valley branch of the Louisville & Nashville railway to Pineville and beyond, and the extension of other projected lines into Eastern Kentucky, will have a most important bearing. In a communication to the *Courier-Journal*, some years since, was ventured the assertion that the extension of a railway through Eastern Kentucky and into South-west Virginia and Western North Carolina would do more to build up the industries of Louisville, than any one thousand miles of railway into the cotton States. Subsequent investigations confirm this belief. The abundance and excellence of the coals and timbers, the superiority of the coking coals, and the nearness of abundant ore deposits and vast stores of ore suited to the production of Bessemer steel, and the varied resources of that region are such that a phenomenal development must result.

Kentucky is the only State having within her borders parts of the two great coal fields. Louisville is situated midway between these, and she can so connect herself with the industries and commerce of this State as to have an enduring prosperity assured. The Kentucky river, with navigation secured to the coal, should be to Louisville what the Monongahela is to Pittsburgh and the cities below. In the valley of Green river are immense deposits of iron ores associated with coal and convenient to railway and river transportation. These ores are regularly stratified, ranging from two feet to five feet in thickness, and can be mined cheaply. These ores are thicker and equal in quality to those of the Hocking Valley, Ohio, where the ores form the basis of extensive iron industries. In the counties of Western Kentucky bordering on the Tennessee and Cumberland rivers are large deposits of rich Limonite or "Brown" iron ores, similar to the ones on which the prosperity of Decatur and Sheffield are predicated. Furnaces in these counties will have the local ores, and the advantage of having in addition the Tennessee and Alabama ores brought down stream in the direction of the markets, and furnaces in that region will be as near the coals of Western Kentucky as are the furnaces in the above named towns to the coals of Alabama and Tennessee. They will also be convenient to the Missouri ores carried up the river to the furnaces of the upper Ohio. While the coals of Western Kentucky may not produce a coke equal in quality to the cokes of South-eastern Kentucky, it is certain that a coke fully equal to those of Alabama and Tennessee can be made from them. With the completion of the Ohio Valley railway south-westward from Union county, there will be two railways connecting the coals with the Cumberland river ores, and the coal measure ores of the Green and Tradewater valleys.

These conditions offer an abundant unlimited opportunity for the development of Louisville into the greatest manufacturing and distributing center of the Mississippi Valley.

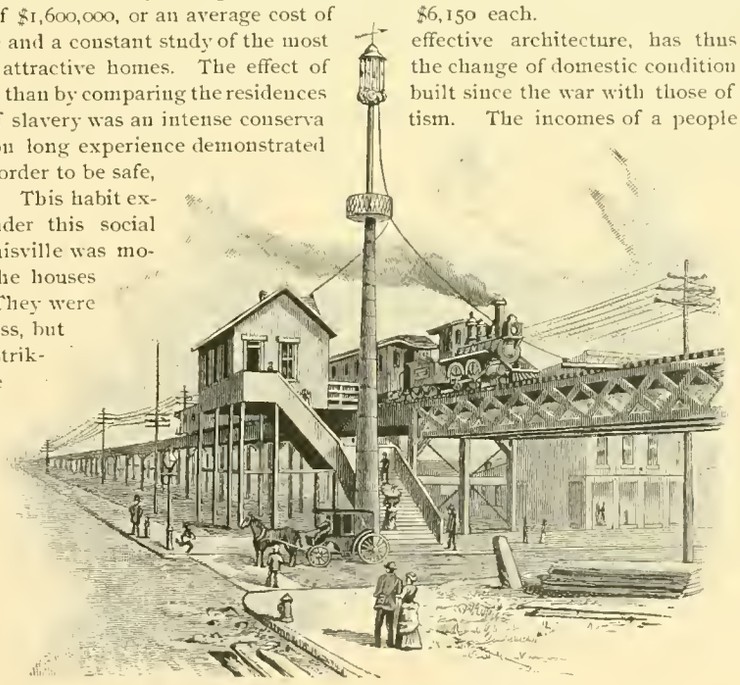
As a residence city for all classes Louisville enjoys many remarkable advantages, not the least of which is the taste which has been characteristic, from the first, in the beautifying and building of homes. The business quarter has always been plain—though the buildings have been equal to all the demands of an active commerce—while all who could build homes have made them as handsome as their means permitted. The great plain upon which the city was built, covering seventy square miles, and extending back six miles from the river to a group of picturesque "knobs" or hills, has afforded every facility for the economical gratification of taste. Ground being plentiful and level, distance was not difficult to overcome, and so, instead of being crowded into restricted limits set up by natural barriers, the city

BROADWAY, LOOKING EAST FROM THIRD.

has spread at her own pleasure. The streets are broad, being from sixty to one hundred and twenty feet in width, all well drained, paved, and beautified with a profusion of fine shade trees. There are few cities in the world with such finely shaded streets as Louisville possesses, and none where the streets are wider. The residences are, as a rule, provided with spacious yards and gardens, and in the spring of the year a drive over the city past the miles of great yards, filled with flowers and shrubbery, and under the shade of trees, rich with foliage and blossoms, is like a trip in fairyland. The average number of residences to the hundred feet in Eastern cities is about five; in Louisville it is about two. The favorite residence quarter, for many years, was south from Broadway, which divides the city parallel with the river. South Fourth, Third, Second, First, and Brook streets are lined with lovely and costly houses in which the taste of the architect and the landscape gardener vie with each other for expression. Magnolia avenue, Kentucky, Oak, and St. Catherine streets, which intersect the others at right angles, running parallel with Broadway, are within this charming district and present the same lovely spectacle. South of Broadway, and practically within the district outlined above, there were 260 residences built in 1885 at a cost of $1,600,000, or an average cost of $6,150 each.

The pride of home, united with good taste and a constant study of the most effective architecture, has thus produced in Louisville a city of remarkably attractive homes. The effect of the change of domestic condition of the people is nowhere more distinctly shown than by comparing the residences built since the war with those of ante-bellum times. One absolute necessity of slavery was an intense conservatism. The incomes of a people being dependent upon a class whose condition long experience demonstrated must be unchangeable and unprogressive in order to be safe, all change and innovation were discouraged. This habit extended insensibly in many directions. Under this social aspect, therefore, the architecture of old Louisville was monotonous and plain. The chief beauty of the houses of the old *regime* was merely suggestive. They were spacious and suggested great halls and airiness, but they were plain and angular in exterior. In striking contrast with these are the picturesque modern structures of Swiss and Queen Anne style that now render every street attractive and striking.

But the handsome residences are not alone confined to Broadway and the quarter south. They have extended east, and have beautified "The Highlands," made of Clifton a charming suburb, and are already building in large numbers in the West End and the residence suburb of Parkland. Of the many hundreds of fine residences no one, however, could be selected as being of extraordinary cost.



DAISY ELEVATED RAILWAY STATION.

No other city of similar size in the world has half as many miles of street railway track as Louisville. To this must be added the steam suburban railway lines that connect the suburbs of New Albany and Jeffersonville, Ind., by way of the Louisville Bridge and the new Kentucky and Indiana Steel Cantilever Bridge. These steam lines also

encircle the city and pass down the river front upon an elevated track some three miles in length. There are about one hundred and twenty-five miles of street car and suburban lines, running over the one hundred and forty-four miles of streets of the city. It will thus be seen that there is scarcely a block of ground in the twelve and a half square miles of territory covered by Louisville that is not readily accessible by car. All fares within the city are limited to five cents, and this includes transfer to and from all parts, so that it is possible to ride from six to ten miles in the city for a nickel. The suburban lines, which pierce the country to a distance of from three to four miles, and which reach every one of the residence additions, have a uniform fare of ten cents. Such an abundance of inter-city transportation has prevented the concentration of population within narrow limits, and thus prevented real estate from attaining excessively high values, like those that prevail in cities where no facilities exist. The system in Louisville has been fostered by the policy of imposing as few restrictions as possible upon the extension of lines and has had the effect of making ground for residence and manufacturing purposes cheaper than in any other city of equal size in the United States. The street car lines are all well equipped, accustomed to handling immense crowds without inconvenience or delay, make rapid time, and are justly celebrated for the comfort and service they render to patrons in return for the small fare demanded. Some showing of the mileage and business of the various lines in the city will be of interest:

ROADS.	MILES OF TRACK.	PASSENGERS CARRIED ANNUALLY.
Louisville City Railway	64.0	11,897,000
Central Passenger	30.0	7,000,000
Louisville and New Albany Daisy Line	5.8	560,000
Louisville, N. Albany, and Jeffersonville transfer,	10.0	†975,000
Daisy Belt Line (building)	6.0	
Belt Line (to be constructed)	10.0	
Total	125.8	20,432,000

†Estimated.

The trans-river steam lines run trains every half hour between Louisville, New Albany, and Jeffersonville, at a uniform fare of ten cents. The large populations of these two Indiana cities are, for all practical purposes, part of the population of Louisville.

The population of Louisville in 1887 was estimated by several methods of computation to be about 200,000. The exact figures of the estimate are 195,910. The census of 1880 discovered only 123,758, which was probably under the actual number, although the rapid growth of manufactures and the large increase in railroad facilities since 1880, readily account for the enormous growth of population. The city directory, compiled by Mr. C. K. Caron, one of the most careful and conscientious statisticians in Kentucky, gives an interesting summary of the increase of names in that publication. The number of names in the directory in 1880 was 49,550; 1881, 52,401; 1882, 54,362; 1883, 56,845; 1884, 59,810; 1885, 62,110; 1886, 64,408; 1887, 66,900.

Estimates of population in cities where directories are published unite upon computing one producer to three persons, which would give three as the multiplier; this would make Louisville's population for 1887, according to the directory, 200,700. Since the abolition of slavery, the increase of working population has been rapid and great. The growth of the city since 1780 is given in the following table:

Population, 1780	30	Population, 1840	21,210
" 1790	200	" 1845	37,218
" 1800	359	" 1850	43,194
" 1810	1,357	" 1860	68,033
" 1820	4,012	" 1870	100,753
" 1827	7,063	" 1880	123,758
" 1830	10,341	" 1883	151,113
" 1835	17,967	" 1887	195,910

Thus it appears that the increase from 1880 to 1887 has been 56 per cent., which will compare favorably with the growth of Chicago, Cleveland, Milwaukee, and the other Northern cities, which, under artificial stimulus, have, during the past ten years, enjoyed advantages not possessed by Southern cities. The rapid development of great manufacturing enterprises in Louisville, the possession of the cheapest and most abundant coal supplies in the world, the cheapness and proximity of great timber and iron supplies render it probable that the increase of population until 1890 will exceed the present rate, and that the census will demonstrate remarkable facts about the greatest of Southern cities.

The healthfulness of Louisville is remarkable, there being few cities in the United States which rank so high in that particular so important to persons seeking homes. The city is absolutely free from the epidemics characteristic of the far South, and the climate being equable and temperate it is free from the objections that beset both extremes of country. The cause of the healthfulness is to be found in abundance of pure water, broad streets, and pure air, perfect sewer drainage, and excellent sanitary regulations. These taken together enable her to occupy the lowest place in the table of mortality rates last published by the United States government in 1885:

ANNUAL DEATH-RATE PER 1,000 INHABITANTS.

New Orleans	28.5	Boston	21.9
St. Louis	25.2	Milwaukee	21.9
New York	24.9	Hartford	21.7
Richmond, Va.	24.5	Lowell	20.6
Chattanooga	23.8	Chicago	19.2
Detroit	23.3	Pittsburgh	18.7
Cincinnati	23.3	Indianapolis	18.1
Philadelphia	23.3	Nashville (white)	14.6
Newark, N. J.	23.1	Nashville (colored)	58.8
Brooklyn	22.9	Louisville	17.4

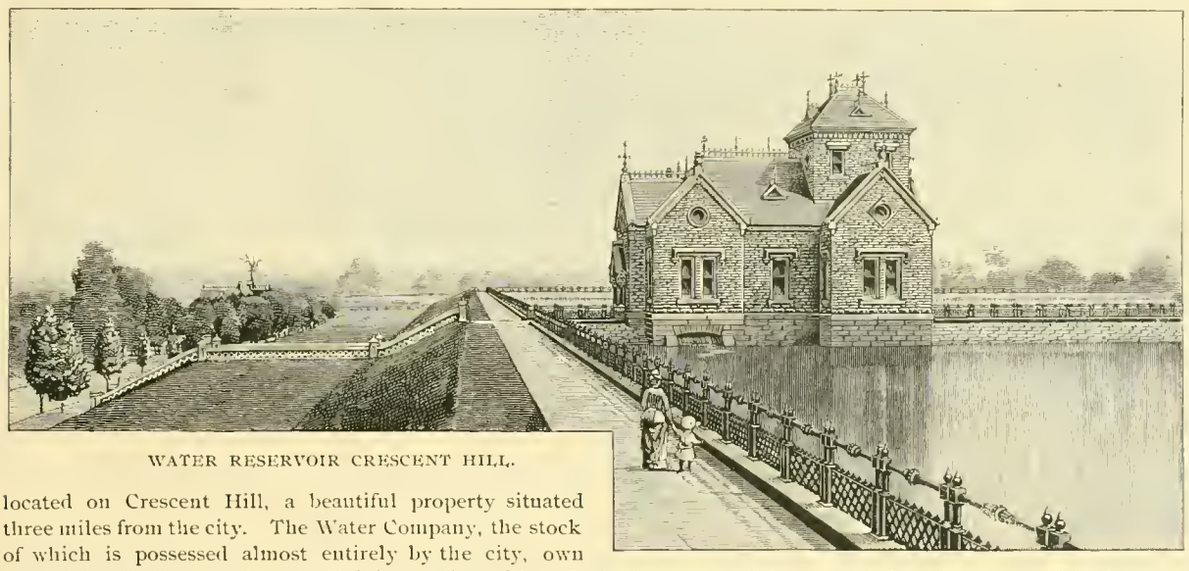
In 1886 the number of deaths was 2,800; in 1887 (year ending August 31), 2,862, an increase of but 62 in spite of the unexampled drouthy summer, during which the temperature was higher than ever before known in the history of the city.

Health Officer Galt, in analyzing the report for 1887, furnishes the number of deaths by months as follows:

August,	1886 . . . 216	March,	1887 . . . 167
September,	" . . . 278	April,	" . . . 177
October,	" . . . 211	May,	" . . . 321
November,	" . . . 259	June,	" . . . 303
December,	" . . . 232	July,	" . . . 254
January,	1887 . . . 200		
February	" . . . 244	Total	. . . 2,862

"In 1886 there were one hundred and seventeen deaths from typhoid fever, eighty-five from cholera infantum, fifty-one from diphtheria, and nine from scarlet fever. Last year, notwithstanding the long and fearfully hot spell so dangerous alike to old people, infants, and invalids, we had but one hundred and twenty-one from typhoid fever, one hundred and four from cholera infantum, one hundred and nine from diphtheria, and but two from scarlet fever. Scarlet fever is a common disease among children, and is often prevalent. No city in the United States of half the size of Louisville can turn to the records and show less than two deaths in a year from scarlet fever." The annual death-rate of Louisville for 1886 was 16., and in 1887 it is about 14.53.

The water supply of the city is obtained from the Ohio river at a point six miles above the wharf, the reservoirs being



WATER RESERVOIR CRESCENT HILL.

located on Crescent Hill, a beautiful property situated three miles from the city. The Water Company, the stock of which is possessed almost entirely by the city, own several hundred acres of land adjoining, which will no doubt be converted into a park in a few years. The improvements at the reservoir are of the most costly description, and the distribution of water is, in some instances, continued outside the city limits. The growth of the water supply and its distribution since 1880, with the attachments, are given as follows:

DATE.	MILES OF PIPE.	NUMBER OF ATTACHMENTS.
January, 1, 1880 . . .	108.84	7.012
Laid in 1880 . . .	2.447	.223
" 1881 . . .	4.505	.441
" 1882 . . .	2.512	.346
" 1883 . . .	2.087	.437
" 1884 . . .	3.447	.531
" 1885 . . .	3.307	.438
" 1886 . . .	3.235	.535
Total to January 1, 1887 . . .	130.380	9.963

The increase in the supply of water furnished since 1880 will also show the great growth in population necessary to use it. There is no more complete and admirable system of water-works in the United States than that in Louisville, which has a capacity of 10,000,000 gallons daily, and two subsiding reservoirs with a capacity of 125,000,000 gallons. The enormous consumption and supply in gallons since 1880 is as follows:

1880 . . .	2,304,039,675	1883 . . .	2,936,801,700
1881 . . .	2,931,438,825	1884 . . .	3,251,143,875
1882 . . .	2,616,882,450	1885 . . .	3,540,907,125

The water-works, being almost entirely owned by the city, furnish all water used by the city free of cost. This includes fire-cisterns, fire-hydrants, city hall, court-house, engine-houses, station-houses, hospitals, public fountains, etc. The cost of the water thus furnished free is about $25,000 per year

The number of miles of paved streets, and the nature of the paving, in 1880, and the increase since, is shown as follows by the City Engineer:

YEAR.	BOWLDER.	M'ADAM.	WOODEN.	GRANITE.	ASPHALT.	GRAVEL.	BLOCK STONE.	TOTAL.
1880	13.55	106.03	7.64	....	.20	2.76	.10	130.18
1881	13.55	105.93	7.92	....	.20	2.76	.10	130.26
1882	13.55	107.96	7.47	.45	.20	2.76	.10	132.49
1883	13.55	109.90	7.47	.45	.20	2.76	.10	174.03
1884	14.10	107.00	6.10	5.28	3.62	2.76	.10	138.99
1885	14.91	108.20	6.10	6.40	3.62	2.76	.10	142.21
1886	15.65	108.80	6.10	6.90	3.82	2.76	.10	144.15

ALLEYS.

1880	25.71	1884	28.90
1881	25.71	1885	30.47
1882	26.77	1886	31.06
1883	27.50		

Number of miles of sewers in 1886, 47; number of fire-cisterns in 1886, 4,314; number of public pumps in 1886, 1,118.

The police force of 1886 consisted of: Regular force, 150 men; supernumeraries, twelve men; on patrol-wagons, six men. Cost of maintaining Department of Police in 1886, $117,610.

For a great many years the losses by fire in Louisville have been under the average of other cities. In 1886, when the value of the buildings of Louisville was assessed at $26,967,965, the loss by fire was $366,808, or a little more than one-tenth of one per cent. The cost of the department in that year was $126,130. The fire department has always been liberally supported, and its celebrity among other cities for extraordinary efficiency is due to the general distribution of storage cisterns of water all over the city. These cisterns are filled from the water-mains and hold from 300 to 2,000 barrels each. All the engines needed at a fire can be massed at one or two cisterns within a few yards of the conflagration, and only a short line of hose is necessary. This unusually safe and effective system has not been introduced anywhere but in Louisville. The department has always been exceptionally well managed for effectiveness, and there is a strong public pride in its standard. The number of fire engines in commission, thirteen; number of hook and ladder companies, two.

Following is a comparative statement of the losses and insurance and insurance premiums for seven years:

YEAR.	INSURANCE PREMIUM.	FIRE LOSS.	INSURANCE LOSS.	INSURANCE.
1880	$475,379	$191,668 63	$114,323 63	.....
1881	646,343	173,826 00	144,769 00	.....
1882	661,683	146,271 82	110,931 83	.....
1883	695,445	119,662 65	112,642 00	$664,627 87
1884	712,300	151,348 09	132,389 56	520,475 00
1885	712,209	193,886 02	146,706 07	873,276 76
1886	751,687	366,808 12	213,458 36	1,801,002 19

This table shows that the gross average annual loss by fire in Louisville is a little over one-twentieth of one per cent. of the value of the buildings, while the net loss over insurance is so trifling as not worthy to be computed.

The total value of property assessed for taxation in 1887 is $66,890,000, a very small amount, because capital, stock, and a great many other sources of productive wealth taxed elsewhere are relieved here in order to permit of its increase and to encourage investment. The tax levy for 1887 was $2.04 on the $100, and for 1888 will be $2.09.

The report of the Sinking Fund Commissioners shows the bonded debt of the city January 1, 1887, to have been $9,352,000, and has not been increased since. There was at the same date cash on hand $513,988.63, and an investment in bonds of $1,343,000; which, taken together, will reduce the bonded debt to $7,495,000. After the year 1888 the levy for the Sinking Fund will not exceed fifty-five cents. The average current expenses are $18,000 per year, and the income for 1887 in round numbers was $800,000.

The census of 1880 shows that the debt per capita of Louisville is very noticeably less than that of most cities of its class and above. The debt has been created to build railroads, sewers, granite streets, and other public improvements that will be monuments of the city's greatness for a century. The payment of the debts has been guaranteed by a Sinking Fund, which has been managed with such conspicuous fidelity and ability, as to the main object of its existence, as to insure the payment of the debt as it matures, and the consequent steady reduction of the present low rate of taxation. A comparative table of debt per capita of cities is as follows:

Boston	$77 84	New York	$90 71
Brooklyn	67 13	Newark	66 44
Chicago	25 43	Philadelphia	64 01
Cincinnati	86 20	Pittsburgh	90 38
Cleveland	40 38	St. Louis	65 18
Jersey City	127 45	Washington	127 66
New Orleans	82 08	Louisville	39 19

It will be seen that Chicago is the only city in the list whose debt per capita is smaller than that of Louisville, but the tax rate of Chicago is much higher than in Louisville.

The educational facilities are of the most extensive and complete character. The public school system was of small efficiency before the war, and the present schools have been built up since 1865. This accounts for their practical and advanced nature, the organizers of the system being weighted by no established prejudices. The excellences of systems

longer established in other cities were combined with as few of the weaknesses as possible. Louisville was one of the first cities to provide for a practical business course of training for the boys and girls of the public schools whose aims and circumstances did not require or ask a classical finish. The High Schools now admit of a business course in which book-keeping and business usages are taught. The Female High School has, in 1887, introduced the teaching of stenography and type-writing, and girls who must rely upon their own exertions for support will have an opportunity, free of cost, to prepare themselves for those positions which so many of the sex have been taking during the past ten years. There are thirty-three public schools in Louisville, classified as follows: One Male High School, one Female High School, twenty-seven white ward schools, and six colored schools. There were 404 teachers employed in 1886, and the total cost of the schools was $313,571 or $18.53 for each pupil. The number of children of school age in the city in 1886 was 66,000 as compared with only 48,837 in 1880, and the average daily attendance in 1886–7 was 16,796 as compared with 13,498 in 1880.

FEMALE HIGH SCHOOL.

The liberality with which the schools have been maintained has resulted in supplying the city with many very large and costly buildings. The Female High School, on First street, is a very handsome edifice, containing all modern conveniences and comforts. During the winter months night schools are kept in every ward, open to those who are not able to attend during the day. For these schools the pupil age is extended and through them many grown persons have attained the rudiments of education and have achieved success in life. The colored night schools, in particular, have afforded opportunities to many colored people who would not otherwise have had the advantages of common knowledge.

In addition to the public schools there are numerous flourishing private schools and seminaries in which pupils are prepared for colleges. Each Catholic parish has its parochial school.

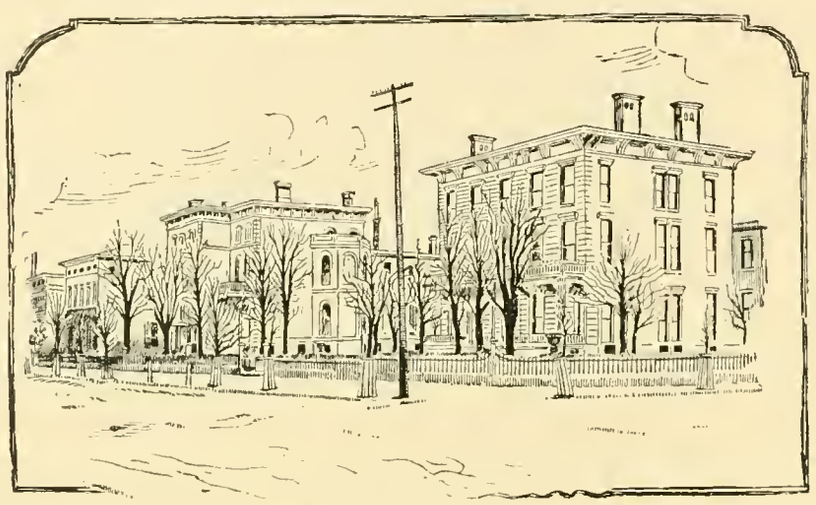
The following table will show the remarkable growth of the public school system since 1865:

YEAR.	NUMBER ENROLLED.	NUMBER REMAINING.	NUMBER BELONGING.	AVERAGE ATTENDANCE	AVERAGE NUMBER TEACHERS.	TOTAL COST OF SCHOOL.	COST PER CAPITA.
1864–65	9,388	5,890	6,073	5,209	141.0	$103,425 05	$17 02
1865–66	9,719	6,310	6,478	5,629	141.0	109,539 98	16 90
1866–67	12,271	7,711	7,918	6,071	177.0	142,149 81	17 95
1867–68	14,054	8,639	9,016	8,048	193.0	148,329 26	16 45
1868–69	13,596	8,883	9,530	8,550	220.0	177,379 45	18 61
1869–70	13,593	9,089	9,705	8,720	237.6	188,883 81	19 46
1870–71	14,574	9,397	10,174	9,180	264.9	213,445 41	20 98
1871–72	14,229	9,457	10,270	9,227	287.0	242,201 06	23 58
1872–73	15,334	10,355	10,729	9,346	288.6	247,354 89	23 05
1873–74	17,557	11,346	12,325	10,944	300.4	253,168 48	20 54
1874–75	17,593	11,755	12,807	11,551	315.5	255,529 02	19 95
1875–76	17,538	12,250	13,301	11,951	328.3	272,278 98	20 47
1876–77	18,486	12,861	13,732	12,293	335.9	275,137 43	20 03
1877–78	19,292	13,374	14,234	12,999	319.5	277,046 43	19 46
1878–79	19,484	13,960	14,782	13,405	327.6	218,769 39	14 79
1879–80	19,990	13,761	15,051	13,498	320.8	197,699 10	13 13
1880–81	19,189	13,734	14,802	13,270	326.5	218,693 56	14 77
1881–82	20,186	14,108	15,390	14,760	358.2	245,852 24	15 97
1882–83	20,131	14,240	15,389	13,902	370.9	267,114 33	17 35
1883–84	20,507	14,836	15,717	14,085	376.1	285,447 49	18 16
1884–85	20,061	15,215	16,295	14,664	383.2	284,015 34	17 42
1885–86	20,964	15,795	16,926	15,271	404.1	313,571 56	18 53

For many years the medical schools of Louisville have been recognized as among the finest in the world and the fame of their graduates has been international. There are four great medical colleges, attended annually by thousands of students, the University of Louisville, the Louisville Medical College, Hospital College of Medicine, and the Kentucky School of Medicine. The Louisville College of Dentistry, the Louisville School of Pharmacy for Women, and the Louisville College of Pharmacy are widely recognized institutions, affording opportunities for education in particular departments of surgical and medical science.

Other educational institutions are the Kentucky Institutions for the White and Colored Blind, among the noblest and most interesting establishments in the country. Attached to these is the government printing establishment for the blind. The Southern Baptist Theological Seminary, which was removed to Louisville in 1877, has flowered into a great school, with hundreds of students. In 1887 work has progressed far upon the new seminary building which will cost about $300,000. The dormitories have been constructed and are in use temporarily as instruction halls, the students meanwhile occupying the fine Standiford Hotel property as dormitories. There is also a Colored Theological Seminary known as the State University, conducted by a faculty of competent teachers. The Law Department of the University of Louisville is recognized as a successful school.

The Polytechnic School and Library is one of the largest and most invaluable educational establishments, and its methods and objects are so numerous and unique that the organization stands without a parallel among institutions of learning in the South. It maintains a library of more than 40,000 volumes, which number is constantly increasing by purchase and donation. The library is open, absolutely free to the public, thirteen hours every day except Sunday. The library room is 135 feet long and seventy-five in width. It is light, cheerful, beautifully furnished, thoroughly warmed and ventilated, and, being situated on the ground floor, is easy of access. Members of the society are privileged to take books to their homes, and other reputable persons can secure annual membership by the payment of small fees. A course of free scientific lectures is provided annually, and these have attained wide celebrity, reports of the lectures having been secured for publication in many periodicals in this country and abroad. There is also an extensive laboratory in which practical demonstrations of scientific subjects are made. The Troost and Lawrence Smith cabinets of minerals, and the Octavia A. Shreve memorial cabinet, containing mineral and other specimens of great value and beauty are in the keeping of the society. Attached is a free art gallery of painting and sculpture by American artists, including specimens by Joel Hart and Canova's "Hebe." Besides these means of instructions, which are absolutely free, the society provides for the organization of clubs, or academies, among its members for the cultivation of any branch of science, art, or useful knowledge which may especially interest any five or more members. Provision is also made for close instruction in various branches of knowledge at a cost barely sufficient to insure regular attendance. The success of the Polytechnic Society since its formation has been phenomenal. During the last seven years it has largely improved its building, purchased several thousand volumes of books, maintained the several departments above enumerated, and paid off $60,000 of its bonded debt. Its present bonded debt is but $40,000. It has no floating debt.



Another View of Broadway.

The church buildings of the city are 142 in number, and there are 135 organized parishes and congregations, distributed as follows: Baptist, 9; Christian, 7; Congregational, 2; Protestant Episcopal, 12; German Evangelical, 4; German Evangelical Reformed, 4; Jewish, 3; Lutheran, 4; Methodist Episcopal South, 11; Methodist Episcopal North, 6; Northern Presbyterian, 9; Southern Presbyterian, 7; Associate Reformed Presbyterian, 2; Unitarian, 1; Spiritual, 2; Catholic, 18; Faith Cure, 1; Gospel Missions, 3. Colored churches: Baptist, 15; Christian, 1; Protestant Episcopal, 2; Methodist Episcopal North, 13. Louisville is the seat of the Protestant Episcopal and the Roman Catholic dioceses. The Catholic Cathedral of Our Lady of the Assumption is one of the finest edifices in the West. The church buildings are unusually costly and beautiful, and in this respect Louisville is justly celebrated. The religious establishments comprise seven convents and monasteries, a Young Men's Christian Association, supplied with libraries, reading-rooms, and gymnasium, and two branches, one for German-speaking people, the other for railroad employes.

In public and religious charities Louisville surpasses any city in the country, in proportion to population. There are thirty-eight of these institutions, among which the unfortunate or the erring, from the cradle to the grave, of all religious sects, and all social conditions, may find refuge. The public Alms-house cost $210,000, and persons who are unable to labor, or are helpless from age, are received there. The city also supports a public hospital, founded in 1817, and which is one of the largest and finest buildings in Louisville. St. John's Eruptive Hospital is also under control of the Committee of Public Charities. The religious charities and hospitals are upon a very large and generous scale. The Church Home and Infirmary in the Highlands, above the city, is under the care of the Episcopal churches, and provides a home for aged and helpless and working women, and an infirmary for the sick of either sex. It was founded through the gift of $100,000 from John P. Morton. The John N. Norton Memorial Infirmary, for the nursing of the sick, is situated in the residence district on Third street, and is also under Episcopal management. These charities occupy magnificent buildings. Sts. Mary and Elizabeth Hospital, for the nursing of sufferers by railway accident, St. Joseph's Infirmary, for nursing desperate cases and strangers, and the Home for the aged poor are three great charitable establishments under the care of the Catholic church. These and the United States Marine Hospital and a number of private establishments, beside four free public dispensaries, provide for the convenient care of all public sufferers.

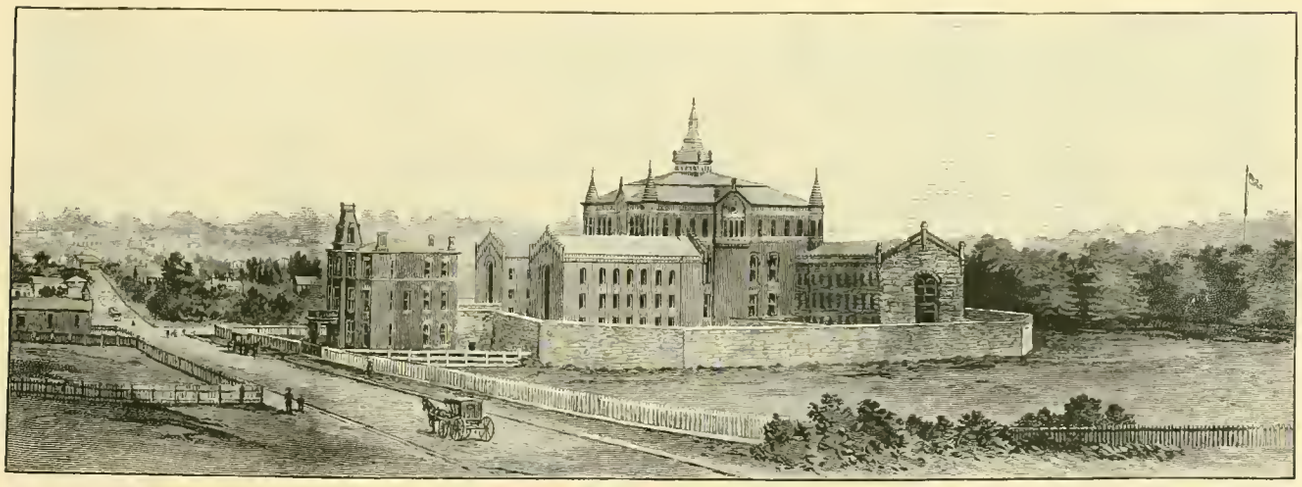
The city sustains three industrial schools of reform for juvenile delinquents. One is for white boys, another for friendless girls, and the third for colored youth. The buildings are large and costly, and the grounds ornamental. These industrial schools are celebrated among philanthropists and those interested in prison reform.

The greatest and most unique charity in the city is the Masonic Widows' and Orphans' Home, the object of which is to "provide and sustain a home for destitute widows and orphans of deceased Free Masons of the State of Kentucky, and an infirmary for the afflicted and sick Free Masons and others who may be placed under its charge." This is the single charity of that character in the United States, and it is celebrated all over the world among Masons. The building is the largest in the city, and is maintained by the free contributions of Masonic lodges and the public. It is not too much to say that it is an institution in which the whole State takes pride, and to which contributions are made from all quarters of the country.

Louisville has eleven orphanages, two homes for friendless women, a home for old ladies, and a central organized charity association.

The facts enumerated describe to the thoughtful reader a population of the highest and most prosperous type. Education being free and supplemented with all the advantages that an ambition for learning can demand, it follows that the people are intelligent, active, and enterprising. A people are better represented by their newspaper press than by any other public expression. In this respect Louisville surpasses many much larger cities. There are four daily papers, two morning and two evening, that rank in ability, enterprise, and success with any in the country. The oldest and most celebrated is the *Courier-Journal*, edited by Henry Watterson. The *Commercial*, also a morning paper, and the *Post* and the *Times*, evening, are publications of exceptional standard. Besides these, there are numerous weekly and special papers and periodicals. The city has six theaters, five of which are constantly maintained, and are equal in beauty and reputation to the best in the country.

Business is organized through the Board of Trade which has about 700 members and occupies one of the handsomest buildings in the city. The Commercial Club, composed of the younger business and professional men, has a member-



THE LOUISVILLE WORK HOUSE.

ship of about 500, and has done much since its organization to promote the growth and encourage the development of Louisville. It was organized for that purpose, and its services can always be commanded to assist proper enterprises and to forward public movements. The club is now making arrangements to erect a great building for its quarters which will be one of the most costly and conspicuous structures in Louisville.

The officers of The Board of Trade in 1887 are: President, Harry Weissinger; Vice-Presidents: First, William Cornwall, Jr.; Second, Thomas H. Sherley; Third, George Gaulbert; Fourth, Andrew Cowan; Fifth, Charles T. Ballard; Treasurer, George H. Moore; Superintendent, James F. Buckner, Jr.; Secretary of Transportation, A. V. Lafayette.

The officers of the Commercial Club are: President, George A. Robinson; Vice-Presidents: First, Peyton N. Clarke; Second, John H. Sutcliffe; Treasurer, Julius W. Beilstein; Secretary, Angus R. Allmond.

There are a number of social clubs in Louisville of great wealth and influence. Principal among these, and possessing their own establishments, are The Pendennis, with 300 members; The Standard, with 110; The Pelham, with 115; The Brownson, with 140; and The Progress, with 100. There are few clubs in the South so splendidly established as The Pendennis and The Standard.

LOUISVILLE'S RESOURCES.

A consideration of Louisville as a point for commercial and manufacturing enterprises must be prefaced by a statement of the advantages, natural and artificial, which she possesses. These are comprised in the extent and cheapness of transportation for raw material and manufactured products, in the extent and nearness of material, the proximity of markets of consumption, and the various incidental features of labor, supplies, and real estate.

There is no city in the world more abundantly supplied with transportation facilities. Steamers leaving the wharf at Louisville can ply on thirty-two navigable rivers, having an aggregate length of 25,000 miles. Kentucky alone has over 1,600 miles of navigable streams—more than any State in the Union—and they flow in sections rich in timber, coal, and iron. Steamers already penetrate to these, and the improvements contemplated by the Federal Government

will add to the navigable distance while vastly increasing the productiveness of river commerce. The railway system of Louisville is composed of sixteen roads, entering from all directions, four of which have been organized and constructed, or are being constructed, within the past three years. Within five years the railroad facilities have been nearly doubled, with the result of increasing traffic, greatly reducing the rates of transportation, and contributing to the rapid and phenomenal development of the city. During 1887 work was actively prosecuted upon railway lines, local and general, radiating from Louisville to the following extent:

ROADS.	MILES.	COST.
Louisville Southern	80	$2,200,000
Louisville, St. Louis & Texas	139	2,500,000
Louisville, Cincinnati & Dayton	147	3,750,000
Daisy Belt Railroad	12	400,000
New Albany and Eastern connections	.....	160,000
New Jeffersonville Railway Bridge (organized)	.....	1,500,000
Street Railway Extensions	.....	60,000
Total	378	$10,570,000

This table will show the activity that prevails in railroad building, and the work has been prosecuted with such vigor that all the enterprises will be opened by the summer of 1888. These roads will uncover new territories filled with coal, iron, and stone; sections immensely rich in agricultural lands that have only been waiting for transportation facilities to greatly increase their development. The completion of the new line of the Louisville & Nashville Railroad to Pineville, at the entrance of the famous Cumberland Valley, opens to development 10,000 square miles of timber and coal and great quantities of iron ore. This is the most important railroad that has been constructed in the United States for ten years and is the first to enter the wonderful region so often described by geologists and so long neglected by capitalists. Besides these roads, others are projected and several are nearly prepared to commence operations, but those named are practically finished.

During the present year more miles of railroad were under construction in Kentucky than in any other State in the Union, save one. There were ten new lines building with mileage as follows:

Covington, Maysville & Big Sandy	140 miles	Louisville, St. Louis & Texas	150 miles
Clarksville & Princeton	53 "	Ohio Valley	95¾ "
Bardstown & Springfield	17 "	Cumberland Valley	45 "
Chesapeake & Nashville	35 "	Elizabethtown & Hodgenville	12 "
Versailles, Georgetown & Paris	15 "		
Louisville Southern	68 "	Total	630¾ "

In this table is not included the Louisville, Cincinnati & Dayton, which, although it will greatly contribute to the growth of Louisville, is located through Indiana and Ohio.

With the rapid building of railroads in Kentucky, nothing is surer than the rapid growth of Louisville. As the metropolis of the State all railroads seek Louisville as a center of operations. Already the Louisville & Nashville, owning and controlling nearly 500 miles, and having a large share in the management of 1,500 miles more, has its headquarters here, as has also the Louisville, Evansville & St. Louis. The great Huntington system, with its two roads, the Chesapeake & Ohio and the Chesapeake, Ohio & South-western, running east to the Atlantic, and, by associated lines, west to the Pacific, has a general passenger office here, and property interests in the Short Route, Union depot, etc., equal to its property interests anywhere in the country. The Pennsylvania Company has a fine passenger depot, the general freight office, and the Superintendent's office, as well as extensive freight yards. The Louisville, New Albany & Chicago has important terminals at New Albany, while the Queen & Crescent and the Ohio & Mississippi have both freight and passenger offices, and the Ohio & Mississippi has a depot and important terminals at Fourteenth and Main. These roads, connecting Louisville closely with the great rail systems of the continent, and selling tickets to New Brunswick, British Columbia, and Mexico, are bound, gradually, to establish more important offices here, and many of them to acquire and improve more property. Indeed, the Pennsylvania Company is now on the point of building extensive freight houses and terminals near Main, between Fourteenth and Fifteenth, at a cost of $180,000. Mr. Huntington has given evidence of his faith in Louisville and his readiness to put his money here by the construction of the new Union depot and the prompt building, for the Daisy line, of several smaller depots.

The Louisville Southern will certainly make Louisville its headquarters, and locate here its shops, freight houses, etc. A plan has already been considered for building for it in Portland, convenient to the Kentucky & Indiana Bridge, a freight depot with yards that will give room for all business as it may grow for the next fifty years. The Louisville, St. Louis & Texas and the Louisville, Cincinnati & Dayton, with proper treatment, will also place their terminals here. These, with further growth of the old roads in the next ten years, are good for an increase of population aggregating 30,000 people, and an added property value of $10,000,000.

The rivers and railroads furnish Louisville quick and ready access to all the raw materials used in American manufactures, and to immense fields of fuel. The Western Kentucky coal field, comprising an area of 4,000 square miles, lies about seventy miles south-west of the city and is penetrated by Green river, which is navigable during slack water throughout its limits. It is also penetrated by several railroad lines. The topography of the country being favorable to the construction of railroads, others are building, and when Green river is made free of tolls the development of the coal will be greatly accelerated. At present, many great mines are operated and Cannel coal is shipped to England. The Eastern coal field, which has just been reached by the Pineville branch of the Louisville & Nashville Railroad, covers 10,000 square miles, or one-fourth of the area of the whole State. The coking coal deposits—among the finest yet discovered in the world—are estimated to cover about 2,000 square miles, an area between thirty and forty times as great as that of the Connellsville district in Pennsylvania. The existence of such enormous coal deposits on all sides of Louis-

ville has had the effect of making coal for fuel cheaper in this city than anywhere else in the country. Coal miners recognize it as the lowest market, and the paradoxical spectacle is often presented of Pittsburgh coal being brought to Louisville and sold for less than it brings at Pittsburgh.

The cost of coal has declined so greatly through the development of the unlimited supplies in Kentucky that the cost of steam power in Louisville is less than the cost of water power in New England. A patient inquiry into the rentals and cost of water power in eleven New England manufacturing towns disclosed the fact that, while the average cost per horse power per year of twenty-four hours per day for 300 days was $46, the most liberal estimates made as to the cost of steam power in Louisville show it to be less than $30. Contracts are made here for annual supplies of coal at from $1.25 to $1.60 per ton, the cost being regulated, of course, by the amount and the usual market influences. It is easily capable of demonstration, however, by the books of any of the large manufacturing establishments, that the cost of fuel in Louisville is greatly less, and that the fluctuations are less marked than in any of the large cities.

Coexistent with these coal fields are forests of the finest timber known to the market. The virgin forest of Eastern Kentucky covers 10,000 square miles, and the Southern and Western forests are equally valuable and extensive. A very

KENTUCKY & INDIANA BRIDGE.

successful and intelligent manufacturer of Louisville, himself using enormous supplies of lumber, says, writing on the subject of the timber resources of the State, with special reference to the advantages of Louisville as a market:

"My special study of the timber has been largely confined to the supplies of white oak, hickory, and poplar, suitable for wagon manufacture, along the line of railroads and improved water courses naturally tributary to the Louisville market. This embraces but a small portion of the area and of the timber wealth of the State and that portion which has suffered most from clearings for farms and from cutting to supply manufacturers in this and other States. Nor does it embrace those portions of the State most heavily timbered originally. And yet, even in these sections, especially a few miles off the lines of such roads and streams, there is an abundant supply of these and other woods to meet the demands of factories now in operation, and of those that are likely to be built, for years to come. Drawing from these sources and from Southern Indiana and Northern Tennessee, Louisville is now the best and cheapest hardwood lumber market in this country, if not in the world. And yet the trade is but in its infancy, having had an existence for only six or seven years. Of the superior quality of this timber I can speak with confidence, having tested it thoroughly in comparison with the products of half a dozen States North and South of Kentucky. For strength, toughness, and durability the hard woods from the Southern half of Indiana, Kentucky, and the Northern counties of Tennessee surpass any found elsewhere, and give to Louisville, as a place for the manufacture of all articles into which wood and iron enter, superior advantages, while its central position, railroads in operation and in process of construction, and water facilities assure the lowest rates of freight. Already the factories of the North and North-west, having measurably exhausted the timber in their vicinities, are drawing a considerable portion of their supplies from this section, and many of them will ultimately be compelled to move nearer to the source of these supplies. The reason of the superiority of the timber over the same kinds north or south of this region is probably owing to the more favorable division of the growing and resting and indurating seasons resulting from its climate. Farther South the period of growth is so rapid and protracted that it does

not sufficiently harden, hence, is too porous and brittle. Farther north it is too short and the wood is too hard and inelastic. But the section referred to, as previously stated, furnishes but a small per cent. of the timber of the State. Except as cleared for farming and thinned out along the navigable streams and the railroads and in the vicinity of a few iron furnaces, the timber of the State is practically untouched by the ax and has never been wasted by forest fires. In large sections of Western, Southern, and Eastern Kentucky are found verdant forests of hundreds of thousands of acres heavily timbered with the finest and largest growths of white oak, chestnut oak, hickory, poplar, pine, chestnut, and other kinds of trees, indigenous to a temperate zone. All over the State, but greatly scattered, except in places remote from lines of transportation, is found black and white walnut of the largest size and finest quality, and in some portions of Eastern Kentucky, in large forests. On the ridges, hills, and mountains of Eastern and South-eastern Kentucky, along the tributaries of the Big Sandy, Licking, Kentucky, and Cumberland rivers the land is too steep to be ever profitably cultivated; and if the timber is judiciously and systematically cut, it will renew itself throughout the ages. Calculations based on actual experience show that a furnace making some 3,000 tons of charcoal iron annually, located on a tract of 10,000 acres, will have a perpetual supply of suitable fuel. A tract of 100,000 acres, if cut regularly and systematically as is done in the timber districts of Canada, would continually renew itself and never become exhausted. It is a peculiarity of the timber of this State that in large sections the second growth is superior in the kinds of timber to the forest. The railroads projected and under construction, and the improvements of the water ways will bring into the market, within a few years, the timber from immense tracts of land heretofore valueless."

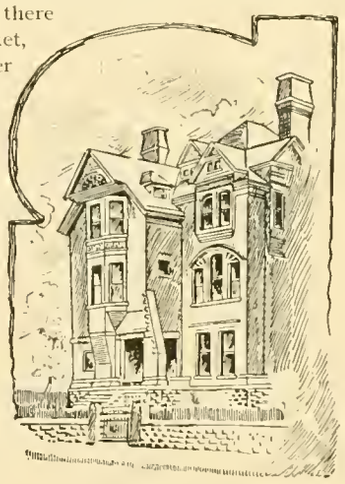
On Fourth Street.

Louisville is also the nearest practicable market for the great deposits of iron ore and coking coal in South-eastern Kentucky now about to be opened by various railroad lines, and the improvement of the Kentucky river, as explained in the article in this book by the Hon. J. Stoddard Johnston. In addition, she is the natural gateway to the celebrated Bluegrass region, the finest agricultural territory, perhaps, in the United States. She is thus always amply supplied with food articles. The beef and mutton from this section are celebrated everywhere. The border lands of the Bluegrass are hill counties, admirably adapted to the production of fine fruits in great abundance. The country surrounding Louisville is excellent for farming and garden purposes. Jefferson county, of which Louisville is the seat, is one of the largest potato producing counties, if not actually the largest, in the United States. The receipts of potatoes at this point in 1886 were 121,637 barrels, and the shipments 225,814, showing that the county raised 104,177 barrels. This is an increase of 95,000 barrels since 1880. The prices of produce are nearly always lower in the markets of Louisville than in any other Western and Southern city, and the laboring population can be better fed here than anywhere in the South.

COMMERCE AND MANUFACTURES.

Having thus shown Louisville's situation with respect to transportation and proximity to raw materials of all sorts, and that the city is situated in the midst of an agricultural region capable of supporting many millions of people, it remains to see what the actual facts are with regard to her industries and commerce, and to point out the opportunities for profitable investment, and the terms under which manufactories can be established.

It is incomparably the greatest tobacco market in the world, not only in the bulk of its handlings, but in their variety. Situated midway in the great tobacco producing territory, stretching from the Mississippi river across Kentucky, Tennessee, and Virginia, every grade of the product seeks its market. One-third of all the tobacco raised in North America was handled in the warehouses of Louisville in 1885 and 1886. In the latter year there were 103,475 hogsheads, or 125,000,000 pounds, of raw tobacco received on the market, valued at $11,625,000 according to the Treasury Department's average of the value per pound to producers. The actual value of the tobacco handled here was nearly $20,000,000. The great importance of the Louisville tobacco market is in its universal character, being the only city in the United States where all grades can be obtained. Cincinnati, St. Louis, Paducah, Kentucky, and Clarksville, Tennessee, are respectable markets, but only for certain classes or grades. At Louisville, all grades, from the finest of white Burley to the commonest "Regie" for European governmental contracts, can be obtained. There are resident representatives of consumers in every part of the world. Agencies of the enormously rich and historic firms of Liverpool, London, Bremen, and Antwerp, of the governmental monopolies of France, Spain, and Italy, and of the great manufacturing houses of America are maintained in Louisville because all demands can be supplied here alone.



On Fourth Street.

There are several features which tend to maintain the supremacy of Louisville as a tobacco market already established by her geographical position. First is the enterprise of her warehousemen, who have a vast capital invested, and who have developed and extended their operations with a judgment and coolness that is bound to command success. Louisville has fifteen warehouses, and through the building of the new Falls City, Enterprise, and Central warehouses, and storage houses erected and being erected mainly for the purpose of storing tobacco, the handling capacity of the Louisville market may be safely called fifty per cent. greater than two years ago. Cincinnati, the only city that has made an exhaustive effort to rival Louisville, has but six warehouses, and has long ago dropped out of sight as a competitor. The Cincinnati market deals only with Burley leaf.

Most of the tobacco chewed in the world is what is called "navy" plug, having received its name from being at first dealt out by the governments of Europe to their seamen. This tobacco, saturated with sugar and licorice, is by vast odds the favorite solitary consolation of men who do hard labor and engage in rough service the world over. It is chewed by soldiers in all armies, seamen in all navies and under every flag and clime; the laborer on the streets, the public roads, and the railroads, the man with the skilled trade, and the person whose position in life makes him ashamed of the vice—the incalculable majority find solace in the use of the dark and sweet plug, and millions of jaws keep time to the same weakness. For many years the manufacture of the navy plug has been one of the great interests of Louisville, and the bulk of the Western tobacco goes into that product. Consequently, Louisville is the most important point for supply for the greatest of the chewing tobacco demand.

Here is a table showing the warehouse movement of tobacco in hogsheads in Louisville for the past eleven years. In that time the market has enlarged nearly 500 per cent., sometimes by bold leaps, but usually by sure progression:

YEAR.	RECEIPTS.	DELIVERIES.	OFFERINGS.	STOCK END OF MONTH.
1886	103,112	92,238	125,573	15,515
1885	108,821	96,566	127,946	9,580
1884	71,154	68,756	81,980	5,701
1883	71,866	73,020	88,900	3,294
1882	53,075	53,645	61,440	5,912
1881	54,460	57,220	67,400	4,888
1880	52,609	58,358	65,281	7,639
1879	48,870	49,037	58,035	13,355
1878	69,916	61,072	71,028	13,361
1877	50,532	50,462	56,218	6,018
1876	54,883	53,610	61,352	5,806
1875	24,200	25,031	27,700	5,810

During 1887 there has developed a tendency to hold tobacco in storage at this point instead of shipping to New York and abroad to await demand. This tendency promises to develop the market more and to increase the advantages of Louisville as a point for manufacturing tobacco.

There are at present fifteen warehouses, thirteen re-handling establishments, sixteen manufactories of chewing and smoking tobaccos, seventy-nine cigar manufactories, and thirty-four brokers engaged in the trade, apart from agents and others who can not be classified conveniently. They employ millions of capital and more than 5,000 workmen.

The production of and trade in fine Bourbon whiskies, one of the greatest industries of Kentucky, engages a large amount of capital in Louisville. The collection district, of which Louisville is the center, contains one hundred registered grain distilleries, one-half the number in the State. The producing capacity of these houses is nearly 80,000 gallons per day. The gross product during the five years ending June 30, 1887, was over 35,000,000 gallons, upon which internal revenue taxes to the amount of $29,154,319 were paid at the collector's office. About $3,000,000 of taxes were remitted by the exportation of over 3,000,000 gallons in that time. There are required to barrel the product of the Louisville district about 165,000 casks, and the capital invested in the distilleries is estimated at $3,000,000. The Bourbon whiskies made here are celebrated as the purest in the world and are universally used for medicinal purposes as well as for beverages.

UNITED STATES CUSTOM HOUSE—FOURTH STREET.

Other manufacturing and commercial interests, in which Louisville is the largest market in the United States, are as follows:

In the manufacture of Kentucky jeans and jeans clothing there are four large mills engaged, employing about $1,250,000 capital, 1,250 hands, and producing annually nearly 7,500,000 yards of cloth, valued at about $2,250,000. In 1887, the capacity of this industry has been increased about twenty per cent. The trade of the world is supplied with this article, and it is known everywhere. This industry has increased eight-fold in ten years.

The manufacture of cast gas and water pipe is carried on by the largest establishment in the United States, that of Dennis Long & Co., which has recently enlarged its capacity fifty per cent. There are about 400 hands employed, with a capacity of 250 tons of iron daily, and the output has long since closed similar establishments at Pittsburgh and commands the trade from one ocean to the other. There are twenty-nine foundries making stoves, architectural and other commercial iron products, employing about 4,000 hands and consuming about 150,000 tons of iron annually. As

an iron consumer, Louisville ranks about fifth among the cities of the country. In addition to this, it has recently become a great storage market, not ranking first, but having immeuse supplies stored that enter into the demand of the country, thus requiring regular quotations. There is a prospect that, as the making of pig iron gets to be a larger and more commanding industry in the South, the importance of the Louisville market will increase, and, being nearer the furnaces and the natural center of distribution, the manufactures of iron ought to grow largely.

One of the most commanding industries of the city and in which it surpasses any other in the world, perhaps, is the manufacture of plows. There are four establishments, making a product valued at $2,275,000 and employing 1,925 workmeu. One of these is the largest in the world and seuds its plows to every country where moderu agricultural methods are pursued. It received the first medal for plows especially designed for farming in Hiudostan, and is introducing American plows iu Mexico and Australia. The number of plows made in Louisville in 1880 was 80,000. In 1886 it had increased to 190,000, and the capacity of the largest establishment has been materially enlarged in 1887. The value of all agricultural implements manufactured in Louisville in 1880 was $1,220,700. In seven years the value of plows alone has nearly doubled this.

Residences on Chestnut Street.

Hydraulic cement is made largely, the product of the mills operating upon the cement stone in the bed of the Ohio river and adjoining, reaching nearly a million barrels annually. The sales in 1886 were 850,000 barrels.

The reputation of fine oak-tanned sole and harness leather made in the Louisville tanneries is world wide. The extraordinary finish of the work attracted the attention, some years ago, of the tanners of kid leather in France and they sent a commission to Louisville to examine into the secret. There are twenty-two tanneries located about the falls, sixteen of which are in Louisville. The value of the annual product is $2,500,000, and nearly 800 hands are employed.

In the sale of mules it is the largest market, the sales aggregating about 12,500 annually.

In all the manufactures into which wood aud iron enter, Louisville is being recognized as one of the most promising points in the country. Recently one of the largest veneering mills in the United States removed its entire plant from New York City to Louisville, where it has erected large buildings and is using forty acres of land and about 500 workmen. A wagon manufacturing company was offered large capital and free grants of land, exempt from taxation, to remove to several of the "boom" cities West and South. The company invested $40,000 in a new site in Louisville instead and will soon have the largest establishment of its kind in the country. The furniture manufactories employ 1,200 workmen and make annually a product valued at 1,775,000. The reputation of the furniture is high.

In connection with the account of the trades and industries in which the city has been growing, it is proper to mention various important manufactures which are insufficiently supplied, or in which Louisville and the State are almost altogether lacking, and which could be created or extended. These involve the production of a number of articles for which there is a large, steady, aud increasing demand, not only in Louisville, but in the immediate and great territory which Louisville can supply. Such articles have so far been imported, wholly or in part, from Europe or from points in the East, North-east, aud Middle States of this country. They may be classified and discussed as follows:

Articles of Food for Consumption.—Manufactures of olives and various sweet oils, sugar and syrup refineries, cheese factories, preserving establishments are needed. A cotton-seed oil refinery has been started and is growing. It is also making cotton-seed-oil soap. In vinegar, pickles, sauces, mustard factories there is a growing number of establishments, large aud small, and a marked increase of production and distribution.

Woodenware.—Buckets, wash-tubs, and wash-boards, which, for many years, have come almost exclusively from Pennsylvania and Ohio; brooms aud the building of ships from timber on the Ohio; all these are needed and would be welcome. There is still room for various agricultural implements to expand the great center which the making of plows, etc., have created of Louisville in the implement trade.

Metals.—Crucible steel, cast, and metal works; rolling mills for bar iron, pig iron, and railroad iron and steel; manufacturing of nails, axes, horseshoes, iron castings, hardware, cutlery, type are needed. A great rolling mill, many years successfully established in the interior of the State, removed to Louisville last season, and is now successfully making boiler plate, bar iron, and other rolling mill products of the best grades, with orders ahead of capacity. A chain works has resumed (had been abandoned). A new factory, making plumbers' castings and fittings, has just started. Nail mills, cutlery, horseshoe, and various heavy and small hardware and iron factories are still lacking.

Mineralogical and Chemical Articles.—Various glasswares—window glass, flint glass, pressed glass, tableware; crockery ware potteries; starch, of which hundreds of thousands of boxes are brought here annually from the East;

chemicals, dye, and paint stuffs. All these are needed. Two factories are making bottles on a liberal scale. One fair-sized and several small potteries are making jugs and crockery. DePauw's works are making plate, window, and bottle glass at New Albany. But there is room for window and pressed glassware potteries.

TEXTILE FABRICS.—Cotton mills for spinning and weaving; manufacturing of the common, medium, finer, and costlier articles of cotton, sheeting and prints, calicoes, ginghams; of woolen, flaxen (linen), silken, and mixed stuffs, wraps for woolen goods, cotton yarns, cottonades, twine, carpet chain, osnaburgs, brown sheetings, tickings, denims, and other descriptions of heavy, plain, coarse cotton goods, and later following finer work. Though a considerable part of the cotton passing Louisville, mostly for New York and Liverpool, was sold here, no bale was worked into fabrics, no spindle whirls, no thread is spun, and no yard is woven. Further: With an annual production of 25,000,000 pounds of wool in the West and South, there are in Louisville but four factories for woolen goods, combined with cotton. We need several more for blankets, flannel, cassimeres, broadcloths, knit goods, pilot cloth, petershams, hosiery, carpets, oil cloth, waxed cloth, tapestries, etc., clothing, hats. There is no carpet manufactory in the whole West. Most, or all, of these goods are brought here, as yet, from Eastern places and Europe.

SMALL WARES.—All that class of so-called "loft manufactories," so numerous in the East, and employing so much skilled and unskilled labor. Louisville originates great quantities of heavy freights, but not nearly as much in small wares as could be profitably turned out. Hundreds of the sundry items distributed by the many grocery, hardware, and

VIEW IN CAVE HILL.

other jobbers here are bought elsewhere and ought to be made here. Cabinet and saddlery hardware, trimmings, wood and metal, are used and distributed here to large amounts, and very little of it made here.

LEATHERWARE.—Various leather manufactories are needed, such as belting (which is made on a small scale), all kinds of patent leather, gloves, and fancy articles. Boots and shoes for the trade are manufactured, and could be made in larger quantities. One of the factories, at least, is making a fine article, and Louisville ladies' fine shoes are finding a growing market. There is no reason whatever why most or all of the leatherware for the home market should not be manufactured here. With reference to capital invested in tanneries, and value of product, Louisville takes high rank among the places of the United States, and the first rank among the places west of the Allegheny mountains.

STRAW MANUFACTURES.—Hats and other articles; none here.

PAPER.—Brown wrapper of all descriptions might be made here, but is not; some kinds of writing and book paper are made; no strawboard is manufactured here, though a great deal of it is consumed. Paper twine and papier-mache works do not exist here.

BRICKS.—The manufacture of patent or pressed and fancy brick and tile ought to be, and is being, developed more largely. We are consumers, and have the clay and most other ingredients right here.

POWER.—Louisville is still without a steam power hall for the rent or lease of power and rooms to mechanics, artisans, and artists with limited means, for the manufacture of articles on a small scale, establishments which have proved very successful and profitable for owners and tenants in the Eastern States. A power and land company which would provide power and space would attract and develop a class of industries which we lack, and accommodate others we have, and originate many.

BANKS AND BANKING.

The banking capital of Louisville has thus far been sufficient to carry on the business of the city. There are twenty-two banks established, representing a capital of $9,201,800 with an aggregate surplus of $2,565,279. They are all pros-

perous and in a healthy condition, managed by enterprising and public-spirited citizens. The capital and deposits of the twenty-one banks represented in the Clearing-house Association July 1, 1887, were as follows:

BANKS.	CAPITAL.	DEPOSIT.
Bank of Kentucky	$1,645,100	$ 792,451 86
Bank of Louisville	655,000	299,715 24
Bank of Commerce	800,000	1,036,036 57
Merchants' National Bank	500,000	1,203,104 63
First National Bank	500,000	834,719 21
Kentucky National Bank	500,000	2,291,837 02
Falls City Bank	400,000	1,261,504 51
Second National Bank	300,000	589,846 01
Louisville City National Bank	400,000	586,615 77
Citizens' National Bank	500,000	1,158,933 36
Farmers' & Drovers' Bank	301,700	621,499 21
People's Bank	150,000	261,341 85
German Insurance Bank	249,500	1,489,032 21
Masonic Savings Bank	250,000	1,076,895 19
German National Bank	251,500	672,000 00
Western Bank	250,000	735,732 13
Third National Bank	300,000	528,379 49
German Security Bank	179,000	739,214 79
German Bank	188,400	1,503,326 04
Louisville Banking Company	300,000	1,607,329 52
Fourth National Bank	300,000	637,624 09
Totals	$8,920,200	$19,927,138 70

From the annual clearings of the association is also to be obtained the best idea of the increase of business. The association was established in 1876 and the clearings for that year were $107,000,000. For the past five years they were as follows: 1882, $193,000,000; 1883, $214,000,000; 1884, $211,000,000; 1885, $217,000,000; 1886, $233,000,000. This shows a steady and very large increase of the volume of business, but it is greatly exceeded by the reports of 1887, which have shown an average increase in round numbers of a million a week. The clearings for 1887 will, therefore, reach about $290,000,000. It can be better grasped when it is stated that the *increase* of business alone in Louisville for 1887 is equal to half the aggregate business of Detroit and that the aggregate business of Louisville for 1887 is three times as great as that of Detroit in 1886. During the eight months ending September 30th, there were nearly fifty new manufacturing establishments planted in Louisville, while many already founded were greatly enlarged and improved. Some of the new enterprises are very important concerns, which have been removed thither from other cities, bringing all their plants and workmen. During the eight months referred to, about 1,400 new buildings were erected at a cost of about $4,000,000.

REAL ESTATE.

Real estate values in Louisville are influenced by conditions existing in but very few cities in this country and which produce results of incalculable value to the actual owner and user of property. The most important fact affecting real estate is the great available supply. The city is built at the northern extremity of a plain covering an area of seventy or eighty square miles. The corporate limits include about twelve and one-half square miles with 144 miles of paved streets. There are 124 miles of horse and steam street and suburban railways, a greater mileage in proportion to the size of the city than can be found anywhere else in the country. The street railway lines have never been required to purchase their franchises, and the cost of extension being comparatively small, the lines have been carried out in many instances in advance of the growth; this, with a fixed fare of five cents and a liberal system of transfers, has tended to build up the suburbs and relieve the pressure upon the center of the city. The noticeable results of these conditions have been to make desirable property cheaper for manufactories, residences, and business houses than in almost any city of approximate population in the world. Below will be found the assessed values of real estate and of permanent improvements in 1880 and for each year since, taken from the records for assessments:

YEARS.	VALUE OF LAND.	VALUE OF IMPROVEMENTS.	TOTAL VALUE.
1880	$27,149,665	$23,045,000	$50,194,665
1881	28,475,355	23,112,553	51,587,908
1882	28,999,269	23,767,015	52,766,274
1883	29,342,601	24,225,840	53,568,441
1884	28,993,856	24,253,734	53,247,590
1885	30,581,719	26,399,141	56,980,860
1886	30,690,026	26,967,965	57,657,991
1887	31,550,000	28,500,000	60,050,000

An analysis of this table would show the very singular fact that while the increase of land values has been $4,400,335, and the (nominal) value of improvements erected has been $5,455,000, there has been practically little appreciation of the value of general property already improved, and this, notwithstanding the fact that the increase of population has been variously estimated at from 45,000 to 60,000 in that time. The only addition to values has been that added to vacant lots by the erection of improvements thereon. Improvements in Louisville are assessed at about fifty per cent. of their cost and realty at about two-thirds of its fair market value. The actual increase of improvements, therefore, has been about $10,000,000, while only about $4,500,000 have been added to the realty value. Few cities can make such a showing

and invite population to homes so cheap, workshops so lightly taxed, or business houses at such fair rental. Nowhere for purposes of actual use are there more inviting opportunities for real estate investments as in Louisville.

Below is a table of the comparative values of unimproved property in various cities, showing very strikingly the low prices that prevail in Louisville by contrast with other places. While high-priced real estate is valuable for speculators, it is a curse for the actual user, because it increases his taxes and his risks. Low-priced ground enables a population to base prosperity upon the surest of foundations:

CITIES.	POPULATION IN 1880.	BEST RETAIL CORNER LOTS.		BEST RETAIL INSIDE LOTS.		BEST RESIDENCE CORNER LOTS.		MEDIUM RESIDENCE INSIDE LOTS.		WORKINGMEN'S RESIDENCE INSIDE LOTS.		ACRE PROPERTY ADJOINING CITY LIMITS.
		Depth feet.	Per front ft.	Depth feet.	Per front ft.	Depth feet.	Per front ft.	Depth feet.	Per front ft.	Depth feet.	Per front ft.	Per acre.
Cleveland	160,142	165	$3,500	175	$3,000	600	$500	200	$100	125	$40	$1,500
Detroit	116,342	100	2,000	100	1,500	150	350	200	150	126	25	. . . . .
Milwaukee	115,578	150	1,500	120	1,000	120	200	120	80	120	20	3,000
Kansas City	55,813	132	2,500	132	1,800	150	175	132	65	132	25	5,000
St. Paul	41,498	150	1,200	150	800	200	300	150	60	120	20	5,000
Toledo	50,143	106	1,100	106	1,000	330	125	150	60	120	15	1,000
Chicago	503,304	100	4,500	175	3,000	180	700	150	150	120	36	7,000
Omaha	30,518	132	1,200	132	1,000	132	150	132	60	132	25	5,000
Indianapolis	75,074	202	800	200	600	200	175	175	60	125	10	400
Minneapolis	46,887	200	1,500	160	1,500	100	300	160	80	225	35	. . . . .
Louisville	123,645	180	1,000	180	650	180	225	180	80	180	20	1,000

INCREASE OF MANUFACTURES.

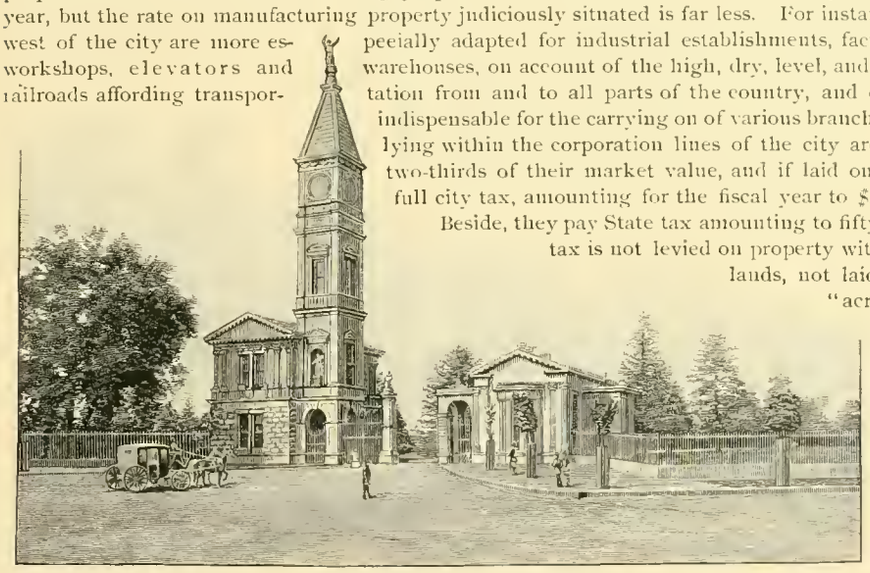
The wonderful cheapness of real estate, the proximity of great supplies of raw material and fuel, and the wonderful increase of railroad facilities since 1880 have been the factors in a remarkable growth of industries in that time. The statistics of manufacturing expansion since 1870 are shown below and it will be noticed that the increase since 1880 has been little short of magical. The census reports furnish the following facts in regard to the natural growth of manufacturing in Louisville:

Value of products, 1870	$18,826,349	Greatest number hands employed, 1870	10,315
Value of products, 1880	35,908,338	Greatest number hands employed, 1880	21,937
Value of products, 1886	66,508,700	Greatest number hands employed, 1886	39,125
Increase, 1870 to 1880	$17,081,989	Increase, 1870 to 1880	11,622
Increase, 1880 to 1886	30,600,362	Increase, 1880 to 1886	17,188

While the population increased twenty-five per cent. from 1870 to 1880 the manufactures increased nearly one hundred per cent., and while population from 1880 to 1886 increased about forty per cent. manufactures increased about ninety per cent. This is evidence that more and more of the resident population is being utilized in manufacturing establishments, which means eventually a population of skilled and educated mechanics.

TAXATION AND ASSESSMENTS.

One striking advantage to manufactories located in Louisville is to be found in the provision made for low taxes on all properties dedicated to manufacturing purposes. The nominal tax-rate of the city is $2.04 on the $100 for the current year, but the rate on manufacturing property judiciously situated is far less. For instance, the lands situated south and west of the city are more especially adapted for industrial establishments, factories and foundries, mills and workshops, elevators and warehouses, on account of the high, dry, level, and cheap grounds, the proximity of railroads affording transportation from and to all parts of the country, and of the good drainage by sewers, indispensable for the carrying on of various branches of industry. The lands partly lying within the corporation lines of the city are assessed for taxation at about two-thirds of their market value, and if laid out in lots and improved pay the full city tax, amounting for the fiscal year to $2.04 on the $100 assessed value. Beside, they pay State tax amounting to fifty-one cents on the $100. County tax is not levied on property within the city limits. Part of such lands, not laid out and not improved, called "acre property" pay the city tax only for railroads and schools, sixty cents on the $100, beside the State tax of fifty-one cents in 1886. Other parts of the lands extending for miles in the western, southern, and eastern direction and some contiguous to railroads and sewers, as well as to the Ohio river, are situated outside of the corporation lines of the city and pay only State tax and county tax, which, in 1886, amounted to seventy-one cents on the $100 assessed value. They are in every respect more suitable for the establishment and successful carrying on of factories and foundries and all branches of industry and trade. Further city taxes are: On assessable investments, less *bona fide* indebtedness, sixty cents on each $100 for railroad and schools.



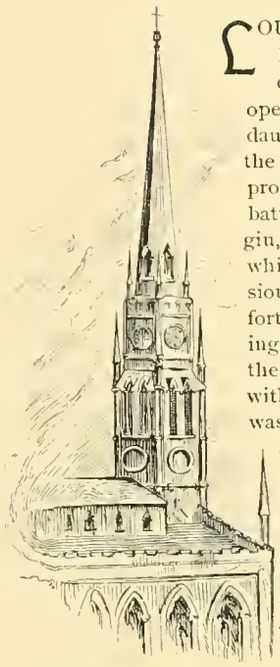
ENTRANCE TO CAVE HILL.

Other personalty and realty and improvements, $2.04 on the $100 on an assessment of two-thirds value. Head tax, $2.00. Licenses, for carrying on various classes of business, professions, or crafts, rates fixed according to their character and volume.

The amendments to the charter of the city of Louisville relating to assessments provide: Household goods, etc., of the value of $300, when owned and possessed by bona fide residents of Louisville who are housekeepers and the heads of families, shall not be subject to taxation by the city. United States bonds and city of Louisville bonds are exempt from city taxation. Under the charter of the city of Louisville, approved March 3, 1870, and amendment of April 15, 1882, Section 2, stock of corporations engaged in, and created for, manufacturing and commercial purposes, and conducting business in said city, shall not be liable for taxation by said city. And under an act to amend the charter of the city of Louisville, approved April 8, 1882, Section 2 provides that no tax shall be assessed on tools, implements, or material of manufacture in said city, nor any license be required of them for selling their own manufactures. In the same act to amend the charter of the city of Louisville, approved April 8, 1882, Section 2 provides that merchandise on which a license tax is charged and paid shall not be liable to be assessed under the provisions of this act. The act to revise and amend the tax laws of the city of Louisville, approved April, 1884, does not materially alter the previous laws relating to the sources of revenue, the objects to be assessed for, and the values exempted from, taxation, and what changes there are have been considered in the above statement.

These unusually low tax-rates provided for all manufacturing enterprises, united to the many natural advantages, ought to induce a large accretion of capital. Not only are the taxes at present reasonably low if rightly understood, but the charter and ordinances of the city provide also for various exemptions from taxes, more particularly on industrial establishments and their products.

Historical and Descriptive.



THE CATHEDRAL SPIRE.

LOUISVILLE has been the center from which radiated much heroic history. As Vincennes, in Indiana, was the advanced post at which the French made their stand for the glory of French enterprise and arms, so Louisville was the headquarters of all the valor and the military operations that were finally to result in the conquest of the great North-west Territory by that dauntless young chieftain, General George Rogers Clark, and the extension of the domain of the United States from the Ohio river to the great lakes and the present northern limits. A profound prehistoric interest attaches to the site of Louisville as the scene of the last great battle between the Indians and the people who preceded them. Nothing is known of the origin, character, and fate of these prehistoric people except from the fables that were left, and which have been challenged or contradicted by the ornaments, utensils, and monuments occasionally discovered. They were skilled in the use of copper, and the remains of mounds and fortifications show that they had considerable geometrical knowledge, and, perhaps, warlike ingenuity and courage. The first white settlers heard from the Indians a shadowy tradition to the effect that ages before there had dwelt in the Ohio Valley a numerous and powerful race with whom the Indians waged a war of extinction. The decisive, final battle, as said before, was fought at Louisville. The remnant of the defeated prehistoric race retreated for refuge to an island just below the falls where they were pursued and exterminated by the Indians. The location of the present island in front of Louisville, and the discovery of traces of a great burying-ground on the banks of the river opposite, have been pointed out as giving probability to the story. There are, however, topographical evidences that ages ago the course of the Ohio river was back of the present site of Louisville, and the final retreat of the exterminated race—if there was any—was on the ground where Louisville now stands, while the battle might have been fought on the great plain some six or eight miles south of the city, where several beautiful hills might have furnished strategic opportunities.

The burying-place referred to as being partial evidence upon which the Indians based their tradition of the battle was found opposite Louisville a little below the village of Clarksville, Indiana. It was evidently the site of an Indian village, covered to the depth of six feet with alluvial earth. In 1819, when the discovery was made, large quantities of human bones in a very advanced stage of decomposition were found interspersed among the hearths and scattered in the soil beyond them. The village must have been surprised by an enemy, and, after the battle which ensued, the bones of the combatants in large numbers were left upon the spot. It was argued that, had it been a common burial-place, something like regularity would have been shown in the disposition of the skeletons, and that they would not have been found on the same level with the fireplaces of an extensive settlement, but below it.

THE CITY HALL.

A number of other interesting prehistoric remains have been discovered about Louisville. Mounds or tumuli were, at an early day, tolerably numerous. Many have been opened by the curious, and the earth hauled away. In most of these only human bones, but sometimes a few bones of the deer were found. Some contained but one skeleton, but from other mounds of similar size the remains of twenty or more were taken, making it very probable that the former were designed for the mausoleums of chiefs or distinguished persons, the latter for those of the community.

A few miles below the city, sixty years ago were discovered two stone hatchets, at a depth of forty feet, near an Indian hearth, on which, among other vestiges of a fire, were found two charred brands, evidently the extremities of a stick that had been consumed in the middle on this identical spot. The plain on which these hatchets were found is alluvial, and this fact gives rise to the question, where was the Ohio river when the owners of these hatchets were seated by this camp fire? It certainly could not have been in its present place for these remains were below its level.

About 1808, in Shippingport, an iron hatchet was found under the center of an immense tree over six feet in diameter, whose roots extended thirty or forty feet in each direction. The tree was cut down and its roots removed to make

room for the foundation of Tarascon's great mill. The hatchet was evidently formed out of a flat bar of wrought iron heated to redness and bent double, leaving a round hole at the joint for the reception of a handle, the two ends being nicely welded together and hammered to a cutting edge. The tree was over 200 years old, and the hatchet could not have been placed under it in the particular position in which it was found. It must have been there before the tree was, and the latter grew up and its roots spread over it.

The existence of the tradition of a pre-historic battle, and the importance of the position in the war for the conquest of the North-west territory, show that Louisville has always been a spot of interest. It was to the military episodes of the mound-builders and Indians, what Troy was to the Greeks and Trojans: The one place upon which all their greatest exploits centered.

Upon the great plain where these fabled events occurred, the first comers to the falls of the Ohio saw the opportunity for building a city at the head of navigation. The Ohio river flows in a long and beautiful curve about the northern and western boundary of the county of Jefferson. The middle part of the county, comprising the plain, is rich, productive, and highly cultivated. There are innumerable fine farms for the production of vegetables and fruit to supply the city market. The city is seventy feet above low water mark, and twenty feet above the highest flood mark, with a front of ten miles. The plan of the city is regular and beautiful, the principal streets running parallel with the river. The streets are sixty feet in width, except Main, Market, and Jefferson, the principal business thoroughfares, which are ninety, and Broadway and South Third, residence streets, which are one hundred and twenty. Broadway, when its destiny shall have been accomplished, will be the finest street in the world. The head of the street is at the entrance to Cave Hill Cemetery, about two hundred feet above the general level, and thence by an easy slope it sweeps away seven miles, in an almost straight line, to the magnificent natural harbor west of the city. Across the Ohio from the harbor are the famous Indiana "Knobs," a range of hills about five hundred feet high, much sought by the wealthy for summer residences. Upon the tops and sides of this range of hills there is a *flora* entirely distinct from that of the surrounding country. The mountain laurel, azaleas, and rhododendrons grow in profusion and all the hardy nuts and wild strawberries. From the eminence the view is superb, extending over a radius of nearly fifty miles. So capable a critic as Bayard Taylor has pronounced the view and the sunsets from the "Knobs" as among the finest he had met with in his travels. These hills are a continuation of Muldraugh's range, which crosses the Ohio below New Albany, and traverses Kentucky north and south to the center of the State. In the rear of Louisville are several remarkably symmetrical and graceful hills, grouped on the plain, evidently stragglers from this range. They rest the eye in a magnificent perspective from Highland Park. On the east of the city is a range of sharp hills, dotted with suburban residences, called "The Highlands." From the summit of the New Albany hills the cities of the Falls may be seen spread out in birdseye map beneath.

An Old-fashioned Residence.

The first actual settlement at Louisville was made in 1778, upon an island in front of the landing, christened Corn Island. The last vestiges of this were swept away by the rapids some years ago. The first fort was built on the mainland in 1780, and in 1782 Fort Nelson was erected on what is now the north side of Main street, between Sixth and Seventh, opposite the Louisville Hotel. In 1844, while excavating on this spot for a cellar, the remains of timbers, forming the base of General Clark's block-house, were discovered. It was possible to trace the extent of the enclosure, which took in a fine spring on the bank of the river. From this rude beginning the present beautiful city has grown. There has never been a decade when its growth was not steady and rapid. So practical and pushing were the people that the place remorselessly sacrificed all historical land-marks and relics, few of which can be pointed out in the modern town.

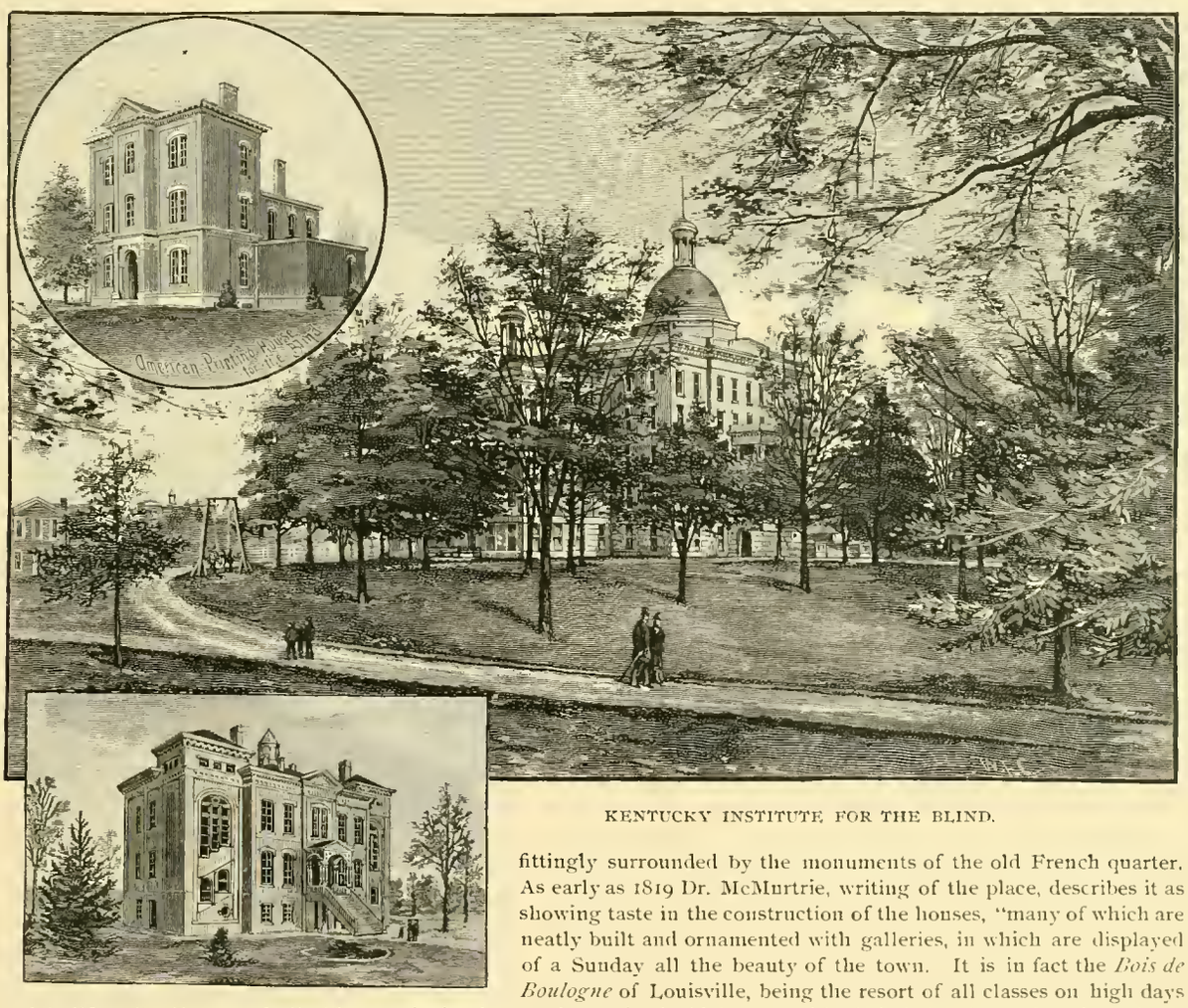
In the absence of relics of the first settlement of Louisville, it is interesting to note that the most minute historical memoranda of the pioneer period have been collected into a private library, which forms one of the most valuable and important monuments of patient and discriminating research in America. This is the library of Colonel Reuben T. Durrett, celebrated as a historical writer and collector of material concerning the political and social progress of Virginia and Kentucky. The collection represents forty-five years' labor of a gentleman of rare culture and education and of liberal mind. It contains prints, paintings, drawings, and maps of pioneer persons and places, of which, in many instances, no duplicates exist and no expenditure of means could replace their loss. Colonel Durrett's library can be nominally valued at a quarter of a million dollars; it is always open to the student and the scholar, and is the source from which much modern history of Virginia, Kentucky, and Indiana has been drawn. The collection contains, however, much valuable material concerning the history of the United States, and an interesting and important point of pilgrimage to all intelligent visitors to the city. Another important private library is the theological collection of Dr. James P. Boyce, which is quite as celebrated among students of theology as Colonel Durrett's is among lovers of history.

Some of the oldest towns in Kentucky were established near Louisville. Two of these, that had made history for themselves, have been swallowed up in the growth of the metropolis, and were long ago incorporated with the city. Shippingport, which was incorporated in 1785 as Campbelltown, is situated on the island below the falls, and contains most of the historic remains of Louisville. The first owner of the site of Shippingport was Colonel John Campbell, who sold it in 1803 to James Berthoud, a French *emigre*, one of quite a number of adventurous and enterprising Frenchmen who had settled about the falls, and who gave great impetus to business. Two others, who early became conspicuous and successful, were the Tarascons, who purchased the greater part of Shippingport in 1806. At the lower end of this island was the landing-place for boats, and, as the name would imply, the place became an important shipping point,

being the head of lower navigation, as Louisville was the foot of upper navigation. The two towns were separated by a mile and a half of distance and an arm of the river, but, as up to 1831 (when the canal was opened), all the commerce around the falls in both directions was hauled from one town to the other, growth in both towns followed the track of commerce, and they gravitated toward each other.

Shippingport, under the enterprise of the thrifty French grew in importance, and at one time transacted a much larger amount of business than did Louisville. The existence of great natural water-power marked it for the French as a place to be developed for manufactures. In 1815 the Tarascons began the erection, at a cost of over $150,000, of an enormous merchant flouring-mill—an enterprise so extensive that even in this day of great manufacturing establishments it would compare well. The building, of stone and brick, with massive foundations and six stories, reaching to a height of 102 feet, still stands a monument to the solidity of early industry. The mill had a capacity of 500 barrels of flour per day. Its machinery, which had been imported at great cost, was the most perfect that could then be designed. The building itself was of the most advanced architecture of the period, and was so constructed that wagons could be driven under an arch and weigh and discharge grain at the rate of seventy-five bushels in ten minutes. The machinery was driven by water-power, and the mill-race had room for much additional power. The Tarascons experimented with the most improved machinery with the purpose of erecting cotton, fulling, and weaving-mills, but their intentions were too far in advance of the times, and resulted in failure.

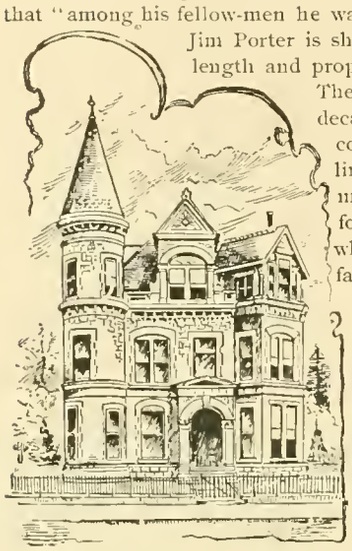
The old mill stands, now converted into a cement manufactory, still driven by water-power and contributing its capacity to one of the greatest industries in Louisville. It is a curious and interesting relic of the old times, and is



KENTUCKY INSTITUTE FOR THE BLIND.

fittingly surrounded by the monuments of the old French quarter. As early as 1819 Dr. McMurtrie, writing of the place, describes it as showing taste in the construction of the houses, "many of which are neatly built and ornamented with galleries, in which are displayed of a Sunday all the beauty of the town. It is in fact the *Bois de Boulogne* of Louisville, being the resort of all classes on high days and holidays." Traces of all this remain in the weather-stained old houses with their balconies and antique doors and windows. The streets that were made three-quarters of a century ago are still as hard and level as at first. Shippingport is now but an election-precinct in one ward. It is the seat of a great cement industry, and the population is made up of laborers. One of its curiosities is the hotel once kept by Jim Porter, the Kentucky giant. Porter, who lived and died on the island, was remarkably small in early boyhood, so small, indeed, that he was employed as a jockey in the races that were run on the old track where Elm Tree Garden stood, a spot now given up to fields of waving corn at the upper end of the island. At fifteen he began to grow so rapidly that he began to measure himself every Saturday night. His ultimate height was seven feet nine inches, his weight 300 pounds. His rifle, eight feet long, his walking-cane, four and one-half feet long and weighing seven pounds, and his sword, five feet in length, were preserved in the house for years but have now fallen into the custody of the Polytechnic society. Charles Dickens, on his trip to this

country, made a special visit to Porter, and spent several hours with the giant, of whom Prentice wrote on his death that "among his fellow-men he was a high-minded and honorable gentleman." The coffin containing the remains of Jim Porter is shown in the family vault at Cave Hill Cemetery. The outer casket is nine feet in length and proportionately broad.



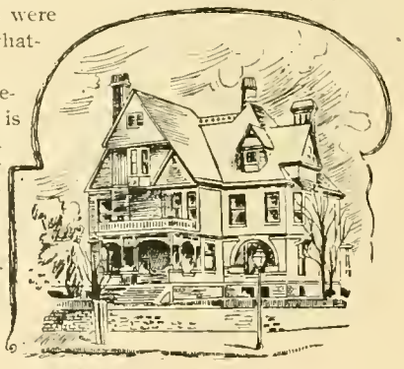
On Third Street.

The Louisville and Portland canal, which was opened in 1831, was the cause of the decay of Shippingport. The falls of the Ohio which impede navigation are more correctly described as "an obstruction in the course of the river caused by a ledge of limestone rock running obliquely across its bed, with channels or chutes through the mass, produced or modified by the force of the water." The limestone rock which forms the bed of the river in front of the city and is the underlying stratum upon which Shippingport island is founded is used in immense quantities for the manufacture of water-lime or cement of a quality superior to any other made in America. It is an earthy stone of a slightly bluish-green ashen tint, with an earthy flat conchoidal fracture. Its characteristic constituents have been determined to be: Lime, 28.29; magnesia, 8.89; pure silica, 22.58; other insoluble silicates, 3.20; potash, 0.32. The lime and silica are exactly in the proportion of their equivalents, to which is due the hydraulic properties of the cement rock. The rock is remarkable for the facility with which it cracks, splits, and disintegrates to calcareous mud when exposed to the vicissitudes of the weather. After it is properly burned and ground, however, the lime and silica unite in connection with the water to form a hydrated silicate of lime which acts as a powerful cement to agglutinate the grains of sand added in mixed mortar, which is usually three times the bulk of the hydraulic lime added. This cement was exclusively used in the building of the canal, and time has demonstrated that the cement has grown harder than the stone used.

The Louisville and Portland canal was the first great engineering work in the United States, and it is to-day full of interest. It was projected by the first settlers and was incorporated in 1825. Governor DeWitt Clinton, of New York, who as a Presidential quantity was advocating internal improvements in the way of canals, came to Louisville in 1826 to the ground-breaking. Taking off his coat and rolling up his sleeves, Governor Clinton filled a wheelbarrow with earth and trundled it off to the dumping ground. This important work, by which the difficulties of navigation past the falls of the Ohio are avoided, was begun under the joint auspices of the United States government and the State of Kentucky. By the charter authorizing the undertaking, the government subscribed for $100,000 dollars of stock out of a total of $700,000 issued by the State. The canal was opened for business in the spring of 1831, having been constructed at a cost of $742,869.94. It has a length of 2.1 miles, a width of eighty feet along rectilinears, and of eighty-six feet at all bends. There are six locks, having dimensions of 400 x 80 feet, large enough to clear eight feet each, although the entire fall is only twenty-six feet. At first the toll charged was eighty cents per ton, which was soon reduced to fifty cents. Produce boats, carrying salt and iron, were charged three cents per foot, and this was subsequently made two cents per foot.

The government, to complete the work after the State's funds had been exhausted, subscribed for $133,500 additional stock, and afterward received 567 shares as a dividend. Between 1831 and 1842 the United States received in dividends upon the business of the canal, $257,778, which returned to the government an aggregate, in cash and bonds, of $24,278 and 567 shares more than its original investment in the enterprise.

The canal eventually proved too small to accommodate all the craft on the Ohio, and the work of deepening and widening it was begun in 1860 under the superintendence of Major Godfrey Weitzel, of the United States Engineer Corps. The improvement was continued through the war up to 1866, when it ceased for lack of appropriations. In 1868 Congress voted $300,000 for resuming the abandoned work, and followed it by $300,000 more in 1869, and $300,000 in 1871, and gave $100,000 in 1873. Having thus expended such large sums, the next natural step was for the government to assume entire charge of the canal, which was accomplished in 1874 by the United States assuming the payment of outstanding bonds. From the date the transfer, all forms of toll charges were abolished, and to this fact the waning powers of river transportation owe whatever vitality remains at the present time.



A Pretty "Queen Anne."

Under government auspices and direction, the task of completing the enlargement of the canal has not only been carried to completion, but a new project is now under way to successful accomplishment by which a secure and ample harbor will be afforded against the perils of moving ice, in the colder seasons, of those large fleets of coal tows that arrive from Pittsburgh with high stages of water. All the property is under responsible supervision by officers of the government, and the canal proper, with the improvements projected, will long remain as sightly memorials of a paternal government devoted to the interests of interstate commerce.

The mouth will be 375 feet wide and it will taper gradually like a funnel to the drawbridge at Eighteenth street, where the width of ninety feet is regular. The cost of the enlargement will be $1,500,000. At the mouth of the canal is the great government wing dam, extending to the middle of the river. For half the year the top of the dam is out of water and affords a broad promenade which is utilized by fishermen and pleasure-seekers in large numbers. The force of the current over this dam and into the mouth of the canal is so great in good stages of water that a government life-saving station is maintained. Before this was established the men who commanded it saved many lives from philanthropy.

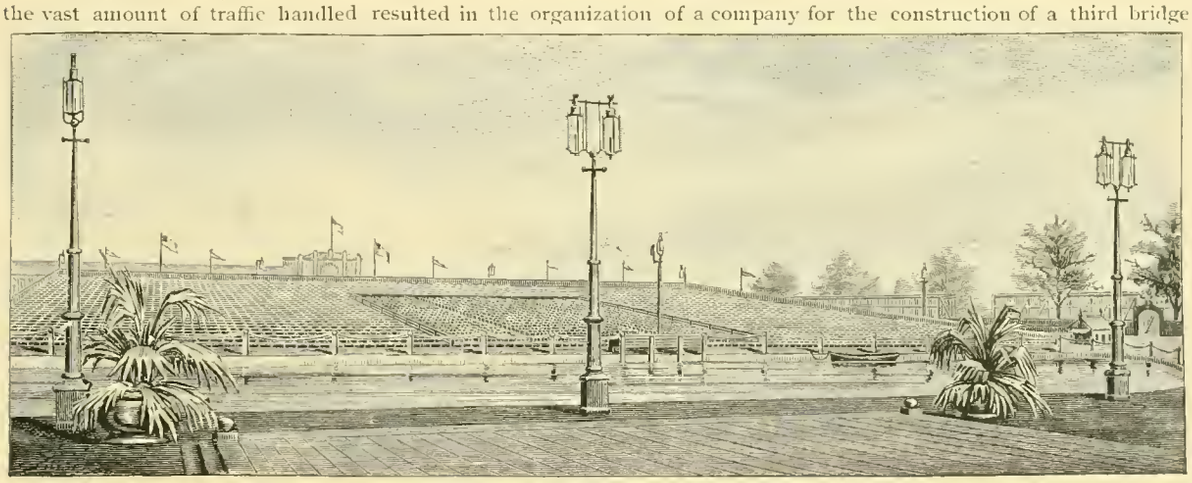
Below the falls there is, under the bank of the river at the village of Clarksville, on the Indiana side, a strong whirlpool, through which steamers must pass, though it is done without danger. A trip over the falls on the steamers is an experience always enjoyed, and there are few packets passing that do not take a quota of sight-seers. For many years the falls pilot has been Captain Pink Varble, whose name is known wherever there are adventurous travelers that have shot the falls of the Ohio.

The course of improvement in transportation has already paralleled the canal with a railroad. This is called the "Short Route," and is built upon an elevated steel trestle twenty-one feet above the grade of the streets. It commences at First street, and traverses the river front to Portland, affording direct railway connection across the city, and serving as the roadway for suburban trains and the Chesapeake & Ohio Railway system.

The "Short Route" is an engineering marvel. Its lower end connects with the Kentucky and Indiana steel cantilever bridge. This beautiful structure, which cost a million and a half dollars, was begun in 1882 and completed in 1886. It crosses the river below the falls, connecting Portland and New Albany. Its length is 2,453 feet exclusive of the approaches, which on the Kentucky side are very picturesque and extensive. There are nine piers, seven of which are of limestone masonry, and two are cone-shaped iron cylinders, made of boiler-iron five-eighths of an inch thick, resting upon the bed-rock, and filled with brick and concrete. The average height of the piers is 170 feet. The masonry of these piers is regarded by engineers as the most handsome and substantial ever placed in position for a bridge on the continent. The aggregate masonry contains 13,600 cubic yards of stone. The length of approaches on the Indiana side is 781 feet, and on the Kentucky side 3,990 feet. The bridge contains 2,414,261 pounds of steel and 3,625,000 pounds of wrought iron. It affords accommodation for railway, carriage, street car, and foot traffic.

The Louisville bridge, which was constructed in 1868–72, is 5,218 feet in length and cost $2,016,819. It contains twenty-seven spans, the one over the middle chute of the river being 370 feet long, and that over the Indiana chute 400 feet long. The bridge is ninety-six and one-half feet clear of low water. The piers are of limestone masonry and the superstructure of wrought iron. It is exclusively a railway and foot bridge.

During the three years from 1884 to 1887, the rapid increase in the number of railway lines entering Louisville and the vast amount of traffic handled resulted in the organization of a company for the construction of a third bridge



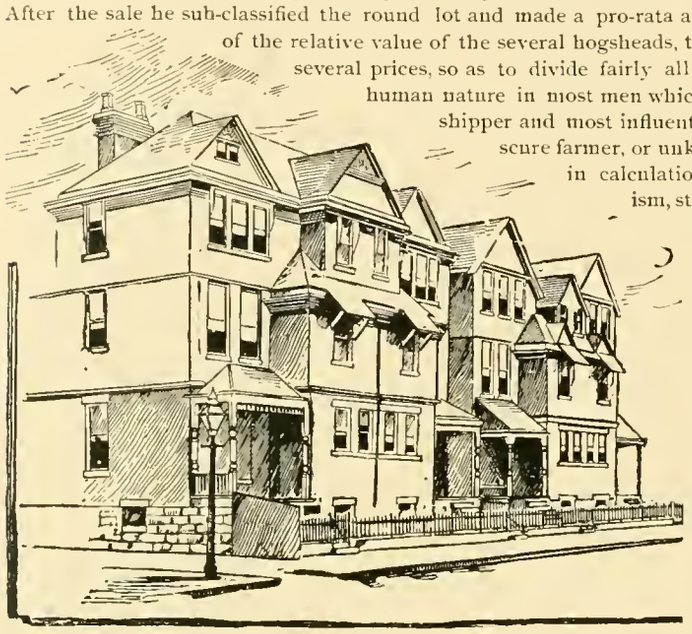
A PUBLIC AMUSEMENT AMPHITHEATRE.

across the Ohio, connecting the city of Jeffersonville directly with Louisville. Plans for this bridge have been prepared, and it is estimated to cost $1,500,000. It will provide for railway and horse-car traffic, carriage and foot ways. When that bridge is completed a belt railroad could encompass the three cities at the falls. In all probability the structure will be raised within the next five years.

The quarter of the city situated on the river front, being the oldest, is full of the quaintest and most interesting suggestion. There the houses are ancient and the population the densest. The streets have long ago lost their prestige, and the most historic buildings have fallen into decay and neglect. The concentration of the traffic and business of two hundred thousand people has long ago driven out of this quarter the people who once surrounded themselves with all that wealth and taste could procure. The river front itself is now occupied by railroad tracks, and there are accumulating the warehouses, roundhouses, and freight-sheds of a great transportation system.

Main street, the great wholesale and tobacco street of Louisville, being the first thoroughfare next to the river settlement, naturally contains many evidences of the original character of the city. Many of the business houses are old-fashioned, plain and small, while interspersed among these are some of the handsomest and most costly modern structures. There are few streets where the unceasing traffic of heavy business may be seen in such volume as here. During the busy seasons the roar and noise of vans and wagons are deafening. Where Ninth street intersects, begins the "tobacco district," where are conducted the great sales, and where are situated the great warehouses, capable of handling 150,000 hogsheads annually. The scenes on the tobacco "breaks" on sale days is a novel one, and characteristic of the section and of the trade. There are several hundred resident and special buyers present, who make the rounds from one warehouse to the other "sampling" the hogsheads before bidding. The peculiar reasons for the growth of Louisville as a tobacco market have long ago been pointed out. "All planters must be aware," wrote one historian of the trade, "that New Orleans became a leading market originally because it was the nearest eligible point to the mouth of the Mississippi river, and the only outlet from the West to a foreign market. The class of buyers, who probably more than all others give character to that market, were the agents of European governments, who monopolized the trade at

home and virtually regulated prices in this country. They were wholesale buyers, wanting hundreds and thousands of hogsheads at a time, and to meet their views the individuality of the planter was lost sight of. The merchant arranged his samples in classes, putting the crops of many farmers in one round lot, which was sold at an agreed average price. After the sale he sub-classified the round lot and made a pro-rata apportionment of prices according to his judgment of the relative value of the several hogsheads, to say nothing of the difficulty of figuring out the several prices, so as to divide fairly all the funds received for the round lot, nor of the human nature in most men which would persuade the merchant that the larger shipper and most influential man was entitled to better prices than the obscure farmer, or unknown shippers; granting that no errors were made in calculation, and that no interested motive prompted favoritism, still the relative value of the tobacco was determined by one man. Now, admitting this merchant to be competent in such cases to divide equitably the last cent; that he could rise so far above the promptings of selfishness as to do justice to all alike, and that his single judgment in the apportionment of prices is worth as much as the combined judgments of fifty buyers in open competition at an auction sale, yet there was at New Orleans only an export market. These remarks apply equally to New York, except that there is at New York a market for manufacturing leaf. But there is not, nor can there be in such a market, any competition over the single hogshead."



Modern Tenements—Third Street.

The system prevailing in the Louisville market is of daily auction sales for cash, in the open market, emphatically upon the merits of the product. The active competition of hundreds of buyers assures the planters of more speedy and equitable returns for their crops, and this fact in connection with the changes in transportation, and the channels for distribution compulsively provided, had the result of making Louisville, as early as 1864, the largest primary leaf tobacco market in the world. Since that date large manufacturers North and East, as well as exporters, and manufacturers and dealers abroad, have either resident agents and buyers here, or are annually represented by buyers who spend as much time in Louisville as may be necessary to purchase supplies of the types of tobacco offered. Tobacco planters in Kentucky, Tennessee, Indiana, and Illinois, and, to a small extent, from other States, ship the article in hogsheads to one or another of the great warehouses here on consignment for sale. Nearly every sale of tobacco is made at public auction. The sales are held daily at some or all of the warehouses, the hogheads being previously stripped, so as to expose the tobacco, but also inspected and sampled by a competent inspector, who is responsible for the quality as represented in the sample. All favoritism is necessarily excluded, and the owner of a single hogshead has an equal chance with the owner of a thousand. On these sales, when the owner of the tobacco thinks it is struck off at too low a price, he has the privilege of rejecting the bid, withdrawing the property or leaving it with the warehouse to be offered for sale again. Thus the offerings are annually some thousands of hogsheads greater than the actual sales.

The plan of selling tobacco at auction by sample and in the presence of the exposed hogshead has been pursued in Louisville as far back as the records and recollection of the trade go. It seems to have originated here in the effort to deal fairly with buyer and seller alike and to remove cause of misunderstanding and complaint. Several other cities sell by sample, but not in the presence of the exposed hogshead, because they lack the great warehouse room, one of the characteristic features of the Louisville markets. The auction sale at a tobacco warehouse engages the active skill, judgment, and experience of scores of competitors and, while it is not like the Exchanges of New York or Chicago in uproar and bustle, the sight is quite as novel and interesting.

The Masonic Widows' and Orphans' Home Building.

The extent of the tobacco trade of Louisville may be realized by illustrative statistics. The hogsheads are hauled from the railway station to the warehouses on trucks, some of which, drawn by four horses, will carry four hogsheads, others, drawn by two horses, will carry two hogsheads. Averaging them at three hogsheads and three horses each, and considering that each hogshead must be hauled from the station and back to it, it would give on the crop of 1886, 103,000 hogsheads—69,000 truck-loads, requiring 207,000 horses. Estimating the length of the teams at thirty feet, the number of trucks hauling that tobacco would, if moving in a straight line, with only one foot between each team, make up a caravan 405 miles in length, covering by more than eighty miles the distance along the Ohio river from Pittsburgh to Louisville. Counting twelve hogsheads to a car-load, it would require 8,585 cars to transport it. These cars would make up 214½ trains of forty cars each, stretching over seventy-five miles and requiring the efforts of 300 locomotives to move them properly. If the 207,000 horses used in the teams were in cavalry line, it would make up a body stretching 414 miles.

These statistics refer solely to the warehouse trade. The manufacture of tobacco, while it is profitably and well conducted, is not nearly so important an industry in Louisville as it could be made with the advantages of so great a

market at hand. The tobacco made up here is, however, well known for its superiority. Labor is cheap, living is inexpensive, and there are many conditions that stand ready prepared to easily develop the city into a great tobacco manufacturing center.

Fourth street has long been the fashionable shopping thoroughfare and promenade of Louisville. It is on this street that every afternoon, but particularly on Saturdays, are to be seen throngs of women so beautiful as to astonish visitors and which have had so much influence toward giving the city abroad the reputation for beautiful women that is universal. The "parade" on Saturday is a characteristic sight. There are few shoppers who are not on foot, and the promenade is occupied by an endless stream of ladies. This street is lined with many handsome structures and is rapidly extending itself. The southern end is a favorite and beautiful residence section, though metropolitan necessities have long since developed many rival streets and built them up with residences that are equaled in beauty and taste by but few cities. It is noticeable that more money is expended upon homes than upon business houses, and a drive through the residence parts of Louisville is, therefore, productive of much pleasure and astonishment. There are no homes that have cost extraordinary sums, but the average luxury and beauty of the houses give Louisville the appearance of a city of palaces.

VIEW ON MAIN STREET.

The public buildings are handsome and numerous. Those built by the city, especially, are monuments of taste and liberality. Principal among the public buildings is the new Custom House, at the corner of Fourth and Chestnut, which is of white stone, and will cost about $2,500,000 when completed. The County Court House is a massive and pure specimen of Corinthian architecture, with a portico of unusual beauty. Adjacent is the City Hall, built at a great cost. The Board of Trade, the City Work House, the Alms House, the School for the Blind, the City Hospital, the University buildings, and the numerous extensive charities present architectural attractions that serve to ornament every part of the city. The Central Asylum for the Insane, at Anchorage, in the suburbs, is conceded to be one of the most complete and beautiful institutions in the world. There are two driving parks, at the Fair Grounds and Highland Park, both situated to the South of the city, and affording charming drives. The Jockey Club Park, on Churchill Downs, near by, is semi-annually the scene of great race meetings, which have given to the record many of the most remarkable performers and performances.

In the eastern end of the city, the new water reservoir affords handsome park opportunities, and in that direction also is Cave Hill Cemetery, by natural advantages of location and lavish expenditure for beautifying purposes, one of the loveliest cemeteries in America.

Louisville is surrounded by many suburbs that are delightful for residence. These are Parklaud, to the south-west, Clifton, the Highlands, Anchorage, and Pewee Valley, to the east. The two Indiana cities of New Albany and Jeffersonville, with a combined population of about 45,000, are practically a part of Louisville, connected with it by bridges and ferries, and have a common industrial and commercial interest.

The rate of growth which Louisville has experienced during the past seven years indicates that the next census will find it the largest city of the South, and one rivaling in business and manufactures any of the cities of the North of equal population.

The people who make up the community are best estimated through the important public works, the beautiful homes, and the large and liberal charities which they have built. The care and taste that have been lavished upon homes speak of people of broad culture, and well founded in the conservative impulses that cherish patriotism and encourage order and intelligence. It is not surprising that such a people should have established so remarkable an educational system in which, from primary knowledge to complete technical learning, all the arts, sciences, and virtues are taught. The extent and variety of the school facilities make Louisville worthy to be called the University City, and out of this atmosphere has evolved a society gifted with taste and intelligence of a high order. The charitable institutions mark a community of generous nature, the reflection of the home life so strikingly characteristic of the people. The homes themselves are the common pride of all. There are few cities in the world where the people are so well housed, or where a larger proportion of the population are thus bound up in the welfare of all. Building is cheap and land is low; so that most of the residences are surrounded by spacious grounds, and every house has its yard. It is estimated that in Louisville, the houses average but two to each one hundred feet of ground, while in cities of the same size, they usually average four houses to the same space.

The streets being universally shaded with oak, elm, maple, poplar, and linden trees, the streets in spring and summer present a most beautiful aspect. In May, Louisville resembles a garden, so generally are the shaded and cool avenues and streets adorned by flowers in every yard. During the summer, it deserves its title of the prettiest city in the South. Its healthfulness is remarkable, and its population being order-loving and contented, there are seldom, or never, any disorderly outbreaks. In a word, no more delightful place of residence, and no more promising place for business, could be selected anywhere in the United States.

Louisville's Coal Future.

THE basis for unlimited development of wealth and industry in Louisville is admirably shown in a paper by the Hon. J. Stoddard Johnston on "The Kentucky River in its Relation to the Development of the Eastern Kentucky Coal Field," and which was read before the State Industrial and Commercial Conference in October, 1887. The development of this region will make of Louisville a greater than Pittsburgh with all its enjoyment of long monopoly of the coal supply of the West:

There are two Coal Fields in Kentucky—the Western, comprising about four thousand square miles, which lies about seventy miles south-west of Louisville, and is bisected by the Green river, which is navigable by slack-water throughout its limits. It is also penetrated by several railroads—the Huntington system, which traverses it from east to west, in its route from Louisville to Memphis, the Louisville & Nashville, which crosses it from north to south with two lines, one from Henderson and the other from Owensboro, the Ohio Valley Railroad from Henderson to Marion, in Crittenden county, and the Louisville, St. Louis & Texas, now in course of construction along the Ohio river, from the mouth of Salt river, looking to a connection with the Ohio Valley road at Henderson. The topography of the country which it embraces, not being mountainous, is favorable for the construction of railroads, and, with those already in operation or projected, it will soon, in conjunction with the navigation of Green river, when made free of tolls, have ample transportation for the development of its resources in coal, iron, and timber. The coal of this field is chiefly a soft bituminous, good for grate and steam purposes, but as yet has not had satisfactory development for coking. There is also a limited area of Cannel coal—a superior article known as the Breckinridge Cannel Coal, found in Breckinridge county, in a twenty-eight inch stratum. It covers about two or three thousand acres, and a mine, situated eight miles from the Ohio river, at Cloverport, is worked by an English company who have constructed a railroad by which the coal is conveyed to the river, and thence transported by water to New Orleans, whence it is shipped to Liverpool.

THE EASTERN COAL FIELD.

The other, or Eastern Coal Field, comprises more than 10,000 square miles, or one-fourth the area of the State. Its eastern boundary is the Cumberland mountains—the boundary between Kentucky and Virginia—and it runs transversely across the State from north-east south-westwardly, having an average breadth of seventy-five or eighty miles. It is part of the same coal field which passes northward into West Virginia, Ohio, and Pennsylvania, embracing the New river and Connellsville Coking Districts, and which traverses Tennessee on the meridian of Chattanooga and Alabama, through Birmingham, widening in its northern course, and narrowing in its southern, until it ceases to exist a short distance south of Birmingham. That the Eastern and Western Coal Fields were once united, and that the intervening territory was denuded of coal by erosion, is patent to geologists, but foreign to the scope of this article to discuss.

The altitude of the Eastern Coal Field increases from west to east, the elevation, above sea level, of the hills in which coal is first found, on its western border, being about one thousand feet, and the elevation of the Cumberland range, on the eastern border, being from three thousand five hundred feet to four thousand feet. On the other hand, the geologic dip of the coal and stratified rocks is to the east and south, being very gradual and uniform, until reaching the Cumberland uplift, when, for a breadth of about twenty miles, all the strata of coal which had passed successively below the surface have been lifted above drainage. Underlying the coal is the subcarboniferous limestone, which bounds the western limit of the coal field, but disappears shortly after the first coal develops, and is not seen again until uplifted in the Cumberland range, finding its best development on the Virginia side of the Cumberland mountains.

Both borders of the coal field have also iron deposits of various merit; on the Eastern are hematites, and the Western, limonites and carbonates—a superior quality of the latter being the well-known Red river car-wheel ore, which rests immediately upon the limestone, and of the former the Hocking Valley ore, which lies stratified above the conglomerate sandstone, which caps two workable strata of coal.

While the general features of the Eastern Coal Field conform to this description, I propose in this paper to speak more particularly of a section drawn through the coal field from west to east, from the Three Forks of the Kentucky river to Big Stone Gap in south-west Virginia. This coal field is penetrated by the following rivers: The Big Sandy, which forms the boundary between Kentucky and West Virginia; the Licking, which enters the Ohio at Cincinnati; the Kentucky, the three branches of which, heading respectively in the direction of Pound, Big Stone, and Cumberland Gaps, unite in Lee county near the western border of the coal field, and the Cumberland river, which, heading between the main Cumberland mountain and Pine mountain, parallel ranges, flows near the western base of the latter, and breaks through it at Pineville, in Bell county. The topography of the coal field is such that the ranges of the hills or mountains conform in direction with that of the rivers, so that the construction of railroads, while practical in the direction of the drainage, is almost impossible across drainage. As yet there has been but a partial penetration of the coal field; the Chesapeake & Ohio (Huntington's trans-continental system) passing through but two counties, Carter and Boyd, having coal in but a limited development. The Cincinnati Southern passes through but a similar strip of its southern border in the counties of Pulaski and Wayne, while, singularly enough, the Knoxville Branch of the Louis-

ville & Nashville road skirts it, as it were, in but two more counties, Laurel and Whitley. A local road has been constructed from Mt. Sterling to the coal in Menifee, but has not proved a successful enterprise. The obstacle to building railroads through this field has been, that it would not pay to run a local road to the coal merely for this mineral, since the cheaper transportation from Pennsylvania and West Virginia by the Ohio river has forbidden competition, and the cost of a through route to connect with the Eastern and South-eastern systems has heretofore been too great to be justified by the demand for such transportation. But, latterly, the awakened demand for iron and coal has led to the projection of several railroads, on both sides of the mountains, looking to a junction of the two systems. This movement has had its chief impetus in the discovery of rich magnetic and Bessemer iron ores in North Carolina, about seventy-five miles from the Kentucky coal field, and the demand for the coal for its reduction, there being no coal in North Carolina, or nearer than in Kentucky. A road is in course of construction from Bristol, Tennessee, to Big Stone Gap, and the Norfolk & Western has contracted with the Louisville & Nashville Railroad to meet it near the same point, by constructing an extension from the north-east of about eighty miles, for which the contract has been let. To meet this the Louisville & Nashville is now building an extension from a point on its Knoxville Branch to Pineville, in Bell county, Kentucky, which will be completed within the current year, and thence extended to meet the Norfolk & Western, as stated above, giving a new and shorter route from Louisville to the seaboard. Other routes are projected from the Cranberry iron region in North Carolina to Cumberland or Big Stone Gap, and from Knoxville to Cumberland Gap, looking in the direction of Cincinnati. For the latter road the city of Knoxville has voted a subscription of half a million, and the work has been let to contract.

Bull Block.

In all this region of south-western Virginia and south-eastern Kentucky, in view of this railroad development, actual and projected, a great deal of capital is being invested by eastern and English, as well as by Kentucky, companies. The price of all land has, within the past twelve months, been advanced ten-fold, and a region which has been long dormant, and apparently without hope of development, is now quickened with a new energy. Immigration and capital are being directed toward it, and visible signs of improvement are apparent in the building of a better class of dwellings, the opening of new roads, greater interest in schools, a general increase of thrift, and the better observance of law. It is the prospective junction of the Louisville & Nashville Railroad with the system of roads lying east of the mountains which has wrought this change, the full import of which will not be realized until the connection has been made a year hence. When the practicability of the junction of the two systems has been demonstrated, and the roads projected on the eastern side of the mountains shall reach the gaps which make the gateways to the Eastern Coal Field, of Kentucky, other roads from the western side will seek connection with them, and other routes be established across the coal field. Already the extension of the Chattaroi Railroad up the Big Sandy is announced as a part of a system from Chicago and Cincinnati to Charleston, South Carolina, while the Kentucky Eastern Railroad, which runs from Riverton, Greenup county, to Willard, Carter county, contemplates extension in the same direction. Huntington, who is building one hundred and forty miles of road from Ashland, Kentucky, to Cincinnati, has bought a local road running from Johnson's Station, on the Maysville & Paris road, to Hillsboro, Fleming county, and has been making surveys, indicating a purpose to extend it up the Licking Valley, through the rich Cannel coal fields of Morgan and Magoffin, in the direction of Pound Gap.

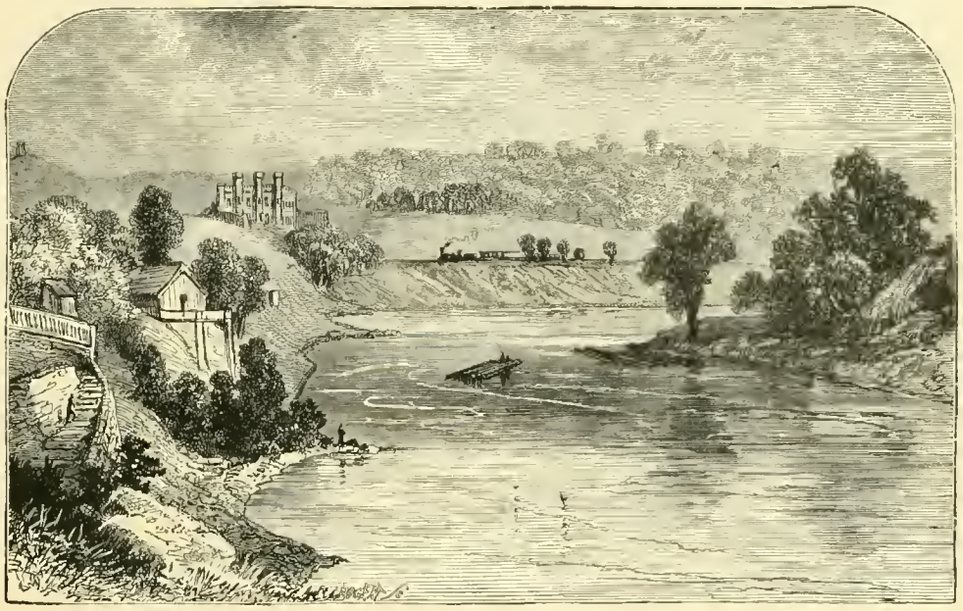
The Paris, Frankfort & Georgetown road, for which subscriptions have been voted in Franklin, Scott, and Bourbon, is also projected to run from Frankfort, through Georgetown and Paris, to the coal deposits of the Licking and Big Sandy. For the upper Kentucky river several roads are commanding attention. The Kentucky Union, which has thirteen miles constructed from the Chesapeake & Ohio, at Hedge's Station, in Clark county, to Clay City, contemplates extension by way of the Three Forks to the Cannel coals of Breathitt county, and thence up the North Fork to Pound or Big Stone Gap. The Louisville, Cincinnati & Virginia Railroad, from Winchester to the Three Forks, and thence up the Middle Fork to Big Stone Gap, and up the South Fork to Cumberland Gap, has been voted subscriptions from Clark, Estill, and Lee counties, and within the past ten days has broken ground, thus holding out to Cincinnati the most direct route across the Eastern Coal Field. Still a third route from Richmond, in Madison county, Kentucky, has been under consideration for six or eight years, the road to the Three Fork having at one time been located and let to contract, but suspended by the financial crash of 1884. Its importance to Louisville as a possible extension of the Louisville Southern, and as part of a trunk road to connect St. Louis and Chicago with the south-eastern system, renders it only a question of time when it also will be put under construction.

The "Kenyon."

THE KENTUCKY RIVER.

But while it will doubtless be but a short time until all the rivers which penetrate the Eastern Coal Field will be utilized as routes for the construction of railroads, the Kentucky river, from its central position, the number of its tributaries, and its availability as a means of transportation for a greater part of its course, presents the best advantages for the development of the Eastern Coal Field, and as a route for the construction of one or more railroads to connect the eastern and western railroad systems. It has three principal tributaries known as the North, Middle, and South Forks, which, rising in the Cumberland mountains, come together, after traversing the heavily timbered coal field near

Beattyville, in Lee county, at what is known as the Three Forks. From this point, which is near the western border of the coal field to its mouth at Carrollton, a distance of two hundred and fifty miles, it traverses one of the richest sections of the State, leaving the carboniferous formation near the line of Estill and Lee, entering the Trenton limestone in Madison, and flowing through the counties of Clark, Garrard, Fayette, Mercer, Woodford, Anderson, Franklin, Henry, Owen, and Carroll, to the Ohio, through the Lower and Upper Silurian. The project of its improvement by locks and dams was begun by the State fifty years ago, and in 1843 five locks and dams were completed at a cost of over four millions, giving navigation for steamers of three hundred tons for a distance of about one hundred miles from the mouth. The maintenance of the navigation became in time a burthen to the State, and, at the close of the war, the system was practically worthless. Various efforts were made looking to a restoration of the old works and the extension of navigation by additional locks and dams to the Three Forks as originally designed, but without result, until in 1879-80 the Legislature of Kentucky ceded the locks and dams to the United States, upon condition that Congress would repair them, make navigation free, and extend the system to the Three Forks. Since then, by successive appropriations, aggregating more than half a million, the United States Government has repaired the works, restoring navigation for one hundred miles, and has begun the construction of Lock No. 6, which, when completed, will make the river navi-



SCENE ON THE KENTUCKY RIVER.

gable to High Bridge, the crossing of the Cincinnati Southern Railroad, about one hundred and twelve miles from its mouth. The value of this improvement, and the restoration of navigation to the region of country through which the river runs, can not be overestimated. In the single item of coal its cost has been more than saved to consumers, the price at Frankfort being reduced from twenty-five and thirty cents to ten and fifteen cents. So also as to freights of all kinds, the cheaper river transportation has led to corresponding reduction of rates by rail to Louisville and Cincinnati, the decrease being about fifty per cent. In like manner the value of lands lying along the river has been enhanced, the facility thus afforded for reaching market having stimulated the opening of new farms, and led to the restoration of many others which had gone to decay from the lack of means to utilize or sell their products. This improvement, affording free navigation, has been highly beneficial not only to the people who have had a market opened to them, but also to Louisville and Cincinnati, to which points the products of this rich section have been shipped, and whence the merchandise, groceries, coal, etc., have been distributed. The result of the past five years goes far to illustrate the vast benefit which would accrue upon the completion of slack-water navigation to the Three Forks, and should call for some more vigorous effort to induce Congress to hasten the progress of the work. Every remaining county to be embraced by the new works is as rich and abounding in products needing an outlet to market as those already supplied, and they are as much entitled to the improvement. On the score of economy, it would be better for Congress, instead of making appropriations by driblets, to set apart a sum sufficient to place all the remaining locks and dams under contract at once, and complete them in two or three years, instead of making a lock and dam every year or two, extending the time for the completion of the navigation ten or fifteen years, and suffering losses from floods, etc., from the incompleted state arising from lack of adequate appropriations.

The full value of the system will not be demonstrated until navigation is extended to the Three Forks and it can be utilized as are the Monongahela and Kanawha rivers, similarly improved by the United States Government, for the transportation of coal, iron, timber, and other products of the mountains. Pending this completion, and to facilitate this transportation meanwhile, Congress, some years since, made an appropriation of $125,000 or thereabouts, for the construction of a dam on the French system at the Three Forks. It was located at Beattyville, just below the confluence of the South Fork, and completed one year ago. No lock was provided, but in its stead provision was made for letting down about one-third of the dam so as to permit the passage of rafts, etc., through chutes or passes. But apart from the questionable policy of having any device which will permit the products of a country to leave it without providing

for the return of commodities in exchange, the plan or construction of this work has proved so faulty as to require a change, involving its practical reconstruction with a lock instead of the chutes, and for reasons, into which our representation in Congress should inquire, the benefits expected from this dam in forming a pool into which coal could be loaded in boats to await tides, as in the Monongahela and Kanawha, and saw-logs handled for local milling, will be withheld from that neglected region for two years longer. This leads me to remark, incidentally, that if the average talent which represents Kentucky in Congress could, for a brief period, descend from the lofty pinnacle of tariff abstractions to the humbler but more practical perch of State advancement in material development, we should not be so far behind our sister States in these essential particulars. Even without the intermediate locks and dams, with a good dam at Beattyville, provided with means of descent and ascent for rafts and coal barges, the coal mines of that region could be utilized, where now the precarious means of shipping coal forbid the embarkation of capital. It would bear the same relation to the Kentucky river that the Monongahela dams do to the Ohio. The latter, as the Kentucky river, is navigable only a portion of the year, and from it coal in barges can be brought only upon the occurrence of tides created by rains. But the dams form pools and admit of the loading and safe-keeping of barges until such time as they can be brought down by tides. If this system is adopted at the Three Forks, the products of our mines will have greatly the advantage of those of Pennsylvania, since, while the Monongahela pools are about eight hundred miles from Louisville, the pool at Three Forks is but three hundred.

The Courier-Journal.

THE TIMBER.

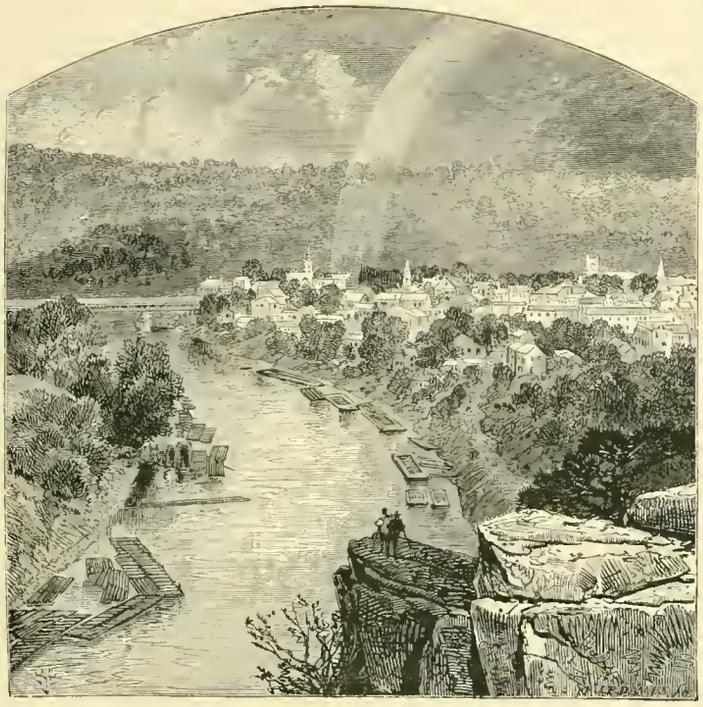
Again, statistics gathered by the United States Engineers in charge of the dam at Three Forks show that over fifty million feet of lumber in logs annually pass that point from the three tributaries of the Kentucky river, to be sawed at the several railroad crossings of the river below, into lumber, chiefly for the eastern market. About ten per cent. of this is walnut. The construction of this dam, so as to make a pool like that at Frankfort, eighteen miles in length, as contemplated, would, upon the building of a railroad to this point, make it one of the principal lumber centers in the west, as the number of logs referred to above would, if cut into lumber, make ten thousand car loads, saving the cost of transportation down the river, and equally near the ultimate market. As the timber upon neither of the tributaries has been appreciably cut off, the increase would be limited only to the demand, the supply being practically inexhaustible. The timber which covers these hills and valleys consists chiefly of poplar, white oak, and several other varieties, walnut, chestnut, linn, hickory, together with all other varieties native to the temperate zone.

COAL AND IRON.

Proceeding eastward from the Three Forks upon the section heretofore indicated, we find for the first twenty-five miles from the western limit of the coal two workable strata of a very fine quality, thirty-six to forty-eight inches thick, which for more than half a century has been used by the towns upon the river below, and commanding several cents per bushel more than the best Pittsburgh coal. Its analysis as given in the geological reports shows a very low percentage of sulphur and ash, and a very high percentage of fixed carbon. It is known as a dry-burning coal, and from this fact is pronounced to be well adapted for use as fuel in smelting iron ore in its raw state, being the same quality used for the past fifteen years in the furnaces at Ashland, Kentucky, where fifty thousand tons are consumed annually. The first stratum lies about fifty feet above the subcarboniferous limestone, which caps the hills near the line of Estill and Lee, with a dip eastward and southward corresponding to that of the coal and other stratifications. It is chiefly an oolitic stone, superior for building, making a pure lime and an excellent flux. It passes beneath the river just below the Three Forks, and is not seen again until it appears in the Cumberland uplift nearly one hundred miles eastwardly. Lying immediately upon this limestone, and more or less imbedded in it, is a fine carbonate of iron ore, known as the Red river or car-wheel ore, which is exposed in good workable position in the eastern portion of Estill and the western part of Lee counties, where it has been in years past smelted in considerable quantities. Latterly, however, the production has been limited, owing to the lack of transportation and the general reduction of the price of iron. The second workable stratum of coal is about seventy-five feet above the first, from which it is separated by a thick sandstone, and is in turn capped by a heavy conglomerate sandstone, which gives the name and defines the position of the two families of coals in the Eastern Coal Field lying above or below it. Above this conglomerate sandstone, in the region about the Three Forks, is another iron ore, a stratified limonite, known as the Hocking Valley ore. It is abundant and easily gotten out, being near the tops of the hills in beds four or five feet thick, and is an excellent cheap ore for mixing with other ores. All of these formations disappear as we go eastward, passing with the dip beneath the surface, and being succeeded as we approach the line of Breathitt county, by Cannel and coking coals, of which there are many strata, sometimes exclusively of one kind and sometimes composite, a vein of Cannel coal being not unfrequently found super-imposed upon a vein of coking coal, and *vice versa*, the succession continuing until we reach the Cumberland uplift, where all the strata which have been encountered

The Standiford Residence.

in the passage from west to east and successively passed beneath the surface have been again raised above drainage. The Cannel coal, which is found also in the valleys of the Licking and Big Sandy, embracing eight or ten counties, is the largest field of coal of that variety in Europe or America, and compares favorably with, if indeed it does not excel, the best foreign or native Cannel coals. One of the best displays of it is to be seen in Breathitt county, near Jackson, from the mines near which Frankfort and points along the Kentucky river have had a limited supply by water transportation, its freedom from popping making it very desirable for use in grates. Generally, it may be said of all these coals, that they are very valuable, not only for fuel, but, being particularly rich in volatile combustible matter and low in moisture, they will be in great demand as a material for enriching coal gas whenever transportation is available.



View of Frankfort, State Capital.

The coking coal is more persistent, and covers a much larger area, as well as being found in thicker stratification, the extreme limit of the thickness of Cannel coal being rarely higher than four feet, while the strata of the coking coals range much higher. Prof. Procter, our State Geologist, to whom Kentucky is indebted for the identification of this coal, and defining its area, says of it:

"This coal has been traced by the Geological Survey over an extended area, carrying its excellent quality with respect to high fixed carbon and low sulphur and ash, and remarkable for its uniform thickness."

The following analyses are given by him of two samples—No. 1 from a face of 103 inches, and No. 2 from a face of 96 inches:

	No. 1.	No. 2.
Volatile combustible matter	29.30	34.10
Fixed carbon	57.40	61.80
Ash	1.64	2.40
Sulphur	0.670	0.412

The following analyses of the celebrated Connellsville coal are taken from the Chemical Report of the Pennsylvania Geological Survey:

	No. 1.	No. 2.
Volatile matter	30.107	29.662
Fixed carbon	69.616	55.901
Ash	8.233	11.556
Sulphur	0.784	1.931

Actual tests of the physical properties of the coke made from this Kentucky coal show a strong, tenacious coke, free from impurities, and yielding most satisfactory result.

Thus it will be seen that a section drawn through the heart of this coal field from the Three Forks of the Kentucky river to the Virginia line, through any of the gaps in the Cumberland mountains, discloses the fact that there are two cheap iron ores on its western boundary, and that through its entire course it abounds in workable strata of coal of high commercial value.

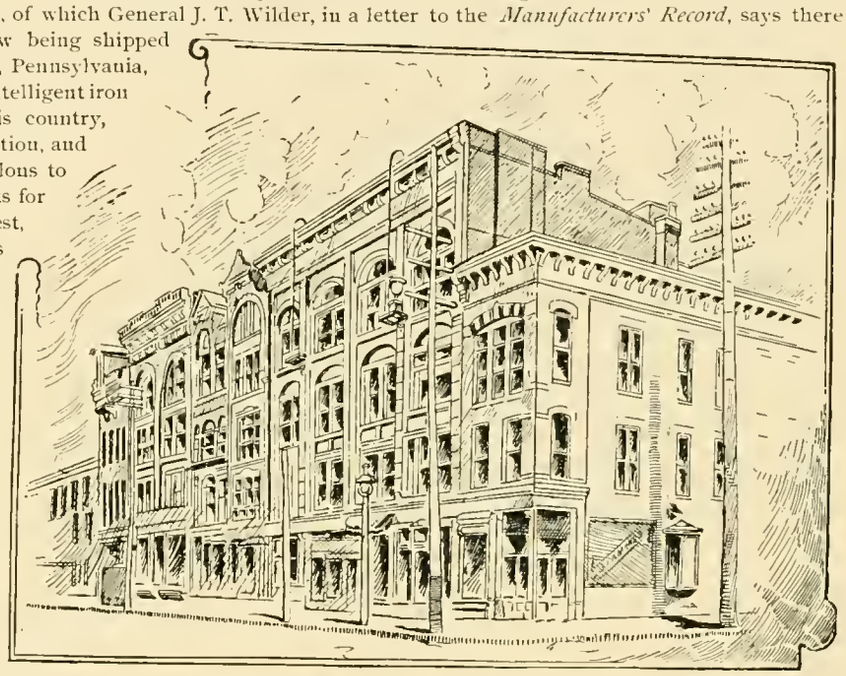
THE UPPER WATERS OF THE KENTUCKY RIVER.

I have shown the value of the Kentucky river from the Three Forks to its mouth, as a factor in the development of the mountain region of Kentucky, when it shall be locked and dammed throughout its entire course, giving free and uninterrupted transportation at all seasons for the products of the mines, forests, and fields. I propose now to show the value of the tributaries of this remarkable stream, as a further factor in the development of this great coal field. While the natural fall of the streams is gradual and not too great to preclude the possibility of continuing the system of slack-water upon each of the tributaries, it is doubtful whether the water supply in either is abundant or constant enough to make it practical. But nature has so formed the topography of this portion of the State that railroads projected across

the coal field can not go across the drainage, but must follow the general course of the rivers. That the time is ripe or fast approaching for the construction of one or more lines converging at the Three Forks, and forming the shortest connection between the Eastern and Western systems, it is only necessary to examine into the causes which demand it.

If a line be drawn from Cumberland Gap east to the Atlantic, and south from the same point to the Gulf, we shall have inclosed the quadrant of a circle embracing more than 250,000 square miles of territory, including the States of North Carolina, South Carolina, Georgia, and Florida, together with portions of East Tennessee and Virginia, in which there is not a pound of coal, but a vast body of valuable iron and other minerals lying idle and undeveloped for the want of fuel.

Notable among these deposits is the newly-explored Cranberry iron ore field of North Carolina, where, within seventy-five miles from this Kentucky coal field has been exposed to view a face of magnetic iron ore four hundred feet broad and one hundred feet high, of which General J. T. Wilder, in a letter to the *Manufacturers' Record*, says there was in sight 40,000,000 tons, now being shipped by circuitous routes to Allentown, Pennsylvania, Chattanooga, and Birmingham. Intelligent iron men, both from Europe and this country, have visited this wonderful formation, and recognize the fact that it is ridiculous to send this ore to such remote points for reduction—Chattanooga, the nearest, being 248 miles — when within less than one hundred miles are these coking coals of Kentucky, lying in juxtaposition to cheaper ores and to limestone for flux. They have, therefore, set on foot means for the transportation of this ore looking to the erection of furnaces along the border of Kentucky and Virginia, at such points as Cumberland, Pennington, and Big Stone Gaps. But, while this would be a great advance upon the present facilities, and while capital is pouring into that region which the late Prof. W. B. Rogers, Geologist of Virginia, many years ago predicted would be the center of iron and steel manufacture in the United States, a careful study of the map will show that these furnaces, if the natural laws of transportation and distribution are regarded, should be located, not in Virginia upon the eastern, but in Kentucky upon the western border of the coal field.



A Market Street Block.

The reasons for this conclusion are briefly these: The distance from the Cranberry ore field to the eastern border is about seventy-five miles, and by liberal calculation from thence to the western border at the Three Forks of the Kentucky river is one hundred miles, making a total of one hundred and seventy-five miles. Here would be found in the same hill, limestone, coal for smelting, which would not need coking, and two kinds of iron ore, the car-wheel carbonate and the Hocking Valley limonite, for mixing with the richer ores of North Carolina and the hematites, the Clinton and Bessemer ores, of south-west Virginia. It will be readily admitted, that with a railroad connecting these points, sound policy would suggest that the North Carolina ores, when once loaded on cars, should rather be unloaded at the Three Forks of the Kentucky river than the Virginia line, if the conditions for reduction were only equal, since the further transportation would be in the direct route to a market for the manufactured product. But when the conditions are altogether more favorable for the Three Forks, the argument is unanswerable. What are these:

First: The locality which I recommend for the reduction furnaces is within one hundred and seventy-five miles of the center of population of the United States, as shown by the census of 1880 — a few miles south-west of Cincinnati, and about half way between the North Carolina ore field and both Cincinnati and Louisville, being, therefore, one hundred miles nearer than the Virginia border to these centers of distribution, and to St. Louis, Chicago, and the great west.

Second: It is at the head of what will be the permanent slack-water navigation of the Kentucky river, which, when the works now being prosecuted by the United States Government are completed, as they will be in a short time, if the voice of Kentucky is heard at Washington as it should be, will give uninterrupted navigation to both Louisville and Cincinnati.

Third: Should it be deemed desirable or necessary to use the coking coals, the haul to this point, from the Cumberland range and intermediate points, would be down grade. Besides, as a distributing point for coke, it would be the nearest place of supply to the furnaces of the west and north-west, and the same advantages of proximity to market and cheapness of raw material and fuel would enable the product of the furnaces and mines to be produced and sold at a correspondingly less rate than the products of Birmingham, Chattanooga, or points on the Virginia border.

These considerations at once force upon our attention the importance of a railroad through the heart of this coal field to which I have previously referred. The problem of the connection of the North-western and South-eastern

systems of railroads by more direct lines of communication is one which has long engaged the study of engineers and capitalists, but until this new demand sprang up the obstacles have seemed too great to warrant the expense. With, however, the transportation of the North Carolina ores for reduction in Kentucky furnaces as the prime object, other collateral interests are presented which, upon reflection, will demonstrate that such road or roads as indicated by me will not only serve the original purpose of its projectors, but both from the traffic in coal, coke, and lumber, become at once a paying investment as developing local freights. It would also assume importance as a link in the shortest line connecting the two systems, giving new outlets from the West to the East, and making the closest connection

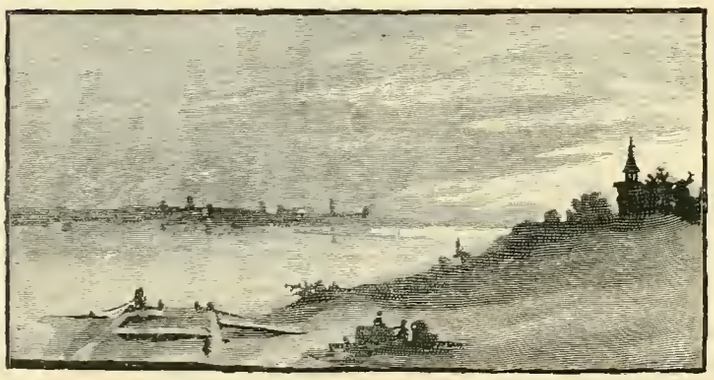
From Harper's Magazine. Copyright, 1887, by Harper & Brothers.

GRAVE OF DANIEL BOONE, FRANKFORT.

between Chicago and the Atlantic ocean at Charleston, as the distance would be shorter than from Chicago to New York. For all such purposes it would have the advantage of all other roads which could cross this coal field; since, while they would describe and follow the arc, it would follow the chord.

A new era will be opened in Kentucky when once this great coal field shall be penetrated by such a road or roads. Although I have shown that twenty or thirty counties are, from their relations to the Kentucky river, directly interested in its improvement, and the construction of railroads up its tributaries, the advantageous results will not be limited to that section of the State, but will be felt by every portion of it. Louisville will be benefited almost beyond calculation, for into her lap will be poured the wealth derived from mine and forest. The product of the ores reduced at the Three Forks will be brought here for manufacture, and she will become, even more than she now is, the distributing point of the South-west, and her manufactures multiplied by the increased abundance of iron and lumber. A great demand will spring up at once for capital and labor, and a new field for enterprise opened for the energetic young men who now, for the want of such home demand, annually seek homes in the West or elsewhere, to the impoverishment of Kentucky. By promoting such an opening we shall make a place for them to emigrate to without leaving the State,

and thus the annual surplus of population, represented by the young men attaining their majority in the agricultural districts, will find ample field in the mountains for that energy and thrift which have done so much to develop the newer States. Not only this, but it will bring back to us thousands of Kentuckians who, having emigrated to other States for lack of employment here, will gladly return to invest or labor in a field so full of promise, and richer in possible results than even the fabled wealth of California. The dawn of this era is upon us, and the best omen lies in the great interest taken in our material development by our own people. That it may be fraught with the best results for the whole State should be the aim of every Kentuckian who has pride in his State, and wishes to see her maintain her proper position in the great march of progress which marks this period of our country's history.



Louisville and Kentucky.

AS the commercial metropolis of Kentucky, drawing its vigor and wealth from the abundance that is brought from the State to seek exchange, Louisville's future possibilities can not be adequately gauged without understanding fully the resources and development of Kentucky. A report prepared in 1886 for the Treasury Department, on the Internal Commerce of Kentucky, by H. A. Dudley, United States Treasury expert, is used for that purpose, with such changes as are required by the development since the preparation of that report.

In a State whose area is so large as that of Kentucky, lying between the two extremes of climate in this country, a considerable diversity in products of the soil is to be expected, and the rewards of agriculture ought naturally to occupy a leading place upon the list of the people's wealth.

A cursory glance even will show that this is really the case in this vigorous firstborn of Old Virginia's progeny. First, and principal, must be esteemed the tobacco crop, among the widely varied farm growths of the State. For nearly a century this has been a source of steady and substantial profit, and within the last fifty years has added more to the wealth of the State at large than all other crops combined. It will scarcely be believed, but since 1856 Kentucky leaf tobacco, according to reliably kept records, has netted to the grower not less than $267,000,000, and the distribution of this enormous sum has been so general that there is scarcely a county in the State that has not had its share of it.

Next in order follow the cereals, all of which are grown to perfection, and to an extent which, in an ordinary crop year, is certain to provide a surplus for sale and export to other less favored sections. The production and home manufacture of hemp— a few years ago one of the largest and most lucrative of Kentucky's industries—has only declined because of an insufficient tariff protection and the importation of Indian fibers, as we have shown under that section relating particularly to this product. Cotton is not grown to any great extent in the State, but is drawn from other Southern States as one of the leading articles of transport to the East and North, both by rail and river.

The breeding of fine cattle and horses has for many years attracted a large share of attention in Kentucky, and at the present time large capital is invested in this branch of business. It is to be regretted that no statistics are obtainable to show the precise extent and results of the industry; but that it deserves to be classed among the principal ones of the State there can be no doubt. As to sheep and swine, the records are more satisfactory, and the same may be said of the growing of mules for market, which latter has been for many years a source of considerable revenue.

AN OLD KENTUCKY HOME.

With regard to purely natural resources, it must be confessed, however reluctantly, that Kentucky is far behind her Southern neighbors in their development. That this is not due to any lack of materials will be best understood from the mineral statistics and geology of the State presented in this report. The fact that our people have been so long distinctively agricultural may partly account for the neglect of these great sources of wealth, but the main truth is that the mineral belts lie off from transportation routes as a rule, and are awaiting these before they can be best developed. Only in the item of coal has any progress toward development been made worthy of the name, and even in this the enormous veins have scarcely been touched.

MECHANICAL INDUSTRIES.

Coming now to the industries classed as mechanical, the State makes a better showing. According to the decennial census reports, Kentucky, in 1860, had 2,478 establishments, with an invested capital of $11,456,942. These consumed that year materials valued at $17,147,301, and turned out products valued at $26,608,163. In 1870 the number of estab-

lishments was reduced, by consolidation principally, to 2,204, but the capital invested amounted to $21,874,385, and materials valued at $22,598,651 were used to produce goods aggregating $40,629,811 in value in the market. At the close of the next decade, the census shows 2,975 establishments of this kind, with a total capital of $36,362,477, consuming materials valued at $41,855,937, and producing articles worth $63,912,145. In 1885, beyond which year our figures are not extended, the number of establishments grew to 5,219, having a capital of $57,208,614, consuming materials valued at $60,832,462, and turning out products aggregating $103,303,659 in value. It is scarcely necessary to say that this is a most magnificent showing, and worthy to be compared with that of any other Southern State. The subjoined tables furnish the details of this achievement, whose merits may be better seen by the following recapitulation :

Decrease in number of establishments between 1860–70	274
Increase in number of establishments between 1870–80	771
Increase in number of establishments between 1880–85	2,244
Increase in aggregate capital—	
Between 1860–70	$10,417,443
Between 1870–80	14,488,092
Between 1880–85	20,846,137
Increase in value of materials used—	
Between 1860–70	$ 5,451,330
Between 1870–80	19,257,286
Between 1880–85	18,976,525
Increase in value of products—	
Between 1860–70	$14,021,648
Between 1870–80	23,282,334
Between 1880–85	39,391,514

TRANSPORTATION FACILITIES.

In these, Kentucky is annually extending her commercial resources and opportunities. A large increase has been made in her railway mileage, and new enterprises of this kind are in a fair way to be speedily realized. Although sadly embarrassed by the rail routes, the various river routes still continue to afford important aid to the commerce of the State ; but, as intimated in another place in this report, the advantage of rapid transit and the extension of lines to seaboard markets, to say nothing of the growing length of parallel lines to the main water-courses of the Ohio and Mississippi Valleys, all combine to make steamboat competition unprofitable. Then the superior organization of the railroads for soliciting, storing, and handling freights is another advantage the river can never have. Added to these drawbacks, steamboatmen have adopted a fashion of rate-cutting before which the best efforts of rival trunk railway lines fall into insignificance.

For the year 1885 the United States Bureau of Commerce and Navigation reports a total of eighty-one steam vessels in the custom districts covering all the Western rivers. Of these, Kentucky has fifteen, Indiana five, and Ohio ten.

The table showing the amount of merchandise received and shipped by river at Louisville is the best commentary upon the situation that can be made. The relative magnitude of the business done by the railroads centering at Louisville stands out boldly in the last four columns of that table, where the receipts and shipments for two years are given in contrast with corresponding transactions by river.

Still, we believe that as a medium for the transportation of heavy freights and imperishable commodities, such as coal and the different products of iron, the river will never be wholly superseded by rail routes ; but otherwise it is but a question of a very few years when nearly the whole of the volume of interstate and littoral commerce will be diverted from the rivers. Each season adds to this prospect, whose realization is forecast in the increasing parsimony of Congress toward the river improvement systems inaugurated in a more liberal period, when the commerce of the South and East was interchanged aloug these great natural highways.

WATER-WAYS.

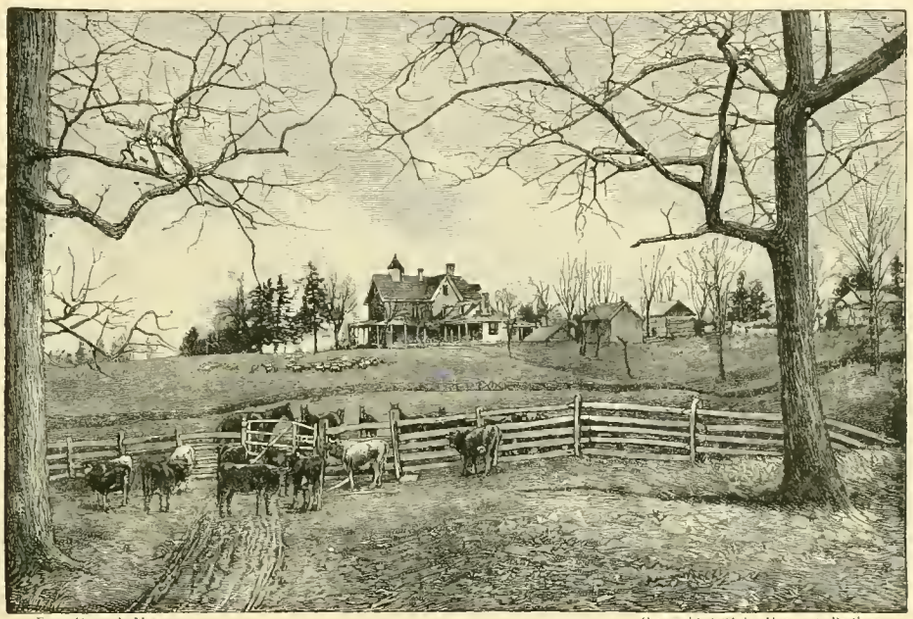
The most important facts in the commercial history of the State from the earliest period until the era of railroads began have been the remarkable facilities afforded by its water-ways. The entire river system of the Mississippi Valley has its center within the borders of Kentucky, and her territory is penetrated by more miles of navigable rivers than any other State in the Union. She has nearly fifteen hundred miles of streams that are navigable at all stages of water, and about four thousand miles can be made navigable by locks and dams. These give access to the whole Mississippi system of inland navigation, which includes about twenty-five thousand miles of streams now navigable or readily rendered so with the usual methods of river improvements. The north-western border of the State has a continuous river frontage on the Ohio and Mississippi of 723 miles. Of the navigable water-courses within the State, all of them draining toward the Ohio river, the following are the principal : The Green river and its tributaries, navigable by locks and dams for 268 miles ; the Tennessee river, navigable from its mouth to Florence, Alabama, a distance of about 250 miles ; the Kentucky river with its three forks is susceptible of navigation for 400 miles from its mouth ; the Cumberland river, navigable from its mouth to a point about one hundred miles above Nashville ; the Big Sandy river navigable from its mouth at Catlettsburg to Louisa, a distance of about seventy-five miles ; the Licking river, navigable from its mouth at Covington, to Falmouth, a distance of 125 miles. Each of these rivers penetrates or connects with a vast district abounding in the richest deposits of iron and coal, and immense tracts of valuable timber. Regular lines of steamboats accommodate the traffic natural to the territory.

KENTUCKY RAILROADS.

The first railroad built in Kentucky, and the first completed west of the Alleghanies, was the Lexington & Ohio Railroad, now know as a part of the "Short Line" division of the Louisville & Nashville system. It was begun in

October, 1831, at the Lexington end, and completed to Frankfort in December, 1835. It was laid that distance with flat rails fastened to stone sleepers. In 1851 the line was completed to Louisville, and in 1881 was purchased by the Louisville & Cincinnati Short Line, that had been completed in 1869.

The Louisville & Nashville road was begun in 1851, and finished to Nashville, 185 miles, and opened to business in 1859. Two years previous to the latter date the company had built a branch road to Lebanon, Kentucky, which made up the entire Louisville & Nashville system at the commencement of the war. The Bardstown branch was purchased in 1865. The Richmond branch was opened in 1868, and the same year the Memphis, Clarksville & Louisville road was leased as a part of its new Southern system. Two years after, the Memphis & Ohio road was secured, and what is now known as the Memphis division was formally opened. Both of these leased lines were purchased by the Louisville & Nashville in 1871–72. The Cecilian branch was thus secured in 1871, and in 1879, the Edgefield & Kentucky road and the Evansville, Henderson & Nashville road were both bought by the company, and, together, now form the Kentucky



From Harper's Magazine. Copyright, 1883, by Harper & Brothers.

A NEW KENTUCKY HOME.

and Tennessee portions of the St. Louis division. As already stated, the Louisville & Nashville Company purchased the Louisville, Cincinnati & Lexington road in 1881, thus connecting the Company's lines with all the Eastern roads at Cincinnati. With the subsequent extensions of the lines of this Company outside the State on the South, by which it now controls a system aggregating 3,034 miles, the scope of this article does not permit me to deal.

The Chesapeake & Ohio traverses the entire length of the State, from east to west, and penetrates the vast coal, mineral, and timber regions of Kentucky. The original line extended from Newport News, in Virginia, via Richmond, to the Big Sandy river, and was formed in 1868 by consolidating the Virginia Central and the Covington & Ohio Railroads, comprising a line 512 miles in length. In 1875 the line became involved, and was placed in a receiver's hands. In 1878 it was sold, and a new company organized, with Mr. C. P. Huntington at its head. He rapidly developed the western connections of the road, and now it forms a continuous line 927 miles long, composed of the Chesapeake & Ohio, to the Big Sandy river, the Elizabethtown, Lexington & Big Sandy, and Louisville, Frankfort & Lexington, to Louisville, and the Chesapeake, Ohio & South-western (formerly the Elizabethtown & Paducah), extending from Louisville to Memphis, via Paducah.

The Kentucky Central Railroad, originally known as the Lexington & Maysville Railroad, was begun in 1851, Lexington having subscribed $200,000 towards its construction. The line was completed from Lexington to Paris in 1853, and in October, 1854, it was entirely finished to Covington. The branch line to Maysville was completed a few years later. The entire road now forms the Cincinnati division of the Chesapeake & Ohio system.

The Cincinnati Southern was begun in January, 1872, and pushed to completion as rapidly as possible thereafter. The line cost nearly twenty million dollars to construct, and was opened for business between Cincinnati and Chattanooga in 1878. Like the Louisville & Nashville, this road has established ample Southern connections of great advantage to Kentucky.

The existing railways of the State form a system which wants but a few connecting links to give it an admirable relation to the rest of the country. The North and South lines consist of the following roads, beginning on the east: The Eastern Kentucky, from Riverton, in Greenup county, to Willard, in Carter county, thirty-five miles of road built to develop the coal and iron districts of this section, with the expectation of eventual continuation to Pound Gap, and connecting with the South-eastern system. The Maysville & Lexington Railway, running south as far as Lexington, and connecting there with the system of roads about to be described. Third in the series on the west, we have the Kentucky Central Railway, now extending from Covington, a junction with the Knoxville branch of the Louisville & Nashville at Stanford, along the banks of the main Licking Valley and its South Fork. The continuation of this road by either Pond Gap or Cumberland Gap, to the railway system of Eastern Tennessee and the Valley of Virginia, is

likely to be accomplished at an early day. The Cincinnati Southern Railway, from the mouth of the Licking directly south to Chattanooga, affords an admirably built road, traversing the State, forming as it does a main line to the South and South-east. The Lexington & Big Sandy is completed as far as Mount Sterling, in Montgomery county. This road when finished will give Kentucky cheaper and more direct communication, by way of the Chesapeake & Ohio railway, with the Atlantic ports.

The Kentucky & Great Eastern Railway is a prosperous road, on which considerable work has been done, extending up the south bank of the Ohio river from Newport to the Big Sandy river. The completion of this road will add greatly to the wealth of the river line of counties, and will give them a shorter road to the Atlantic ports than they now have.

The Louisville, Frankfort & Lexington Railroad extends through the counties of Jefferson, Oldham, Shelby, Franklin, and Fayette. From Lagrange, in Oldham county, a branch extends from this road to Cincinnati, known as the Louisville & Cincinnati Short Line, that line passing through the counties of Oldham, Henry, Grant, Carroll, Gallatin, Boone, and Kenton.

The Cumberland & Ohio Railroad, narrow gauge, now built from Shelbyville to Bloomfield, when completed, will pass through the counties of Henry, Spencer, Shelby, Nelson, Washington, Marion, Taylor, Greene, Metcalf, Barren, and Allen. Its length in Kentucky will be 165 miles.

The Louisville & Nashville Railroad extends, with its branches, a distance of 365.4 miles through Kentucky in different directions. The main stem, from Louisville to Nashville, has a length, within the limits of the State, of 139.6 miles, running through the counties of Jefferson, Bullitt, Nelson, Hardin, Larue, Hart, Edmonson, Barren, Warren, and Simpson. The Memphis branch runs through the counties of Warren, Logan, and Todd, having a length in the State of forty-six miles. The Knoxville branch extends into South-eastern Kentucky, running through the counties of Nelson, Marion, Boyle, Lincoln, and Rockcastle. It has been completed to the city of Knoxville, Tennessee, where it makes connection with the entire railway systems of the East and South, and of all the cities of the South Atlantic seaboard at the Gulf of Mexico. This road, from its junction with the Louisville & Nashville at Lebanon Junction to the State line, is 170 miles in length. The Richmond branch runs through the counties of Lincoln, Garrard, and Madison for 33.4 miles, to within a short distance of the rich iron region of Kentucky. The Bardstown branch runs through the county of Nelson, a distance of 17.3 miles. The Glasgow branch, 10.2 miles, runs to Glasgow, the county seat of Barren county. The Louisville & Nashville Railroad is undeniably one of the most important thoroughfares on this continent. It is only second to the Mississippi river as a way for commerce between the Northern and Southern States. By means of the magnificent railway bridges over the Ohio river at Louisville and Henderson it connects with all the great Northern roads, and at Nashville and Memphis, its Southern termini, it connects with all the important roads in the South.

The Chesapeake, Ohio & South-western Railroad extends from Louisville to Paducah, a flourishing city situated on the banks of the Ohio river, fifty miles from its junction with the Mississippi, and is the principal market town of Western Kentucky. This railroad penetrates Western Kentucky in such a manner, therefore, as to afford easy access to a large portion of that section. It runs through the counties of Hardin, Grayson, Ohio, Muhlenburg, Hopkins, Caldwell, Lyon, Livingston, Marshall, and McCracken. It passes directly through that section of the valuable coal fields of Western Kentucky, which lies within the area of the counties of Ohio, Muhlenburg, Hopkins, and Grayson. The entire length of the Chesapeake, Ohio & South-western Railroad is 225 miles, all of which is in the territory of Kentucky.

The Paducah & Memphis Railroad, which has been absorbed by the Chesapeake, Ohio & South-western road, runs through the counties of McCracken, Graves, Hickman, and Fulton, connecting at Memphis with all the South-western railroads.

The Evansville, Henderson & Nashville Railroad, from Henderson, on the Ohio river, to Nashville, Tennessee, under lease to the Louisville & Nashville, passes through the counties of Henderson, Webster, Hopkins, Christian, and Todd. At Henderson the ferry takes cars to the Northern system of roads. It forms the most important link in a great trunk line known as the St. Louis & South-eastern Railway. The New Orleans, St. Louis & Cairo Railroad passes through the counties of Ballard and Hickman.

The Mobile & Ohio Railroad, connecting the city of Mobile with the Ohio river, penetrates Kentucky through the counties of Hickman and Fulton. At Columbus, in Hickman county, a ferry fitted for the carriage of trains gives passage of cars from St. Louis directly through to the South-eastern cities.

RAILROADS NOW BUILDING.

It is in roads with eastern connections that the State lacks most. There is but a single railway, the Chesapeake & Ohio, crossing the eastern line of the State. It is to this difficulty of access from the seaward that the State owes the small share it has had in the immigration of capital and labor that has filled the lands of less attractive regions. Three routes have been begun, which, when completed, will fully remedy this grave defect, namely: A road from Louisville to the South-east, via Cumberland Gap, completed to Livingston, and requiring a continuation of about one hundred miles to connect with roads leading from Morristown, Tennessee, to Charleston, South Carolina; a road from Mount Sterling to Abingdon, Virginia, via Pond Gap, requiring about one hundred and sixty miles of road to complete the connection. There is a project for building up, east and west, a road along the northern range of counties of the State, giving a continuous route to Henderson, and the roads connecting at that point to the connections with Charleston and Savannah from Morristown, Tennessee; also a project for a road from Chicago to Charleston, crossing Kentucky from Gallatin county to Cumberland Gap; the contract to build the one-hundred-and-forty-mile extension of the Chesapeake & Ohio Railroad, from Ashland to Covington, Kentucky, and the contract for the masonry for a bridge across the Ohio river at Covington, have been let. The Chesapeake & Nashville Railroad, a part of the Huntington system, which will extend from Nashville to Cincinnati, and form an air line through the eastern part of the State, is now under process of construction.

A railroad has been projected from a connection with the Chesapeake & Ohio, at Lexington, via Harrodsburg, Lebanon, Campbellsville, Greensburg, Glasgow, Scottsville, and so on to Nashville, Tennessee. This projected line is under the auspices of that well-known railway operator, Mr. Huntington, of the Chesapeake & Ohio and transcontinental lines, and will doubtless be constructed at an early day. When it is completed it will form a competing line with others crossing the State from north to south, thus cheapening freights and transportation, and preventing monopoly.

The Kentucky Union and the Kentucky & South Atlantic Railroads are two of the most promising lines of new roads projected through the mountains. The first starts from Hedge's Station, on the Chesapeake & Ohio road, and runs thence south-eastwardly through Powell, Wolfe, Breathitt, Perry, and Letcher counties, to Pond Gap. The line of the second — the Kentucky & South Atlantic — starts from Mount Sterling, and running first nearly east to Frenchburg, to which it is now completed, there deflects south-eastwardly, and proceeds through the counties of Menifee, Wolfe, Breathitt, Perry, and Letcher, to Big Stone Gap, which is only some ten miles south of Pond Gap. The two roads will probably cross each other in Breathitt county, which is said to be the richest of the coal and iron counties. After passing through the gaps in the Cumberland chain of mountains, both roads will proceed as nearly as possible on an air line, the first to Abingdon, the other to Bristol, both those towns being on the East Tennessee & Virginia Railway, one of the main trunk lines connecting the Eastern States and cities with the South and West. Both these lines

From Harper's Magazine. Copyright, 1886, by Harper & Brothers.

A BLUEGRASS SHEEP PASTURE.

of road, through the mountains, which are intended to develop the richest portion of the coal and iron fields of that region, have been constructed a distance of about eighteen or twenty miles, and both of them are to be pushed to completion at the earliest practicable day. The Kentucky & South Atlantic management announce that the work is to be pushed from both ends of their line. A large force is at work on the western division not far from the Three Forks, and a still larger force at the other terminus, near Bristol, whence it is promised that the work will be pressed with all possible speed to Big Stone Gap, Hazard, and so on, to a meeting with the force working up from the western terminus. It is promised by the contractors that this road will be completed and put in operation by or before the 1st of August, 1888. Judging by the amount of capital said to be at the back of both these roads, combined with the skilled and experienced building companies who have undertaken their construction, it is safe to say that both will be completed by or before January 1, 1888, and the vast amount of mineral and other wealth of the entire region through which they run, a region extending from the "bluegrass" of Kentucky on the west, to the "bluegrass" of Virginia on the east, and stretching from the Ohio river on the north, to the Tennessee line on the south — all this boundless and inexhaustible wealth amply justifies their construction on competing lines. From the western boundaries of Powell and Estill

counties to Pond and Big Stone Gaps are to be found exhaustless treasures of the best iron and coal in the world, not to speak of the vast forests of the very best timber.

The gold medal of the Centennial International Exposition, at Philadelphia, in 1876, was awarded the Haddock Coal Mining Company, of Breathitt county, "for the best Cannel coal in America," mined right on the line of the Kentucky Union Railroad. In fact, these two iron highways will bind together the railway system of the entire Northwest with that of the Gulf and South Atlantic States; it will connect all the rest of the world with the mountain counties of Kentucky, filled with the best car-wheel iron ores, coking and Cannel coals, and all sorts of hardwood timber. A branch railroad, eight miles in length, has been completed from Midway, on the road from Frankfort to Lexington, to the town of Versailles, in Woodford county, and has now been transporting freight and passengers for several months. It is in contemplation to extend the line first northwardly to Georgetown, and later to Harrodsburg, thus placing it in connection with the Cincinnati Southern, and other systems both North and South.

The construction of the Indiana, Alabama & Texas Railroad, whose termini are at Princeton, Kentucky, and Clarksville, Tennessee, was begun at the Clarksville end some three years ago. Ten miles from Clarksville it enters Kentucky at a point in Christian county, some four miles from the Todd county line, on the Tennessee State line, and runs thence north-westerly through the county of Christian. This road, completed to Princeton, is sixty miles in length, about fifty of which are in Kentucky. It is a narrow-gauge road, and the president of the company, Major E. C. Gordon, resides at Clarksville. All the way from Clarksville to Princeton it runs through one of the very finest agricultural regions in all Kentucky, and is therefore certain to prove a paying road. As a feeder to the Elizabethtown & Paducah, or Louisville & South-western on the one hand, and the Memphis branch of the Louisville & Nashville, with which it connects at Clarksville, on the other, it is bound to prove a complete success.

Another new road in the same section of the State is the Elkton & Guthrie branch of the Louisville & Nashville Railroad. This road is twelve miles long, is admirably constructed and equipped, and was built in 1884. This road runs through one of the finest agricultural sections of the State, with an intelligent, thrifty, and prosperous population; the transportation to market of whose surplus products, with their general commerce with the outside world, will be sure to make this branch road a paying property, especially to the Louisville & Nashville, of which it is a feeder. Still another line in the same quarter of the State, the most of which has been built within the past two or three years, is the Owensboro & Nashville Railroad, eighty-three and one-half miles of which are in Kentucky, and about forty miles of which have been completed during the past year.

This is also a well-constructed road, and running as it does through the wealthy counties of Daviess, McLean, Muhlenburg and Logan, it is one of the most important lines in the State, independent of the fact that it connects the wealthy counties of Southern Indiana with the finest agricultural and manufacturing sections of Tennessee. These considerations combine to make it probably one of the best paying lines in the South.

Still another new railroad has just been built across this part of the State, from the Ohio river at Henderson, into Tennessee. The line of this road was surveyed last summer from Evansville and Henderson down through Morganfield and Dekoven, in Union county; Marion, in Crittenden county; Eureka, at the crossing of the Chesapeake & Ohio and the Cumberland river, in Lyon county; Aurora, at the crossing of the Tennessee river, in Marshall county; Murray, in Calloway county, and so on to the terminus at Jackson, in Western Tennessee. It is called "The Ohio Valley Railroad," and, extending in a south-westwardly direction from the Ohio at Henderson, will open up a portion of country, which is one of the richest in minerals, such as coal, iron, and the finest building stone, and agricultural products, such as corn, tobacco, wheat, fruits, and live stock of all kinds to be found in any part of the State. The line will be 200 miles in length, and the cost will not exceed $2,000,000, according to the very careful estimates of the civil engineers who surveyed it. It is understood that the work will be completed at an early day. About one hundred miles of road are already in operation.

The Louisville Southern, it is stated, will be completed and trains will run regularly by February 1, 1888, from Louisville to Harrodsburg Junction, a distance of eighty miles. The road will traverse the five counties of Jefferson, Mercer, Shelby, Anderson, and Woodford, which pay one-fifth of all the State revenues and contain one-seventh of all the population of the State. This indicates how great will be the traffic that this line will bring to Louisville. The road will be the most costly in the matter of equipment in Kentucky. It is supplied with heavier steel rails than any railroad in Kentucky, the rails all being sixty pounds. It will be equipped with elegant cars and in this respect will surpass the Cincinnati Southern.

The Louisville, St. Louis & Texas Railway will be completed from Louisville to Henderson by June 1, 1888, unless the company is delayed by the bridge over Green river at Spottsville. This railroad will pass through Webster, Brandenburg, Stephensport, Hawesville, Lewisport and Yelvington. The report of the Auditor of State shows that the population and taxable wealth along this line of road exceeds that along the line of any other railroad of its length in the State. As an agricultural region, the country to be traversed by this line of road is probably not surpassed on the continent. The productions of the counties through which the roads will pass, and those tributary thereto, amount annually to over 30,000,000 pounds of tobacco, 9,000,000 bushels of corn, and other products in equal proportion. Seventy tobacco factories, a very large number of distilleries, cotton mills, and other manufactories of various kinds are located in the cities and towns along the line. The timber along this line is of the best quality. Cement rock, oolite, brown and building stone are of the finest quality, and found in immense quantities, the brown stone having been awarded the highest medal at the Centennial Exposition in 1876. From Cloverport to its western terminus, the road will pass through a continuous coal field; it is found in veins from four to six feet in thickness, and at an elevation of from twenty to fifty feet above the located line. The celebrated Breckinridge Cannel coal is found in great abundance eight miles back of Cloverport, to which a railroad is already constructed. The supply of these coals is inexhaustible. The quality is unsurpassed, it being considered equal to Pittsburgh coal for steam, manufacturing and domestic purposes. This coal is only seventy miles from the city of Louisville. Coal is now being hauled from West Virginia by rail, a distance of 306 miles, and sold at a profit in the Louisville market, where 800,000 tons are consumed annually.

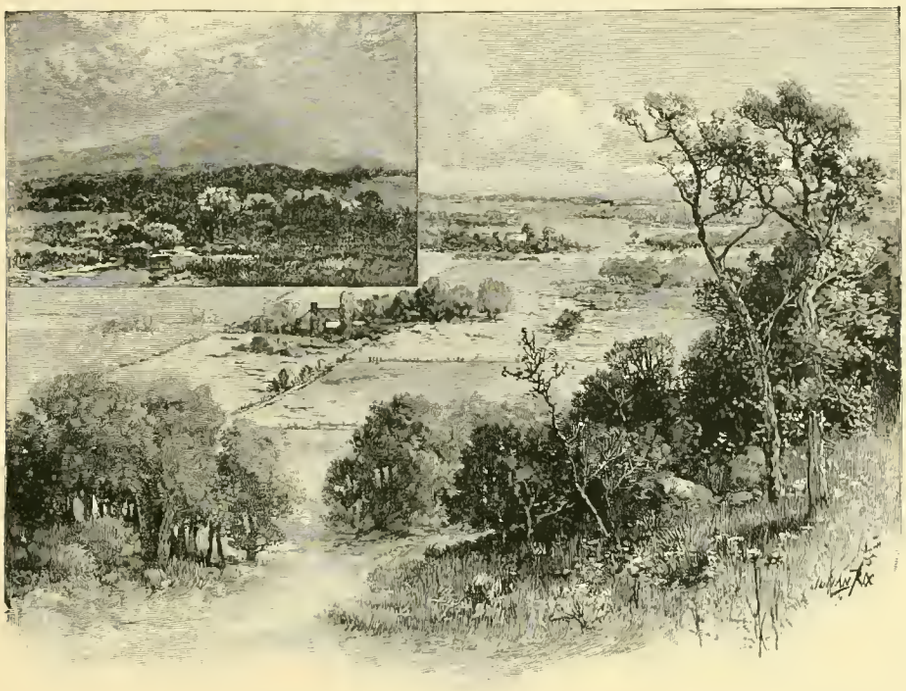
Parties owning large bodies of these valuable coal and timber lands have made provision for their immediate development, and are ready to contract for the shipment of coal in large quantities. From this source alone an enormous traffic awaits the completion of the road to the coal field. The road will be of standard gauge, laid with steel rails, and constructed with every regard to permanency and economical operation.

The Louisville, Cincinnati & Dayton will be 147 miles in length and will be completed by July 1, 1889. It will pass through the towns of Madison, Vevay, Patriot, Rising Sun, Aurora, and Lawrenceburg, in Indiana, and Hamilton and Middletown, Ohio.

In addition to these, three lines which will have their terminus in Louisville, and which will necessitate the building of another bridge between Jefferson and Louisville at a cost of about $1,500,000, are being rapidly pushed through. One of these is the Frankfort, Georgetown & Paris Railroad, which will traverse the three richest Bluegrass counties and place 150,000 population in more direct communication with Louisville than Cincinnati. The road is to be constructed by county subscriptions.

The completion of the Pineville branch of the Louisville & Nashville Railroad from Corbin to Pineville, a distance of thirty-seven miles, will be accomplished about February 1st, and will open the largest coal and timber region in the world to the Louisville market.

The Louisville, Cincinnati & Virginia Railway will run from Winchester, one of the richest and most rapidly growing towns in the State, through the heart of the richest mineral belt in Kentucky, to the Virginia line, where it will connect with the Norfolk & Western, South Atlantic & Ohio and other roads, making a through route from Louisville to the Atlantic and Gulf coasts. The line is located from Winchester via Irvine to Beattyville, Lee county (the Three Forks of the Kentucky), fifty-five miles, and it is resolved to have trains running that distance by July, 1888.



From Harper's Magazine. Copyright 1887, by Harper & Brothers.

INDIAN OLD FIELDS—PIONEER SETTLEMENT.

The development of the railway system in Kentucky has stimulated each previously existing industry to greater development, by making new markets for surplus products, and enabling speedier returns and exchanges than the old system of water transportation had rendered possible. Besides this advantage accruing from rapid transit and broader market territory, the railroads have practically, though gradually, brought down the rates charged for conveying the surplus and bringing supplies for distribution. This has had the result of encouraging a system of interchange previously unknown between the territory that naturally pays tribute to Louisville as the principal trade center of the State, and the leading markets of the East and North.

The most notable example of the change wrought by the railways is found in the steady growth of Louisville and other distributing points in the State as a market for leaf tobacco. Under the old system of river transportation, Kentucky leaf tobacco, her leading staple, was compelled to find a market either at St. Louis or Cincinnati, where the annual crops could be more easily aggregated and forwarded to the export markets. With the advent of railroads this rule has been broken so far that Louisville is to-day the principal tobacco market of the world, and the growers of this staple find here and at other points in the State, a satisfactory sale at all seasons of the year.

Distinctively Southern staples, such as cotton and sugar, are, since railway communication has been established with the North and East, diverted largely from water-way and coastwise transportation, directly to points of consumption and distribution.

Without these adjuncts afforded by rail routes, none of the surprising instances of enterprise and growth in the South would have been possible that are to-day subjects of common congratulation.

As intimated, there has been a marked increase of direct shipments of Northern staples to the various new distributing centers, like Atlanta, Chattanooga, Selma, Meridian, and other interior cities that have sprung up through railroad influence, and the river cities no longer enjoy that old-time monopoly which the river once gave them. They are now obliged to compete in an open market for whatever trade they may attract, and have only the surviving advantage of being nearer to the raw staples than Northern cities to depend upon. This fact, however, is being legitimately

used to draw investments of foreign capital in manufactures to the South, and eventually will more than compensate for the drawbacks of the present condition of trade.

KENTUCKY COAL FIELDS.

Prof. John R. Procter, State Geologist, has furnished a valuable paper on the coal fields of Kentucky to a periodical recognized as the leading publication in the world on mining and engineering. It is as follows:

Kentucky is the only State in the Union containing parts of each of the two great coal fields, having about ten thousand square miles of the Appalachian coal field in the eastern part, and about four thousand square miles of the Illinois coal field in the western part of the State.

WESTERN COAL FIELD.

The Western Coal Field is a broad synclinal, having its axis almost parallel with the general direction of Green river, and crossed by gentle undulations running slightly north of east and south of west. The conglomerate sandstone at the base of the coal measures is not so thick as in Eastern Kentucky. Above this conglomerate twelve workable coals are present. Some of these coals are of excellent quality, but the percentage of ash and sulphur is greater than in the best of Eastern Kentucky coals. A strong coke has been made from at least one of the upper coals, having, however, in the coke from unwashed coal a higher percentage of sulphur than is desirable. Recent experiments lead to the hope that a furnace coke may be made from the first coal above the conglomerate (No. 1).

This field has now excellent transportation facilities. Green river traverses the entire field from south to north, giving reliable slack-water navigation from Bowling Green to the Ohio river. One railway traverses the center of the field from east to west, and two railways from north to south, and two important new roads are being now completed, and others are projected.

There is an abundant supply of cheap iron ores convenient to the coals of Western Kentucky. Associated with the coals of the lower measures, in the counties of Grayson, Edmonson, Butler, and Muhlenburg, are stratified carbonites and limonites, ranging from two to five feet and upward in thickness, and persistent over a wide area.

Analyses from carefully averaged samples from workable deposits in each of the above-named counties give the following from the unroasted ore:

	Per Cent.			
Metallic iron	40.48	42.31	45.10	48.88
Silica	14.36	22.40	14.20	12.73
Alumina	. . .	4.83	6.98	3.91
Phosphorus	0.41	0.28	0.39	. . .

A very pure limestone is convenient to these ores.

On the western border of the coal field in the counties of Crittenden, Caldwell, Livingston, Lyon and Trigg are large deposits of limonite in the subcarboniferous limestone.

The following are analyses from carefully averaged samples from five outcrops in the above-named counties. Analyses from roasted and unwashed ores:

	Per Cent.			
Metallic iron	46.28	48.86	49.84	50.184
Silica	22.33	11.98	12.10	16.960
Lime	. . .	2.12	2.87	. . .
Alumina	1.06	2.98	3.01	. . .
Phosphorus	0.18	0.09	0.09	0.095

These are similar to the ores in Alabama and Tennessee, on which the iron industries of Sheffield and Decatur are predicated. Furnaces located near the mouth of the Tennessee and Cumberland rivers, in Kentucky, will have the advantage of a large local supply of ores, with the Alabama and Tennessee ores brought down stream in the direction of the markets, and the Iron mountain ores of South-west Virginia and the Green river ores, all delivered by cheap water transportation.

In addition to the pure limestone contignous, there are large deposits of fluor-spar, associated with galena, near the above-meutioned ores of Western Kentucky. The peculiar advantages of water and rail transportation, with an abundance of coal, iron ores, limestone, and timber for charcoal, should lead to the establishment of furnaces in this region, and also in the valley of Green river. The Western Coal Field has exceptional advantages for supplying the markets of the Lower Ohio and Mississippi rivers with coal.

EASTERN COAL FIELD.

Resting upon the south-eastern slope of the great anticline of Central Kentucky, the coal-measure rocks dip gently to the south-east until interrupted by the Great Pine mountain fault, extending from the "breaks" of Big Sandy river to near Jellico, on the Tennessee line. As the hills increase in height, the thickness of the measures and the number of coals increase to the south-east, until we have north of Pine mountain the following coals, counting from the western outcrop upward: Two coals below the conglomerate, one a reliable bed from thirty-six to forty-eight inches; Comb's coal, first coal above conglomerate, twelve to thirty-six inches, not given a number; Sand Lick coal, thirty-six to sixty inches (coal No. 1); Wright's coal, twelve to forty-two inches; Elkhorn coal (coking seam), forty to one hundred and eight inches (coal No. 3); upper splint coal, thirty-six to eighty inches; Kiser's seventy-two-inch coal (Letcher); Bear Fork Cannel (Pike); coal with many partings, Ambergy's sixty-inch coal (Knott); Sycamore creek, ninety-two-inch coal (Pike); Flat Woods coal, Pike county; reported as a thick bed.

In the Big and Little Black and Log mountains, in the synclinal trough between the Pine and Cumberland mountains, through the counties of Letcher, Harlan, Bell, and Knox, the above sections are not only present, but additional coals in higher measures. The mountains reach an altitude of 4,000 feet above sea, and the vertical thickness of coal measures is probably greater here than is found at any one place in the United States.

From Harper's Magazine.

BIG SYCAMORE TREE ON LULBEGRUD CREEK.

Two claims may be made for the Eastern Kentucky coal field: First, That it contains the largest known area of rich and thick Cannel coals and, second, it contains the largest known area of thick and pure coking coals. Cannel coals of workable thickness are found in sixteen of the counties of the Eastern Coal Field, and many of these coals are remarkable for richness and purity. The following analyses from averaged samples will show the general good quality of the coals:

	First	*Second*	*Third*	*Fourth*	*Fifth*	*Sixth*
Volatile combustible matter	49.130	43.400	44.160	66.280	53.800	50.00
Fixed carbon	41.920	46.300	49.400	29.730	45.000	40.14
Ash	7.150	8.300	6.000	3.640	5.540	8.40
Sulphur	0.802	0.689	0.766	0.830	0.772	1.65

First: Cannel coal, Johnson county. Second: Cannel coal, Pike county. Third: Cannel coal, Perry county. Fourth and fifth: Cannel coal, Breathitt county. Sixth: Cannel coal, Morgan county.

When the projected roads shall penetrate Eastern Kentucky, these Cannel coals will find a market all over the country for domestic use, and for the manufacturing and enriching of gas.

The main coking coal of Eastern Kentucky has been named the Elkhorn coal, from the stream of that name in Pike county, where it was first found and proven to be a coking coal. Since its discovery a few years ago, this bed has been identified and traced as a thick coal over an area of more than sixteen hundred square miles, and has been proven by tests to produce an excellent coke over an area of more than one thousand square miles. It has been traced as a thick bed above drainage through Pike, Letcher, and Harlan counties, and over a large part of Floyd, Knott, Leslie, Perry, and Bell counties. It has also been identified as a workable coal in Wolfe, Clay, and Breathitt counties.

This coal attains its greatest thickness in Letcher, Pike, and Harlan counties, and in Wise county, Virginia, where it has been named by Professor Stevenson, the Imboden seam; but it is thick enough for profitable mining, when transportation is secured, in all of the counties mentioned above. For over one thousand square miles, it is found as a coking coal, most favorably located for cheap mining.

The following analyses, made by the Kentucky Geological Survey from carefully averaged samples, show the excellence of this coal over a wide area:

ANALYSES OF KENTUCKY COALS.

NO.	COUNTY.	*Volatile combustible material.*	*Fixed Carbon*	*Ash*	*Sulphur*
1	Letcher	34.30	58.10	6.50	0.890
2	Pike	26.80	67.60	3.80	0.967
3	Pike	33.50	60.54	3.96	0.429
4	Wolfe	37.50	55.70	4.40	0.895
5	Bell	37.90	57.78	3.12	1.030
6	Bell	38.60	57.30	2.70	0.629
7	Harlan	36.70	58.86	2.24	0.277
8	Harlan	35.30	58.24	3.36	1.290

Repeated tests have demonstrated that a superior coke can be made from these coals, and these cokes have been tested for strength and porosity with most satisfactory results. The following analyses show that the cokes from these coals possess three requisites of a good blast-furnace fuel — high fixed carbon, with low sulphur and ash:

COUNTY.	*Fixed carbon*	*Ash*	*Sulphur*	*Made from sample No.*
Pike	94.14	4.66	1.484	2
Pike	95.40	3.50	.517	3
Wolfe	91.00	4.60	.503	4
Bell	95.80	4.00	1.718	5
Bell	94.00	5.60	.629	6
Harlan	93.10	6.30	.546	7
Harlan	93.60	6.00	1.068	8

As yet this coking coal field has not been reached by railways, but roads now in process of construction will penetrate it within the next twelve months, when a great development may be confidently expected.

The following streams head in the area containing this coal and radiate from it in a manner to afford easy routes for railways to penetrate it from every direction, viz: The Pound, Elkhorn, Beaver, and Shelby forks of the Big Sandy, to the north-east; the Kentucky river, to the north and north-west; the Cumberland river, to the south-west; the north forks of the Powell's river, to the south-west and south, and the Guest river, to the south-east.

The central position of this coal, and its nearness to high grade and cheap iron ores add much to its value.

It is the nearest coking coal to Cincinnati and Louisville and the nearest good coking coal to St. Louis. It is as near Chicago as is the Connellsville coking coal, and is nearer to large deposits of Bessemer steel ore than is any other coking coal in this country.

THE GROWTH OF COAL MINING.

Concerning the growth of the mining industry in this State, C. J. Norwood, the inspector of mines, says: "Coal mining as an important industry in this State dates, practically, from 1870. Prior to that year there was comparatively little coal mined for general commerce. A few considerable mines were in existence, but they have but little effect upon the general market, the larger part of the coal used in the State itself being brought from other fields. By the building of the Chesapeake & Ohio, the Cincinnati Southern, and the Knoxville extension of the Louisville & Nashville system and the completion of the Chesapeake & Ohio, the industry was given an impetus that has carried it forward with comparative rapidity. The output of all the mines in the State for 1870 amounted to only 169,120 tons; in 1880 it had grown to 1,120,000 tons, and in 1884 the output amounted, in round numbers, to 1,550,000 tons."

During the fiscal year 1886, ending July 1, 1887, the output, according to the report of the Inspector of Mines (who has under his supervision only those employing more than five persons) was as follows:

DISTRICTS.	*Mines.*	*Net tons.*	*Bushels.*
North-eastern	8	245,122	6,128,059
South-eastern	22	633,828	15,845,100
Western	41	914,277	22,856,929
Total	71	1,793,227	44,830,088

Thus the output in seven years has doubled. Each operator has been requested by the inspector to state his probable output from July 1, 1887, to January 1, 1888, and the returns upon this request justify the following estimate of the output for the calendar year 1887:

DISTRICTS.	*Mines.*	*Net tons.*	*Bushels.*
North-eastern	8	255,161	6,379,029
South-eastern	25	663,599	16,589,969
Western	42	1,010,569	25,264,223
Total	75	1,929,329	48,233,221

July 1, 1887, there were 4,903 persons engaged in eighty-six mines, coming under the supervision of the inspector. Counting all mines, large and small, there are not less than 6,500 miners employed in Kentucky. But this is merely a beginning of the great developments that will follow during the present decade.

THE IRON ORES OF KENTUCKY.

The iron resources of Kentucky are extensive and varied. At a few localities a considerable development of them has been attained, but, taking the State as a whole, it has hardly reached a fraction of the possibilities of production.

From Harper's Magazine. Copyright, 1883, by Harper & Brothers.

KENTUCKY TROTTERS AND BARN.

The greater portion of the ore territory of the State is as yet untouched by the pick of the miner, but enough has been done in most of the ore districts to learn the quality and something of the extent of the ores. Geographically, the ore districts of the State may be divided into the Eastern and Western; geologically, the ores of the most importance may be divided into three classes, as follows:

1. The Clinton ore of the Silurian period. This is the equivalent of the dyestone ore in Tennessee and Virginia.
2. The unstratified limonites of the subcarboniferous limestone.
3. The stratified carbonites and limonites of the coal measures.

There are also ores associated with the Waverly and Devonian shales in many parts of the State, which have been worked to some extent, but they are of minor importance in comparison with the other varieties of ore. Of the three classes of ore above named, the first and the third are found in Eastern, and the second and third in Western, Kentucky. It may be said also that the ores of the coal measures are the best developed and of the most importance in Eastern, while the unstratified limonites of the subcarboniferous limestone are of the greatest value in Western, Kentucky.

It is also proper to state here that the State has been imperfectly prospected, and that it is altogether possible, and, indeed, probable, that the ores of one or another of these varieties will be found to be much more extensive and valuable than at present supposed.

EASTERN KENTUCKY.

The ore districts of Eastern Kentucky, where the ores have been manufactured, are two, known as the Red river and the Hanging Rock iron regions. The Red river iron region embraces portions of Estill, Lee, Powell, Menifee, and Bath counties. The ores found in this region are the Clinton ore, and an ore stratified resting upon the subcarboniferous limestone on the base of the coal-bearing shales. It is found both as carbonate or clay limestone, and as limonite or brown hematite. It is this ore which has been most largely worked and upon which the excellent reputation of the iron from this region has been made. The Clinton ore has not been so extensively worked but the principal deposit of it is situated geographically near this region, and may be said to belong to it.

The best known deposit of this ore in Kentucky is in Bath county, on the waters of Slate creek, and is known as the Slate Furnace ore bank. It is a stratified deposit of oolitic fossiliferous limonite, capping several hills in the vicinity. It reaches a thickness of fifteen feet at places. The area covered by the ore at this point is somewhat over forty acres, and the total amount of ore about one and a half million tons. The ore bears evidence of having been formerly a hematite, similar to the dyestone ore of the same geological horizon along the great valley from New York to Alabama, but it has lain so long, unprotected by anything except a slight covering of earth, that it has absorbed water, and been converted into a limonite. The deposit seems to be somewhat local, at least of this thickness, as it grows thin, and finally disappears in this neighborhood. The limestone which bears the ore is, however, present in a narrow vein all around the central part of the State, and it is probable that, when thorough examination is made, other deposits of the ore will be found.

The following analyses by Dr. Peter and Mr. Talbutt, of the Kentucky Geological Survey, of a sample of ore from this deposit, shows the composition of the ore :

CONSTITUENTS.	*Per Cent.*
Iron peroxide	70.060
Alumina	4.540
Lime carbonate	.040
Magnesia	.021
Phosphoric acid	1.620
Sulphuric acid	.031
Silica and insoluble silicates	11.530
Combined water	12.300
	100.142
Metallic iron	49.042
Phosphorus	.707
Sulphur	.012

The dyestone ore, a fossiliferous hematite, extends along the flank and foothills of the Cumberland mountains of Virginia, just across the State line from Kentucky, the crest of the mountain forming the line for about forty miles. It lies in two or three beds, ranging from six inches to three feet or more in thickness, and forms in the aggregate an enormous mass of easily-obtained and cheaply-reduced ore. This ore, although situated in Virginia, is of the greatest importance to Kentucky, as it is destined to be smelted with Kentucky coals, which lie on the opposite side of the mountain, and are the only coals accessible to the ore, as there is no coal to the south of the mountain.

This ore, although phosphatic to a certain extent, is easily worked, and yields from forty to fifty per cent. of iron. From this ore, smelted with stone coal, iron will probably be made as cheaply as in any region of the country. The great Pine mountain vault, which extends from some distance south of the Kentucky line in Tennessee, in a course about north thirty degrees east through Kentucky to the Chatterawah or Big Sandy river, in many places is of sufficient uplift to have brought the rocks of the Clinton or dyestone group above the drainage, and it is probable that on exploration the ore will be found in Kentucky. It has been found at the foot of the Pine mountain, in Tennessee. In Kentucky the place of the ore is usually covered deeply by the talus from the overlying rocks, which probably accounts for its not having been discovered. Should it be found along the foot of Pine mountain, in Kentucky, it will be most favorably situated for cheap iron making, as, on the opposite side of the stream which flows at the base of the mountain, there is found excellent coal in great abundance.

The limestone ore of the Red river iron region, from which the iron is manufactured which gives to the region its reputation, rests upon the subcarboniferous limestone, and from this association takes its name. It lies in a bed of irregular thickness, ranging from a few inches to three feet or more in thickness, but probably averaging, where found in any quantity, about one foot thick, or a little less. It is occasionally irregular and uncertain in its distribution, but in general it may be said that it is found in its proper position almost wherever the subcarboniferous limestone is above the drainage, along the edge of the coal measures from the Kentucky to the Ohio river. South of the Kentucky river the ore is known to extend a short distance, as far as it has been explored; but its limit in this direction is as yet unknown.

The Red river region embraces, however, only that portion between the Licking and Kentucky rivers. This region has been little developed, except in a portion of Estill county, where four charcoal furnaces have been in operation. There are many eligible sites for charcoal furnaces in this region, where timber and ore are both in abundance, and as yet untouched.

The development of this region has been retarded by the lack of transportation facilities, as the iron had to be hauled a long distance in wagons to railroad or river. This difficulty is likely to be remedied in the near future by the

construction of one or two projected railroads into or along the edge of this region, and we can then look for a largely increased production of the excellent iron from this region. The iron is of great strength, and ranks very high in the markets of the West. It is usually used for car-wheel purposes, as it is of very great strength, and chills well.

The following analyses show the character of the ore of this region:

CONSTITUENTS.	NO. 1. *Per Cent.*	NO. 2. *Per Cent.*	NO. 3. *Per Cent.*	NO. 4. *Per Cent.*
Iron peroxide	66.329	63.535	74.127	65.591
Alumina	12.532	2.798	3.542	5.762
Lime carbonate	Trace.	.450	.390	Trace.
Magnesia	.173	1.073	.461	.248
Phosphoric acid	.709	.537	.601	.447
Silica and insoluble silicates	9.720	20.480	9.580	16.230
Combined water	9.580	9.800	11.270	11.060
Total	99.043	98.673	99.971	99.338
Metallic iron	46.440	45.874	51.889	45.914
Phosphorus	.309	.234	.262	.195

No. 1, from the Richardson Bank, Clear Creek, Bath county; No. 2, from Logan Ridge, Estill Furnace, Estill county; No. 3, from Thacker Ridge, near Fitchburg, Estill county; No. 4, from Horse Ridge, Cottage Furnace, Estill county.

The above analyses were made by Dr. Peter and J. H. Talbutt, chemists of the Kentucky Geological Survey, from samples selected by the writer.

THE HANGING ROCK REGION.

The Kentucky division of the Hanging Rock iron region at present embraces the whole part of Greenup, Carter, Boyd, and Lawrence counties. The ores are stratified carbonates and limonites, occurring in the lower coal measures,

From Harper's Magazine. Copyright, 1880, by Harper & Brothers.

THE OLD ALEXANDER HOUSE.

beginning with the ore just described, resting upon the subcarboniferous limestone, and extending through 600 to 700 feet of the coal measure strata. The ores are mineralogically similar, but differ somewhat in the physical character and circumstances of deposition. They are popularly known as limestone, block, and kidney ores. They usually occur at well-defined geological levels, but do not always form connected beds. They also differ in thickness, ranging from four to eight inches in some of the thinner beds to fourteen feet in one local deposit. This latter is the Lambert ore of Carter county. The most common thickness is from six inches to one foot. There are from ten to twelve ore beds which are more than local in extent in this region. In addition, there are numerous local beds, one or more of which is found at nearly every furnace. This region supports eleven charcoal and two stone coal furnaces. The Hanging Rock iron bears a reputation for excellence for general foundry purposes which is unsurpassed by any iron in the United States.

The iron produced is mostly hot-blast charcoal iron, but some of the furnaces are worked with cold-blast for the production of car-wheel iron. The reputation of the iron of this region is, however, chiefly founded upon its excellence for castings of all sorts. The iron combines in a remarkable degree great strength with fluidity in casting and non-shrinkage on cooling. The stone coal iron of this region is used almost entirely for the manufacture of bar iron and nails.

The stone coal iron is made from the ores of this region, mixed with a considerable proportion of ore from other States. The fuel used is the celebrated Ashland or Coalton coal; it is a dry-burning, non-coking coal, which is used raw in the furnace, and is of such excellent quality that no admixture of coke with it in the furnaces is necessary, as is the case with most of the other non-coking furnace coals of the West.

The charcoal iron is manufactured exclusively from the native ores, which yield, as shown by the books at a number of furnaces, for periods ranging from one to four years, an average of between thirty-one and thirty-two per cent. of iron. The ores of the region are known as limestone, block, and kidney ores. These names are due to peculiarities of structure or position, rather than to any essential difference in chemical composition. As a rule, however, the limestone ores are the richest and most uniform in quality. The kidney ores are next in value, while the block ores present greater variations in quality than any other, some of them being equal to the best of this region, and some of them so silicious and lean that they can not be profitably worked.

The following analyses, by Dr. Peter and Mr. Talbutt, of the Kentucky Geological Survey, show the composition of some of the ores of each class in this region:

CONSTITUENTS.	NO. 1.	NO. 2.	NO. 3.	NO. 4.	NO. 5.	NO. 6.
	Per Cent.	*Per Cent.*	*Per Cent.*	*Per Cent.*	*Per Cent.*	*Per Cent.*
Iron peroxide	67.859	71.680	54.530	68.928	61.344	66.200
Alumina	1.160	4.155	2.120	2.768	4.236	3.907
Manganese brown oxide	.980	.090	1.380	.290	. . . .	.030
Lime carbonate	.120	.380	.040	.680	750	.430
Magnesia	1.275	.050	1.823	.641	.208	.345
Phosphoric acid	.143	.084	.908	.249	.795	.130
Sulphuric acid	. . . .	.270	.336	.748	.041	.182
Silica and insoluble silicates	15.560	12.650	28.360	15.240	21.480	16.530
Combined water	12.903	10.800	10.900	11.100	11.200	11.730
Total	100.000	100.159	100.397	100.644	100.054	99.484
Metallic iron	47.501	50.176	38.171	48.249	42.941	46.340
Sulphur	. . . .	.108	.134	.298	.016	.072
Phosphorus	.062	.036	.428	.098	.347	.057

No. 1, lower limestone ore, Kenton Furnace, Greenup county; No. 2, upper limestone ore, Graham bank, near Willard, Carter county; No. 3, lower block ore, Kenton Furnace, Greenup county; No. 4, upper or main block ore, Laurel Furnace, Greenup county; No. 5, yellow kidney ore, Buena Vista Furnace, Boyd county; No. 6, yellow kidney ore, Mount Savage Furnace, Carter county.

WESTERN KENTUCKY.

The most extensive and best developed ore region of Western Kentucky is called the Cumberland river iron region. It embraces the whole or parts of Trigg, Lyon, Livingston, Crittenden, and Caldwell counties. The ores of this region are limonites, found resting in the clay and chert above the St. Louis or subcarboniferous limestone. They occur in deposits of irregular shape and uncertain extent, but in the aggregate the amount of ore is immense. The ores are distributed with great irregularity throughout this region, but they seem to be found in greatest abundance and quantity where the limestone has been most extensively worn away, and where, as a consequence, the clay and chert, which are the result of its decomposition, are of the greatest thickness.

The ores are, perhaps, found in greater abundance in the country between the Cumberland and Tennessee rivers than in any other portion of this region, although there are extensive deposits on the east side of the Cumberland river which have been largely worked. As a rule, however, the deposits decrease in size and frequency in going from the Cumberland river toward the east, and after a few miles' distance from the river is reached they are scattering and small. The ores are of excellent quality, being almost entirely free from sulphur, and containing but a small amount of phosphorus; but they are sometimes mixed with chert and sand. The quality in this respect is as variable as the size of the deposits, the ore in the same deposit frequently showing all degrees of admixture with chert, from a chert breccia to a rich, pure ore, with only an occasional lump of chert inclosed. The average yield of iron, from the ore at the furnaces of this region, where it is not very carefully selected previous to roasting, is between thirty and thirty-five per cent. With careful sorting the yield can be brought much higher—from forty to fifty per cent.

The iron produced from these ores is of a very high grade. There are three active furnaces in this region which use charcoal fuel exclusively for the production of pig-iron. From this iron is manufactured the celebrated Hillman's boiler-plate, of which it is said by the manufacturers that no boiler constructed of this iron has ever exploded. This iron ranks equal or superior to any other boiler-plate manufactured in the United States. It is used largely for steamboat and locomotive boilers, for which latter purpose it finds an extensive market, even as far as the Pacific Slope.

Considerable ore from this region has been shipped to furnaces at a distance, but within the past two years the depressed condition of the iron market has rendered this unprofitable. This region is well situated as regards transportation facilities, it being drained by two navigable rivers, the Cumberland and Tennessee, and on the lower border by the Ohio, so that the iron manufactured here can be very cheaply placed in market. The following analyses of two samples of ore from this region are by Dr. Peter and Mr. Talbutt, of the Geological Survey:

CONSTITUENTS.	NO. 1.	NO. 2.
	Per Cent.	*Per Cent.*
Iron peroxide	59.370	70.518
Alumina	1.622	.045
Manganese	.090	.190
Lime carbonate	.170	.090
Magnesia	.100	Trace.
Phosphoric acid	.179	.275
Sulphur	.212	.045
Silica and insoluble silicates	30.000	18.910
Combined water	8.400	9.850
Total	100.143	99.923
Metallic iron	41.559	49.363
Phosphorus	.007	.120

This same variety of ore is found, in greater or less quantity, in many other counties where the St. Louis limestone is the prevailing rock formation, but in none of them, save those mentioned, has any extensive iron industry been established. In the Cumberland river region there are many furnace sites unoccupied where iron can be cheaply and profitably manufactured. This region is capable of, and destined to, a much greater development than it has yet attained. The charcoal-iron manufacture will always be an important and extensive industry, for over a large part of the region the most profitable use that can be made of the land is the production of timber for charcoal. There is destined, at no far-distant day, to be a large stone coal or coke iron industry established here, using the ores of this region with the coals of the Western Kentucky Coal Field, either raw or coked. The best known of the Western coals at present are too sulphurous for use in iron making, without previous separation from sulphur by washing and coking. It is through the introduction of modern machinery and ovens, by which these operations can be cheaply and thoroughly effected, and a coke fit for iron smelting produced, that the coal and iron ore of Western Kentucky will be most profitably and extensively developed. The Louisville, Paducah & South-western Railroad affords direct communication between the coal and ore fields. Already measures are in progress for the erection of extensive coke works on the line of the railroad, which will doubtless prove but the first step in the successful development of a different form and more extensive iron industry than any yet established in Western Kentucky.

THE NOLIN RIVER DISTRICT.

In Edmonson and Grayson counties, north of Green river, between Nolin river and Bear creek, is an area of considerable size, called the Nolin river district. The ores of this region are stratified carbonites and limonites, found near the base of the coal measures; the ore of the most value occurs above the conglomerate. It is about four feet thick, and so far as present development indicates, underlies an area of large extent; it is almost wholly undeveloped. A number of years since, a small charcoal furnace was established on Nolin river, but it was so far from market, and transportation of the iron was so uncertain and expensive that the enterprise soon failed. It ran long enough, however, to establish the fact that an excellent iron could be made from these ores.

From Harper's Magazine. Copyright, 1884, by Harper & Brothers

VIEW OF A ROYAL FAMILY.

The following analyses, by Dr. Peter and Mr. Talbutt, show the quality of a sample of this ore from near the head of Beaver Dam creek, in Edmonson county:

CONSTITUENTS.	*Per Cent.*
Iron peroxide	52.926
Alumina	4.792
Manganese	.210
Lime carbonate	.180
Magnesia	.425
Phosphoric acid	.355
Sulphuric acid	.143
Silica and insoluble silicates	30.580
Combined water	10.400
Total	100.011
Metallic iron	37.048
Phosphorus	.154
Sulphur	.057

In addition to the great amount of timber available for charcoal, stone coal in abundance occurs in the same region. This coal is the lowest of the series, and is the most excellent quality, analyses showing it to be far superior to the higher coals of Western Kentucky, which are the ones more generally mined.

This region is more accessible than formerly, as it lies within fifteen miles of the Louisville, Paducah & South-western Railroad; but the lack of transportation facilities directly to it has prevented its development. It is one of the most richly endowed undeveloped iron regions in the State.

In many other localities in the Western coal field iron ores have been found, but they have not been thoroughly prospected, and little is shown of their extent. One of the best known localities of this sort is in Muhlenburg county. In this county are found, at Airdrie Furnace, on Green river, and at Buckner Furnace, near Greenville, deposits of so-called black-band iron ore—a ferruginous, bituminous shale, yielding about thirty per cent. of iron.

At Airdrie Furnace this ore rests immediately above an excellent coking coal, and the two can be mined together very cheaply. At this place iron can be produced very cheaply by bringing ore from the Cumberland river region and using it in admixture with the native ore. For a more detailed description of this locality, see report in the second volume, new series, "Kentucky Geological Reports on the Airdrie Furnace."

The above described localities embrace all the most important iron ore districts of the State. There are numerous ore deposits at other places, some of which have been worked, but in comparison with the others, to a small extent only.

OTHER ORES.

Lead: In nearly all of the regions where the St. Louis group is fully developed more or less lead has been found. The only mining that has been done for the metal, however, has been in Livingston, Crittenden, and Caldwell counties. In Livingston and Crittenden counties a number of pits and excavations of various sorts have been dug for the purpose of working the deposits. With possibly one exception, however, the work has so far proven unprofitable. In Crittenden county considerable lead has been found at a point known as the Columbia mines, leading to the supposition that economically managed they may be wrought at a small profit. So far these lead mines had to contend with the production from the mines in the Rocky mountains, where a large quantity of this metal has been produced, almost without cost, in the reduction of ores for their silver. Should this competition in time be removed, they would become more important sources of profit.

Zinc: Zinc is frequently found in the form of sulphide (black jack) accompanying the lead. It has never been found in sufficient quantities for working.

Fluor-spar: Fluor-spar is found in more or less liberal quantities throughout the lead region. In Crittenden county, northwardly from the Columbia mines, fluor-spar is found in great abundance. Considerable deposits of the massive variety, very white and apparently free from impurities, are found at the Memphis mines and vicinity. It is not unlikely that other important deposits may be found.

Marl beds: One of the most interesting results of the geological survey was the discovery of potash and soda in some of the marls of the Chester group, in such quantities as to prove them valuable as fertilizers.

Attention was first directed to the deposits near Leitchfield, Grayson county, and now they are searched for with interest wherever the Chester group is known to occur. They have been found in Grayson, Edmonson, Breckinridge, Caldwell, Christian, and Livingston counties. Their entire extent is unknown, but it is not improbable that further explorations may prove their existence wherever the Chester group is fully developed.

Scarcely too high an estimate can be placed on these marls in Kentucky, as they constitute a ready and cheaper fertilizer for tobacco lands, the properties of the marl being to renew the vigor of the soil as it is impoverished by the tobacco. The infertility of much of the land is largely due, not to original poorness, but to the exhaustion produced by tobacco; these potash marls are expected to serve in placing the lands once more in a fertile condition.

Following is the analyses of a sample of marl collected from Haycraft's Lick, Grayson county:

(Composition dried at 212° Fahrenheit.)

CONSTITUENTS.	*Per Cent.*
Alumina, iron, etc., oxides	27.811
Lime, carbonate	.880
Magnesia	.824
Phosphoric acid	.109
Potash	5.554
Soda	.657
Water and Loss	4.245
Silica and insoluble silicates	59.920
Total	100.000

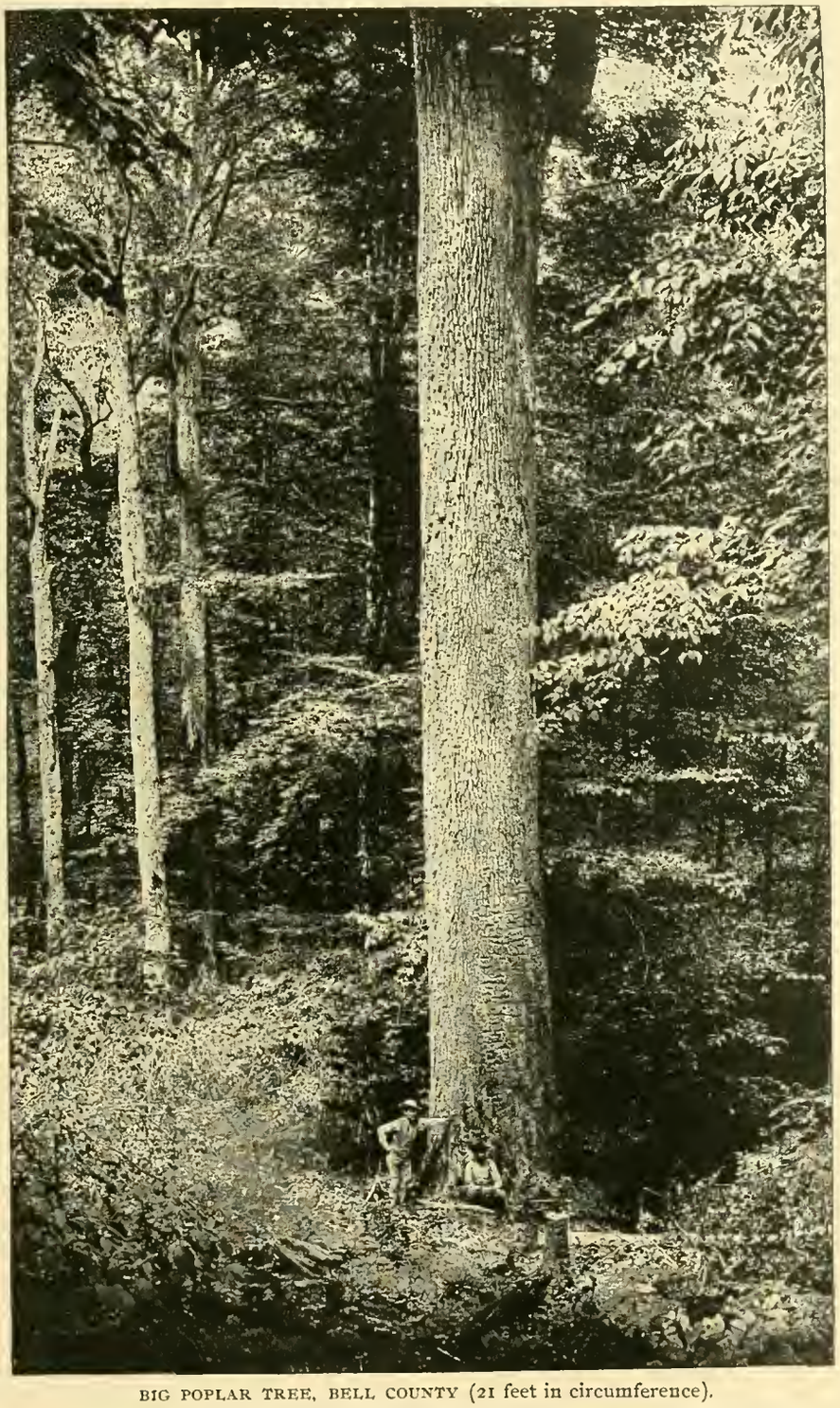
IRON MANUFACTURE IN KENTUCKY.

The original iron enterprise in the State is said by an early writer upon Kentucky history to have been a small furnace built by government troops on Slate creek, a branch of the Licking river, in Bath county, in 1791. It was successfully operated until 1838. In 1810 there were four furnaces and three forges in the State, two of the former being located in Montgomery county and one each in Estill and Wayne counties, with a forge in each county named, that supplied the neighborhood with blacksmithing irons and castings. In 1815 Lexington had four nail factories, that turned out seventy tons of old-fashioned wrought nails annually. During the same year a Greenup county farmer smelted in a cupola the first iron ore used in the Hanging Rock district, and the business proving successful, he, with two partners, in 1817 built the first blast-furnace in that district. It was located on the left bank of the Little Sandy river, about six miles south-west of Greenupsburg. It had a twenty-five-foot stack and was six feet wide at the boshes, and was merely an excavation in the solid argillaceous rock of a cliff, the archway below being excavated to meet it.

This furnace was operated until 1837 and never turned out a great amount of iron. In 1824, Messrs. Ward & McMurty built the Pactolus furnace, in Carter county, a few miles above that just described, but it was abandoned like the other in 1837. The Pactolus had a large forge which was operated in connection with it during the period named. In 1824 there was likewise a steam furnace in Greenup county, three miles from the Ohio river and five miles from Greenupsburg. This was abandoned in 1860. Bellefonte furnace, on Hood's creek, near Ashland, in Boyd county, was

erected in 1826 by A. Paull, George Poague, and others. It was the pioneer enterprise in that county and is still being operated in a small way. From 1818 to 1834 thirteen furnaces were built in Carter, Boyd, and Greenup counties, all of which, after a short existence, were allowed to become disused and valueless.

Subsequent to 1834 a number of charcoal furnaces were operated in these three counties and in Lawrence county for a considerable period, but nearly all have been abandoned long since, and these were followed later on by a few bituminous coal and coke furnaces, which have all met the same fate. In 1830 there were at least a dozen forges in Greenup, Estill, Edmonson, and Crittenden counties, but by 1850 all, with one exception, had ceased to be operated. These forges turned out blooms, which were disposed of at Pittsburgh, Cincinnati, and Kentucky rolling-mills. At this time there is but one forge in the States, at Red river, in Estill county, and it is not active, all this remarkable decay being attributable to the difficulty of getting the product of furnaces and bloomeries to a profitable market. Outside of the Hanging Rock district, prior to 1860, furnaces were built in several counties lying in the central and western parts of the State; in Bath, Bullitt, Russell, Muhlenburg, Nelson, Lyon, Crittenden, Trigg, Calloway, and Livingston counties, but none are now in existence. During this period eight rolling-mills were operated also, but at present there are but two establishments of this kind in the State actively employed, one at Covington, another at Louisville.

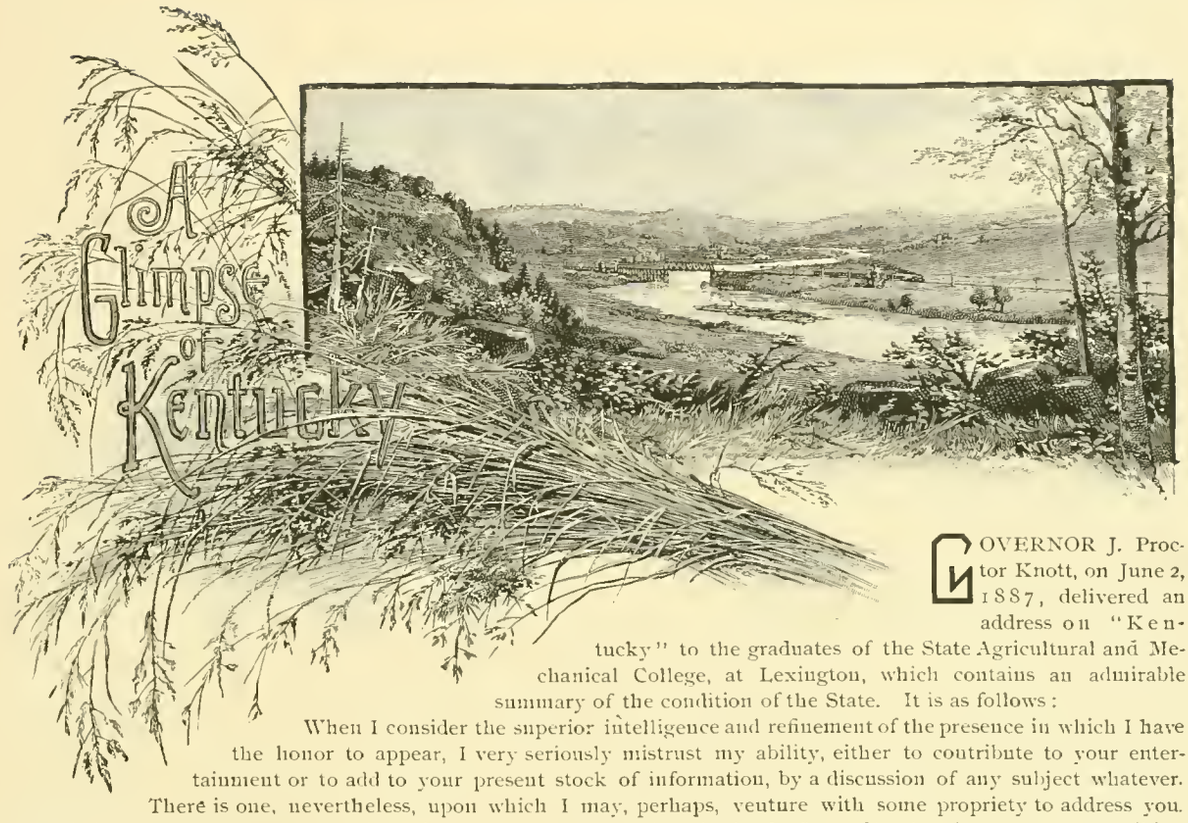


BIG POPLAR TREE, BELL COUNTY (21 feet in circumference).

Viewing the rapid development that has been made in routes of transportation since the close of the war period, it is remarkable that Kentucky has permitted her vast iron resources to remain unimproved. In 1870 the State was seventh among iron-producing States and eleventh in 1880, while now she occupies a much lower position on the list. With the advent of the various railroads of Eastern Kentucky into the heart of the richest coal and iron districts of the State it may reasonably be expected that all previous difficulties in the way to a profitable working of iron in the Red river region will be removed, and that this industry will receive such an impulse that it can never again fall back to its present position.

The rush of investment and impulses of development into the coal and iron sections of Kentucky during 1887 have been so impetuous and vigorous as to leave little doubt that the next five years will see the immense stores of natural

wealth fully opened to enterprise. Railroads that were projected many years ago have been put under contract, and many miles of track have been laid. In the iron and coal-bearing district of Western Kentucky new lines of railroad have aided to organize several furnace projects, and the coking coals have been promisingly opened. In Eastern and South-eastern Kentucky, new lines of transportation have already reached the edge of the coal fields, and discoveries of deposits of finest iron ores have been made where they were not expected. The probability is that the north side of the Pine mountain range contains a continuous and extraordinarily rich deposit of iron ore that will make every railroad built into the section profitable. The Louisville & Nashville Railroad is now preparing to build its line to a junction with the Norfolk & Western, at Big Stone Gap, and all that remains to be decided is whether the route shall be up the Cumberland Valley of Kentucky or Powell's Valley in Tennessee. This concentration of energy and development means a rich and powerful future for Louisville, the already great industrial city, straight on the road to the great markets North and West. The next ten years will see Kentucky one of the greatest industrial States in the Union and Louisville almost doubled in population.



GOVERNOR J. Proctor Knott, on June 2, 1887, delivered an address on "Kentucky" to the graduates of the State Agricultural and Mechanical College, at Lexington, which contains an admirable summary of the condition of the State. It is as follows:

When I consider the superior intelligence and refinement of the presence in which I have the honor to appear, I very seriously mistrust my ability, either to contribute to your entertainment or to add to your present stock of information, by a discussion of any subject whatever. There is one, nevertheless, upon which I may, perhaps, venture with some propriety to address you. Descended from an ancestry who made their homes on "The Dark and Bloody Ground" when it was a savage wilderness, with danger and death lurking on every hand; born upon the bosom of the Commonwealth which they, in their humble sphere, assisted to create while the tomahawk and the scalping knife were gleaming around them; inspired with a passionate pride in her prosperity and her prestige from my earliest youth; the recipient of the most distinguished honor within the gift of her generous people, and standing beneath the shadow of this splendid institution of learning—the offspring of her enlightened bounty, and the object of her fostering care—I feel that I may at least speak to you of Kentucky; of her resources, her progress, and her possibilities.

I desire, however, to have a distinct understanding with you at the outset. I do not propose to abuse your courtesy, or weary your patience with well-worn platitudes. I have no inflated panegyric to pronounce upon the chivalry of her sons, or the beauty of her daughters; no fervid protestation of impassioned patriotism to make; no fanciful theories to advance, and no gaudy display of stilted rhetoric, or studied declamation to exhibit. All I have to offer you is a plain, unpolished statement of established facts, with, perhaps, an occasional suggestion of such conclusions as may be readily deduced from them by your own enlightened judgments.

With the singular State pride characteristic of the native Kentuckian, we are accustomed to congratulate ourselves that our own State is the most heaven-favored land beneath the shining sun, and that, too, very frequently, without anything like an intelligent appreciation of the vast variety of fortunate circumstances which so abundantly justify that gratifying conclusion. Yet, with all this happy self-satisfaction, we are overwhelmed with amazement when we come to realize, in the light of well authenticated facts, the astounding munificence with which we are endowed with all the natural elements of material prosperity and grandeur.

CLIMATE.

The very air around us seems to kiss the fair face of our State with affectionate fondness, breathing upon it a delicious and health-giving influence, and thrilling all the manifold forms of organic nature within her bosom with superior life and vigor. This is no mere fanciful idea. It is a simple truth, attested not only by our own experience, but by a variety of familiar facts, which prove conclusively that we are not only favored with a mild and salubrious climate, but with one in every respect among the most desirable to be found upon the globe. While the seasons are more regular in succession, more nearly equal in their duration, and more distinct in the characteristics peculiar to each, than is usual in other latitudes, it has been demonstrated by careful observations, made by the Signal Service through a series of years, that its lowest temperature in winter very rarely reaches zero, while its maximum heat in summer is frequently far below that of Boston, Montreal, Chicago, or St. Paul.

Thus free from the ever-acting influences of the protracted summers of the South and the disadvantages of the long and rigorous winters of the North ; with each successive season performing its beneficent functions within its appointed time, our climate is in every particular most favorable to the prosecution of industrial enterprise, and the promotion of physical development. Our cattle are frequently found upon the pasture during the entire winter, requiring but little additional food, while there is rarely a time in winter or summer when a laboring man can not perform a full day's work with comparative comfort in the open air.

To this remarkably favorable climate we are indebted in a great measure, no doubt, for the well-known speed and endurance of our horses, and the superior development of all our domestic animals which has made the name of Kentucky famous throughout the world. But its wonderful salubrity is attested in a still more striking degree, not only by our comparatively low rate of annual mortality, but by the extraordinary size and strength of our adult population. Mark me, I do not merely assume this. The official tables of measurements taken during the war between the States show that among the hundreds of thousands of volunteers from all parts of the Union, including natives and foreigners, those born and reared in Kentucky and the adjoining State of Tennessee, exceeded all others in their average height, weight, size of head, circumference of chest, and ratio of weight to stature.

AGRICULTURE.

But while we are thus singularly fortunate in our climate we are no less favored in the fertility of our soil and the variety of its products. I stand at this moment upon one of the most wonderful plateaus to be seen upon the broad and varied face of this spacious earth ; a tract of near ten million acres of land, beauteous as the poet's dream of Cashmere ; bounteous as the valley of the Nile — resting like a jeweled diadem upon the queenly brow of my native Commonwealth. When I look over its broad and undulating fields, teeming with almost every variety of product known to our latitude, and see its peaceful pastures, carpeted with perennial green, with their quiet flocks and splendid herds reposing upon the shady banks of murmuring streams, I almost feel that it would be but a rude awakening from a most delicious dream to think of other portions of the State at all. But when I recur to that marvelously beautiful and prolific scope of country including portions of Warren, Simpson, Logan, Todd, Christian, Trigg, and Caldwell, or to the wonderful grain producing counties of Daviess, Henderson, and Union, or to the rich alluvial bottoms skirting our innumerable water-courses everywhere, or to the generous uplands to be found in almost every agricultural county in the State, I congratulate myself that there are numerous sections of Kentucky which rival, if they do not surpass, her own far-famed " Bluegrass Region " in many of the products of her soil.

In fact, there is scarcely a county in the State in which, with proper cultivation, almost any commodity within the agricultural range of our climate might not be produced, not only in sufficient quantities for home consumption, but with a profitable margin for export to less favored sections. In some one or more of those commodities, there has not been a decade from 1810 to the present, in which Kentucky has not far outstripped all her sister States, notwithstanding the fact that at least one-half her primeval forests remain to this day untouched by the woodman's ax. This is especially true of tobacco, which has probably contributed more to the actual wealth of the State within the last thirty years than all other crops combined, having produced to the grower during that period, according to reliable records, over $267,000,000, or an average of $8,900,000 per annum ; and so general has been the distribution of that enormous sum throughout the State that there is scarcely a single county which has not received some portion of it. This fact alone is sufficient to show that in our agricultural resources themselves we possess a mine of wealth exceeding all the gold of California.

TIMBER.

But I remarked a moment ago that fully fifty per cent. of our virgin forest still stands where it was planted by the hand of providence centuries ago. That is true ; and if you would form some faint estimate of the enormous extent and value of that tremendous source of wealth to our State, you have but to pass along the streams which find their source in our mountains and count the thousands and thousands of rafts which line their banks, all made up of the most valuable hardwoods to be found on the continent. And yet if you would go to the fountain head you would be amazed to find the diminution of the original stock almost inappreciable, notwithstanding this constant and enormous depletion.

WATER-COURSES.

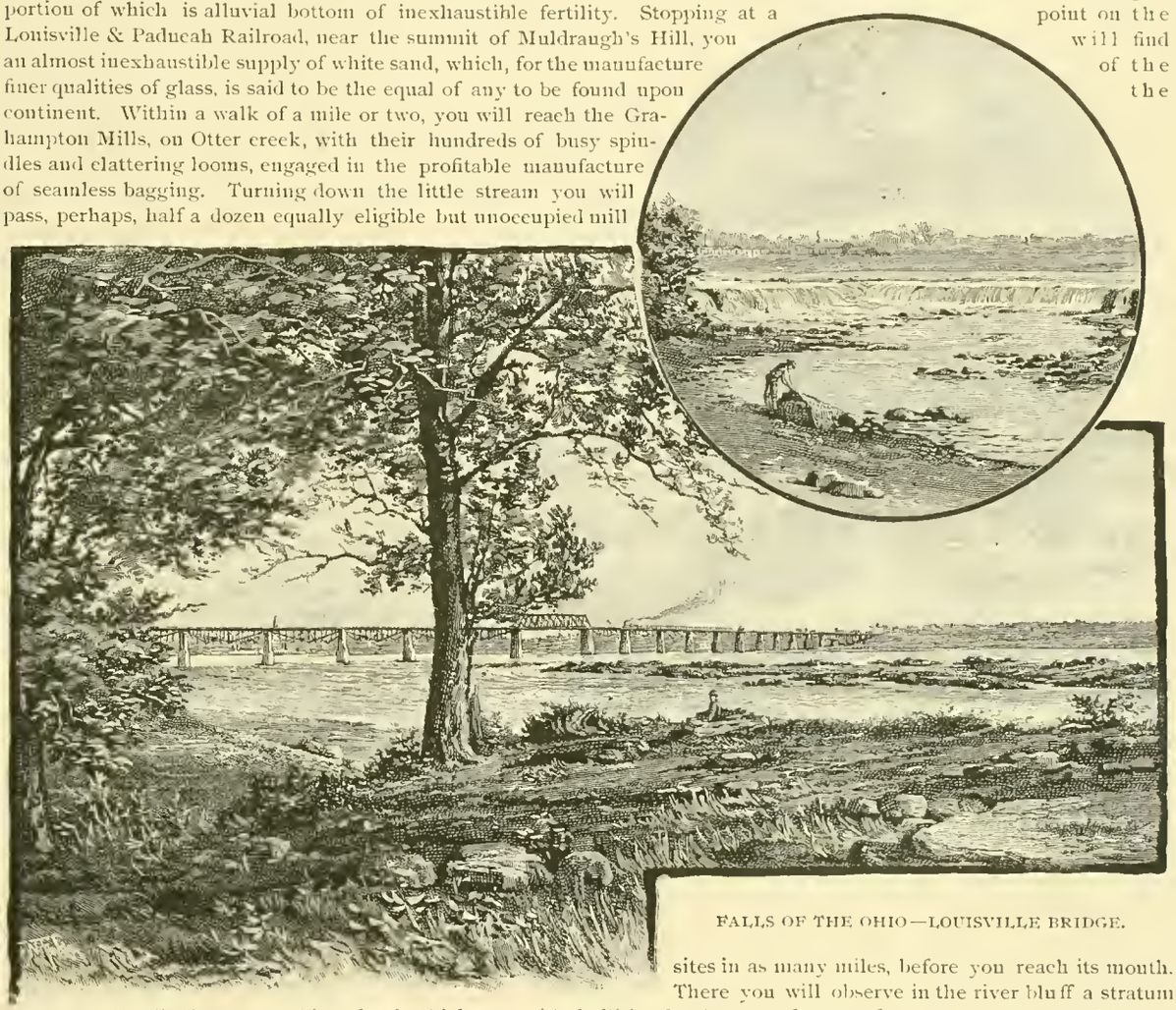
But speaking of these countless rafts of valuable timber reminds me of another natural advantage we enjoy, the importance of which it would be almost impossible to overestimate. I allude to our extraordinary facilities for water transportation. Besides our navigable water boundary of eight hundred and thirteen miles our territory is penetrated by more miles of natural water-ways adapted to commercial transportation than any other State in the Union. We have largely over a thousand miles already navigable at all stages of water, and it is estimated that there are over three thousand miles in addition, which can be readily made so by the ordinary methods of river improvement. These streams traverse directly or connect with wide districts, abounding in almost every variety of agricultural product, filled with inexhaustible deposits of valuable minerals, or covered with enormous forests of the finest timber in the world, giving access to the entire Mississippi system of inland navigation, reaching nearly twenty-five thousand miles in extent.

MINERAL RESOURCES.

But if the natural advantages of Kentucky, thus patent to the most casual observer, are so extraordinary, they are not more so than the inconceivable stores of hidden wealth which lie beneath her surface, waiting for the hand of intelligent enterprise to drag them forth. Building stones of great variety and excellent quality abound in almost every section of the State. The petroleum wells of Barren, Cumberland, and Wayne counties have been yielding up the their treasures for years, and there are the strongest reasons for believing that enormous reservoirs of the same material exist in other localities yet untried. Extensive deposits of marl sufficiently impregnated with potash and soda to render them as valuable as fertilizers for some soils as the phosphate beds of South Carolina have already been discovered in Grayson, Edmonson, Breckinridge, Caldwell, Christian, and Livingston counties, and are, no doubt, to be found in equal or greater quantities in other sections of the State where similar geologic conditions exist.

Fire and pottery clays of the finest quality occur in great abundance beneath the gravel beds of the Tennessee river, in numerous places in Central Kentucky, and throughout the extensive coal measures in both the eastern and western portions of the State. What the value of some of these clays might be if the experiments now being made with a view of producing aluminum at a cost that would render it an article of common use is, no doubt, a matter of pleasing speculation to you, especially, who sit at this moment within less than an hour's travel of a single deposit amounting to millions on millions of tons, which would yield from fifty to sixty per cent. of that very remarkable and valuable metal.

But one of the most striking illustrations of that singular combination of a variety of natural resources, which is to be found nearly everywhere in Kentucky, may be seen in a few hours of leisurely travel along a portion of the border of Meade county, bounded on the north by a bend of the Ohio, with over seventy-five miles of river front, a large proportion of which is alluvial bottom of inexhaustible fertility. Stopping at a point on the Louisville & Paducah Railroad, near the summit of Muldraugh's Hill, you will find an almost inexhaustible supply of white sand, which, for the manufacture of the finer qualities of glass, is said to be the equal of any to be found upon the continent. Within a walk of a mile or two, you will reach the Grahampton Mills, on Otter creek, with their hundreds of busy spindles and clattering looms, engaged in the profitable manufacture of seamless bagging. Turning down the little stream you will pass, perhaps, half a dozen equally eligible but unoccupied mill sites in as many miles, before you reach its mouth. There you will observe in the river bluff a stratum of pure hydraulic limestone, thirty feet in thickness, with facilities for the manufacture of more than a thousand barrels of cement a day, gravitation being the only motive power required to remove the stone from the quarry to the kilns, from the kilns to the crushers, and from the crushers to the deck of the steamer, or the barge below. Dropping down the river a few miles along the margin of broad bottom fields you will come to a rich deposit of pottery clay, reaching within a few feet of the water's edge, where the manufactured commodity can be removed out of the workshop or the wareroom on to the boat. A mile or two further down you will reach the celebrated Moreman salt well, which for more than twenty years has been continuously pouring out its briny torrent with more than sufficient fuel in the form of natural gas to reduce its waters to a salt, which has been awarded the first premiums in Europe and America; and in less than a mile further you will find a steam flouring mill, which has been running for years with heat furnished entirely by the same convenient and inexpensive material.



FALLS OF THE OHIO—LOUISVILLE BRIDGE.

I might extend this picture almost indefinitely, but I need not detain you with such things as these. Interesting as they are to me, and important as they may be to others, they seem dwarfed into insignificance when compared with the measureless wealth of our State in

COAL AND IRON.

Of these it might be sufficient to say, in an address like this, that the combined area of the coal fields of Kentucky is greater, in superficial extent, and in the aggregate thickness of their workable beds, than those of Pennsylvania, or of Great Britain and Ireland together. That they underlie the whole or part of twenty-nine counties of our State comprising over fourteen thousand square miles, in a territory of only forty thousand four hundred; and that through-

out these vast and inexhaustible measures, containing almost every variety of coal, or in convenient proximity to them, are to be found abundant deposits of rich and valuable iron ores, from which may be produced a quality of iron, for many purposes unequaled by any other in the world.

I trust you will pardon me, however, if I shall be somewhat more specific. We hear it frequently said, that with all our wonderful deposits of coal we can never compete with Pennsylvania; that a single flood in the Ohio river will fetch from Pittsburgh more coal than we can bring to market from our mines in a year; and that, with all our abundance of superior iron ores, our want of transportation facilities will forever prevent our competing with Alabama and Tennessee in the production of iron. And I am free to admit that if we had no water transportation of our own, and if coals were used only by those living along the Ohio, and if it were impossible to construct railways, or to transport the products of our mines over them at rates which would be profitable to the carrier without being oppressive to the producer, there might be some force in these somewhat exaggerated objections. But we shall presently see that shrewd, far-seeing business men, who have large capital to invest, are taking a very different view of the matter, and that these objections have really no foundation, either in reason or in fact.

The census report on the statistics of iron and steel production in the United States for 1880 shows that "the average distance over which all the domestic iron ore, which is consumed in the blast furnaces of this country, is transported is not less than four hundred miles; and the average distance over which the fuel which is used to smelt it is hauled is not less than two hundred miles."

Now, in the light of these facts, let us look, for a moment, at our Western coal fields, underlying nine counties and embracing an area of over four thousand square miles.

Instead of a haul of four hundred miles for our ores, or two hundred for our fuel, we find these tremendous measures side by side, with the rich deposits of iron in the counties of Grayson, Edmonson, and Butler, on the east, and the great Cumberland river iron region, extending through the counties of Crittenden, Caldwell, Livingston, Lyon, and Trigg, on the west, while in the very heart of the fields themselves—as may be seen in Muhlenburg—there are localities in which the ore is found resting immediately above an excellent quality of coking coal, so that both can be mined together with comparatively little expense.

We find them, moreover, almost if not quite as convenient to water transportation as the coal mines of Pennsylvania—touching the Ohio at Dekoven, connected with the Cumberland within a trifling distance by rail, and penetrated by the Tradewater and Green rivers, both navigable streams. But this richly-endowed section of our State is not only fortunately located with regard to the great Mississippi system of inland navigation, but it has for years past been attracting the attention of intelligent capital, and its coal measures and iron beds are being rapidly gridironed by railways. The Newport News & Mississippi Valley Railway passes directly through them from east to west, while they are traversed from north to south by railroads leading from Owensboro to Russellville; from Henderson to Nashville; from Princeton to Clarksville; and from Henderson through the counties of Union, Crittenden, and Caldwell, to the ore beds of Trigg, where the proprietors of the Dekoven mines are making preparations for the extensive manufacture of iron.

Apart, however, from all idea of developing an extended or profitable iron industry in the western portion of our State, the fact remains that it is brought into immediate connection with the great and continually widening railroad systems of the South and South-west, the larger parts of which extend through regions entirely destitute of coal; and that alone is sufficient to insure heavy and constantly increasing drafts upon the enormous treasures of its coal fields until long after this generation shall have passed away.

But let us look for a moment at our Eastern coal measures underlying twenty counties, with an area of over ten thousand square miles, a treasure house of such inconceivable dimensions that the imagination reels and recoils from the vain attempt to compass them. To say nothing of the vast deposits of Cannel and other superior coals suitable for steam and domestic purposes, they embrace a remarkable variety, in strata from three and a half to nine feet in thickness, covering an area of a thousand square miles or more, extending through portions of Pike, Letcher, Harlan, Leslie, Breathitt, Floyd, Perry, and Knott counties, and from which a coke can be made in every respect superior to the far-famed coke of Connellsville, which has for years cut such a conspicuous figure in the industrial history of our country. But what of all that? Can those vast treasures ever be utilized? Where is the key which is to open their hidden vaults? Let us see.

There are now in the United States, in round numbers, 129,000 miles of railway, and new lines are being constructed at the rate of hundreds of miles each succeeding year, all of which must be supplied with steel, which is rapidly taking the place of, if it has not already superseded, the iron rail formerly in universal use. Consequently, Bessemer steel has not only become, but must always continue to be, one of the most important and indispensable articles of commerce. The principal part of the ore for the manufacture of this commodity in the United States is derived from the mines of Lake Superior, from which there were shipped within the last year 5,000,000 tons, costing at Cleveland, Ohio, from $7.25 to $7.50 per ton.

But fuel is as indispensable to the production of steel as the ore itself, and Connellsville coke is carried over six hundred miles to the blast furnaces of Chicago, and over seven hundred and fifty to those of St. Louis. Now, while this is true, there lies within ninety miles of the vast fields of coking coal in south-eastern Kentucky, a bed of iron ore more extensive than the enormous deposits of Missouri and Michigan, which has been ascertained by actual test and pronounced by competent authorities to be unsurpassed by any on the earth for the production of Bessemer steel, and which, with proper railroad facilities, could be delivered in the heart of these extraordinary coal measures at a cost not exceeding two dollars and a half per ton.

In addition to this, these coals are within easy reach of the Red river iron region, embracing portions of Estill, Lee, Powell, Bath, and Menifee counties, and the Hanging Rock region of Greenup, Carter, Boyd, and Lawrence, and still more convenient to the enormous masses of fossiliferous hematite and other excellent ores extending along the foothills of the Cumberland mountains, just across the line from Kentucky, and which must depend upon the coals of this section of our State for smelting purposes.

In view of such facts as these it is by no means singular that the attention of intelligent and enterprising capitalists is being steadily concentrated upon this marvelous combination of stupendous natural advantages. Not only have many of the more wealthy and sagacious business men of our own State made large purchases of timber and mineral lands in this remarkable section, but similar investments have been recently made by large steel and iron manufacturers in England, in the Eastern States, and from the flourishing, but less favored, localities of Chattanooga and Birmingham.

Three railways from the north and west, already partially constructed, are reaching for the vast treasures of this wonderful region. One up the Cumberland Valley from the Louisville & Knoxville Railroad, furnishing an all-rail connection with our own splendid commercial metropolis, and the great cities of Cincinnati, Chicago, and St. Louis in one direction, and with the great and constantly expanding system of southern railroads in the other; the Kentucky Union, which

By permission of Prof. Jos. Desha Pickett, Superintendent of Public Instruction.

THE MOUNTAIN SCHOOL—A WARM DAY.

will no doubt ultimately find one of its termini in your own beautiful city; and the third up the valley of the Big Sandy, bringing its coals in almost immediate contact with our north-eastern ores, and one of the rich iron regions of Ohio.

There are four other railroads now in process of construction from the East and South, all concentrating upon this same fabulously favored section of our State. The Norfolk & Western, which will furnish it direct connection with the Atlantic coast; the Cape Fear & Yadkin Valley; the South Atlantic & Ohio, and the Charleston, Cumberland Gap & Chicago, all leading through the richest iron regions of the South, and furnishing easy communication with an enormous territory almost, if not entirely, destitute of coal.

Now, when we remember that the demand for coke for the manufacture of iron and steel is increasing every year at a tremendous rate; that for this purpose it is frequently transported over a thousand miles by rail; that these coal measures will furnish a greater quantity and better quality of that material than any other locality in the world; that they are in almost immediate proximity to an inexhaustible supply of the best and cheapest Bessemer steel ore to be found on the globe; that they are nearer the center of population of the United States, and to Louisville, Cincinnati, and other great manufacturing cities, as well as to the ore regions of South-western Virginia, Western North Carolina, and East Tennessee, than any other extensive deposit of similar coal yet discovered; and that with the Kentucky river navigable to the Three Forks, and the railroad facilities I have mentioned, it will find a cheap and ready market for all its products of timber, coal, and iron, we may begin to form some conjecture of the capacity of this remarkable region to contribute to the prosperity and grandeur of our State. And here I trust you will pardon me for saying — as a matter

of justice to a most excellent and faithful, but poorly paid public officer—that for the prospect of the early and rapid development of this wonderful section of our State, we are mainly indebted to the able and efficient Director of our Geological Survey, Mr. John R. Procter, whose patient, persistent, intelligent, and unpaid efforts in directing the attention of railroad companies and other capitalists in Europe and America to its astonishing resources has done more to promote the progress of Kentucky than all her politicians combined.

PROGRESS.

Permit me also in this connection to disabuse your minds, if they have been unfortunately imbued with the impression which appears to be prevalent among many, that there is really no such thing as "progress" in Kentucky at all. We hear of booms in Tennessee, booms in Alabama, booms in Kansas, and booms in other States, but none in our own, and I am glad of it. I prefer the steady, healthful glow of the sunlight to the startling but momentary glare of the meteor, and I propose to show, by a brief reference to a few well-authenticated data, that in those things that constitute a sound, substantial prosperity, the progress that Kentucky is making is not only gratifying, but far in advance of some of the States with which she has frequently been invidiously compared by many who appear to have been totally ignorant of the real facts.

The latest report upon the internal commerce of the United States, made by the Bureau of Statistics at Washington, shows that the amount of capital invested in mining and manufacturing industries in Kentucky during the two years ending December 30, 1886, was $46,707,200—$20,022,200 more than in Alabama, notwithstanding all that has been said of her remarkable progress—$30,233,200 more than in Arkansas; $3,558,200 more than in both combined, and, with the exception of those two $7,336,400 more than all the other Southern States together; and that the increase in 1886 was $10,100,800 greater than in 1885. The same authority shows that the increase in the value of products manufactured in the State from 1880 to 1885 was $16,109,000 greater than the increase for the entire preceding decade; that while the increase in the sales of leaf tobacco in the great market at Louisville was 22,279 hogsheads, or fifty-four per cent. for the ten years from 1870 to 1880, the increase for the following five years was 42,399, or sixty-five per cent., reaching the enormous amount of 107,670 hogsheads in the single year 1885; while for the same year—the last one reported—we had an increase upon the one preceding of 8,124 mules, 11,156 horses, 28,196 cattle, 334,000 bushels of wheat, 18,680,000 bushels of corn, and 17,455,000 pounds of tobacco.

A Mountain Homestead.

Our healthy and conservative progress, especially as regards the commercial growth of our beautiful and prosperous metropolis, is more strikingly exhibited, however, by the records of the Louisville Clearing House, which show that the clearings for the year ending December 31, 1886, were $233,282,262.23, against $107,349,171 for 1876, or $18,583,918.23 more than twice as much; and that for the five months just closed there was an increase of $18,664,323 upon the clearings for the corresponding five months of last year.

To these facts, which are of themselves abundantly sufficient to show the gratifying prosperity of Kentucky, it may be added that we now have under contract and in process of rapid construction five hundred and one miles of new railroad, against one hundred and one miles constructed last year—more, in fact, than can be claimed for any other State in the Union, with, perhaps, a single exception.

TAXATION AND DEBT.

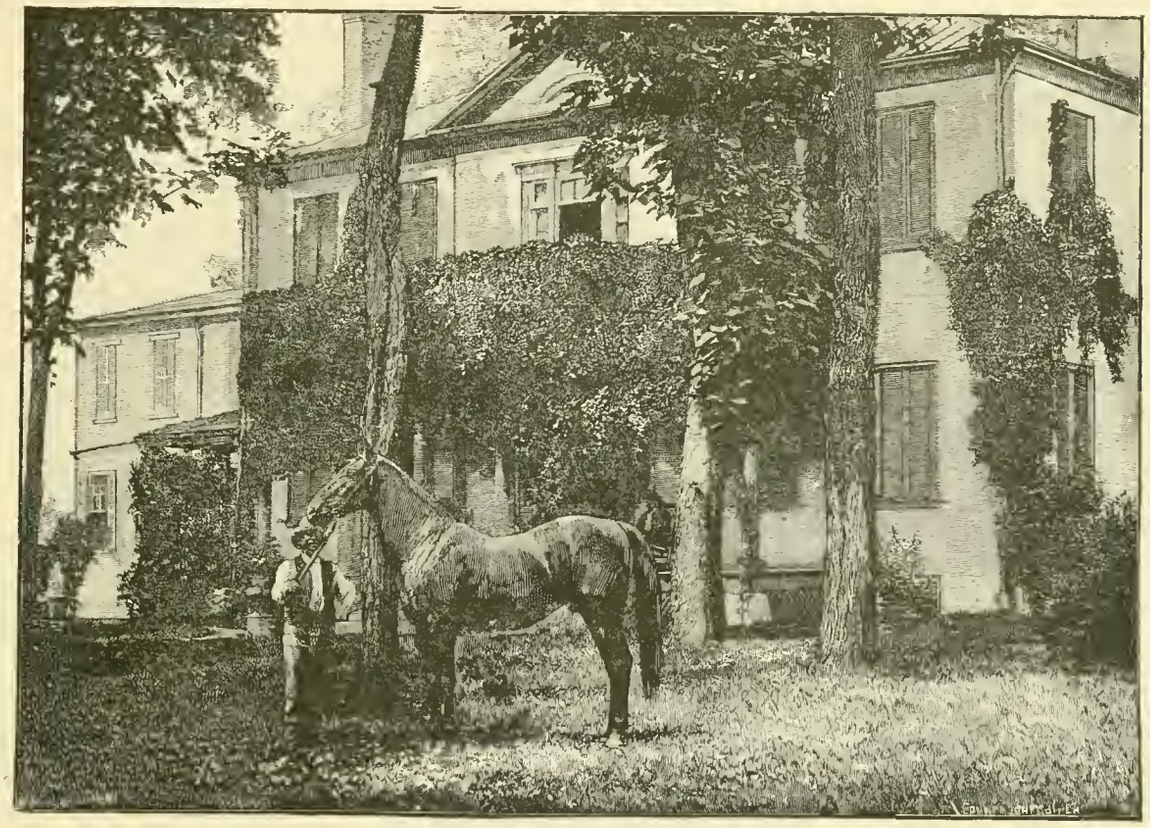
There is another singular delusion with regard to our State, under which some uninformed minds may, perhaps, honestly labor, but which may be dispelled by the simple statement of a few plain facts. It is the impression, encouraged too often, I fear, by those who ought to know better, that our taxation is vastly disproportioned to our wealth, our revenues devoted to unworthy purposes, and our indebtedness too grievous to bear—in other words, that Kentucky, in her corporate sense, is a miserable, misgoverned, tax-ridden, debt-ladened pauper, when nothing could be more directly contrary to the truth.

In the report of the census of 1880, the true aggregate valuation of our assessable wealth was estimated at $902,000,000, which, considering the seven years which have since elapsed, it would be entirely safe to estimate, according to the same ratio of increase during the preceding decade, at a thousand million dollars. Yet it is set down by our assessors for the present fiscal year, at only $484,491,690, less than one half its real assessable value. Upon this the rate of taxation for all State purposes is forty-seven and a half cents on each hundred dollars, equivalent to less than twenty-three cents upon a correct assessment. Of that forty-seven and a half cents, twenty-six are appropriated to our educational funds, leaving only twenty-one and a half for all other purposes; and of this remainder fully five cents are devoted to our public charities, leaving only sixteen and a half, or the equivalent of a tax of eight and a quarter cents on each one hundred dollars of our actual assessable wealth, to meet all the other expenditures of our State government, fixed and contingent. Yet, while this is true, and notwithstanding the fact that fully one-half the State is still in virgin forests and undeveloped by internal improvements the same census report ranks Kentucky as the fourteenth State in the Union in regard to the assessed value of property, and the thirty-fifth as to the amount of taxation per capita; and, moreover, that while thirty-four States tax their people a higher amount per capita, but four others in the entire Union appropriate anything like the same proportion of the revenues derived from State taxation to educational purposes.

Our State debt proper is smaller than that of any other State in the Union, excepting seven, amounting to only $674,000, at an aggregate interest of $30,640 per annum or a fraction over a half cent on each one hundred dollars of our property at its present reduced rate of assessment, and to meet this debt, which, in nine years, will be reduced to $500,000, there are assets in our sinking fund amounting to $711,346.

If I have been tedious in the recital of facts with which you were, perhaps, already familiar, I trust that I shall be amply justified by the purposes I have had in view.

It has been my object, as you have already anticipated, no doubt, to show this splendid body of intelligent and aspiring young gentlemen, who are here preparing to enter the arena of active manhood, that no matter what avenue of

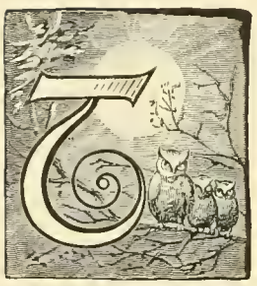


THE THOROUGHBRED TROTTER AT HOME.

useful enterprise they may select, they can find no more fitting field for the employment of their talents, or the exercise of their energies, nor one which promises richer rewards in fortune or in fame, than is furnished here in our own magnificent State, so bountifully endowed by nature, so lightly burdened by man.

I have desired also, to suggest the importance of enabling our young men to prepare themselves for the multiplied opportunities for usefulness and honor to be afforded in the development of our manifold resources, and the infinite varieties of productive industries growing out of them, which is just beginning and which must continue with constantly increasing activity until long after you and I shall have crumbled to dust. To the accomplishment of that desirable end, I know of no more natural or necessary step than the ampler endowment of this institution, and such enlargement of the range of its instruction, as will enable the student to step from the curriculum of his alma mater, full panoplied, into his chosen field of action, whatever it may be, whether the farm or the factory, the machine shop or the mine, the engineer's office or the laboratory of the chemist, or any of the multitude of avocations requiring superior intelligence and training. This, as I have endeavored to show, the State is abundantly able to do, and I hope the time is not far off when an enlightened public policy will make the Agricultural and Mechanical College of Kentucky the grand institute of technology of the Valley of the Mississippi, the pride and ornament of this beautiful and prosperous city, and the brightest jewel in the coronet of the Commonwealth.

Mineral Discoveries in Kentucky.



HE following extracts from the official report, for 1887, of Hon. John R. Procter, State Geologist, will show, not only the very remarkable resources of coal, iron, clays, etc., brought to light within the last few years, but will explain to those unacquainted with the history of Kentucky, and to its people, the reasons why the means of penetrating into the wonderful mineral regions have been comparatively few:

Kentucky had taken high rank as an agricultural State, but, notwithstanding her great wealth in coals, iron ores, timbers, and other natural products, she had fallen behind States less richly endowed in commerce, manufacturing, and mining. This is not due, as has been generally supposed, to a lack of enterprise or liberality on the part of the State.

The facts bear out the assertion that few States have been more liberal in promoting public improvement than Kentucky. The second railway constructed in the United States, and the first west of the mountains, was built in Kentucky, largely by State aid. A splendid system of macadam roads, unexcelled by any in this country, was begun as early as 1825, and carried to its present perfection mainly by State and county aid. The State early began, and carried forward for a number of years, the improvement of the main rivers within her borders, by an expensive system of locks and dams. The support given to the Geological Survey, when it is considered that the State had no public lands for sale, has been continued with commendable liberality.

It was not from lack of a progressive public policy, but from causes without and beyond the control of the State, that she has not taken the rank as a manufacturing State which her vast resources would warrant. A glance at some of these causes is all that can be here attempted. Our pioneer fathers came for hundreds of miles over mountains and through almost impenetrable forests, and settled this fair land long before the advent of railways and steamboats, and the early prosperity of the State was the marvel of those times. Nothing, not even the settlement of the great West, promoted as it was by railways and large donations of public lands, has been so phenomenal. In 1775 the first path was "marked" by Boone through "The Wilderness," and in 1790 the population amounted to 73,677, notwithstanding constant wars with the Indians, and that, during the period from 1783 to 1790, there were no less than fifteen hundred authenticated instances of death by the Indian's rifle and tomahawk. In 1800 the population was 220,959; in 1810 it had increased to 406,511, and in 1820 to 516,317 souls. And during all this time there was hardly a wagon road connecting this prosperous community with the distant settlements in the Atlantic States.

The increase in wealth and commercial prosperity was as remarkable as the rapid increase in population. The State soon took rank as one of the leading States in the value and variety of agricultural products, and had developed extensive manufacture of such commodities as could reach the markets by river transportation.

The relative importance of Kentucky as a center of commercial and manufacturing enterprise was for a time changed by the following causes: The completion of the Erie Canal, in 1823, connecting the Atlantic with the great lakes by way of Hudson river, made New York the great commercial metropolis of the Atlantic seaboard, and started industrial development and population westward on a line north of Kentucky. The introduction of the railway as a means of transportation furthermore altered existing conditions. The great mountain ranges, and the hundreds of miles of almost uninhabited forests, offered insurmountable obstacles to the early construction of railways connecting the State with the seaboard.

It was less expensive to construct roads through the States north of Kentucky. From the great public domain to the north and north-west, enormous grants of land were made by the General Government, and by the States, to promote the construction of railways, often amounting in value to more than the entire cost of the roads to which the grants were made. The General Government yet further promoted this building of roads westward by indorsing the bonds of some of the projected roads, in addition to the land grants, so that by this means this system of roads was carried westward to the Pacific Ocean.

These roads, in order to bring population along their lines, and realize from the sale of their lands, instituted the most expensive and effective system of advertising ever before seen. As a result an unprecedented foreign immigration has been carried westward, and large drains have been made upon the population of the older States. Capital and industrial activity followed this vast influx of population, and a resultant speculative mania made large drains upon the productiveness of Kentucky. To the south of Kentucky, the conditions are somewhat analogous. The great valley extending south-westwardly from Pennsylvania to Alabama, afforded a cheap route along which railways were constructed. In Alabama, Mississippi, Louisiana, and Florida the public lands were the property of the General Government, and large donations were made to aid in the construction of railways.

Thus great lines of road, connecting the seaboard with the West, passed by the State on the North and on the South, leaving a great area, many thousand square miles in extent, comprising south-east Kentucky, western and south-west Virginia, without transportation facilities, being the largest area east of the Mississippi river unpenetrated by railways. This was the principal problem confronting the Survey when I was called to assume the direction of its work in 1880.

Of the large region on the head waters of the Big Sandy, Licking, Kentucky, and Cumberland rivers, comprising the counties of Elliot, Morgau, Johnson, Martin, Floyd, Pike, Magoffin, Wolfe, Powell, Lee, Rockcastle, Jackson, Laurel, Leslie, Clay, Knox, Bell, Whitley, Wayne, Pulaski, and Knott, no reports on the geology and resources, save preliminary reconnaissance reports on limited areas, had been made, either by the present Survey or by the former Survey conducted by Dr. Owen. Capitalists will not furnish money to build railways and turnpikes, and open mines on generalities, however enticing, but demand accurate statement of facts, and the Survey has aimed at placing the exact facts before the public.

That a more intimate knowledge of the coals in this hitherto unexplored region might be obtained, men were employed, under the direction of officers of the Survey, to dig into the coal outcrops, face them up, so that averaged samples could be obtained for analysis; and also that accurate measurement be made of the thickness of the various beds, with the accompanying shale or rock. The large number of detail sections of coals already published, drawn to a scale

From Harper's Magazine. Copyright, 1886, by Harper & Brothers.

A BLUEGRASS CATTLE PASTURE.

of five feet to the inch, and the numerous analyses from hitherto unknown coals,* attest the value of such work. It is with pleasure that I am enabled to say, that the several able experts, who have been sent into this region during the past two years, have borne willing testimony respecting the accuracy and reliability of the work of the Survey.

Mr. Procter goes into details as to the survey and the character of the work reported. The detailed reports have been published or are now in the hands of the printers, and will show all the various analyses of undeveloped coal in South-eastern Kentucky. The examinations were made by assistants of high character and great experience, and will be of value only to persons desirous of investing in particular lands. The report then continues as follows, summarizing the several volumes in few words:

The Geological Survey in South-eastern Kentucky has brought to light the following facts within the past few years:

That, in addition to the coals beneath the conglomerate sandstone forming the base of the coal measures proper, we have above the conglomerate, north of Pine mountain, 1,650 feet of coal measures, containing nine beds of coal of workable thickness, and between the Pine and Cumberland mountains there is a greater thickness of the coal measures, containing twelve or more workable coals. That certainly one, possibly three, of these coals are coking coals of great excellence. That in places, two, and sometimes three, of the coals are found as Cannel coals of remarkable richness and purity. The facts brought to light warrant the assertions that the largest known area of rich Cannel coals is found in Eastern Kentucky, and that the largest known area of superior coking coal is found in the same section; that this coking coal is more advantageously located, with reference to cheap and high grade iron ores, than any other coking

*Since 1881 Dr. Peter, the Chemist of the Survey, has made analyses from 287 samples, carefully averaged, from undeveloped coals.

coal. Cannel coals are found in sixteen of the counties in the Eastern Coal Field. Below are recent analyses from some of these Cannel coals. The value of a Cannel coal is usually determined by relative richness in volatile combustible matter:

No. in Reports	COUNTIES.	Volatile Com. Matter Per Ct.	Fixed Carbon	Ash	Sulphur
2578	Bell	41.54	50.60	7.00	5.078
2838	Bell	51.60	40.40	7.00	.739
2841	Bell	47.40	47.70	3.30	.574
2618	Breathitt	53.80	39.46	5.54	.722
2619	Breathitt	41.10	46.70	11.20	1.120
*	Breathitt	48.22	44.24	4.76	.078
*	Breathitt	66.28	29.73	3.64	.083
2509	Morgan	50.06	40.14	8.40	1.065
2656	Clay	44.16	43.74	11.80	1.244
2703	Harlan	42.64	46.48	9.32	.574
2717	Johnson	50.22	40.74	7.60	.837
2719	Knott	44.40	47.00	7.88	.753
2739	Leslie	44.20	43.70	11.00	.690
2784	Perry	44.80	37.60	16.80	.970
2811	Whitley	40.56	51.24	6.70	2.768

* Analyses by Prof. Thos. Egleston, of Columbia College School of Mines.

For purposes of comparison, analyses from some of the most celebrated Cannel coals are given:

	Volatile Combustible Matter	Fixed Carbon	Ash
Kirkless Hall, England	40.30	56.40	3.30
Boghead, Scotland	51.60	15.70	32.70
Lesmahago Cannel	49.60	41.30	9.10
Peytona, West Virginia	46.00	41.00	13.00

It will be seen that some of the East Kentucky Cannel coals excel the most celebrated coals of England. When the projected roads penetrate this region these Cannel coals will find a market all over the country, for domestic use, and for the manufacture and the enriching of gas. They will also bear exportation for the same purposes.

The main coking coal of Eastern Kentucky has been named by the Survey the Elkhorn coal, from the stream in Pike county, where it was first discovered and proven to be a coking coal. Since its discovery, a few years ago, this bed has been identified as thick coal, and traced by the Survey over an area of more than 1,600 square miles. It has been traced as a thick bed, above drainage, through Pike, Letcher, and Harlan counties, and over a large part of Floyd, Knott, Perry, Leslie, and Bell counties. It has also been identified as a workable coal in Wolfe, Breathitt, Clay, and Knox counties.

This coal attains its greatest thickness in Letcher, Pike, and Harlan counties, but it is thick enough for profitable mining when transportation is secured, in all of the counties mentioned above. The following analyses, selected from the many made by the Survey from carefully averaged samples, show the great excellence of this coal over a wide area:

ANALYSES OF ELKHORN BED, KENTUCKY COKING COAL.

AVERAGE OF	Fixed Carbon	Volatile Combustible Matter.	Ash	Sulphur
17 Bell county coals	62.63	37.13	3.83	.760
9 Harlan county coals	60.02	35.46	4.25	.940
6 Letcher county coals	61.09	35.00	3.19	.464
6 Pike county coals	63.86	31.67	2.86	.686
Connellsville coal, Pennsylvania	60.30	31.38	7.24	1.090

The chemical composition of these Kentucky coals more nearly resembles that of the celebrated Connellsville, than do the coking coals of West Virginia, Tennessee, or Alabama.

Careful tests, oft repeated, have demonstrated beyond question that a superior coke can be made from this Elkhorn coal. These cokes have been tested for strength and porosity with most satisfactory results. The following analyses, selected from a large number, show that these cokes possess three requisites of a good blast furnace fuel—high carbon, with low sulphur and ash :

ANALYSES OF KENTUCKY COKES.

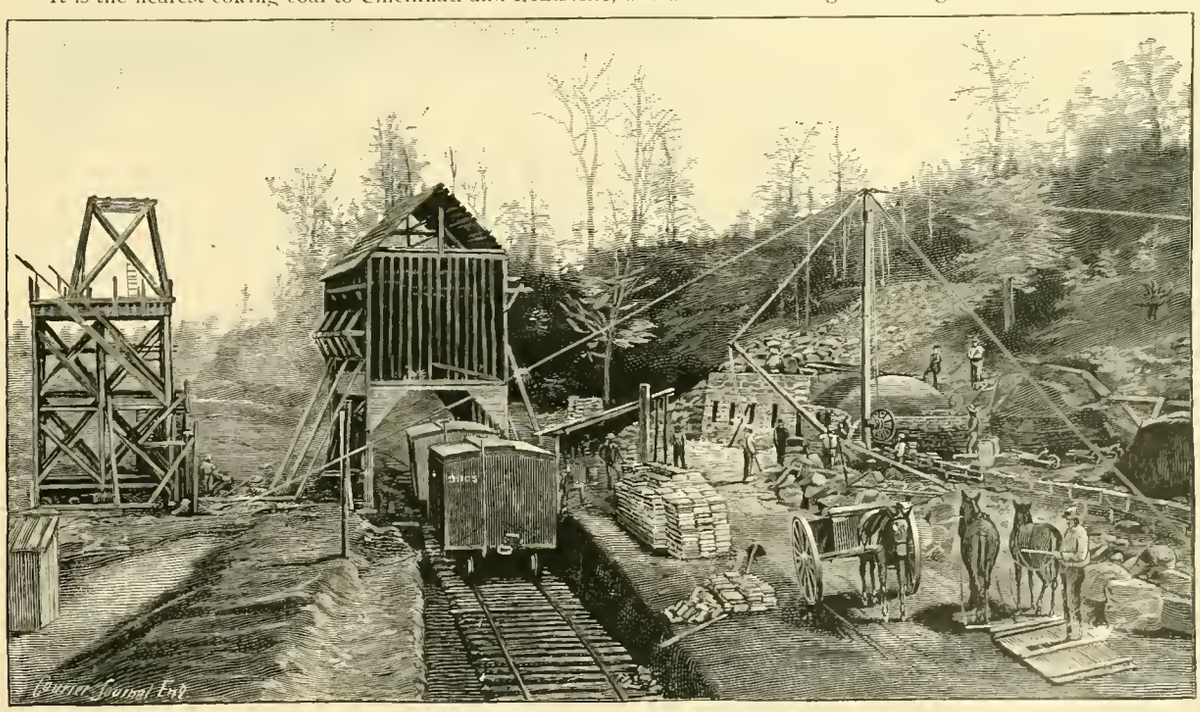
AVERAGE OF	*Fixed Carbon* .	*Ash*	*Sulphur* . . . .
5 Samples of Bell county coke	93.68	5.84	.765
3 Of Harlan county cokes	92.20	6.16	.662
4 Of Letcher and Pike county cokes . .	94.27	5.09	.836

For comparison, analyses are given from the best cokes now in use in the furnaces :

AVERAGE OF	*Fixed Carbon* .	*Ash*	*Sulphur* . . . .
3 Samples Connellsville coke	88.962	9.741	.810
4 Of Chattanooga, Tennessee, coke . .	80.513	16.344	1.595
4 Of Birmingham, Alabama, coke . . .	87.299	10.545	1.195
3 Of Pocahontas, Virginia, coke	92.550	5.749	.597
8 Of West Virginia coke	92.38	7.21	.552

The importance of the discovery of this coking coal, and its bearing upon the future industrial development of the State, can not be overestimated. It adds to the value of the iron ores in North-eastern Kentucky, and the ores in Bath county, and to the brown ores in the limestone of the Red and Kentucky river valleys. In fact, it adds to the value of the ores of the entire State.

It is the nearest coking coal to Cincinnati and Louisville, and also the nearest good coking coal to St. Louis. It is



COKE OVEN CONSTRUCTING IN WESTERN KENTUCKY.

as near Chicago as is the Connellsville coking coal, and nearer to large deposits of Bessemer steel ores than is any other coking coal in this country.

As the south-eastern boundary of the State is for many miles also the south-eastern limit of the Appalachian coal field, and the great deposits of iron ores beyond our border must, in large measure, be smelted with Kentucky coke, a slight reference to some of these ores may prove of interest. Just beyond, and parallel to the south-eastern border of the State, there is a stratified ore, ranging from two to five feet in thickness, and averaging from forty-five to fifty-four per cent. of metallic iron. This ore is known by the several names of "Clinton ore," "Dyestone" and "Red Fossil." It extends along the eastern base of the Cumberland and Stone mountains, and is duplicated along the slope of Powell's mountain and Wallen's ridge, giving three parallel lines of this cheap ore, convenient to the South-eastern Kentucky coke, and often most favorably located for cheap mining.

Recently, it has been my good fortune to prove the existence of a reliable horizon of limonite or "brown" ore extending parallel and near to the above. This ore has been opened in a number of places, showing a thick deposit of excellent ore, averaging as high as fifty-two per cent. of metallic iron. This ore is in the Oriskany of the Upper Silurian, and knowing that the same formation was brought up above drainage through the Eastern Kentucky Coal Field by the Great Pine mountain fault, it was hoped that the same ore could be found along the northern slope of Pine mountain. Investigations made in November of the present year confirmed these expectations. On Straight creek, about three miles above Pineville, this same Oriskany ore is in place, with indications of a thick deposit, and fragments of the same ore were seen at other places along the mountain. This is a rich ore, and I hope it will prove a reliable and extensive deposit.

In 1882–3, the Geological Survey found an excellent iron ore resting on top of the subcarboniferous limestone on the northern slope of Pine mountain, in Pike county, being the same as the ore occupying the same horizon in Estill, Lee, and adjoining counties. The hope has also been indulged in that, somewhere along Pine mountain, the rocks would be lifted up high enough to give the Clinton ore above drainage. The certainty of having two valuable ore horizons, and the possibility of a third (the Clinton), in places along Pine mountain, opens up wide possibilities for the future development of that region. The Pine mountain fault extends for many miles immediately through the field containing the coking coal.

Beyond the ores above mentioned, in the great valley, are large deposits of brown ore, resting on the Cambro-Silurian limestones of the several counties of South-west Virginia; and in Carter, Johnson, and Unicoi, and other counties in East Tennessee. These ores range from fifty to sixty per cent. in iron, and frequently low enough in phosphorus to make a Bessemer iron. Large deposits of manganese ore favorably located for cheap mining are abundant. Yet further east additional brown ores are found in great abundance, in the Potsdam formation, and quite recently an immense deposit of high grade ore has been found at the base of this formation.

Specular ore of great richness, and as low as .003 per cent. of phosphorus, is found in East Tennessee; and along the flanks of the Great Smoky mountain, having the great Roan mountain as a center, are deposits of very rich and pure magnetic iron ore. These ores have been found along this range for many miles; the largest development being at the Cranberry mines, in Mitchell county, North Carolina, where the ore has been uncovered on the face of the hills for a width of nearly four hundred feet and quite three hundred feet high. This ore, now being shipped in large quantities and successfully used in the manufacture of Bessemer steel, is mined by quarrying in open cut, so that it is delivered on the cars at a low cost.

The Bessemer steel ores of the Lake Superior region are over seven hundred miles from the nearest coking coal, while the abundant Bessemer steel ores of this region are less than one hundred miles from the Kentucky coking coal. Assuming Cleveland and Youngstown region as the natural meeting point between the Lake Superior iron ores and the Connellsville coke, the cost of the raw material (coke, limestone, and ore) necessary for the manufacture of a ton of Bessemer pig will be at least five dollars a ton more at those points, than will be the cost of similar materials at favorable localities where the Kentucky coke and the North Carolina magnetic ores may be brought together; and the difference in the cost of materials necessary to make a non-Bessemer pig will be yet greater, and more in favor of the same region. Latest quotations give the price of ore at Cleveland as follows:

Specular and Magnetic Bessemer, per ton	$7 00 to $7 50.
Bessemer Hematites, per ton	5 75 to 6 70

The cost of the coke and the ore necessary for the production of a ton of iron in Mahoning Valley district is given in *Iron Trade Review* at $9.90 for the ore, and $4.50 for the coke; total, $14.40.

The facts above stated are at last known and appreciated by ironmasters and railway builders. Four important lines of railway are being pushed to rapid completion, and will penetrate this region during the coming year, viz: *First:* The Clinch Valley extension of the Norfolk & Western. *Second:* The South Atlantic & Ohio, from Bristol through Big Stone Gap to a connection with the Eastern Kentucky Railway. *Third:* The Powell's Valley Railway, from Knoxville to Cumberland Gap. *Fourth:* The Cumberland Valley extension of the Louisville & Nashville Railway, through the great Water Gap in Pine mountain to a connection with the Powell's Valley Railway at Cumberland Gap, and with the Clinch Valley extension of the Norfolk & Western, at or near Big Stone Gap. An important railway is being located from North Carolina through Eastern Kentucky via the "Breaks" of the Big Sandy. And lines are being located with prospects of being completed at no distant day, up the valleys of the Big Sandy, the Kentucky, the Licking, and Cumberland rivers. So that this region, which a year ago was the largest area east of the Mississippi river unpenetrated by railway, will, within the next two years, have abundant railway facilities.

In my former biennial reports I called attention to the remarkable wealth of fire and pottery clays in the Purchase region. Professor Loughridge's forthcoming report will give minute particulars respecting the location of these clays, and will also contain a valuable chapter on the uses to which they may be applied. It is confidently expected that the publication and distribution of this report will lead to the establishment of prosperous industries for the manufacture, in that region, of the many articles for which these clays are so admirably suited.

These clays have not only been subjected to numerous analyses, but many practical tests have been made. The gentleman who kindly superintended the tests of the pottery, terra-cotta, and other clays, and who has a wide experience in their practical manufacture, writes to the Survey respecting these Purchase clays:

"You have raw material equal to the finest in England. The articles have a constant and ready sale, and are subjected to heavy freight rates in transportation from New York, Trenton, or East Liverpool, so that they should be produced near a market, and Kentucky is known as a good market. The practical experience I have had with clays of this district has taught me their peculiarities, and I can freely say that, from their great plasticity, they are most easily and cheaply worked, and, from their binding qualities, entail less loss in the kiln than any others I have ever met with. One of these clays, he writes, will, with the addition of some flint, make a very beautiful ivory-ware, almost exactly resembling that made by the celebrated firm of Copeland & Sons, England, for table and toilet sets.

From Harper's Magazine. Copyright, 1887, by Harper & Brothers.

IN THE CUMBERLAND MOUNTAINS.

Professor Loughridge says (see forthcoming Report "Jackson's Purchase Region," page 110): "A number of our Kentucky clays compare very favorably in their analytical results with the German glass-pot clays, which are so celebrated for their great refractory character. As will be seen by the table given below, the percentages of iron and potash, the injurious ingredients are comparatively but little above those of the German clays, and in several it is much less; while in the Calloway county clay, No. 2639, there is only a trace of iron, a small amount of potash, and a very large percentage of silica and alumina, making this a far finer clay than the German. * * * There is little doubt that these clays can take the place of the German clays in those establishments where they would be required to withstand the most intense heat."

Dr. Peter says of clays in the "Bluffs" bordering on the Mississippi river: "It is evident that these Tertiary bluffs, from which these clays were collected, offer some valuable materials to the industrial arts. Some of these are quite refractory in the fire, especially Nos. 2136, 2138, 2140, and 2141, and would probably make good fire-bricks, etc.; others of them could be employed for terra-cotta work and other forms of pottery, while some of these abundant deposits might, no doubt, be used with advantage in mixture with the more calcareous soft material found in some of these beds in the manufacture of hydraulic cement of the character of the celebrated Portland cement." Elsewhere Dr. Peter shows that some of these clays are very like, in chemical composition, the celebrated Strobridge clays of England.

The Western Coal Field has excellent transportation facilities. Green river traverses the entire field from south to north, affording reliable slack-water navigation from Bowling Green to the Ohio river. One railway traverses the field from east to west and two from north to south, and two important roads are now being constructed, and others projected.

There is an abundant supply of cheap iron ores convenient to the coals of Western Kentucky. Associated with the coals of the lower measures, in the counties of Grayson, Edmonson, Butler, and Muhlenburg, are stratified carbonates and limonites, ranging from two to five feet and more in thickness, and persistent over wide areas in the above-mentioned counties

The following are some of the analyses from thick deposits, one from each of the counties of Grayson, Edmonson, Butler, and Muhlenburg:

	PER CENT.			
Metallic Iron	40.48	42.31	45.10	48 88
Silica	14.36	22.40	14.20	12.73
Alumina	. . . . .	4.83	6 98	3.91
Phosphorus	0.41	0.28	0.39	. . . . .

Pure limestone is convenient. This region, and the region on the lower Cumberland and Tennessee, certainly offers a most inviting field to the iron manufacturer.

CHEMICAL WORK.

The chemical department has always been a prominent feature in the Geological Survey of this State since its first organization, under the distinguished chemist, Dr. Robert Peter, whose frequent contributions have been most valuable additions to chemical and agricultural science. Since the organization of the present Survey he has been ably assisted by his son, A. M. Peter. Dr. Peter has, in the eleven chemical reports made by him since the inauguration of the Survey, built for himself an enduring monument, bearing testimony, for all time, to his high attainments as a chemist, his unfaltering zeal and untiring industry, through long years, to his professional duties, and to his patriotic devotion to the best interests of Kentucky.

This department has made twenty-eight hundred and sixty-two analyses of substances, coals, ores, clays, etc., with few exceptions from samples carefully collected and averaged by officers of the Survey. The last chemical report, now ready for publication, will, in some respects, be the most important of the entire series, representing, as it does, a larger number of coals from hitherto unexplored sections, destined to play a most important part in the early development of the State. These chemical reports afford a fair index of the work of the Survey. I give below a table of some of the principal materials analyzed since the reorganization of the Survey:

	Year in which Chemical Report was made.						
	1875.	1877.	1878.	1881.	†1883.	1884.	1886.
Coals from developed mines	*58	86	5	5	29	1	11
Coals undeveloped	34	62	. . .	. . .	86	39	162
Cokes	. . .	. . .	. . .	. . .	19	9	39
Iron Ores	82	29	4	6	15	. . .	3
Clays	20	4	4	25	2	10	31
Limestones	17	. . .	17	13	19	10	1
Pig Iron	19	22	5	. . .	4	. . .	. . .
Mineral Waters	13	12	. . .	8	26	6	1
Soils	86	83	74	90	16	25	51

* The large number of coals analyzed from developed mines may mislead as to the number of coal mines. Frequently several samples were taken from the same mine, and from the various entries and "rooms" of a single mine.

† There was also made, in 1883, a valuable report on the comparative composition of the limestones, clays, marls, etc., of the several geological formations of Kentucky.

PROMINENT

COMMERCIAL AND MANUFACTURING INTERESTS

IN LOUISVILLE.

The Ohio Valley Telephone Company.

J. B. SPEED.

THE Telephone Exchange was opened in Louisville, February, 1879, by the American District Telegraph Company. In the fall of 1879 J. B. Speed became President; James Clark, Vice-President and Treasurer; H. N. Gifford, General Manager, and W. H. Mundy, Secretary.

At that time there were about two hundred subscribers, several were connected on the same line and the wires all ran upon house-tops. The new management at once began erecting a system of pole lines, and the wires were removed from house-tops and placed thereon. In the spring of 1880, the old central office was abandoned and a complete new equipment of switch boards was placed in the Board of Trade building.

In 1883, the company was reorganized as the OHIO VALLEY TELEPHONE COMPANY. As the utility of the telephone became recognized, the list of subscribers grew until it reached about 1,400. The central office system, although at the time of its purchase the best system known, became inadequate for the needs of the increasing business and the demand for a prompt and reliable service. Recognizing this fact, the company bought a lot on Jefferson, between Fourth and Fifth streets, running back to Green street, and in 1884-5 erected thereon two buildings. The one in front is a handsome three-story pressed brick and stone structure, which, in addition to commodious offices for the company, contains two fine stores, several suites of offices, and one of the finest lecture and concert halls in the city. In the rear of this was put up a fire-proof building, the first floor of which contains the ware-rooms, shops, etc., of the company, and the second floor, the large operating room in which is located all the apparatus of the central office.

JAMES CLARK.

On December 31, 1886, the company was reorganized under a special charter as THE OHIO VALLEY TELEPHONE COMPANY. The officers are the same as those who managed the old company. The capital stock is $450,000. The central office is now equipped with one of the latest systems of multiple switch boards, and is capable of expanding sufficiently to meet the growth of business for many years to come.

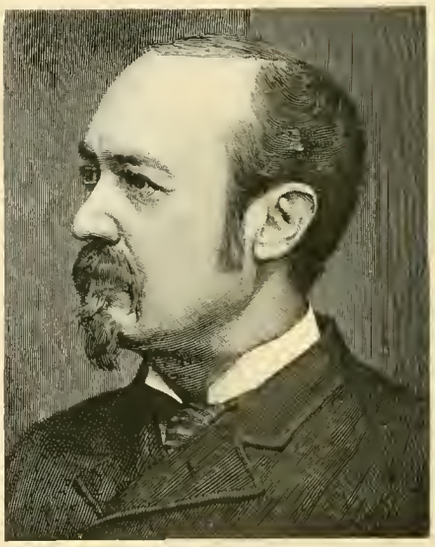
In addition to its Exchange plant in this city, embracing its central office and nearly twelve hundred miles of lines carried on the best red cedar poles, the company owns and operates nearly five hundred miles of lines running to different parts of the country, connecting with all prominent towns in Kentucky and Southern Indiana.

Telephone communication, which in the last decade has developed from nothing to a great business necessity, has of course been subject to constant experiments and changes, all of which have been costly to the owners of telephone companies; but in Louisville the company has hesitated at no expense to perfect its service and has adopted every improvement, as soon as it has been demonstrated to be of real value.

Recognizing the difficulty of providing for the enormous bulk of wires which are accumulating in the central portion of the city, the company has already begun placing its heaviest routes of wires under ground for as great a distance as they can be made to work satisfactorily. It has already laid about six miles of underground pipes in which the heavy routes will gradually be placed. There are already working in these pipes nearly 1,225,000 feet or 232 miles of wire.

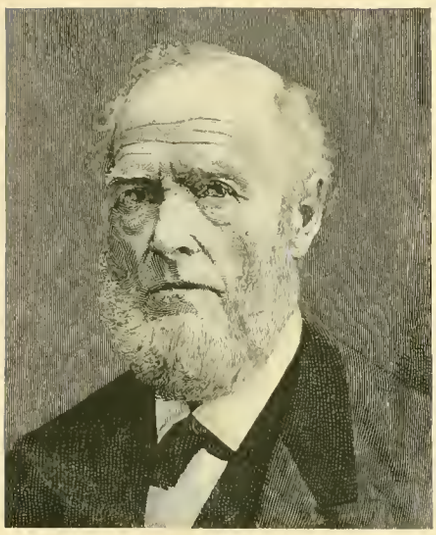
When the present management took charge of the business it was found that it was actually losing money, and it became necessary to advance rates. This was done in December, 1880. This necessity was explained to the subscribers who, with a few exceptions, cordially acquiesced in the advance. Since that time there has been no increase in rates, and a year ago the management found that it was possible to make some slight concessions to residences. The present rates are as low as those in any city of equal population in the United States, and are considerably lower than the rates in Cincinnati, St. Louis, Chicago, and New Orleans.

The Exchange now has about 1,800 subscribers and the service is one of the most rapid and reliable in the country.



H. N. GIFFORD.

The German Insurance Bank.



F. Reidhar.

THE German Insurance Bank, No. 327 West Market street, had its origin in the German Insurance Company, which was incorporated in 1854, with a capital of $55,000. The incorporators were Robert Ernest, Landelin Eisenman, Philip Tomppert, G. Philip Dœrn, Louis Rehm, Gustavus Stein, Jacob Paval, John Durkee, Conrad Schrœder, Elias Hall, John J. Felker, Samuel W. Stone, Herman Justi, N. C. Morse, Frederick Schmidt, and Orville Truman. Most of these gentlemen were German retail merchants, and they gave the company a distinctive character which the bank still retains. In 1860 the charter was so amended as to enable the company to do a banking business. The capital stock had been gradually increased by stock dividends, and this process was continued until 1872, when the law was passed requiring a separate capital for each branch of the business by banking and insurance companies. In 1872, therefore, the German Insurance Bank was organized, with a paid-up capital of $250,000. From this time until the present, the bank has been one of the most successful in Louisville. Its capital remains at the figures above stated. The largest patronage of the institution is from the German merchants of Louisville, whose interests it has always served with great fidelity. For several years a dividend of eight per cent. has been paid on its stock. Its surplus is $100,000, and its deposits average a million and a half of dollars. It does a strictly legitimate banking business, and takes no speculative risks. It does an unusually large foreign exchange, especially with Leipsic, and issues letters of credit good all over the world.

J. J. Fischer.

Much of the success of this bank is due to the great popularity of its officers, who are, and have long been F. Reidhar, President; J. J. Fischer, Cashier; Joseph Haxthausen, Henry Wellenvoss, W. H. Edinger, Charles Winkler, and Nicholas Finzer, Directors. Mr. Reidhar, the President, has a remarkable history. He is over eighty years of age; has been President of the Insurance Company and bank for twenty-five years, and is still a well-preserved man. He was born in the Canton Zug, Switzerland, November 25, 1807. His parents died when he was a small child, and his boyhood was one of indigence and toil. He learned the trade of cabinet-maker and joiner, and was a journeyman for a year when he enlisted in the French army. After serving in some of the wars of the time he returned to his trade, worked at it for several years, and came to this country in 1834. He landed in New Orleans, and came up the Mississippi and Ohio rivers on a boat in which cholera raged among the emigrant passengers. Landing at Portland, the young man first found work in helping to right a wrecked steamboat, for which he received seventy-five cents a day. He was then employed in making repairs on the interior woodwork of the boat. After working at his trade in fitting up a store, he was employed as a clerk in the store. He established a bakery and confectionery in Jeffersonville, Indiana, and was successful in this venture. The following year he embarked in the clothing business in Louisville, and afterward established branch houses in Portland and Henderson, Kentucky. He sold the Louisville store, and in 1856 and 1861 withdrew from the other stores. In 1863 he was elected President of the German Insurance Company, and, in 1872, President of the bank.

Mr. J. J. Fischer, the Cashier of the bank, is one of the most widely known and most popular bank officers in Louisville. To his great business capacity, his tact, and his uniform courtesy is due much of the success of the bank. Mr. Fischer was born in Bieberich, Nassau, Germany, December 5, 1842. In 1854 his parents brought their family to America, shortly afterward making Louisville their home. Mr. Fischer was a pupil of the public schools here, and was then apprenticed as a printer in the office of the *Anzeiger*, the leading German newspaper of this city. He left the printing-office to return to school; and then, after one or two brief business experiences, learned book-keeping in a business college. In 1862 he went into the office of the German Insurance Company as messenger and book-keeper for the bank. His promotion was rapid, as in less than five years he was made Secretary of the Company. When the bank and the insurance company were made separate institutions, he was the first cashier of the bank. Mr. Fischer has for several years been the President of the Liederkranz, the leading German singing society of Louisville. To his care and energy the society owes its present standing as a musical organization. He is also a director of the *Anzeiger* Company.

The German Insurance Company is officered by the same gentlemen who control the affairs of the bank. It is a prosperous corporation, doing a purely local business, and carrying risks to the amount of $3,000,000. Its paid-up capital is $200,000, and it has a surplus of $50,000. The Company pays an annual dividend of six per cent. on its stock. Since 1872 it has paid fire losses to the amount of $140,000.

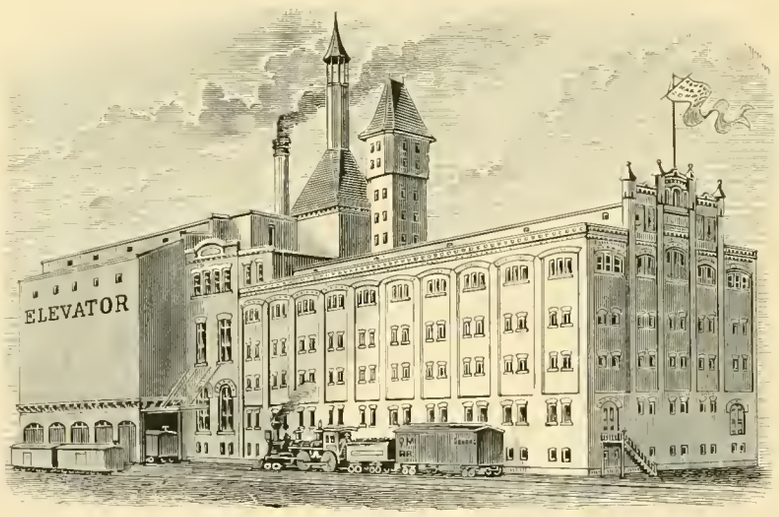
The Kentucky Malting Company.

E. W. HERMAN.

THE KENTUCKY MALTING COMPANY was organized July 1, 1876, by the election of E. W. Herman, President, and J. H. Pank, Secretary and Treasurer, both of which gentlemen have continued to hold these offices respectively until the present time. At the time of the organization they occupied two malting houses, the John Engeln house, Market street, between Sixth and Seventh streets, and the Stein & Doern house, Sixth street, between Main and the river, or the combination of the two malting houses of E. W. Herman & Co. and Stein & Doern. This combination proved so successful, and the business increased so rapidly that the erection of the present building, corner Thirteenth and Maple streets, an immense concern, a fair representation of which is given herewith, became necessary. This is now the largest and most complete establishment of the kind south of Chicago, and has railroad facilities connecting it with all of the lines entering Louisville. An elevator is attached for storing the raw material and manufactured product in large quantities, also a malting capacity of nearly half a million bushels annually. They have run the house to its full capacity ever since its completion, November 1, 1880.

J. H. PANK.

They make the finest quality of malt, which enables them to compete successfully with the largest houses in the Northwest—at Chicago and Milwaukee. Their trade has been principally local, and they are proud of being able to retain the custom of the largest houses in Louisville and Kentucky against all opposition. They also ship to important points in the South, including New Orleans, Nashville, Birmingham, Knoxville, and Atlanta, but thus far they have not sought for trade north of the Ohio river. In order to meet the demand in the South, they are now increasing their facilities at great expense.



VIEW OF THE MALTING HOUSE AND ELEVATOR.

They also have a large concern in Chicago, under the firm name of J. H. Pank & Co. (J. H. Pank and E. W. Herman composing the firm); being a member of the Chicago Board of Trade, enables them to make purchases for both houses with advantage in the largest barley markets in the United States. The Chicago house sells all of its product in Ohio, Pennsylvania, New York, and other Eastern States.

Mr. E. W. Herman has been in the malting business since 1865, beginning as a clerk and rising to his present position at the head of one of the largest manufacturing establishments in the South. He is still in the prime of life, being forty-seven years of age. In addition to his other enterprises, he has recently built a brewery at Knoxville, Tennessee, known as the Knoxville Brewing Association, of which Mr. Herman is President.

Mr. Pank, who has charge of the Chicago house, is a Louisville man, only thirty-six years of age, whose success in business has been phenomenal. He is exceedingly popular, personally, and a fine business man, and has contributed largely to the success of both of the enterprises in which he is interested. He has also risen from a clerkship, and enjoys an enviable position in the business world.

The Louisville Fair Company.

THE mercantile establishment known as THE FAIR was opened October 24, 1885. Its location on one of the principal thoroughfares of the city secured for it all the advantages to be derived from a central situation, and it was one of the few new things to meet with immediate acceptance at the hands of the public. A vast bazaar containing everything one would wish to buy in a day's shopping—from a silver tea service to a potato chopper, from a bonnet in the height of the mode to a box of pills—was a convenience instantly appreciated by all persons who "shop."

The gathering of all these articles of merchandise under one roof where the person who came for a single purchase might be tempted to a dozen others by the mere convenience of the arrangement, and the close margins upon which the goods were sold were productive of even more satisfactory results than was at first anticipated; and, on October 24, 1886, just one year after the opening, the building was extended back to Market street, giving a depth of 480 feet with a frontage of eighty feet on Jefferson street and twenty-two feet on Market street. The building is two stories in height; the long, upper galleries afford excellent opportunities for the advantageous and attractive display of goods.

The phenomenal success of the experiment led to the incorporation of a company on April 1, 1887, with the following gentlemen as Directors: Aaron Kohn, James P. Whallen, E. Boulier, Meyer H. Hilp, Fred Hoertz, and Charles Godshaw. The officers are Aaron Kohn, President; E. Boulier, Secretary; James P. Whallen, Treasurer; and George C. Rossell, General Business Manager. The company carries at present stock worth $125,000, which includes everything

A GLIMPSE AT THE INTERIOR OF THE FAIR.

in the way of merchandise except ready-made clothing. At the Jefferson-street entrance, at the left of the building, is situated the millinery department, handsomely fitted up and stocked with the most desirable materials for hats and bonnets. This department is under the supervision of Mr. W. K. Israel, and has been one of the most successful features of the enterprise. On the same side is the dry goods department, in charge of Mr. H. C. Struss. This division shows an extensive line of well-selected goods, including wraps of all kinds and gentlemen's furnishing goods. There is an upholstery department, where carpets and curtains of all grades are to be found, and a house-furnishing department showing all the homely but useful articles necessary to a well-equipped kitchen. The drug store contains druggists' supplies, patent medicines, and all the toilet articles and fancy goods in plush and brass usually found in such places. THE FAIR deals in musical instruments and sheet music, making a specialty of "ten cent" music.

The handsomest display in the house is that of silverware and jewelry. Two very large cases filled with silverware occupy a conspicuous place in the center of the building and add much to the attractive appearance of the interior. The large stock of glass and china shows great variety and much taste in the selection of the goods. One entire side of the building on the upper floor is given up to toys, and is the largest and most varied collection in this line in the city.

One of the most profitable features of THE FAIR is its picture gallery. This is situated in the front of the building on the upper floor. Here an oil painting that may be bought for sixty cents hangs side by side with one that costs as many dollars, besides engravings, chromos, photographs of famous works of art, and imported pictures in great varieties.

Simon Shulhafer.

SIMON SHULHAFER.

IT is now a well-established fact, settled by scientific investigation, that imperfect drainage and careless plumbing has been a fruitful source of disease, and that certain laws must be carefully understood and observed in the construction and adjustment of sanitary appliances. It would be difficult to estimate the loss of life and the sickness that the human family has suffered as the result of bad plumbing, executed by ignorant men, whose knowledge of their business is merely mechanical, and whose only ambition is to do the least possible amount of work for the largest possible sum of money. Happily, this class of workmen has had its day, and the scientific plumber is now regarded as of as much importance as the educated physician or the skilled engineer. The successful plumber must be a thorough mechanic and a careful student, well acquainted with sanitary laws, so that he may be able to correct faults in planning or construction and avoid the errors which may endanger life and health; and he must know his business so well, and be firm enough in his position to insist upon the correction of such errors, in the face of opposition from ignorant builders and conscienceless property owners.

There is no question of the fact that Mr. Simon Shulhafer is an honorable representative of the latter class of workmen. He learned his trade, when a boy, under the careful tuition of one of the best sanitary engineers in the whole country, and is, therefore, a practical mechanic, an educated engineer, and a thoroughly honest man, who enjoys the confidence of the community, and of the architects and builders of Louisville and the South. He is an active member of the American Public Health Association of the United States, and State Vice-President of the National Association Master Plumbers for Kentucky, also President of the Association of Plumbers of Louisville. He has established a good name in the leading cities throughout the country, especially in the South. He holds the only medal awarded by the Southern Exposition for the best display of gas fixtures and sanitary plumbing. He refers with justifiable pride to his standing in his own city to many leading citizens for whom he has done important work, the names of a few of whom are given: Dr. Samuel Brandeis; Dr. George W. Griffiths; Dr. D. W. Yandell; B. F. Avery & Sons; Mr. Dexter Belknap; Captain Silas F. Miller; Mr. Thomas H. Sherley; Mr. A. G. Munn; Bamberger, Bloom & Co.; Hale & Bro.; S. S. Meddis; John A. Stratton & Co.; S. Ullman; John MacLeod; Julius Barkhouse; Home of the Innocents; Payson & Lyon; City Hospital; German National Bank; Louisville Banking Co.; Falls City Bank; Mason Maury; Bridgeford & Co.; Kleinhans & Simonson; Dumesnil Bros., and others.

Referring to work done for the city by Mr. Simon Shulhafer, in remodeling the city hospital plumbing, Messrs. McDonald Bros., architects, wrote Mayor Reed as follows: "This work has been done in a manner which is entirely satisfactory to us, and we believe the city has secured an ample and valuable return for the money expended. We have found Mr. Shulhafer disposed to exceed his contract, rather than fall short of it in any particular, and we can compliment, in the highest terms, the fidelity and skill with which his work has been carried out."

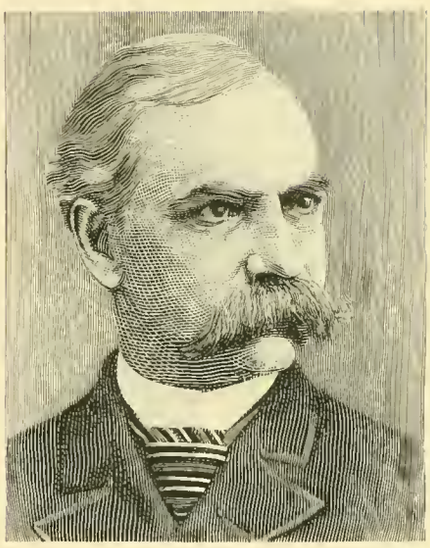
Mr. Shulhafer began business on his own account in 1872, and at once established a reputation for good work which he has carefully maintained and strengthened during fifteen years of remarkable industry, and stands to-day at the head of his profession. He occupies two floors in Law Temple, each 40 x 100 feet, employing a large force of competent workmen; carries a fine assortment of fixtures, embracing the best of everything in his line, and does a business of $60,000 a year. His trade extends to the South and West, especially Indiana, Kentucky, Tennessee, Alabama, Georgia, and Arkansas. Mr. Shulhafer gives his personal attention to all work entrusted to him, and, as stated by the McDonald Bros. in the above letter, "is disposed to exceed his contract rather than fall short of it in any particular."

Many others will corroborate the testimony of McDonald Bros., among which are some of the leading business houses, finest churches, residences, and club-houses. Mr. Shulhafer points with pride to the elegant five-story carpet house of W. H. McKnight & Co., C. J. Clarke, architect, which he furnished with plumbing and fixtures throughout; the new Baptist Church, corner of Twenty-Second and Walnut, C. A. Curtin, architect, where one sunlight, center, reflecting chandelier of two hundred burners lights the auditorium as bright as day; the new Standard Club House, Wehle & Dodd, architects, in which a room 60 x 90 feet is lighted by one sixty-six light, imitation candle fixture, all of the candles being of different colors; the palatial home of Phil B. Bate, Third street, Henry Wolters, architect, which is certainly one of the handsomest homes in the city, and furnished in exquisite taste, and which has the most elegant line of gas fixtures ever put up in Louisville; also a block of houses for Dumesnil Bros., Sixth and Oak streets, and many others which have recently been completed and are now under way. Mr. Shulhafer is now putting in the fixtures for T. L. Jefferson's new block of nine houses, corner of Floyd and Gray streets, Maury & Haupt, architects, where the plumbing and sanitary work is decidedly the best that has gone into any house or houses in the city that have been put up for rent. One of the handsomest homes in Louisville is that of J. F. Kellner, Broadway near Floyd, C. D. Meyer, architect, in which the class of plumbing is unlike anything here, and which Mr. Shulhafer invites the citizens of Louisville to call and examine.

Mr. Shulhafer does work for all of the leading architects of Louisville, and enjoys their confidence as a thorough, reliable, and painstaking plumber, who stands at the head of his profession.

C. C. Bickel & Co.

THE manufacture of fine cigars was not considered one of the leading industries of Louisville until within a few years past; but now there are probably one hundred and fifty cigar factories registered in the collector's office, paying the government nearly $54,000 annually for cigar stamps. This embraces a few large establishments and a great many smaller ones, but the leading house in the city as shown by the collector's books is that of C. C. Bickel & Co., who pay over $10,000 for stamps, or nearly one-fifth of the entire amount collected. The amount of stamps bought by this firm during the first nine months of the present year was $6,735; which, at the same rate for the remainder of the year, will exceed $10,000, representing three million cigars. This, however, only represents the cigars upon which tax has been paid, and does not represent a large stock on hand which have not been stamped, to say nothing of their large stock of fine imported and domestic cigars, probably two millions per annum, while the tax paid by smaller factories who make the cheaper grades for them amounts to half as much more.



C. C. Bickel.

Mr. Bickel embarked in the manufacturing business on his own account in 1870. He was thoroughly acquainted with the business, having commenced to learn the trade of cigar-making at an early age. He began business in a small way, working at the bench himself, and employing only two hands, in an old house on Main street, where the dry goods house of Carter Bros. & Co. now stands. After a short time he moved to Sixth street, in the old Adams Express building, remaining there until 1873, when he located at the present stand, Nos. 538 and 540 West Main street.

During the panic of 1873, and the hardships that followed for several years, Mr. Bickel saw nearly every cigar house in the city go down—and he only escaped the doom of the others by the most careful management, which, along with a practical knowledge of the business, and a determination not to fail, enabled him to weather the storm. His business has grown steadily, until he now employs about seventy-five hands, his pay-roll every Saturday amounting to about $1,000, while the demand for his popular brands of cigars is greater than at any former period.

The "Spotted Fawn" first became famous, and holds its own to-day among smokers of ten-cent cigars. After the first reduction of the tobacco tax, when it became possible to make a good cigar for five cents, he introduced the "Daniel Boone," the "Corinne," and the "Rose," all of which brands have held their own, and are more popular to-day than any other five-cent cigar in the market, and have been the means of directing trade to Louisville, for strangers in the city who had a taste of these cigars would require their merchants at home to get them. In this way the cigars are known all over the country and in some parts of Europe, an order having been received from Liverpool recently for parties who had used them while here on a visit.

The historical name of the "Daniel Boone" may have aided in its introduction, but the quality of the material, which has been guarded very carefully, has given these cigars the lead in this city and throughout the whole country. With all of the competition in the cigar trade there is nothing that will down the "Boone" or the "Corinne," and there is nothing a drummer for other houses dreads so much as to find these cigars in his customer's case.

The best recommendation these cigars have is the fact that the brands are imitated by irresponsible manufacturers, who know the merits of these goods and hope to break them down.

One of the secrets of Mr. Bickel's success is his gentlemanly treatment of his employes, many of whom have continued to work for him for years. They understand the wants of his customers, and are careful to keep up the standard of his celebrated cigars. He knows the wants of his men and pays good wages, and as a result, he has never had a strike in his establishment, and everything runs smoothly and successfully. Besides, he employs a number of regular Cuban cigar makers who are turning out Spanish work, superior in quality and workmanship, and equaled only in Havana and Key West.

Mr. Bickel buys his stock for cash, sometimes laying in a year's supply at one time, buying whenever and wherever he finds stock to suit him, whether he needs it or not. In this way he is not affected by sudden fluctuations in the market.

In the purchase of Havana tobacco, he selects only the best that the Island of Cuba produces, and by purchasing very large quantities at a time, he not only gets it at the lowest prices, but secures an even quality of goods, thereby preserving the excellent quality of his cigars without deteriorization. One would be astonished at the enormous stock of fine leaf tobacco this house carries. There are tiers and tiers of bales of Havana and Sumatra tobaccos of the finest grades stored away, ready for use, and improving with age, in their store-rooms.

Mr. William Kohlhepp, who has been with Mr. Bickel as book-keeper, and in charge of the sales-room and office, has rendered valuable aid in building up the business, and for his faithful attention to business was admitted to a partnership in 1884. There are few more popular young men in Louisville than Mr. Kohlhepp, and Mr. Bickel recognizes the value of his popularity and his superior business qualifications.

Indeed, the citizens of Louisville may be proud of such an industry as the "Daniel Boone" cigar factory of C. C. Bickel & Co.

The Louisville Bridge.

CHAS. H. GIBSON, PRESIDENT.

THE magnificent structure crossing the Ohio at the head of the Falls, extending from a point just below Jeffersonville to the foot of Fourteenth street, in the city of Louisville, connecting the Indiana railroad system with the roads on the south of the Ohio that center at Louisville, has proven a profitable investment, as well as an indispensable adjunct to the traffic of the South and West. Formerly passengers and freights coming to and going out of Louisville, across the river, were transferred by ferry, a process that was tedious, expensive, and troublesome, on which account the traffic was necessarily limited; and now, looking back over a period of more than seventeen years, during which time the traffic of the bridge has grown in proportion to the increasing trade of Louisville, it is difficult to realize the progress that has been made and how much this enterprise has contributed to the prosperity of the city. It is certainly no exaggeration to say that no investment of a like amount of money in any other enterprise has contributed so much to the business growth of the cities of the Falls.

The construction of the bridge was commenced in the year 1867, and after repeated and vexatious delays, occasioned by floods and freshets in the river, was finally completed and opened for traffic on the 1st day of March, 1870. Considering the almost insuperable difficulties that had to be overcome in erecting the piers in the swift-running water of the Falls, and the facilities then at hand for accomplishing such work, the time occupied in building the bridge was comparatively short. It is a railroad bridge, having a single track in the center, with foot-walks on both sides. The superstructure, from abutment to abutment, is exactly one mile in length, having twenty-five spans, two of which are four hundred feet long. The Bridge Company also owns and operates tracks on Fourteenth street, connecting the Northern and Southern systems. The bridge proper is what is popularly known as the Fink Truss Bridge, and was constructed under the personal supervision of Mr. Albert Fink himself, assisted by Mr. F. W. Vaughn. At this time about one hundred and fifty trains per day cross the bridge, it having to carry the entire traffic of the four roads that approach Louisville from the West, North, and East. At the time of its erection it was estimated that not exceeding fifty trains per day could be accommodated on this bridge, but under the improved system of operating trains, it is able to accommodate four times that number.

WALTER IRWIN, SECRETARY.

W. F. BLACK, SUPERINTENDENT.

When the Jeffersonville, Madison & Indianapolis Railroad became part of the western system of the Pennsylvania Railroad Company's lines the latter company, appreciating the great and permanent value of the bridge, acquired, and has ever since held, about two-thirds of the capital stock of the Bridge Company, thereby securing control of the bridge, and making it practically a part of the Pennsylvania lines. The remaining shares are held principally by fortunate parties in Louisville and New York.

Mr. W. B. Hamilton was the first President of the company, which position he held until June, 1876, when he was succeeded by Dr. E. D. Standiford, who continued to hold the office until his death in July, 1887. Mr. Charles H. Gibson, the present incumbent, also the attorney of the company, was elected to succeed Dr. Standiford, September 28, 1887. Mr. Walter Irwin, Secretary and Cashier, was for many years paymaster of the J., M. & I. Railroad Company, a position which he filled with great credit until the removal of the offices to Pittsburgh, after which he accepted a position with the Bridge Company, and was elected secretary and cashier, May 20, 1885. W. F. Black, the efficient superintendent of the bridge, is also superintendent of the J., M. & I. division of the Pennsylvania lines. Thus the management of the Bridge Company has been placed in the hands of young men whose qualifications have been recognized by the directory after years of faithful service.

Louisville Safety Vault and Trust Company.

H. V. Loving.

THE LOUISVILLE SAFETY VAULT AND TRUST COMPANY was incorporated under a special charter from the State of Kentucky in 1884, and organized in the latter part of the year. It has a capital stock of $300,000, fully paid up and a surplus of about $32,000. Officers: H. V. Loving, President; Theo. Schwartz, Vice-President; Robert Cochran, Secretary and Treasurer; Thos. J. Wood, Vault-Keeper. Directors: John T. Moore, John C. Russell, W. C. Priest, St. John Boyle, Herman Beckurts, Theo. Schwartz, Theodore Harris, H. V. Loving, R. S. Veech, Geo. A. Owen, Samuel Russell, James S. Ray, John H. Detchen.

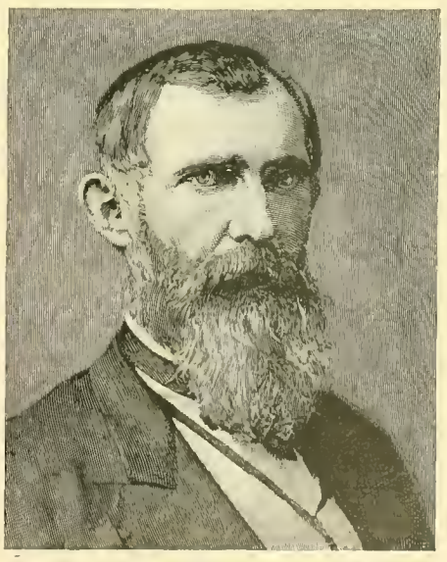
The modern SAFETY VAULT AND TRUST COMPANY is an outgrowth of the wonderful age in which we live, and we could no more dispense with its advantages, convenience, safety, and adaptability to all the varied wants and necessities of the times, than we could get along without the railroad, the telegraph, or the telephone. Recognizing the necessity for a first-class institution of the kind in Louisville, some of her most enterprising citizens organized the LOUISVILLE SAFETY VAULT AND TRUST COMPANY, and after a critical examination, by experts, of the best vaults in this country, they had constructed one of the strongest and most secure depositories extant. Its vault is absolutely fire and burglar proof, and the doors are secured, not only by the best combination locks, but also by infallible time-locks.

Few, if any, so-called "fire-proof safes" offer any protection against a great fire, and the professional burglar laughs at the fancied security of the ordinary "burglar-proof safe." Those who, through false ideas of economy, leave their valuables to the protection of the common bank vaults, should understand that the banks are in nowise responsible, and that they take all the risk themselves. This is poor economy when for a very small sum the TRUST COMPANY will guarantee perfect security. The boxes of the SAFETY VAULT are rented at prices ranging from $5.00 to $45.00 per annum, the size of the box determining the rate.

In view of the small annual rent of these boxes, no one in city, town, or country should take the risk of keeping elsewhere, bonds, stocks, notes, wills, deeds, pension papers, valuable receipts, abstracts, mortgages, contracts, powers of attorney, articles of copartnership, life and fire insurance policies, claims, and important papers of any kind.

The LOUISVILLE SAFETY VAULT AND TRUST COMPANY acts, at any place in the State, as executor, administrator, guardian, receiver, assignee, committee for idiots or lunatics, as register or transfer agent of stocks and bonds, as trustee for railroad and other mortgages, as attorney in fact for the collection of rents and income and the management of the estates of married women, as trustee of corporations alone or jointly with others, and in a word fills every position of trust that can be held by an individual. This company is also prepared to negotiate loans, deal in real estate paper and other securities, make desirable investments for individuals and corporations and transact all business authorized by its charter, a copy of which will be furnished on application to the company.

Hector V. Loving, the President of the Company, was elected to that office at its organization and has given the business his constant and unremitting attention. Mr. Loving was born in Bowling Green, Kentucky, in 1839, and attended school in that town until he was eighteen years of age, when he entered the sophomore class of Hamilton College, New York, and graduated in the class of 1859. On his return home he entered the Louisville Law School, and received his diploma from that institution in the class of 1862. Mr. Loving has filled many positions of honor and responsibility during his residence in Louisville, and his education and experience eminently qualify him for the business in which he is now engaged.

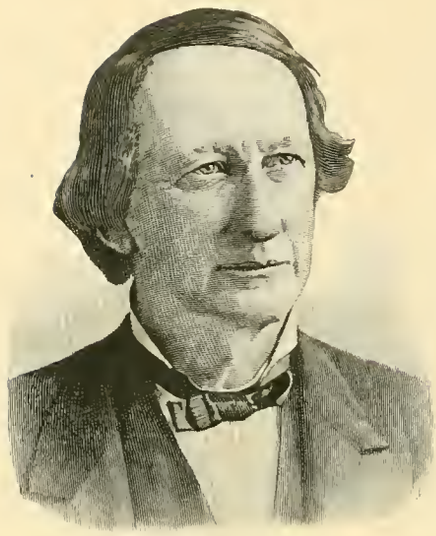


ROBERT COCHRAN.

Robert Cochran, the Secretary and Treasurer of the Company, has held that position since its organization, and gives his whole time and talents to the discharge of the important and responsible duties of his office to the entire satisfaction of all concerned. He is also a native of Kentucky, having been born in Spencer county in 1829, attended school there and at the academy at Taylorsville, afterward for three years at the Kentucky Military Institute, Frankfort, Kentucky. Mr. Cochran is well read in law, and was for ten years Commissioner of the Louisville Chancery Court, under Chancellors Cochran, Bruce, and Humphrey. The gentlemen at the head of this popular institution have the confidence and esteem of all who know them, and are peculiarly well qualified for their respective positions.

The growth and progress of the LOUISVILLE SAFETY VAULT AND TRUST COMPANY has been somewhat remarkable, having been a dividend payer since the first year of its organization.

Cornwall & Brother, Soaps and Candles.



WILLIAM CORNWALL, SR

THE firm of CORNWALL & BROTHER, Manufacturers of Candles and Soap, was established in Lexington, Ky., in the year 1838 and then consisted of John and William Cornwall, two brothers. John Cornwall died several years ago and the firm is now composed of William Cornwall and his sons, William Cornwall, Jr., and Aaron W. Cornwall. The manufacture of a star candle seems a very simple matter; but much scientific skill has been exhausted in producing this homely article. Early in the present century the great French chemist, Chevreul, took the first important step in this direction by discovering that fats were not homogeneous, but were capable of being reduced to several fatty acids. Then H. Lapham, who lived in Lexington, Ky., took out a patent for making lard oil, by pressing the oil out through sheep-skins, and for making stearine candles of the residuum. He sold his right to CORNWALL & BROTHER. Up to this time lard oil had been made only of lard itself. The first business of the firm in question was, therefore, the manufacture of lard oil and stearine candles, the oil being the most important of the two branches of their business. The candles gave a dull light and required constant snuffing. Shortly after the first improvement on this old process, in 1842, CORNWALL & BROTHER removed their works to Louisville, coming here in 1844.

Between 1834 and 1860 there were four processes invented for making candles, each being an improvement on the last. By the first lard oil and stearine were produced. In 1842 the "lime saponification" process was introduced. The tallow was melted with fourteen per cent. of lime and boiled until the mass became solid. It was then put into tanks and the soap was decomposed by means of sulphuric acid. The fatty bodies thus parted with their glycerine and became fat acids. These were then subjected to hydraulic pressure, when the oleic acid flowed off and left a white, crystalline substance composed of stearic acid and margaric acid. This was then molded into candles. This process continued in use for about ten years. Then experiments were made which resulted in saponifying fats by means of sulphuric acid. By this process the most inferior fats were acidified and turned into a black mass. The process is still used in working with fats of an inferior quality; but in it the glycerine is lost, as it was in the process before mentioned. In 1860 another process was discovered, called the "digester process," in which the fats were subjected to the action of water, with a small percentage of alkali. At a high pressure and temperature, continued for several hours, they are divided into fat acids and glycerine. The discovery of this process introduced glycerine into commerce, which has had so vast an effect upon the advancement of civilization; since from it we have nitro-glycerine, giant powder, etc.

The "digester" has superseded the "lime saponification" process entirely, the soap made without the use of sulphuric acid being commercially much the best. Briefly stated, it may be said that candles are now made by melting a neutral fat, like tallow, or cocoanut oil, extracting the glycerine, and leaving the stearic acid and oleic acid mixed. By means of hydraulic pressure the oleic acid is drawn off, leaving the stearic acid, which is then molded into candles.

CORNWALL & BROTHER make two grades of candles, the famous "Star" brand and Stearic Acid candles. The latter are extremely pure, being entirely free from the oleic acid. These candles, especially the Star brand, are sold in California, all over the South, to some extent in Mexico, and also in the East.

But making candles is by no means the most important part of the business of CORNWALL & BROTHER. For many years their laundry soaps have been widely sold, and in 1883 the firm began the manufacture of toilet soaps, after very elaborate preparations, and the importation from Paris of the most improved machinery for this purpose. The styles are all of the latest and are of the most approved, while the fine soaps compare favorably with any made in America. The process of manufacturing soap is too elaborate to be described here, and it is only necessary to say that for its high grades the firm has received the highest praise. The *American Analyst* has made very careful examinations of CORNWALL'S soaps, and commends them in the most unqualified manner for purity and excellence of manufacture.

Among the best brands may be mentioned the "Exquisite Bouquet," a most delicately scented and delightful toilet article that is prepared with the utmost care, and that meets the wants of the most fastidious. CORNWALL & BROTHER'S "Oatmeal Soap" is made with genuine oatmeal and is a most desirable soap for those whose business causes dirt to be grimed into their hands. All these soaps are most thoroughly milled, are firm and heavy, of desirable shape, and have a very pleasant effect upon the skin. A high laundry grade is the Mottled German, which is in great demand by the trade. In laundry soaps the firm makes everything from the common German soap up. At the first New Orleans Exposition—that of 1883—CORNWALL & BROTHER received the highest award for the best laundry soap, their "National" taking the honors over all competitors. The firm also makes a most useful article for the housekeeper. It is a soap powder called "Cleanit," and is of the greatest use in scrubbing floors, washing dishes, clothes, and in general house-cleaning. It does not injure fabrics or the skin.

CORNWALL & BROTHER employ an average of 100 men. Their factory is located on Preston and Washington streets, where they have a frontage of 275 feet, with a depth of 480 feet. The buildings are three and two stories above ground and have two stories under ground. All of their machinery and appliances are of the most approved kind, and the firm is one of the most important in Louisville.

Home and Farm.

RICHARD W. KNOTT.

HOME AND FARM is an eight-page agricultural paper, published twice a month, for fifty cents a year. This journal was founded ten years ago by B. F. Avery & Sons, the great plow manufacturers. They recognized the necessity for a medium through which all the improvements in agricultural machinery and the latest results of agricultural experiments could be made known to the farmers throughout the South. Before that time, agricultural newspapers had sought only a local circulation, and devoted themselves to special fields and topics. It was necessary therefore in order to secure a general and continuing circulation that many of the traditions of agricultural journalism be abandoned, and new plans adopted in every department.

The first decision was to publish the paper at a price which would bring it within the reach of every farmer in the South, it matters not where located nor how narrow his resources, hence, the subscription was fixed at fifty cents a year.

The publishers determined in advance that nothing should prevent them from securing the assistance of recognized writers on agricultural topics, but in addition they decided that they would have the personal experiences of practical farmers through all the Southern country. Following this policy, HOME AND FARM has gathered about it a peculiar corps of correspondents, composed of men who are testing their theories every year on farms of their own, and detailing their experiences, month by month, for the benefit of half a million readers. The most notable movements in Southern agriculture have found their first exponents and illustraters among the contributors to HOME AND FARM.

Perhaps nothing that has been done in agricultural matters in the South since the war has had a wider influence than the experiments made by the late Farish C. Furman, of Georgia. Beginning with an abandoned farm, where the yield of cotton was only eight bales to sixty-four acres, by studying the constituents of the soil, and by fertilization supplying what it lacked, Mr. Furman brought the yield up to a bale and a half an acre in five years. He wrote for HOME AND FARM a careful record of this five years, and described so plainly and practically what he was doing that thousands everywhere were enlightened, and, following his directions, succeeded in vastly increasing the production of their own lands. The publishers of HOME AND FARM, after his death, gathered these letters of Mr. Furman's into a pamphlet, which they have circulated by the thousands to the very general benefit of the whole cotton region.

This is but one of a number of examples of what may be done by a wide-awake agricultural publication. HOME AND FARM treats in the same way all topics relating to the farm or household matters upon the farm. It has published a series of articles by J. B. Killebrew, upon tobacco, the most exhaustive treatment of this subject that has yet been attempted. It is now publishing a number of papers upon truck farming, by Mr. Waldo F. Brown, of the most valuable character. Its correspondents are everywhere, North, South, East, and West, and nothing escapes them that would be of interest to the farmers West and South. By following out these lines it has secured not only the largest subscription list, but the most hearty support from its readers. It is simply a great co-operative society, and the advertisers everywhere recognize this. Moreover, the publishers have made it a rule to exclude all objectionable advertisements, and have thus secured for their advertisers something of the same confidence that the readers have in the paper itself, so that it is of the utmost importance to merchants and manufacturers seeking southern trade that they use the columns of HOME AND FARM. In character and extent its advertising patronage is the surprise and envy of newspapers everywhere. Throughout all the season of depression its pages were crowded with the advertisements of the most enterprising and trustworthy firms of the North and East, and to-day any one who desires to build up a Southern trade turns to HOME AND FARM for an audience.

As an indication of the appreciation in which this journal is held, we make the following extracts from a letter written from Tennessee to the publishers:

"Many persons praise your paper without saying what it has really done for the land we live in. The best possible evidence of its value to the farming community I find in the many letters you publish from the drouth stricken portions of Texas. These letter writers, men, women, and children, invariably say that they have enough and some to spare for their less fortunate neighbors. How is this? Why these writers simply take advantage of the helps and hints given every two weeks through HOME AND FARM, making poultry, sheep, cattle, hogs, and bees play their part when in a tight place."

This is only one of many testimonials to the value of the journal. The most substantial token of approval is found in the steady demand for the paper from the farmers themselves. Its regular edition is now about eighty-five thousand, and is steadily increasing. It has probably the largest list of actual subscribers possessed by any agricultural journal in America which adheres to the rule that every paper is discontinued when the time paid for has expired.

HOME AND FARM is published by the Home and Farm Publishing Company, of which Samuel L. Avery is president, and George C. Avery, vice-president. It is, and has been for the past seven years, under the editorial charge of Richard W. Knott.

W. W. Hite & Co.

W. W. HITE.

TO the river trade Louisville owes her origin, and to the growth of the river interests does she owe her early development from a barge landing, on up through the various stages of hamlet, village, town, and city.

In the good old days when the vast area of wooded hills and grassy dells that has been farrowed into green and golden grain fields and divided into rich States, lined the Ohio, a newly inhabited land, the river was the only connecting link between wilderness and civilization and in time became the line of export and import, of barter and merchandise, and the site now covered by this beautiful and thriving city, by reason of its natural advantages which so well adapted it to that purpose, became a port of entry for the supplies coming from the East by way of the water courses, and a shipping port for the products of the fast developing farm land around. Naturally, therefore, as grew the river trade and the river interests so grew the City of the Falls.

From the landing of the first cargo, back at a period that tests the limit of the oldest inhabitant's memory, running down to the present day, the City of the Falls has been closely identified with the river interests which grew rapidly into immense proportions as men of enterprise met from year to year the demands of the country's development, and by placing ample barges and handsome lines of steamers on the river opened a vein of commerce right into the heart of the fast growing Commonwealth, which even now, after the coming of all the railroads, retains much of its former importance.

Closely identified with this development of the river trade have been, since the early days of steamboating on the Ohio, the Hite family. Indeed, the Hites have done much for the development of Kentucky. They came here in the early days when this was a wilderness and a man had to be brave and venturesome in order to undertake the risks of a journey into this unknown country. Away back in the pioneer times, Isaac Hite was one of a party that came to the falls of the Ohio on an exploring expedition. Daniel Boone was a member of the same party. Hite returned to Virginia, but in 1778 came back and settled in what is now Jefferson county. In 1782 his brother Abraham, a captain in the war of the revolution, also came out. Then followed Joseph Hite, another brother, and then came their father. They all settled in the county a few miles from the present city of Louisville. They were typical Kentucky pioneers, two of them, Abraham and Joseph, bearing to their graves wounds inflicted by Indians, who then infested this section of country. From this hardy stock sprang the subject of this sketch. His father, the late Captain Wm. C. Hite, began life on the river, first as a clerk. He rose to be a captain of steamboats and then to own them. Those were days when the captain of a river boat was an autocratic prince of a floating palace. Until the time of his death Captain Hite kept up his interest in river commerce and through it acquired a large fortune. At his death the mantle of his business tact and integrity fell upon the shoulders of his son, W. W. Hite, senior member of the firm of W. W. HITE & Co. So this young man received as a heritage, not only large interests in the steamboat and river supply business, but also the qualifications, training, and a natural bent, that insured the success that has attended the business as conducted by himself and his active and enterprising partners.

The firm of W. W. HITE & Co. was formed July, 1882, as the successor of the firm of Gilmore, Hite & Co., of which W. W. Hite had been the active member since its formation in 1877. The personnel of the present firm is W. W. Hite, President; J. G. McCulloch, Vice-President; Ed S. Brewster, Secretary; and Louis Hite, Treasurer. They own the controlling interest in the Louisville and Evansville Packet Company, running the elegant line of freight and passenger steamers, composed of the City of Owensboro, the Rainbow, the James Guthrie, and the Carrie Hope, plying between Louisville, Owensboro, Evansville, and Henderson. One of these boats leaves the Louisville wharf at four o'clock p. m. every day for the points mentioned. This line has ever been noted for its speed, safety, and comfort, and it is the pride of the owners that each of these boats furnishes accomodations first-class in every particular and unequaled on the Ohio river.

But their packet line, though a big business in itself, is but a minor part of the business of this enterprising firm. They deal largely in steamboat supplies, cordage, oakum, cotton ducks, railway and mill supplies, and also represent the following extensive lines of trade:

The Boston Belting Company, of Boston, in Rubber goods. The Asbestos Packing Company, of Boston, in Asbestos material. Samuel Cabot, of Boston, in Creosote stains. The New York Tar and Chemical Company, of New York, in two and three-ply Ready Roofing. The Magnesia Sectional Covering Company, of Philadelphia, in Pipe covering, Sockets Sheathing paper, Roof Coating, Paints, etc.

The business of the firm, on and off the water, is extensive, and by reason of the commercial tact, the energy, and the enterprising management of Mr. W. W. Hite—who with his personal knowledge of the trade, his training for its development, and an ambition for its success, acquired both by birth and education—and the intelligent aid of his competent co-laborers, the business has continued to thrive and keep well apace with the rapid growth of the city of which it is so important a factor. Nor will these gentlemen let it lag behind the city in her onward march, for they have the push, they have the money, they have the brains, and their watchword is Excelsior.

T. H. Sherley & Co.

T. H. SHERLEY.

UNTIL within a very few years the difference between cities north of the Ohio river, and those south of that beautiful, historic waterway was as distinct and radical as that between daylight and darkness. Given at any time two cities in their respective sections, with equal advantages in the race for wealth, power, and importance, the victory was never doubtful at all. No matter what the underlying causes for their difference were, it was generally recognized that the southern merchants lacked the energy, the dash, the intrepidity of their northern competitors. The former were content with moderate success, conservative to the point of timidity, interested, rather, each man in his own well-being, than in the growth and improvement of the community. There was very little in the South of what is known across the river as "public spirit." In every one of the centers of population at the South, however, there were exceptions to the rule of general sluggishness; men who, either naturally, or by business association with their active brethren further north, were infected with the pluck and push of the latter. When the great awakening which has come to all sections of the country in the last few years—the Titanic impulse which is to carry America to yet undreamed-of heights of splendor and glory—reached such men, it found eager and able advocates and promoters. Louisville has a few of this class among her native residents, and of these Thos. H. Sherley is a type. The firm of T. H. SHERLEY & Co., of which Mr. Sherley is the ruling spirit, is one of the most extensively and favorably known in Kentucky. Twenty-two years ago, in 1865, the house was established by Mr. Sherley, himself then a very young man, who began business as a distiller's agent and commission merchant for the sale of distilled spirits. In a few years he acquired the control of a large number of standard brands, and enlarged the scope of his business by engaging in the actual manufacture, obtaining an interest in two distilleries. At present the firm operates three distilleries.

Of these, the most famous perhaps is the E. L. Miles. This is the oldest manufactory in the State. It was established by the father of the present E. L. Miles, and has been in continuous operation for nearly one hundred years, except a period of about three years during the war. Its product has attained a wonderful celebrity among consumers and the medical profession who require a purity of quality combined with the perfect flavor that is rarely, if ever, known outside of the Kentucky article. As showing the position held by such goods among the trade, it may be stated that the highest priced sweet mash whisky in Kentucky to-day is the brand known as the E. L. Miles. After Mr. Sherley gained control of it, the Miles, which had been a small house, was enlarged and improved, and in 1885 was converted into a stock company of which Mr. Sherley is President.

The second of his houses is the New Hope. This was built in 1876, but its product has already gained a wide reputation for its purity and flavor. This is also run as a stock company of which Mr. Sherley is Vice-President. The third is the "Belle of Nelson." This famous brand of whisky is simply manufactured by Sherley & Co. for the Belle of Nelson Distillery Company, of which Bartley, Johnson & Co. are the principal stock-holders.

The capacity of the Miles house is about 10,000 barrels a year, that of the New Hope about 6,000 barrels. The distilleries where these whiskies are manufactured are in Nelson county, where the soil and water contain the peculiar properties essential in the production of Bourbon whisky to a degree not surpassed by any of the other famous localities in Kentucky. The firm is also interested as commission merchants in the apple and peach brandy trade, and controls two-thirds of the product of the State.

In addition to its dealings in whisky, within the past few months the firm has leased both the Southern Glass Works and the Kentucky Glass Works, and is now actively operating those enterprises. The same activity and sagacity which Mr. Sherley has always displayed in his other pursuits, warrant a prediction of great success in his latest venture.

The company of the firm is Mr. Thos. J. Batman, a young man of fine character and sterling business qualities, who entered Mr. Sherley's service in 1875 as an office boy, and who after ten years of faithful and intelligent apprenticeship was honored by admission as a partner. Mr. Batman has complete control of the office, and by his thorough knowledge of the business and his devotion to the firm's interests has acquired a fine reputation in the mercantile world.

While Mr. Sherley is known to the business world as a shrewd and prosperous merchant, his reputation with the public is still more general as an alert, progressive citizen, interested in every movement for the general development, and in every particular satisfying the requirements necessary to that envied and admired individual, a prominent man. For six years he was a member of the School Board, part of which time he was its chairman. He has been a director in the Board of Trade for two terms, four years in all, and is a director in the Louisville Southern road. It was mainly due to his exertions and money that the Public Elevator was built, the only institution of its kind in the city. Mr. Sherley has always manifested a fondness for politics and is now a member of the Democratic State Committee. (He is fortunate in the possession of a temperament of which a vivid, if not elegant, idea is conveyed by the expression, "he is a good fellow.") Louisville owes her prosperity to such men as Tom Sherley and their multiplication here will insure her future greatness.

B. F. Avery & Sons.

THE day has passed, in this country as well as in others, when from very small beginnings mechanical industries could rise to enormous proportions; but some forty years ago nearly everything in mechanics was done on a small scale, and enterprise and intelligence were required, rather than large capital. This was the case when the great plow factory of B. F. Avery, now known under the name of B. F. Avery & Sons, was established in Louisville in 1848.

S. L. Avery.

Mr. Avery was a native of New York, descending from an old New England stock. He received a collegiate education and was admitted to the bar, going to the city of New York to practice law. But this was not to his taste; he had a natural aptitude for mechanics and determined to devote himself to some industry in which this bent could express itself. He returned to the paternal home, where his farming experiences had taught him how inadequate were the plows then in use. This led to a determination to go into the business of making plows, with the ultimate object in view of making them more nearly meet the demands of the farmer. He equipped himself with a small portable furnace, some patterns, and $400 in money, and started out to seek his fortune. He came down the coast to Virginia and settled in Mecklenburg county. He went into business with another young man—a practical molder—and together they bought a ton of iron and opened a foundry. After some success here they thought they would find a more profitable business in North Carolina, whither they accordingly went. They returned to Virginia, however, and were again in business there when Mr. Avery was called home to look after the affairs of his family. He induced one of his nephews to come out into the West to make plows. The nephew settled in Louisville and began the business, but shortly wrote for his uncle to come out here and advise him. Mr. Avery reached Louisville on December 25, 1847, intending to remain here only a few weeks; but he became interested in the business, saw the advantages that Louisville would afford, and determined to make this city his home.

Mr. Avery's success was not gained without much effort. He found it difficult to induce the people to accept his cast-iron plows which were eventually to make his fortune, and of which more than 50,000 are now made annually. But the practical intelligence and earnest determination of such a man were not likely to fail. Many minor improvements were made that told wonderfully in the long run. For instance, Mr. Avery was the first to introduce the simple device by which a straight handle can be fitted to the back of the mold-board. Formerly the handle had to be bent at each end, but by casting with the mold-board two small projecting pieces into which bolts could be inserted, the straight handle could be securely fastened. Moreover, any country blacksmith could put a new handle to a plow, the handle not having to be bent to the shape of the mold-board.

Thus Mr. Avery made his improvements and built up his business until it became one of the largest and most widely known of Louisville enterprises. His sons were trained in the factory, and when the founder of the enterprise retired, he left his business in competent hands. Mr. Avery began to make plows in 1825. In 1847 he came to Louisville and in 1852 the factory was located at its present site, at Fifteenth and Main streets. The concern is now an incorporated company with a capital stock of $1,500,000. Its officers are Samuel L. Avery, President and Treasurer; George C. Avery, Vice-President and Secretary; and W. H. Coen, General Manager. These gentlemen all occupy the highest commercial positions.

The factory covers some six acres of ground. Here every part of a plow, from a bolt or nut up, is made and sold separately or in the most complete of plows. Undressed lumber, pig iron, and plates of steel are the materials bought. The business of working up the raw materials is all done in the factory, and for this the apparatus could not possibly be more complete than it is.

The managers of this great establishment understand that manufacturing, in order to be profitable, must now be done on a large scale. The large buyer gets the best rates on what he buys. He sells his goods, also, in the largest quantities and can consequently afford to undersell his small competitor. He has a fuller and more perfect line of machinery. The business of the Messrs. Avery has been running for fifty years, and there has not been a year of that time in which the machinery has not been improved. They never hesitate to throw out a machine and substitute another that will make plows more economically or more perfectly. Moreover, they use the best material, the best wood, the best iron and steel, and employ the best mechanics, and quality always tells. By all of these means they are enabled to sell a good plow at a profit where smaller concerns make none. In fact, the cost of manufacture has been reduced to such a point that they can deliver plows and cultivating implements in any foreign country at prices which compete with goods made in that country, and they have a large foreign trade. There is no waste in this factory. A piece of wood that will not make two handles will make one handle and a round. The shavings and chips are burned and effect a great saving in coal. Here again is an advantage over the small manufacturer. Another is that the machinery is nearly always in use and the money invested in the plant is not lying idle, but is returning a good percentage.

Plow Manufacturers.

The location of the factory, its owners consider, is most advantageous to their business. Louisville is in the heart of the finest timber country and has iron and coal at her very door. Rents are low, and there is obtainable here a good class of skilled labor which is quiet and steady. The shipping facilities of the city are unsurpassed, as it not only has a perfect railroad system, but also a waterway that is a high road to the sea. On all of these accounts Mr. Avery considers Louisville the best possible location for his extensive works.

W. H. Coen.

The working force of the factory is 600 men. The output is 1,500 plows and cultivating implements a day. The engine that does the greater part of this work is a 400-horse-power Porter-Allen machine that makes 140 revolutions per minute and turns four twelve-foot wheels that supply the power to the shafting, which is located in several different buildings. The first of these the visitor enters contains the wood-working rooms. The lumber is all white oak. It is received in heavy planks, the supply coming mostly from Kentucky. The wood is kept for from a year to eighteen months in three large yards, becoming thoroughly seasoned. The supply now on hand is about $100,000 worth. After the planks have been cut into pieces of the required length, the rough patterns are marked on them and they are cut into shape by a band saw. The handles and other wooden parts of the plow are then shaped up. The handles are now steamed and bent and, after drying thoroughly in the drying rooms, are "finished up" ready for use.

But the carpenter shops are not the most interesting section of the factory; it is when one gets among the belching furnaces, the cyclopean hammers that beat a merry rat-a-plan with a force that would crush mountains, amid the presses and dies that mash great pieces of steel into shape, that one realizes the magnitude of the work in hand. Here are hundreds of men engaged in the lusty labor. The pig iron, of which a dozen varieties are used, is melted and cast for the several pieces of a plow. The mold-boards and the shares are so hardened that they will cut glass. The several pieces are now bolted together onto the standard, when they are polished and ground on stones and emery wheels. Then we have the cast iron, or chilled plow, which is used in sandy soil that would soon cut the steel plow to pieces. The factory annually turns out 40,000 plows of one catalogue number alone, or of one size and design, beside the thousands of other designs. The grindstones on which these plows are polished are from five to seven feet in diameter and several of them are always at work. One of these huge stones is ground down to two feet in diameter in from two to three weeks, when it becomes useless. The workmen who polish the plows stand with their backs pressed against an upright, while their legs are encased in boxes, by means of which they hold the metal firmly against the revolving stones.

For the steel plows the steel is bought in slabs. It is heated red hot and placed in presses which mash it into the required shapes. These are then tempered. The points are shaped up by the great trip hammers and are then sharpened on the emery wheels, which throw out such volleys of sparks as to make the place look like a display of Japanese fire-works were taking place. In one of the shops are several machines called shears which trim the steel or iron plates, cutting a piece of steel a half inch thick as easily as one would cut a piece of cambric.

After the plow has been put together and the wood work has been bolted on, it is sent to the paint shop, where it is finished for the market in more or less elaborate style. Handsomely decorated implements are made for exhibition purposes, but these, of course, are few.

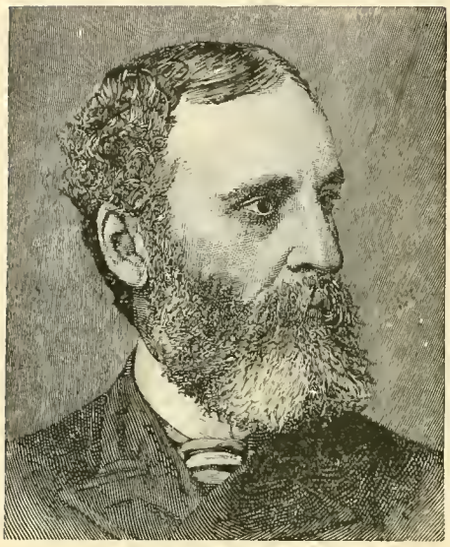
There is no kind of a plow that is not made in this factory, from the one-horse garden affair to the largest machine for breaking up a prairie or tearing to pieces a McAdamized street. Of course, they make sulky-plows and cotton land plows, and plows for a sandy soil, and plows for a rich loam. In fact, the establishment meets every demand of the market, the great variety of its manufacture enabling them to supply plows fitted to till any character of soil.

Here also are made all the cultivating implements in use, though the plow is what has carried the name of Avery into almost every country on the globe. Just 143 different kinds of plows and cultivators are made.

The Messrs. Avery assert that the persistence with which their wares have been pushed has done as much for their success as the superior quality of the plows themselves has done. They are always in the field, their videttes and outposts, that is, their drummers and agents, being as alert as their general officers are wise and bold. Their success is due to enlightened energy and to absolute knowledge of the business in hand. During his residence in Virginia and North Carolina, Mr. B. F. Avery himself did much of the mechanical work of the foundry. His experience and knowledge of the business thus descended to every detail. But it was the confident knowledge of the man of business that enabled him to extend his enterprise until it became of vast importance.

Major Coen has been connected with the business as general manager for the past three years, having come here from Chicago, where he was the general manager of the Bayle Ice Machine Company. He is a man of marked ability, wonderful energy, and business tact. In the short time of his residence in Louisville he has earned an enviable reputation as being one of the foremost business men of the city. He is an Englishman by birth, but has spent most of his life in America.

The Mutual Life Insurance Company of Kentucky.



HON. CHARLES D. JACOB.

THE important business of Life Insurance is ably represented in Louisville by the MUTUAL LIFE INSURANCE COMPANY OF KENTUCKY, which numbers among its officers and directors a score or more of the very first business men of the city. It is only necessary to mention the names of these gentlemen to show the strength and high integrity of the Company.

Officers: Hon. Charles D. Jacob, President; John K. Goodloe, Vice-President; L. T. Thustin, Secretary; Dr. W. H. Bolling, Medical Director; David Meriwether, Actuary.

Directors: Thos. L. Barret, President Bank of Kentucky, Treasurer; Henry W. Barret, Eclipse Woolen Mills; R. A. Robinson, Wholesale Druggist; John M. Robinson, Wholesale Dry Goods Merchant; J. B. Wilder, Wholesale Druggist; Geo. W. Morris, President Gas Company; Wm. Mix, Attorney-at-Law; Geo. W. Wicks, Tobacco and Cotton Merchant; John D. Taggart, President Fidelity Trust Co.; W. W. Hite, President Louisville & Evansville Mail Line; W. C. Priest, Real Estate Agent, W. T. Rolph, Manager Dun's Mercantile Agency; M. Muldoon, Marble Works; H. M. Burford, President Bank of Commerce; Charles Goldsmith, of Bamberger, Bloom & Co.; A. P. Humphrey, Attorney-at-Law.

The Company was organized in 1866, with Prof. J. Lawrence Smith, President; Judge L. T. Thustin, Secretary; and a directory of eight men whose names at once inspired confidence and assured the careful management of the important trust which they assumed. Prof. Smith continued in office until the duties of the growing company demanded the entire time of its officers, when he resigned on account of his preference for his scientific researches, which gave him a world-wide reputation, and Hon. John B. Temple was elected in his stead, who gave his undivided attention to the business of the Company, sustaining its high reputation until his death, in May, 1886. Hon. Charles D. Jacob was elected to the Presidency October 21, 1886.

Mr. Jacob was selected for the office on account of his peculiar fitness, his resignation as United States Minister Plenipotentiary and Envoy Extraordinary to Colombia thus resulting in the good fortune of the "Mutual of Kentucky." The substantial growth of the company's business from the date of his inauguration to the present time has proven the wisdom of the directory in choosing their third president, its assets amounting to $1,350,000, and its surplus to policy-holders to $206,000.

Judge Thustin has faithfully filled the position of Secretary from the organization of the company to the present time, and to his careful management and conservative policy, the success and high standing of the company is largely due. His excellent judgment in the management of the finances of the company has at once been a protection against loss from unsafe or injudicious investments, and has enabled the organization to earn, with unfailing certainty, the increase which is so essential to the success of all such corporations.

THE MUTUAL LIFE INSURANCE CO. OF KENTUCKY is the largest in the South, and the only Life Insurance Company organized and located in the State of Kentucky, whose insurance laws are most stringent, and whose credit is equal to that of any State in the Union. Its managers are gentlemen well known to the commercial world as men of substance, integrity, and intelligence, which the best writers say is the chief consideration in the selection of a company. They are the very men who have contributed to the high credit of the State.

The MEANS and CREDIT of the Company are of the first order. It has sought the safest investments, as its statements show, while it has met all its losses promptly. Its management has been conservative, whereby it has gained largely the confidence of the insuring public, who have the best opportunity for knowing its strength, and has elicited the approval of the eminent State officers set to watch over the large interests involved, in a manner of which any company in existence might be proud.

In obedience to the laws, among the most rigid in the whole country, the State Commissioner of Insurance has, year by year, issued a report, to be found in all the public offices of the State and counties, in which a clear and full statement of the Company is spread before the public for its scrutiny. These reports have all the time shown the Company to be in good condition, and its affairs well administered. Five times since 1870 have these personal examinations been made. January, 1877, the Commissioner closes his report as follows: "After a most rigid examination I have no hesitation in saying that I found the Company to be in a sound and healthful condition, showing evidence of careful and prudent management." In the fall of 1883, the fifth examination was made. The report of it closes: "The Company was found to be solvent and sound." The condition and standing of the Company, as well as the value of the securities comprising its investments, can be easily ascertained at all times; as its affairs and securities are examined by a committee of the Board of Directors, composed of business men of undoubted integrity, who are residents of the city of Louisville, Ky.

The Company is mutual in the highest sense, and better than mutual. Besides giving to its policy-holders the surplus PRO RATA, its managers have put up as security a guarantee capital of one hundred thousand dollars, invested in safe securities, and lodged with the State Treasurer, on which they are limited to draw interest, only when there is entire safety, without encroaching upon the security which the State law requires. Mutual Life Insurance, thus guaranteed is the safest, the most just, and in the end, much the cheapest, as may be easily shown.

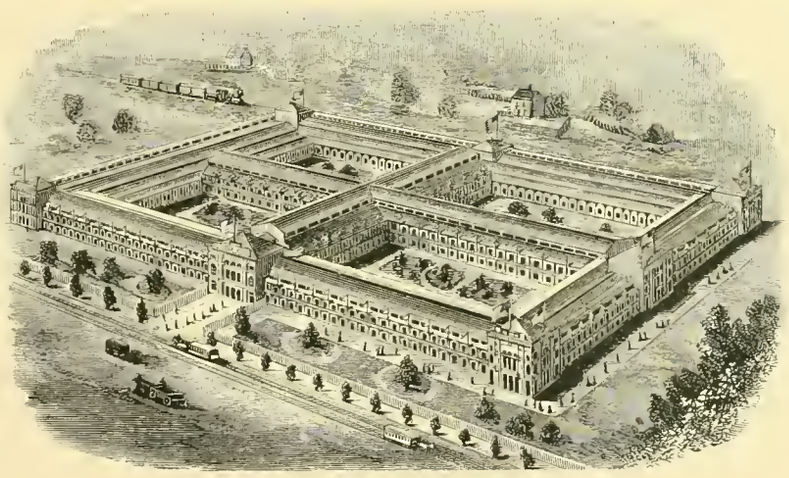
The Southern Exposition.

MAJOR J. M. WRIGHT.

SINCE the first exhibition by the SOUTHERN EXPOSITION, in 1883, its displays have gradually become more and more practical in their aim, until that of 1887, which serves rather to illustrate the real business of this community and the surrounding territory than to command attention by its mere magnitude. In this way, if it is less ambitious, it is equally useful. In other words, the SOUTHERN EXPOSITION of the present year is directly commercial, rather than educational. It is, in fact, a great market for the display and sale of goods, being intended to act as an index to, and illustration of, the manufactures and commerce of Louisville and the surrounding country. With this end in view the management has sought to make the amusement accessories such as will draw, instead of such as will teach. The displays are not built on the fine-art plan, the design having been to make them comprehensive instead of elaborate.

The history of this enterprise is certainly instructive. The company, which is incorporated, was organized October 30, 1882. The first exhibition was held in the summer and fall of 1883. This and the season of the following year saved the city of Louisville from falling into the commercial lethargy that then overcame other and larger cities. Indeed, the influence of the SOUTHERN EXPOSITION in the years 1883-84 was worth many years of ordinary growth to the city, keeping business active at dull seasons, and opening new fields to the merchants here. Many thousands of strangers visited the great shows. Again in 1885, the exposition was a success, and in 1886 more goods were sold within the walls of the building than had been sold even in those years when the elaborate foreign displays formed so large a part of the exhibition.

It is impossible to overestimate the educational benefits of the first four great displays in the departments of music and painting, whose influence has created a distinctly good and discriminating taste among Louisville people in those branches of art. For four years the art gallery was filled with the best American and foreign pictures. To music the exposition owes much of its success. During the exposition seasons Damrosch, Gilmore, and Cappa have furnished the music. The company has also provided four spring festivals—two seasons of Thomas' symphony concerts, and two of grand opera, all of which have been eminently successful. This year, however, the entertainments are of a more popular kind and are to be changed from week to week.



SOUTHERN EXPOSITION BUILDING.

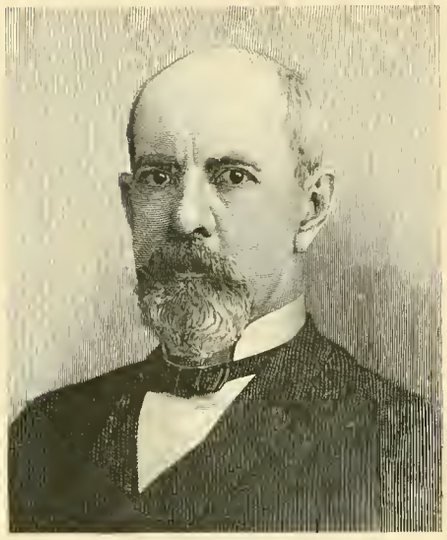
So much for the past: The Southern Exposition Company owns $92,815 worth of land; the improvements, machinery, etc., bring the total up to $396,613, and the company has other property under its control. The main building has an area of fifteen acres and an exhibit space of 677,400 square feet, of which 177,000 square feet are devoted to the machinery exhibits. Sixteen boilers outside of the building supply the steam to run 1,516 feet of shafting. The company owns all the necessary appliances for running the machinery. The electric light plant is the largest individual plant in the world. The SOUTHERN EXPOSITION seems to be particularly well situated for profitable exhibiting of machinery. At the end of one season, when the subject was traced up, it was found that out of 600 car-loads of machinery coming from the East, only 100 car-loads went back to their original place of shipment; the balance all having been sold during the exhibition, and at the close shipped to the purchasers.

All of the exhibits are put in place at a minimum cost to the exhibitors. There is no charge for unloading and loading freight. A special line of railroad runs to the doors of the building, and there is no drayage to pay. There is no charge for space and no entry fee.

The exposition of the current year has many special and popular attractions. The admission price is only twenty-five cents; for children, only ten cents. There is every prospect for the continued success of the enterprise.

The prosperity of the exposition, indeed, its very existence, has been mainly due to Major J. M. Wright, who has been its general manager since its inception, and for two years was its president.

Murrell, Cabell & Co.



H. C. MURRELL.

AMONG the most important of the commercial interests of Louisville is the wholesale grocery trade. One of the most successful merchants now engaged in it is Henry C. Murrell, of the firm of MURRELL, CABELL & Co. Mr. Murrell was born in Glasgow, Ky., in June, 1832. In 1849 he went into the store of his uncle, Mr. Robert Murrell, where he remained as a clerk until 1852. Meanwhile, the uncle had quit business in Glasgow and removed to Louisville, establishing, in 1851, a wholesale grocery business in the latter city under the firm name of Murrell & Trigg. Here Mr. Henry C. Murrell followed in January, 1852, going into the business as a clerk. On July 1, 1856, he was admitted to an interest in the business, the firm being Murrell, Trigg & Co., composed of Robert Murrell, Alanson Trigg, and Henry C. Murrell. The concern then moved into the building now occupied by Murrell, Cabell & Co. This firm continued business for two years and a half, when Mr. Trigg retired, the firm then changing its style to Murrell & Co. This continued until 1860, when H. C. Murrell bought his uncle out, when he formed a partnership with George C. Castleman and Joseph P. Torbitt. This firm continued in business for seven years and a half, when it was dissolved. A partnership was then formed between Mr. Murrell and Jacob F. Weller, under the name of Murrell & Weller. This firm continued business until July 1, 1870, when Mr. Murrell went into business alone and in his own name, but on January 1, 1881, the present firm was established, Mr. Murrell, of course, being the senior member.

The business of the house, while confined mostly to Kentucky and Indiana, is of large proportions. It embraces everything in the grocery line; but the firm has made a specialty of manufactured tobaccos, which it handles very largely. The business altogether is as large as is done in the same line of trade in Louisville, the house being popular, as well as substantial. The firm, as it is now composed, consists of Henry C. Murrell, John M. Cabell, a young man and a native of Taylor county, Ky., and Samuel Murrell, a younger brother of the senior member of the firm. These gentlemen are most energetic in the conduct of their business, keeping thoroughly abreast of the times and often leading the market. Their business is of a substantial kind, having been built up by energy and probity, rather than by any speculative ventures.

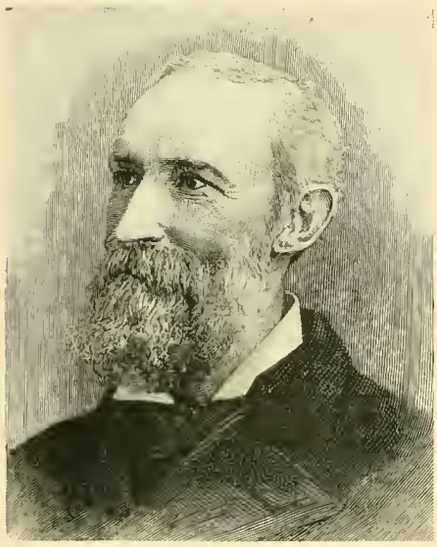
During his long and energetic career as a merchant in Louisville, Mr. Murrell has held many positions of public trust and honor. For a number of years he was a director in the Louisville branch of the Northern Bank of Kentucky, his connection with this institution ceasing when the Louisville branch closed in January, 1873. For seven or eight years he was a director of the Louisville & Nashville Railroad Company, holding this office during the several terms of Presidents E. D. Standiford, H. Victor Newcomb, E. H. Green, and C. C. Baldwin. Under Dr. Standiford he was a member of the finance committee which redeemed the property from destruction and established its business standing. He severed his connection with the directory of the road in June, 1882, but is still actively interested in and officially connected with the road in many of its organizations and enterprises.

But Mr. Murrell has long held a much larger and more important trust than any of these, having for many years represented his ward—the Seventh—in the Common Council of the city. He has fulfilled this trust with the same honesty, honor, and intelligence that have marked his commercial career. He was first elected to the lower board of the Council in 1867, resigning the following year. In December, 1873, his fellow citizens sent him to the Board of Aldermen, where he has served ever since, his re election having been opposed only twice in that time. While eminently endowed with the shrewdness, tact, and strength of purpose that make the successful politician, Mr. Murrell in no sense belongs to that category, but has served the city only at the earnest solicitation of those whose trust he holds. With the single exception of its President, Mr. Murrell has been in office longer than any other member of the Board. It is somewhat remarkable that he has nearly always been classed as an "anti-administration man," at least, since the late Mr. Baxter retired from the Mayoralty. On questions of general policy Mr. Murrell always agreed with that progressive and energetic officer, but he has for years been a "member of the opposition," though, of course, in many of the details of city government, the city's various and changing officers have had his active co-operation. Mr. Murrell has been repeatedly solicited to become a candidate for the Mayoralty and has once or twice been almost forced into the race for that office. But he is a man engaged in large commercial enterprises which demand his attention and which he would have largely to sacrifice were he elected Mayor of Louisville.

Among the public measures which he actively promoted was the building of the enormous storage reservoir of the Water Works, one of the finest pieces of engineering in the country and one of the most useful of public structures. The timely foresight of those who favored the measure has doubtless several times averted a water famine in Louisville.

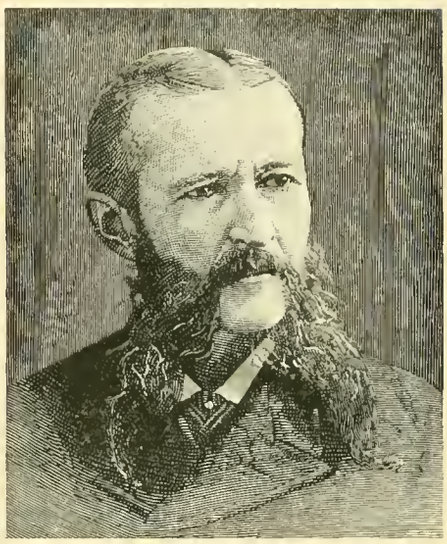
Mr. Murrell's uncle Robert is an interesting character. He continued actively in business in New York until 1880, or until he was seventy years of age. He is still a hale and active man, but makes no effort to do business, though he keeps his seat in the Cotton Exchange. His habits have always been most exact and methodical. H. C. Murrell says he has often known him to come into the store day after day and not speak a word to a living soul, except on matters of business, for a week. He acquired a large fortune in his long and busy life. He lives in Brooklyn, but he still spends much time in his office in New York and in the Cotton Exchange.

The Falls City Bank.

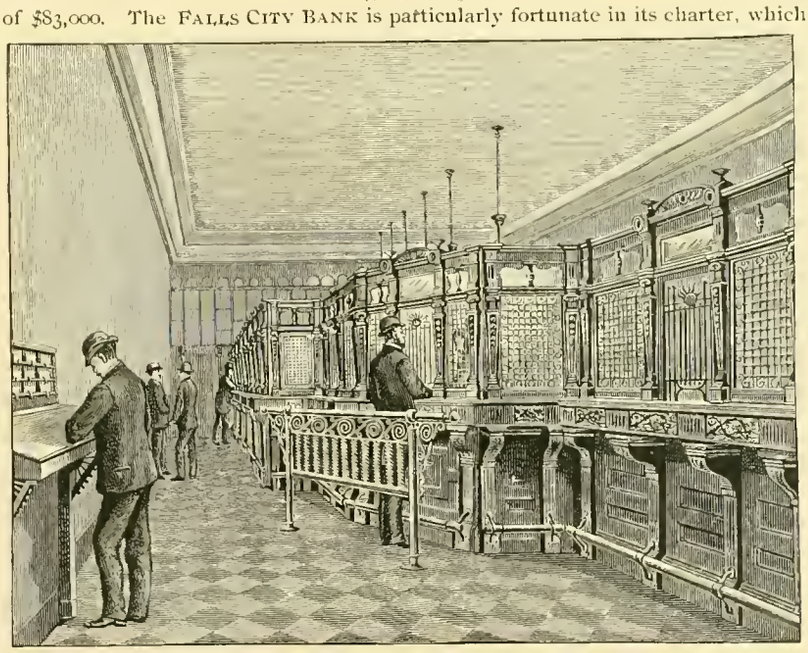


JOHN T. MOORE.

AFTER overcoming numerous adverse circumstances, the FALLS CITY BANK has for several years been one of the most prosperous of Louisville institutions. It was chartered in 1865, with a paid-up capital of $400,000, being then known as the Falls City Tobacco Bank. At the time of its organization there was great financial depression throughout the country, but the bank prospered. Then came the panic of '73, and before this storm had swept over the country the FALLS CITY BANK received a blow that would have crushed most similar concerns, but did not cause this one to suspend business, though its entire surplus was wiped out in a single night. In March, 1873, the bank was robbed of between $300,000 and $400,000 in cash and convertible securities. The thieves rented a room just over the bank's vault and worked down from the top. They used the finest tools and one Saturday night they had cut their way through the iron and steel top of the vault. The robbery was not discovered until late Monday afternoon, as the thieves had fastened the bolts of the door so that it could not be opened except by expert workmen. The thieves were never caught, though between $200,000 and $300,000 worth of bonds were recovered at a cost of $83,000. The FALLS CITY BANK is particularly fortunate in its charter, which permits its officers to regulate its capital stock on a sort of sliding scale between $400,000 and $1,000,000. They may increase it, as they see fit, up to $1,000,000 and may then reduce it to $400,000, but not lower than that. At present its capital stock is $400,000; but it is now issuing $200,000 additional stock. Its shares are quoted at 110.



MAJOR WM. TILLMAN.



INTERIOR FALLS CITY BANK.

The bank is one of the depositories of the Sinking Fund of the City of Louisville, which is of great advantage to it, and also of the Water Company's account. It transacts a general banking business in loans, deposits, discounts, foreign and domestic exchange, and pays particular attention to inland collections. It has a large correspondence throughout the South and allows interest on bank deposits. Its Savings Department is a feature of the institution, in which interest is allowed on deposits.

After the death of Mr. L. L. Warren, Mr. John T. Moore was elected President of the bank. Mr. Dennis Long is the Vice-President. The other directors are P. Meguiar, J. W. E. Bayly, H. C. Warren, and Charles H. Pettet. Mr. Moore is a member of the firm of Moore, Bremaker & Co., wholesale grocers, and of the Bremaker-Moore Paper Company.

Major Wm. Tillman, the Cashier, was born in New York in 1834. The breaking out of the civil war found him in Michigan. He was appointed on the staff of General A. S. Williams, but was then made a paymaster in the army. He resigned in 1866 with the brevet rank of Lieutenant-Colonel, having disbursed $23,000,000, for which he promptly received his quietus. He came to Louisville in 1875, and in 1876 accepted a position in the bank. In November, 1880, he was made cashier. At that time the deposits amounted to $150,000; now they reach a million.

Meddis, Southwick & Co.

S. S. MEDDIS.

THIS old and well-established firm has been in the real estate business since 1867, and have done a very large business. They have sold more property than any other firm in the city, and perhaps more than all the others put together, since they do a very large auction business, Mr. Meddis having the well-earned reputation of being one of the best real estate auctioneers in the State. He is a native of Louisville, and before going into the real estate business had served many years as deputy sheriff under Charles Quirey, S. S. Hamilton, W. S. D. Megowan, and J. Wash Davis, which employment peculiarly fitted him for the duties of real estate agent and auctioneer. His first important auction sale was in 1870 for the Bank of Kentucky, amounting to nearly two hundred thousand dollars.

Mr. Meddis made the great Bustard sales in 1870, aggregating nearly one-half million dollars. The firm has made nearly all the important sales of real estate that have occurred in Louisville during the past twenty years. They have been the purchasing agents for the Short Route Company, Louisville, New Albany & Chicago Railroad Company, Louisville Bridge Company, C. & O., Cincinnati Short Line, and Kentucky and Indiana Bridge Company. They represented the late E. D. Standiford in nearly all his large transactions, and with one or two exceptions purchased for H. Victor Newcomb, Esq., the vast real estate now owned by that gentleman in this city. They are now in the active employ of the Fidelity Trust Company, the Louisville Southern Railroad Company, Kentucky and Indiana Bridge Company, Bank of Kentucky, and most of the institutions and individuals having large dealings in real estate in Louisville.

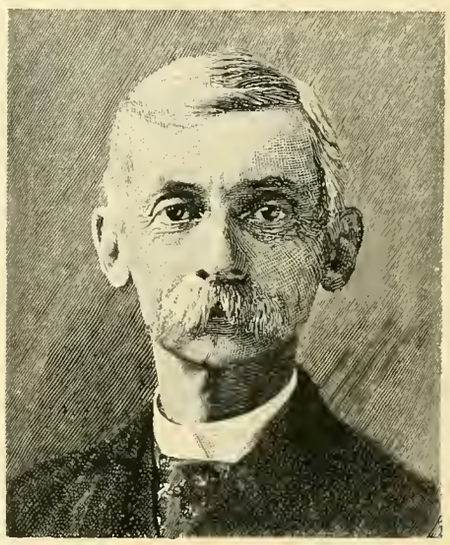
While Mr. Meddis is essentially a real estate agent, devoting most of his time to that branch of his business, he is one of the most successful of general auctioneers and has made an enviable reputation as an auctioneer of live stock, having made some of the greatest sales that have occurred in the United States. For eleven consecutive years he made sales for L. L. Dorsey, the founder of the great "Golddust" family of horses, and has, with one exception, made all the sales for the late Mr. McFerran and R. S. Veech at the Glenview and Indian Hill stock-farms, on which farms have been bred, and at which sales were sold, many of the trotting celebrities of the present day. At the executor's sale of Mr. McFerran's estate in October, 1886, Mr. Meddis made what he considers the greatest sale of his life. At this sale 168 head of stock were sold at an average of $1,932 each, the total sale of stock and Glenview farm aggregating over four hundred thousand dollars. While these high prices were mainly due to the character and breeding of the stock, no one who saw the sale can deny that its success was augmented by the able manner in which Mr. Meddis presented the property at the sale, and that he is justly entitled to congratulations on his management of the greatest and most successful sale that has ever occurred in America.

Mr. Southwick came to Louisville in 1862 from Seneca county, New York, where he spent his boyhood on a farm. His first stay in Louisville was only of two years' duration, but he returned in 1866, and in conjunction with John T. Morris, organized the real estate firm of Morris, Southwick & Co., which firm for nearly eleven years had the largest following of any firm of the kind in the city, and did an immense business in real estate and auction sales.

The firm of Morris, Southwick & Co. was very successful and accumulated a fortune of a quarter of a million, but the decline in property after the panic of 1873, caused it to lose heavily, and in 1875 the firm was dissolved. Thereupon the present firm of MEDDIS & SOUTHWICK was organized, and for seven or eight years it had hard up-hill business and a series of successes and disappointments. But by industry, energy, and good judgment its members have managed to recuperate their fortunes. Mr. Southwick is regarded as one of the best real estate agents, always amiable in manner, persuasive and convincing in argument.

Bruce Hoblitzell, the junior member of the firm recently admitted, has charge of the books and financial department and will hereafter give special attention to the renting department. This branch of the real estate business the firm has heretofore declined, but by the accession of Mr. Hoblitzell, are prepared to conduct it with the same satisfaction to its patrons as it has given in the other branches.

Both Mr. Meddis and Mr. Southwick are expert in all matters pertaining to real estate. Being familiar with nearly every foot of ground in the city—indeed they have sold property on nearly every block in Louisville—they are thoroughly familiar with values, and if they are asked separately to give a valuation on any piece of property, their estimates will in all cases be found to coincide within a few dollars; consequently, whether for the buyer or seller, their opinion as to prices is equally valuable.



CHARLES SOUTHWICK.

John A. Stratton & Co.

THE recent remarkable activity in real estate brought prominently before the public those gentlemen who are supposed to benefit most by the "booms" that certain sections of country are now enjoying. Among these none has attracted more attention by his foresight, enterprise, and success than have JOHN A. STRATTON & CO., real estate and house agents. The firm consists of John A. Stratton and N. L. Varble, both of whom are young men and who owe their present influential position entirely to their unaided efforts. Mr. Stratton has been in this business since 1879. He was born in Henry county, Kentucky, February 24, 1854, and removed to Louisville when nine years of age. After receiving a good education he became engaged in mercantile pursuits, but was obliged to spend a year in the far West on account of failing health. On returning he opened a collecting agency, especially for the collection of rents. The latter branch had increased so much that in 1879 he determined to devote his attention entirely to real estate. Since that time he has made land values a special study and is known as an expert in this delicate business. He has been employed to divide some of the largest estates in Louisville, and in almost every important suit at law, involving the value of realty, he is called as an expert and eminently fair witness. No man scented Louisville's real estate "boom" from such distance in time as did Mr. Stratton, and the success of his clients was remarkable. Mr. Stratton is also something of a real estate lawyer, and generally looks up the law in his own cases.

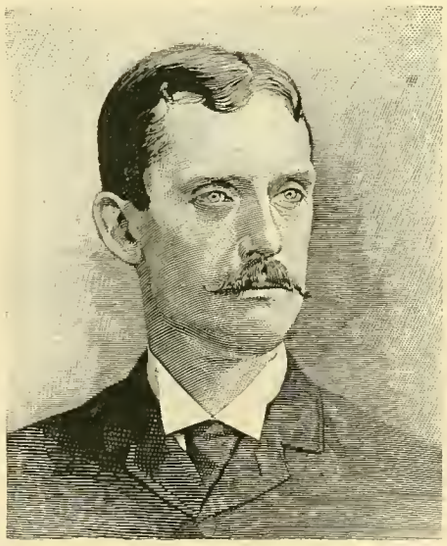
JOHN A STRATTON

N. L. Varble was born in Louisville in March, 1855. He was employed variously before forming a partnership with Mr. Stratton. For one year he was with the commission engaged in improving the Mississippi river. He now has exclusive charge of the rents looked after by the firm and has the reputation of collecting rather more promptly than any one else in Louisville.

In 1883 these two young gentlemen organized the present firm. When Mr. Stratton first went into the business Louisville property was low in value and the market was almost *nil*, but few sales being made. The rise commenced in 1880, since which time prices have increased in some localities 200 per cent.

Mr. Stratton estimates that from 1881 to 1883 his business increased 600 per cent., and that it has increased 100 per cent. every year since that time up to January, 1887. During the first seven months of 1887 his sales amounted to between $600,000 and $700,000, 300 per cent. more than the total of 1886, with the autumn trade still to come and every indication of renewed activity. In the city of Louisville the real estate sales for July, 1887, always the dullest month in the year, amounted to $500,000. These sales were made to investors and consequently are not speculative. No fancy prices have been paid for desirable locations in any special line of business.

Mr. Stratton assigns as the first thing that caused Louisville property to appreciate in value, its extraordinary cheapness. Another prime cause has been the recognition by so many railroad companies that the South does not afford a better terminal point than is found in Louisville. Since 1879 the number of roads centering here has been more than doubled. While, as a consequence of this, many manufactories and other industries have been located in Louisville, still land here is comparatively much cheaper than it is in many country villages in this and other States.

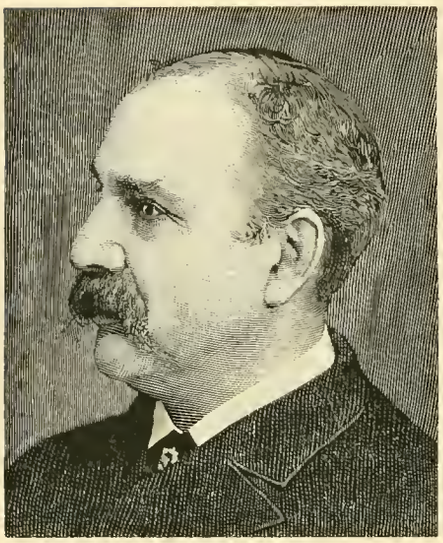


N. L. VARBLE.

Besides other important considerations heretofore mentioned, Louisville offers the following inducements to persons desiring to locate business enterprises: low freight rates to all sections, cheap fuel, cheap iron, abundant supplies of raw materials, and, finally, cheap living, both in food and house rent. There has been remarkable freedom from strikes, wages being good and living easy. A nice frame cottage of four rooms with a lot 30x150 feet, on a line of street railroad, within a mile and a quarter of the center of the city, can be bought for from $900 to $1,300. There is scarcely any point in the city which is not within three blocks of a street railway. There is no city in the United States, and scarcely any village, that can offer such inducements to workingmen to own their own homes, and there are more laborers in Louisville who own the houses they live in than there are in any city of like size in the country. A cottage such as already described brings the investor a rental of from $10.50 to $12.50 per month. The taxes on such property would be about eighteen dollars a year.

Messrs. Stratton & Co. offer the following references: Bank of Kentucky, City National Bank, Bank of Louisville, Masonic Savings Bank, German Bank, Merchants' National Bank, Western Bank, and others.

Bamberger, Bloom & Co.



JULIUS BAMBERGER.

ONE can not obtain any where in Louisville a finer idea of commerce than in the great dry goods establishment of BAMBERGER, BLOOM & CO., Nos. 644 to 650 West Main street, and 215 and 217 Seventh street. The house is the most important and largest in its line of trade in the South or West, excepting only a few houses in Chicago and one in St. Louis. Otherwise, it can scarcely be said to have a rival west of the Alleghenies. It has a branch house in New York, Nos. 115 and 117 Worth street, and has even founded a junior house in Louisville. The business was established in 1852 by the late Messrs. E. Bamberger and Nathan Bloom, and has ever since occupied a most influential position in the trade of the South. The firm name was E. Bamberger & Co. until 1865, when its present style was adopted. During its entire career the house has been known for high integrity and commercial soundness, having weathered all the storms that in the intervening years have caused so many wrecks. The business was at first limited in character, but its spread was rapid, and under Mr. N. Bloom, for years the head of the house, its prosperity was remarkable. This gentleman was a native of Hesse-Darnstadt. He received a good business training in Germany and came to this country when he was twenty-two years of age, landing in New York in 1848. He came to Kentucky and established a business in Daviess county, where he remained until he came to Louisville in 1852.

LEVI BLOOM.

It was under the management of this able financier and merchant that the name of the firm became celebrated, and that the business assumed its large proportions. Mr. Bloom was the head of the house for many years. His personal character, his public spirit, generosity and kindness to all with whom he came in contact made him an ideal merchant and contributed to his success quite as much as did his mercantile ability. He died January 14, 1887.

N. Bloom's estate is still interested in the business. The firm is composed as follows: Julius Bamberger and Levi Bloom, general managers of the Louisville house; Levi and J. F. Bamberger, New York partners. Julius Bamberger has charge of all the office work; Levi Bloom assumes the remainder of the business, being the General Superintendent. Mr. S. C. Lang is cashier and head book-keeper. The business is divided into departments which are organized as if each were a distinct business. Each is presided over by its chief of department, and all these report to the General Superintendent. W. Schwabacher is the head of the furnishing department; Gus Dinkelspiel, of the notion department; A. Bierman, of the dress and white goods department; Levi Bloom, of the domestic department. In the store there are over one hundred employes. In New York there are two resident buyers who constantly watch the market and buy for cash at any time and in any quantity, when they get an opportunity to buy at prices that they deem a bargain. In this way the firm is able always to meet the lowest prices in the market, as in New York the opportunities to buy cheap for cash are sufficiently numerous.

BAMBERGER, BLOOM & CO. have the largest trade in jeans that is done in the world. They absorb the entire output of several large mills and buy all the goods that the Louisville mills will let them have of their production. This trade is the firm's specialty, their jeans being sold over the length and breadth of the land. In this branch alone the firm does a business of three-quarters of a million a year.

They keep the fullest line of stock in all other branches of the dry goods business. The trade of the firm was originally limited to Kentucky and Southern Indiana, but the energy with which the business has been pushed has extended it all over the South and South-west. It is largest in Kentucky, Indiana, Tennessee, Illinois, Alabama, Mississippi, Arkansas, Georgia, and Texas. The firm imports large quantities of linen goods and handles the entire product of several cotton mills, as well as that of the woolen mills, already referred to.

The great growth of the business of this firm rendered its old quarters too small, and in 1872 it moved into the building it now occupies on Main street, the structure having been built by the firm. It was then the handsomest business house in Louisville and is still one of the finest. It has five stories above ground and two below. It has a frontage of seventy-two feet on Main street and runs back 179 feet. A wing, or L, fronts forty-eight feet on Seventh street and runs back sixty feet. Yet this splendid structure is already too small for the constantly growing business. In addition to the building already mentioned two large warehouses are always kept full of stock. One of these is the old Newcomb-Buchanan warehouse, on Fourth street between Main and the river.

Hess, Mayer & Co.

B. Hess.

THE wholesale furnishing goods house of Hess, Mayer & Co., of No. 708 West Main street, does the largest business of its kind in the South, its trade extending throughout all the Southern States, as well as through Kentucky and portions of Indiana and Illinois. Although the house is yet a young one, the members of the firm have had a wide experience in the trade that enabled them at once to build up a business of the first importance to the commerce of Louisville. The members of the firm are B. Hess, E. Mayer, and E. B. Hess. The senior member, Mr. B. Hess, was for eighteen years a partner in the house of Bamberger, Bloom & Co.; Mr. Mayer came to Louisville from Chicago, where he was in the wholesale clothing business; and E. B. Hess was formerly an employe of Bamberger, Bloom & Co. The house was founded in January, 1882, and since then the flying mercury, which is its trade-mark, has carried its name and fame far and wide. He has also filled another of his important ancient offices; for he has gathered gold together for the lucky merchants who constituted him their patron divinity.

Hess, Mayer & Co. keep a general line of men's and women's furnishing goods, white goods, etc. They are direct importers of certain of these and they have a resident buyer in New York whose office is at No. 40 Thomas street. Thus they are always abreast of the times, and their stock is always complete and filled with the latest novelties. Their store, which contains five stories, is always packed from cellar to roof and many busy clerks give the place that attractive air of activity that makes a mercantile house seem something more than a mere machine for the acquisition of wealth. Here are piles of cloaks, great stacks of them that might keep a whole town warm. Here are tiers of boxes containing handkerchiefs enough to equip all the hay-fever sufferers in the world. On another floor are piled up no end of undershirts, drawers, hosiery, etc., and on the last floor are suits of clothes, house furnishing goods, flannels, etc.

One of the specialties of this firm is the Atkinson laundried shirt, for which they have the sole agency for the South. These well-known shirts are carried by representative city retail houses, as well as by country merchants. The make has been on the market longer than any other, having stood the test of thirty-four years, during which none better has been found. The firm's stock of these shirts is proportionately the largest stock in the house, as they are in very great demand.

Another specialty is men's and women's underwear, which consists of plain white goods, stripes, scarlets, mixtures, and, in fact, all novelties and staple goods, both of foreign and domestic manufacture, and of all grades from the coarsest to the highest priced. The line of hosiery is equally complete, consisting of domestic and foreign makes and going from a cotton sock to a fancy silk hose. The firm supplies many city houses with the finer grades of men's and women's underwear. The fact that the house does not carry staple dry goods, or the "domestics" sold by the large dry goods houses, enables Hess, Mayer & Co. to keep a fuller line of these furnishing goods than is kept in any of the large dry goods establishments, and to run their grades over a broader range of prices, from the cheap articles to the expensive. They are large importers of gloves, hosiery, laces, etc.

In the department of house furnishing goods the stock embraces damasks—fancy, bleached, unbleached, and red—napkins, towels, curtains, comforts, blankets, and all other articles generally included in this department.

The cloak department is one of the largest in the concern, which is always up with the latest of the ever-changing styles in ladies' wraps. This season the long Newmarket is still to be much in vogue, while tight-fitting jackets and short wraps will also be generally worn. The stuffs used are plushes, plaids, diagonals, stripes, checks, and kerseys, in the lighter colors, while astrakhans, brocaded and plush goods will be in good demand. The leading styles will be jackets, Newmarkets, raglans, wraps, and plush sacques. There will be a great deal of trimming on the various garments, especially the wraps and sacques, jet and passementerie being most fashionable, though fur will hold its own. The wraps are generally longer in front than behind. Jackets of beaver cloth, braided, and raglans are supplanting the Newmarket in the larger and more fashionable cities. Richly-adorned wraps will also be very stylish, the trimming being especially heavy about the shoulders. A seal-plush jacket is expected to produce a happy effect, and jersey jackets with tinsel trimmings will become a good figure. Checks, plaid goods, and light shades generally will be popular. Girdles and belts will be almost universally worn.

All this, and a great deal more, one may learn of that mystery called fashion by spending half an hour in the cloak room of Hess, Mayer & Co., where the feminine freaks of a season are anticipated, just as the clerk of the weather declares for rain or shine; except that the clerk of the cloaks is rather more to be trusted than the other.

Of men's goods the firm carries a full and complete line including gloves of all varieties, suspenders, neckwear, hosiery, rubber coats, gossamers, jeans trousers, and clothing. Of women's goods there is as full an assortment, the leading articles being corsets, laces, ribbons, embroideries, shawls, underwear, woolen and knit goods.

Hess, Mayer & Co. offer the lowest prices to the trade, as they are large buyers and have the advantage of obtaining the best cash rates. They are courteous to customers, fill orders promptly, being always able to fill any order in their line of business, and are merchants of the highest commercial standing.

The National Collecting Company.

GUY C. SIBLEY.

THE NATIONAL COLLECTING COMPANY is an institution not yet two years old, but it has already demonstrated its utility and its popularity. It was incorporated under the laws of Kentucky in 1885, its capital being $100,000, and the business at once undertaken. Its object is the collection of claims against debtors, no matter where located. In order to accomplish this a very perfect system has been devised, while the company has extended its usefulness beyond the mere collection of debts, giving its subscribers a list of delinquent debtors against whom claims have been received in any of the company's offices. At present there are offices in active operation in Louisville, Cincinnati, Kansas City, and Chicago, and as fast as possible other offices will be organized. In addition to the above-named places, the company is now represented in New York, Boston, Philadelphia, Baltimore, New Orleans, and St. Louis, which will be headquarters of the chief departments, the country being districted. The plan is to operate in the United States and Canada about twenty-six offices in the largest cities. At all of these points attorneys will be retained, managers appointed, and a competent subordinate force employed. It was originally intended to make this, as a collecting company, what R. G. Dun & Co. and Bradstreet's are as reporting agencies, and this intention is being carried out. The position of Louisville being central in relation to population, that city was selected as the most convenient point in the United States from which to develop the business and to obtain the easiest co-operation on the part of the several offices. It is the purpose of the company to have its regular attorney at every county seat and important town throughout the United States and Canada. Thus a very perfect and comprehensive system will be secured. Subscribers to the company are guaranteed against any loss from the misappropriation of moneys collected by the company's agents. They are also furnished a delinquent list which will show where credits have been strained or where debtors are behind hand in their payments. In this feature, however, the only reports made are as to parties against whom the company holds claims.

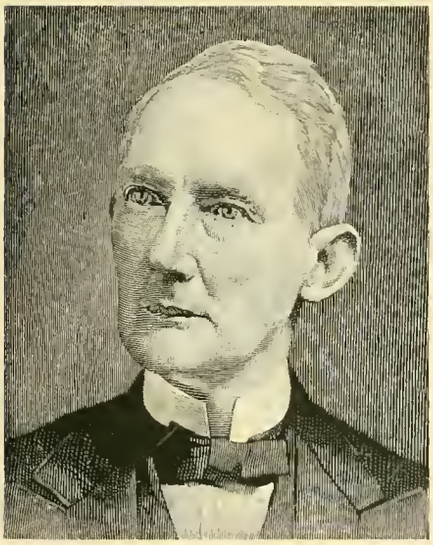
The gross earnings for the year ending January 1, 1887, the first year of the company's existence, were about $12,000 and on that date a dividend of five per cent. was declared. The revenues are derived from three distinct sources, the first of which is a regular subscription fee of $25 charged merchants and manufacturers for the use of all the facilities of the company. The second is the annual fee which is paid by the company's attorneys in the smaller towns throughout the United States and Canada. This fee is paid in consideration of the large amount of law and collection business which is concentrated through the numerous offices of the company. The third source of revenue, and much the largest, consists of fees and commissions from collections. The office making the collection gets two-thirds of the commission, while the office sending the claim receives one-third, in cases where the collection is made through two offices. Claims are classified and uniform rates of commission are charged for collecting the various classes of debts. These rates range from one to ten per cent. The banks consider the company a very important adjunct to their business, inasmuch as it takes out of their hands a great many claims that are not strictly first-class and many that are collected by the company at a percentage much less than an attorney would charge, and a little greater than the banks themselves would charge. These are claims that a bank would find difficulty in collecting without the employment of a lawyer. A large part of the revenue is derived from the handling of local claims that are strictly first-class, the company and its employes taking the place of the regular collector for business and professional houses. The fact that a claim is in the hands of this company raises no presumption that there will be difficulty in its collection, as many claims are placed in the hands of the company before they become due.

The organization is also of great assistance to the lawyers, since it takes out of their hands hundreds of small claims which can be manipulated by the employes of a corporation like this at a much cheaper rate to patrons than that at which reputable lawyers could afford to handle them. While the company protects its patrons by being responsible for the work of its agents, it is itself protected by requiring its local managers to execute bonds of from $5,000 to $15,000, according to the amount of business done by the branch office.

The general officers of the company are Guy C. Sibley, President; C. C. Taylor, Secretary and Local Manager; David J. Davis, General Manager. The directors are Clinton McClarty, Samuel Russell, I. L. Schwabacher, Harry Stucky, and Guy C. Sibley. Among the principal stockholders are the foregoing and George Davis, President Fourth National Bank, Louisville; Jas. A. Leech, Cashier City National Bank, Louisville; Jacob Kreiger, Sr., President Masonic Savings Bank, Louisville; Louisville Banking Company, Louisville; Louisville Safety Vault and Trust Company; J. T. Gathright, Surveyor of the Port of Louisville; Charles S. Sibley, Wholesale Lumber Dealer, Mobile, Alabama; Eugene Sibley, Brownson & Sibley, Bankers, Victoria, Texas; Robert Clarke & Co., Publishers, etc., Cincinnati, Ohio.

Mr. Sibley, the President, is an attorney of ten years' practice at the Louisville bar. The formation of the company was partly the outgrowth of a collection business formerly done by Duke & Richards, attorneys, who, when their firm dissolved, left a large collection business to Mr. Sibley. He employed clerks to attend to this, but his legal practice was so much interfered with that he conceived the idea of forming the company, and as a corporation the business has been thoroughly reorganized, systematized, and enlarged. This was done, the incorporators insisting on his becoming President.

Western Cement Association.



R. A. Robinson.

The Western Cement Association is the selling agent of all the celebrated brands of Louisville hydraulic cement. The officers of the Association are: R. A. Robinson, President; J. B. Speed, Vice-President; Charles W. Gheens, Secretary and Treasurer.

The manufacture of Louisville Cement was begun in 1829 by John Hulme & Co., at Shippingport, a small suburb of Louisville, located near the foot of the Louisville and Portland canal. The greater part of the product of this small mill was used in the construction of the canal and in the improvement of Green and Kentucky rivers. From its first introduction as above, Louisville cement has been recognized as the best natural article manufactured in this country. Notwithstanding the rude process of manufacture used by John Hulme, the work on the Louisville and Portland canal, after a period of over fifty years, exposed to a variation of temperature of fully one hundred degrees, is in a perfect state of preservation, while much of the stone used in the masonry plainly shows the effect of age and exposure. The process of manufacture has been greatly improved and the capacity of the mills has been largely increased to supply the great demand for Louisville cement. In 1870, the product of the mills was 320,150 barrels, while in 1886 the sales amounted to 925,210 barrels. The Louisville brands comprise the Star, Diamond, Anchor, Acorn, and Fern Leaf cements, two of the mills being in Kentucky and six in Indiana.

The uses to which good hydraulic cement may be put are numerous, including the construction of masonry of all classes, foundations, brick walls, subterraneous structures, concrete street foundations, floors, the walls of cisterns and wells, the interiors of fire-proof safes and bank vaults, in fact in every work or structure where a constantly hardening mastic is required, which is impervious to water and fire. The Louisville brands have received the highest testimonials from engineers and architects in all parts of the United States, and in every instance where tests have been made to show the relative value of Louisville and other cements, the former has been awarded the preference for intrinsic merit. There is hardly a State or Territory west of the Alleghany mountains, where large works of a public character have been constructed, in which Louisville cement has not been largely, and in many cases exclusively, used. This includes bridges, water-works, railroad buildings, government improvements on rivers and harbors, custom houses, and large buildings of every description. One of its principal features is its economy (as compared with other brands) in the proportion of sand it will carry in the preparation of mortar. This feature, together with the fact that Louisville cement sets promptly and hardens regularly and persistently, has given it such an excellent reputation that the consumption of the Louisville article west of the Alleghany mountains is larger than the aggregate sales of all other cements.

In setting, Louisville cement is prompt and energetic, which renders it valuable for work which must be carried on in running water, or in positions where new foundations must carry heavy superstructure as soon as they are finished. Tests of Louisville cement show that this induration begins as soon as the mastic is deposited in place, and that it will resist a tensile strain of from seventy to one hundred pounds per square inch of section in twenty-four hours. In the preparation of concrete for street foundations, where large areas are covered by one mass, and where traffic is to be resumed as soon as the paving material is set, the rapid induration of Louisville cement has given it the preference over all competitors. For special purposes, the manufacturers make a slow-setting cement, which can be furnished at any time and in any quantity. The latter is generally used in works where large quantities of mortar are required to be transported some distance to the site of the work, and where very high temperatures prevail. In extremely hot weather the tendency of all cements is to "set" rapidly, so that a slow setting article, which may be mixed in large quantities without fear of crystallization commencing before the same is deposited in the work, is very desirable. By specifying "slow setting cement" in ordering, this class of cement will be delivered.

The grinding of Louisville cement is carefully and evenly done. This is a point too frequently neglected by cement manufacturers, and one which seriously affects the utility of the article, when mixed with sand. Coarse particles of cement are, to some extent, inert and when mixed with sand have no contact. The Louisville manufacturers require their cement ground so that at least eighty-five per cent. shall pass through a screen of twenty-five hundred meshes to the square inch.

Under an improved process, the burning of the natural cement rock is regulated by an artificial draught produced by a large fan. This insures a regular quality of "lime" (as the burned rock is called) and therefore a higher and more even grade of cement. A large force of men and a complete plant of machinery are constantly employed in quarrying the cement rock, of which large beds are found in the river at Louisville and in the country back of Jeffersonville, on the opposite side. The eight mills represented by the association have a much larger capacity than any demand which has yet been made upon them, which insures promptness in filling orders, and a sufficient stock always on hand to meet sudden calls for large quantities.

A large number of expert mechanics are employed in the manufacture of Louisville cement. The office of the Western Cement Association is at the corner of Third and Main streets, Louisville, Ky.

Kentucky Mutual Security Fund Company.

JUDGE W. B. HOKE.

THE KENTUCKY MUTUAL SECURITY FUND COMPANY OF LOUISVILLE is one of the youngest life insurance companies in the State, but has already acquired a business of large proportions. It is a member of the Mutual Benefit Life Association of America, and was chartered by the Kentucky Legislature February 4, 1884, having begun business in the fall of 1883 under the general charter. Its incorporators were Wm. B. Hoke, Robert J. Breckinridge, Charles S. Clark, W. T. McCarley, and Edward Badger. It is the only company chartered under the laws of Kentucky that creates a security fund, one of the great safeguards of life insurance, and a feature that gives this company a great advantage over other similar co-operative societies. That the plan is a popular one is shown by the fact that, though the company is still so young, it has written over $14,200,000 of insurance; has paid in death losses over $165,000, and has accumulated a reserve fund of about $50,000, which is invested in interest-bearing bonds of the safest character. The company now has business in twenty-nine States and territories, over which it has a well-organized agency corps.

The company furnishes life insurance on what is known as the "natural premium system," its rates being surprisingly low. That is to say, it insures at actual cost, according to age and the expectation of life. For the safe conduct of its business three distinct funds are provided. The first of these is the Expense Fund, for the maintenance of which each member of the company pays $3 a year on every $1,000 of insurance carried by him. Out of this fund all the expenses of conducting the business are paid. The second is the Mortuary Fund, which can only be used to pay death losses. This fund is provided by a *pro rata* mortuary payment of members, according to their age and the amount of their insurance, limited to six payments per annum. The third is the Security Fund. This is limited to $1,000,000 and is created by the payment to the company of $10 for each $1,000 of insurance held. It really amounts to a deposit and is to be made only once during life, and can be made at such times and in such amounts as the insured may desire; but if not paid in full before death, fifty per cent. will be added to the balance then due and deducted from the face value of the certificate. This fund is deposited with the Louisville Safety Vault and Trust Company as Trustees, which holds the bonds in which it is invested, subject to the demands of the certificate holders. As soon as the fund reaches $250,000, or at the expiration of five years, the interest will be declared as a dividend, payable to members who have made their deposit to the fund five years previously, and will be placed to their credit to pay future dues and mortuary payments. The dividends are only paid to persistent members of the company, and thus it acts as a tontine fund as well as a protection to members by providing against the failure of the company, either by the lapsing of members or any other possible cause. The Mortuary and Security Funds are, of course, inviolable. The officers of the company are required to make an annual report to the Insurance Commissioner of the State as to the condition of these two funds, the receipts and disbursements of the same, and the balance remaining on hand.

A strict medical examination is required, and only the best risks are accepted. On this subject L. C. Norman, Insurance Commissioner for Kentucky, says in his report on the KENTUCKY MUTUAL SECURITY FUND COMPANY: "The prosperous condition of the company is due to many causes, but the low average age of its members—less than forty years—and the careful and efficient medical supervision of its risks are among the most important. Too much credit can not, therefore, be given your accomplished Medical Supervisor, since his rejection of a large volume of business has materially assisted in securing and maintaining the present low death-rate of the company. I may say I found the office of the company in excellent condition, systematically arranged, and conducted in a neat and business-like manner." In all other respects the commissioner finds the affairs of the company regular and prosperous.

The officers of the company are W. B. Hoke, President; George W. Griffiths, Vice-President and Medical Supervisor; B. H. Trabue, Secretary; Professor J. R. Hodges, Adjustor; W. T. McCarley, Superintendent of Agencies.

Judge William B. Hoke was one of the incorporators of the company and has been its President ever since its organization, by his high character and intelligence guaranteeing the probity of the company. He was born August 1, 1838, in Jefferson county, Kentucky, and was educated for the bar. He read law in the office of the late James Speed and graduated from the Law School of the University of Louisville in 1859, taking the first honors of his class. In 1866 he was elected County Judge, which office he has since continuously filled. He has been elected to the office six consecutive times and is now filling his sixth term. Judge Hoke has been highly honored by Masonic bodies and other secret and benevolent organizations.

Dr. George W. Griffiths has also been an officer of the company since its inception. He has long been a member of the Board of Aldermen of Louisville, and is an ex-President of that body. Mr. B. H. Trabue took a position in the office of the company in October, 1885. He was elected assistant secretary and a member of the Board of Directors in May, 1886. In April, 1887, he was made secretary. He is still a young man, having graduated at the Kentucky Military Institute in 1881.

Mr. W. T. McCarley, one of the incorporators, and the superintendent of agencies since organization, is an experienced insurance man, having come here from Nashville to assist in organizing the company.

Chesapeake & Ohio Route.

General John Echols.

THE history of the progress of Louisville is contained, in a great measure, in the history of the lines of railway forming this route. Not only have new fields been opened to Louisville enterprises, but, in inaugurating competition between Louisville and the commercial centers of the South and South-west, and between Louisville and the Eastern cities, increased values have been added to Louisville's commerce.

Recently the Newport News and Mississippi Valley Company was incorporated for the purpose of operating the CHESAPEAKE & OHIO LINES, the Eastern Division operating between Lexington, Ky., Richmond, Va., Newport News, Va., Norfolk, and Old Point Comfort; the Western Division operating between Louisville and Memphis. By a favorable alliance with the Old Dominion Steamship Company, a cheaper route between Louisville and New York than ever before enjoyed was established.

A transatlantic steamship line (known as the "Huntington Line") is operated in connection with the Newport News and Mississippi Valley Company between Newport News and Liverpool.

By traffic arrangement with the Virginia Midland Railway between Charlottesville, Va., and Washington, and with the Louisville & Nashville Railroad, between Louisville and Lexington, through trains, with Pullman buffet cars, are run daily between Louisville and Washington.

The line through the Virginias is celebrated for its beautiful scenery; it is laid through the canons of New River, and penetrates the barriers of the Alleghany and Blue Ridge mountains. The scenery is varied in character, and it is difficult to pronounce one type more beautiful or interesting than the other; the grandest of mountains, the most picturesque of mountain rivers, and the most beautiful valley landscapes being presented. All through the mountains of the Virginias are scattered health and pleasure resorts, the most prominent of the springs resorts are White Sulphur, Red Sulphur, Salt Sulphur, the old Sweet Chalybeate, the Warm, the Hot, the Healing, and Rock Bridge Alum. There are innumerable others of smaller dimensions, largely patronized by Virginians. The Hygeia Hotel at Old Point Comfort, and Hotel Warwick at Newport News, are visited at all seasons of the year by those who delight in the attractions of the sea-shore.

An immense freight traffic is carried on between Louisville and the East, the fast freight line being known as the "Kanawha Dispatch."

The Western Division, or as it is still familiarly known, the Chesapeake, Ohio & South-western, is of even greater importance to the local interests of Louisville than the Eastern Division, as it is nearer home. It has given to Louisville a fine article of fuel at a small cost for transportation; the mines at McHenry and vicinity producing some of the best bituminous coal of the State. Produce of all kinds from the river counties is delivered in Louisville in large quantities daily, during the season.

The CHESAPEAKE & OHIO ROUTE is through Paducah, Fulton, Rives, Paducah Junction, and Covington, Tenn., to Memphis. At Fulton the Illinois Central road is crossed, giving a line to Cairo and the North, and several important cities of the South. The Mobile and Ohio is crossed at Rives, and adds to the number of Southern cities placed within the range of Louisville trade. The Nashville, Chattanooga & St. Louis road is crossed at Paducah Junction, giving a line to Hickman, Ky. Upon the completion, this fall, of the new river road, which will join the Chesapeake, Ohio & South-western at West Point, the distance to Owensboro will be very much shortened. The lumber interest in West Tennessee is assuming vast proportions, and much Louisville capital has been invested in that section. At Memphis the line connects with roads for Little Rock and principal points in Arkansas and Texas; also, with the Louisville, New Orleans & Texas Railroad, which runs through the Mississippi Valley to Vicksburg, Baton Rouge, and New Orleans. The Western Division is laid with heavy steel rails, and the track is stone-ballasted from one end to the other. Double daily trains run between Louisville and Memphis, equipped with the finest Pullman buffet and combination chair and sleeping-cars.

There has never been anything speculative in Mr. Huntington's property. All of his railroad interests represent an investment, not at the mercy of Wall street or any other demoralizing clique of speculators. In Louisville alone, he has invested a vast fortune in improvements. The elevated "Short Route," which extends along the river front from one end of the city to the other, is a remarkably fine piece of work, and should be the pride of Louisville. The new Union Passenger Station, at Seventh street and the river, will be, upon its completion, one of the finest and most complete stations in the West. In fact, it will not be excelled anywhere in the United States. Such structures can not but advance the interests of Louisville.

Mr. C. P. Huntington is President of the Newport News and Mississippi Valley Company; General Wm. C. Wickham, Second Vice-President, whose office is at Richmond, Va., operates the Eastern Division, and General John Echols, Third Vice-President, whose office is in Louisville, operates the Western Division. Mr. John Muir is General Traffic Manager, and Mr. H. W. Fuller, General Passenger Agent of the entire line. Mr. B. F. Mitchell, General Freight Agent of the Western Division, has an office in Louisville, but as the General Freight Agent of the Eastern Division is located in Richmond, Mr. J. W. Wheeler, Agent of the Kanawha Dispatch in Louisville, looks after the freight interests of the Eastern Division here.

Quartermaster's Department, U. S. A.,

MAJOR-GEN'L RUFUS SAXTON.

ONE of the most interesting of the public institutions in the neighborhood of Louisville is the JEFFERSONVILLE DEPOT OF THE QUARTERMASTER'S DEPARTMENT OF THE U. S. A. This is the general supply Depot of the Army, being the place from which the bulk of "clothing and equipage," as the official phrase is, and "quartermaster's stores" are shipped to every military post in the country. Half a million gallons of illuminating oil, for instance, are sent out from here to the various posts. The last advertisement for bids calls for 80,000 pounds of mule shoes; 250,000 pounds of horse shoes; 40,000 pounds of horse shoe nails; 23,500 pounds of rope; 50,000 pounds of white lead; 100,000 pounds of iron; 100,000 tire bolts; 10,000 feet of rubber hose; 10,000 files, etc. No doubt Jeffersonville was selected as the point for the collection and shipment of all the numerous articles in consequence of the central position occupied by the Falls Cities, which are easily within reach of raw and manufactured materials. Another consideration that must have had great weight in locating this depot is the admirable advantages afforded here for shipping goods to the North, South, East, or West. The presence of this institution is of great advantage to Louisville, whose manufacturers and merchants obtain many large contracts for government supplies, they being right at the door at which the goods are to be delivered and thus enjoying a certain advantage over bidders from a distance.

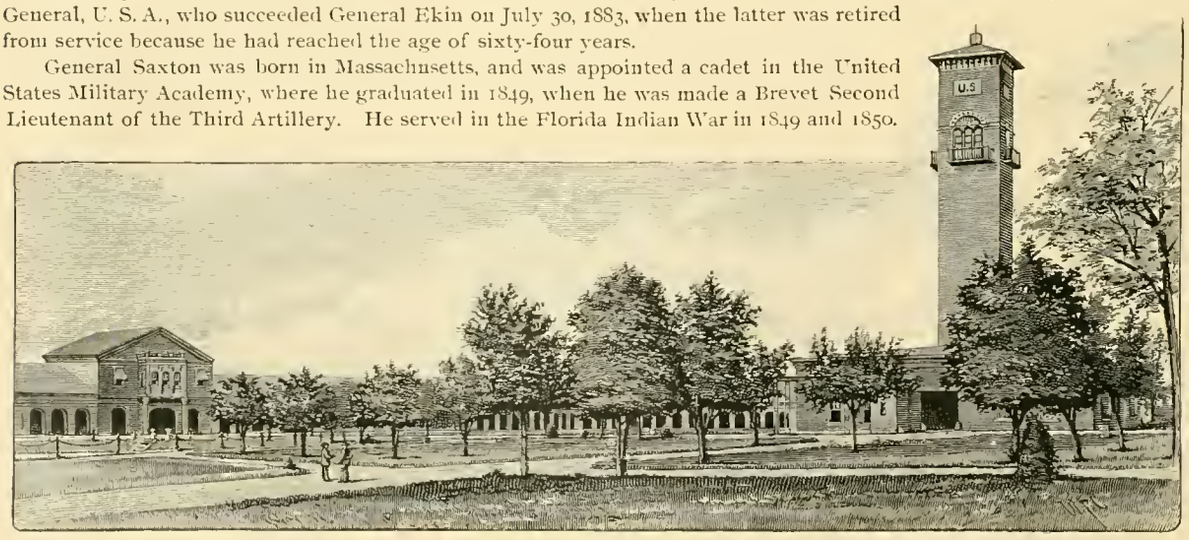
The building is located just back of Jeffersonville, Ind. It is a long quadrangular structure, 800 feet square, inclosing a court or lawn of about eighteen acres which is covered with a fine sward and dotted with trees and beds of flowers. The storage capacity of the building itself is 2,700,000 cubic feet. The original cost of the structure, which is of brick, was $150,000, the city of Jeffersonville donating the ground. The building was erected in the years 1871-74, when General Grant was President of the United States; W. W. Belknap, Secretary of War; W. T. Sherman, General of the Army; and M. C. Meigs, Quartermaster-General. General Meigs drew the plans for the building. In the center of the enclosed square is an office building surmounted by a high tower. The boiler and engine rooms are also in this central structure, for the entire depot is heated by steam.

The number of men employed is, ordinarily, seventy-five, but occasionally as many as 700 sewing women are engaged there. The cost of keeping the buildings in order is from $3,000 to $4,000 a year, but the funds disbursed here annually range from $500,000 to $1,000,000.

The depot at Jeffersonville was the direct outgrowth of the civil war. Louisville would have been the central point for the distribution of stores during the progress of that strife but for the fact that the river was in the rear of it, instead of in front. Consequently, Jeffersonville was chosen, the town even then having good railroad facilities, besides the river. Consequently, here were located branches of the Quartermaster, Commissary, Ordnance, and Hospital departments, which gave life to the place. A Government hospital was located there during the war, while the United States also had barracks, warehouses, army stables, blacksmith shops, and bakeries there. All of this resulted in the establishment of a government depot.

This important institution is under the command of Brevet Major-General Rufus Saxton, Assistant Quartermaster-General, U. S. A., who succeeded General Ekin on July 30, 1883, when the latter was retired from service because he had reached the age of sixty-four years.

General Saxton was born in Massachusetts, and was appointed a cadet in the United States Military Academy, where he graduated in 1849, when he was made a Brevet Second Lieutenant of the Third Artillery. He served in the Florida Indian War in 1849 and 1850.



INTERIOR VIEW OF THE QUARTERMASTER'S DEPOT.

After serving in Texas, he was the Chief Quartermaster of the Northern Pacific Railroad Exploration. He conducted an exploring expedition from the mouth of the Columbia River across the continent, through a region of country never before traversed by white men. For this achievement he received the congratulations and praise of Governor Stevens, of Washington Territory, chief of the expedition. It is somewhat remarkable that in blazing his way, without guides, through the unknown wilderness, the young officer marked out almost the exact line that has since been followed by the Northern Pacific road. The undertaking was considered a most dangerous one, as the party was small and the territory was infested by hostile Indians. When the explorers started on their hazardous journey there were many people who predicted that they would never be seen again.

MAJOR ADDISON BARRETT.

In 1855 he was promoted to be First Lieutenant of the Fourth Artillery, and in 1859 was on Coast Survey duty. In 1859 and 1860 he was Assistant Instructor of Artillery Tactics at the United States Military Academy. At the breaking out of the war he was promoted to a captaincy. He was appointed Colonel of Missouri Volunteers, afterward being appointed Colonel of the 22d Massachusetts Volunteers, neither of which positions he was permitted to accept, the Quartermaster-General being unwilling to dispense with his services in his department. In 1861 he was Chief Quartermaster for General McClellan in his West Virginia campaign and became Chief Quartermaster of General T. W. Sherman's expeditionary corps to Port Royal, S. C., and of the Department of the South. He had entire charge in New York of the organization of the transportation for this expedition and was warmly congratulated by General Meigs on his success. The fleet sent out was one of the largest put afloat during the war.

During the early part of the war he was several times offered high rank in the volunteer service. In 1862 he was appointed Brigadier-General of Volunteers in the Army of the Potomac. He was Military Governor of the

BIRDSEYE VIEW OF THE QUARTERMASTER'S DEPOT.

Department of the South, being charged with the recruiting of colored troops. He was in command of Morris' Island and of the bombardment of Charleston. In 1865 he was made Brevet Major-General of Volunteers, having charge of important undertakings in connection with the freedmen of the South. He was mustered out of the volunteer service in 1866, with the rank of Major in the regular army. In 1882 he was promoted to be Colonel and Assistant Quartermaster-General.

The Military Storekeeper, who is second in command and who has charge of all property and of the shipping, is Major Addison Barrett, a native of Massachusetts. He was a Sergeant in the general service, located first in the Adjutant-General's office in Washington in 1862. In April, 1863, he was discharged, and on December 21, 1864, was appointed Captain and Commissary of Subsistence. On September 24, 1865, he was brevetted Major in the volunteer service. In July, 1866, he was appointed Captain and Military Storekeeper in the regular army. Major Barrett's first assignment in the Quartermaster's Department was at Charleston, S. C., where he remained from 1867 to 1870. He was then transferred to San Francisco, where he remained two years, at the expiration of that time coming to Jeffersonville. He has served at the depot there for fourteen years. The perfect order and ship-shape air of the establishment are due to Major Barrett, who really has the arduous duties of the place upon his shoulders. He has to keep all the details of the enormous business at his fingers' ends, and must know the quality of everything from a spool of thread to an ambulance.

General Saxton's chief clerk is Captain Edwin W. Hewitt, who has been in the military service for twenty-five years. Mr. T. E. Longden is the chief clerk to Major Barrett, and has been employed in various positions in the Quartermaster's Department for more than fourteen years.

Long & Brother Manufacturing Company.

CHARLES R. LONG.

THE LONG & BROTHER MANUFACTURING COMPANY, makers of chairs, and of Vienna bent-wood furniture, has a capital stock of $100,000, of which $60,000 are paid up. The officers are Charles R. Long, President; Frank A. Cannon, Vice-President; D. B. McMullen, Secretary and Treasurer; J. F. Jaworek, Superintendent. The late E. D. Standiford was one of the directors. The others are W. R. Ray, John E. Norris, and Charles R. Long.

This company has recently undertaken an enterprise that will greatly add to the importance of Louisville as a furniture manufacturing place. It is the making of the Vienna bent-wood furniture, chiefly chairs, which for several years have been imported into America, and which have been cheaply imitated to some extent in this country. But before going into the subject of making this admirable class of furniture, a brief outline of the history of the Long Chair Factory may be given in the history of its founder.

Mr. Long is a type of that energetic race of people which derives its descent from what is called the Scotch-Irish, who did so much towards settling this country. Isaac Long, his grandfather, came to Kentucky from Pennsylvania in the last century. He made his home in what is now Fayette county, where Wm. C. Long, the father of the subject of this sketch, was born. His maternal grandfather, Charles Ellis, was a native of Culpeper county, Virginia, but removed to Kentucky early in the present century. He was a soldier in General Harrison's campaign against the Indians and took part in the fight at Tippecanoe. Charles R. Long was born in Shelby county, Ky., May 7, 1840. He inherited the hardy character, the strong will and energy of his pioneer ancestors, and his career has been the exercise of their traits in a new field of action, commerce and politics having been substituted for backwoods adventure and Indian warfare. Mr. Long was raised on the farm until he eighteen years of age. He received a practical education in the country schools; but it was his native energy rather than any acquired skill or culture that pushed him ahead through life—a fact wherein he resembled most of the successful men of his generation and surroundings. He finished his school days at the high school in New Albany, Indiana. At twenty years of age he became a shipping clerk in a chair factory in New Albany, where he also married a daughter of Captain John R. Cannon.

In 1861 he located in business in Louisville, his older brother, Isaac N. Long, joining with him in the manufacture of chairs. Mr. Isaac N. Long died in March, 1879. The factory was orginally located on Market street between Preston and Jackson streets, where only twenty men were employed. From this small beginning has grown up the great business which now keeps from 150 to 300 men steadily engaged, besides machinery that will do the work of many hundred men. After the death of his brother, Mr. Long organized the stock company whose name forms the caption of this article.

The business was successfully conducted, and Long's chairs became known far and wide. Recently the company conceived the idea of making a specialty of the bent-wood furniture that has become so quickly popular. Some six months ago preparations looking to this end were commenced, and four months ago the company began to make this furniture, having secured the completest possible outfit of machinery and labor. Mr. J. F. Jaworek, a skilled workman of Vienna, was secured to superintend the shops and other efficient mechanics were engaged. The furniture made here is guaranteed to equal, if not to surpass, that made in Vienna. This is the only factory in America where the wood is polished and finished in the high style of that of European manufacture. Elsewhere in America the wood is varnished, but not polished. One great advantage that the company has over foreign competitors is found in the beech wood, which has a fine grain, is easily bent, and takes the highest possible polish. They have no such wood in Vienna. Many of the chairs made at this factory are polished like a highly-finished piano, and even the cheap grades are handsome, as well as durable. The company is able to equal the European article in style and finish and to undersell the foreign manufacturers.

The company has unsurpassed facilities for making this furniture. It begins at the beginning by selecting and felling its own trees and sawing them into planks in its own saw-mill, situated in the southern part of Indiana. These planks are then brought to Louisville after having been thoroughly selected. Here they are cut into strips of the required thickness and length. Those for the curved backs of chairs are then turned. The strips are then steamed, afterward being taken to the bending room, where the wood is bent by machinery from castings that have been made after wooden patterns designed by a workman especially engaged for that purpose. It is astonishing into how many varieties of shapes the wood is bent. It is made into intricate scrolls or perfect circles, the ends in the latter being joined by what is known as the "snake joint"—*i. e.*, like a snake that has swallowed his tail. The wood is clamped about the castings and is then taken to the drying room. In the factory are 100,000 pounds of castings that represent hundreds of patterns.

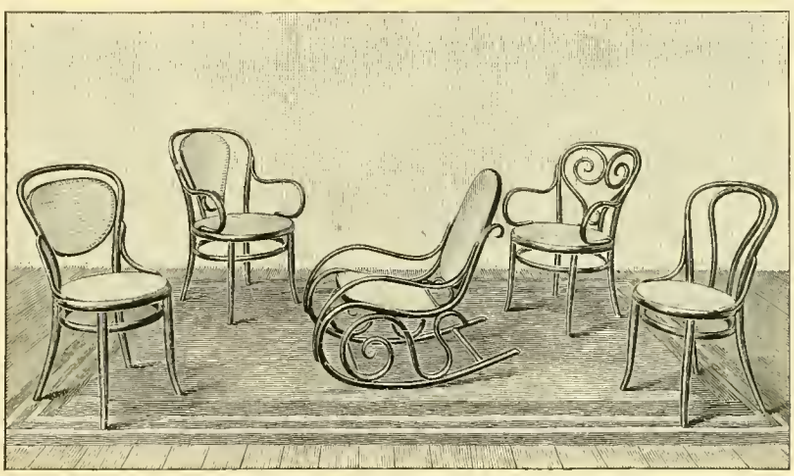
After the piece is firmly set in the desired shape, the casting is removed. The wood has then become extremely flexible. It bends like a reed and bounds off the floor when thrown hard against it. This elastic strength is one of the merits of the furniture. Now comes the reduction of the rough wood to smoothness. The piece is planed, rasped, filed, scraped, and sand-papered until it is perfectly smooth. Then it is dipped into vats and stained with the funda-

American Bent-wood Furniture.

mental color, if it is not to be left in its natural color. The polish is now put on by rubbing it thoroughly into the grain. It is colored to imitate ebony, antique oak, mahogany, cherry, and other woods, and is rubbed in by hand. This polish consists of shellac and alcohol, with the proper chemical coloring matter. It becomes thoroughly ingrained with the wood and does not wear off. Sometimes the natural woods are polished in their own colors, the varieties used being beech, oak, ash, maple, and walnut. The pieces are then put together by means of bolts and screws, no glue being used for this purpose. Thus durability is secured, the chair not being liable to break in any part. The bolt-heads and screw-heads are concealed. The seat is bent in one piece and the chair back and back legs are also one piece. The chairs go fresh from the factory to the dealer, without having to endure an ocean voyage. They are packed in glazed paper and straw, so that they will not become bruised or scratched. This gives the company several advantages over the Austrian makers who ship to America.

A new style of bent-wood furniture is now being made at this factory. It is called the "American Bent-wood Furniture," and is an adaptation of the Vienna article to the needs of the trade in supplying cheap and durable furniture that is at the same time handsome and artistic. In the Vienna furniture all the pieces are rounded; but in the company's American not all of them are. The finish is not so high in this style, though it is handsomely stained in different colors and nicely finished in varnish. The furniture of this class is as durable as the Vienna, but is not nearly so expensive. The style is entirely new, never having been made before in this or any other country. It will certainly meet a long-felt want of the trade, as it will undoubtedly become popular.

One of the long-standing articles of manufacture by this company is the "double-caned seat standard chair," as it is known to the trade. It is made of maple, beech, and hickory, and its manufacture will be continued as of old. Many thousands of these chairs are sold annually, they being cheap, substantial, and useful. The company also makes a specialty of lawn and garden furniture of an ornamental and durable kind.



As may be imagined, the factory of the LONG & BROTHER MANUFACTURING COMPANY is an extensive affair. The several buildings of which it consists contain between 50,000 and 60,000 square feet of working space. In addition to the factory proper there is a two-story warehouse 100 feet square. When the factory is running at its full capacity it employs 300 hands and turns out 700 pieces of bent-wood furniture a day, besides 300 pieces of other styles. Every chair made in this factory contains the firm's trade-mark on the bottom of the seats, which will enable purchasers to distinguish these wares from those of other American manufacturers who are not so well equipped as this company is.

In stating the number of hands employed the caners are not included, the cane seats and backs being put into the chairs by the children of the House of Correction of the city of Louisville.

Mr. Long was elected to the city council in 1866 and continued to serve in that body for ten consecutive years. He was president of the council in 1870–3 inclusive, his term of service in that office being unprecedented. In 1874 he was elected president of the Louisville Water Company, to which position he has been continuously re-elected since then. Under his management the company has greatly reduced its rates, increased its revenue more than fifty per cent., greatly extended mains, and otherwise perfected the service. He is a man of remarkably quick perceptions and of the first ability as an organizer and executive officer. His mind is always busy, and he has a comprehensive grasp of all subjects to which he addresses himself. As a member of the city government he has contributed much to the prosperity of Louisville, being essentially a progressive man. In his own business he has made many improvements, having greatly perfected the machinery required in making chairs. He has also invented several devices useful in his business, and which he has patented. He leads a life of the greatest energy and makes himself felt wherever he appears. He is an ardent Democrat and, though his services have been of untold benefit to his party, he has steadily declined to accept political office. In short, he may be described as a successful man who owes but little to the world and much to himself.

He has fought his own way through the world and has acquired a shrewdness that is untainted by any trace of harshness. He is generous and thoroughly honest in his dealings with men, but allows no chance to escape for the legitimate exercise of his strong mercantile faculty. In this new departure of bent-wood furniture he has found a field in which he can utilize all of his experimental force, that sort of energy which brought his ancestors out into the wilderness of Kentucky, and enabled them to successfully combat the difficulties of their position. Mr. Long has undertaken the business with a determination to make the articles of his manufacture stand comparison with any in the world.

Anglo-Nevada Assurance Corporation of California.

JULIUS W. BEILSTEIN.

THE next thing to absolute protection of property against loss by fire is its insurance in a company of unquestionable soundness and undoubted integrity. America has many such corporations, but none of them, perhaps, has acquired a position of such business renown in so short a time as the ANGLO-NEVADA ASSURANCE CORPORATION OF CALIFORNIA, of which Mr. Julius W. Beilstein is the general agent in Louisville. This young Company, starting with the prestige which enormous wealth bestows, has come forward with great strides, and though not yet two years old, it commands the confidence and patronage of the public to a gratifying degree. The company was organized in November, 1885, the original idea being to limit the stock to $1,000,000, but there was immediately such an urgent demand for the shares that this was increased to $2,000,000, which is now the paid-up capital. The high position at once assumed by the new institution is easily explained by a glance at the board of directors, which is as follows: J. W. Mackay, Louis Sloss, J. B. Haggin, J. Greenebaum, J. L. Flood, W. F. Whittier, J. Rosenfeld, George L. Brander, E. E. Eyre, E. L. Griffith, and W. H. Dimond. The officers are Geo. L. Brander, President; J. L. Flood, Vice-President; G. P. Farnfield, Secretary; J. S. Angus, Assistant Manager. The names of Mackay, Flood, and Haggin are not only of local but national strength. They are synonymous with the gigantic fortunes of the Pacific coast, and guarantee the solidity and success of any enterprise with which they are connected. The stock of the company is held mostly in blocks of $25,000 and upward, several of the directors holding $75,000. Its financial agent is the Nevada Bank, of San Francisco. The new company is closely identified with that great moneyed concern, Mr. Geo. L. Brander, the President of the Insurance Company, being the Managing Vice-President of the bank. The first year after its organization the ANGLO-NEVADA'S main field of operation was the Pacific Slope, but since then it has extended its lines rapidly, and now has the whole of the United States under organized agencies. Its security is peculiarly fixed by the insurance laws of California, which are founded on the principle enunciated in the great Glasgow Bank decision.

The ANGLO-NEVADA is the only American company which has followed the British companies in paying losses without discounts. This is a popular feature and a strong recommendation. The investments of the company are first class. According to the annual report, published last December, the following are the main items in the assets: Loans on real estate mortgages, $557,000; first mortgage 6 per cent. bonds of the Southern Pacific of Arizona, $1,500,000; United States 4 per cent. bonds, $50,000. The managers of the ANGLO-NEVADA by becoming the pioneers in this movement have displayed good judgment and will be correspondingly benefited. The choice of Louisville as the headquarters for the Southern Department was exceedingly judicious, as this city is the natural and inevitable capital of the great and growing southern territory. The amount of business already transacted by the Southern Department as shown by its last report, speaks well for both the opportunities offered and the management.

The ANGLO-NEVADA was the first American company to establish a general agency at Louisville. The district of which this city is the headquarters embraces the States of Kentucky, Tennessee, West Virginia, Virginia, North Carolina, and South Carolina. The department was established in September, 1886, and Mr. Beilstein was made the manager. Mr. Beilstein is a young man of progressive ideas, energetic character, and possessing a comprehensive knowledge of the insurance business. It was his idea that the establishment of a Southern Department, with the management located at Louisville, would not only prove advantageous to the company, but would prove an important factor in advancing the prosperity and importance of Louisville. Every one of the great insurance companies ought and will in time have a department in the South, embracing a greater or less number of States, and Louisville is the natural location for the district offices. With the proper effort these can be secured for this city. The establishment of general agencies in Louisville for the leading insurance companies would increase and facilitate the business of insurance in the South in a very large degree. The experiment which has been made by the ANGLO-NEVADA has already proven highly satisfactory.

At first only two States were allotted to Mr. Beilstein, but the results were so gratifying that his company added four more. This indicates that the ANGLO-NEVADA has established the system permanently and regards Louisville as a proper point for the general agency. Indeed, there is no reason why Louisville should not become, in relation to insurance in the South, what Chicago has to the North-west. The many and exclusive advantages which the placing of risks with it presents, coupled with the company's impregnable soundness, strongly recommend it to the business public, and inspire property owners with a confidence which is highly valuable in these days of uncertain corporations. The recommendations of the ANGLO-NEVADA lie on the surface and simply require inspection to inspire trust.

The ANGLO-NEVADA now has a balance to its credit on the business in the South. Under the rapid but steady improvement that is taking place in the South, particularly in the locating of large amounts of capital among them for the improvement of their industries, towns, and cities, the outlook for the Southern Department is exceedingly encouraging. Already thoroughly established, its future growth is sure to be healthy and rapid, and to furnish a glowing tribute to the discernment of the central office.

The Louisville Times.

EMMET G. LOGAN.

WHEN it is considered that the establishment of a successful newspaper, requiring, as it does, a peculiar combination of intelligence, energy, and judgment, is one of the most doubtful and precarious undertakings of modern times, the position of power, influence, and profit to which THE LOUISVILLE TIMES has mounted does indeed seem marvelous. It is only three years since the first number was issued, yet to-day it claims without contest the proud and honorable distinction of heading the list of afternoon journals South of the Ohio, and in its peculiar features is not surpassed by any of the evening newspapers of the country.

If one is asked to tell the story of THE TIMES newspaper, he might, with considerable aptitude, reply in the words of Canning's knife-grinder, "God bless you, sir! I have no story to tell." Its growth has been so rapid, spontaneous, and unchecked that it has reached its present position of maturity having scarcely had any youth, and consequently offering but few points upon which to hang a tale. Concerning its inception a few words may be instructive. In the spring of 1884 Mr. W. N. Haldeman, President and principal owner of the Courier-Journal Company, impressed with the circumstance that there was no afternoon paper in Louisville having either the Associated Press dispatches or possessing any well-defined, consistent, or respectable editorial policy, became convinced that a promising opportunity was presented for the founding of a paper which could display these advantages. To think, with Mr. Haldeman is to act, and preparations were immediately begun for carrying out his designs. They were quickly completed, and on the first day of May the new journalistic ship was launched. Its intended track was clearly conceived. It had certain definite purposes to accomplish. Probably few events in the life of its founder have given him more satisfaction than the realization that the track has been closely followed and his aims very fully achieved.

It was primarily intended that the field of THE TIMES' endeavors should be confined mainly to local and State affairs, paying due regard, of course, to all national and foreign happenings so far as a concise knowledge of them was of general interest or concern. With this view the editorial control of the paper was placed in the hands of Messrs. Emmet G. Logan and E. Polk Johnson, two journalists of State-wide reputation and each fitted, by his intimate knowledge of Kentucky affairs and his extensive and varied acquaintance with Kentucky people, to discharge the delicate and responsible duty of floating the new-made craft. Deeply impressed by the confidence which had been reposed in them and stimulated by the expectation which sprang up all over the State, these gentlemen, with their editorial associates, devoted themselves with enthusiasm and unremitting energy to that work, and in a few months the paper was removed from the list of ventures and had become an established fact.

THE TIMES was a complete newspaper from the very first. It had from the start the advantages of a thoroughly equipped office. The perfect and elaborate mechanical facilities of the *Courier-Journal* and that great paper's finely arranged system of news-gathering were at its disposal. The acquisition of these adjuncts, therefore, which usually constitute a long, tedious, and dreary period in a newspaper's life, was unnecessary, and the first number of THE TIMES was attended with almost as few drawbacks as the last one before this was written.

Its friends and patronage also went right up with a steady increase. It is Democratic in politics and preserves a close affiliation with the organization of that political party in the State. Yet it is liberal in its opinions and absolutely fearless and untrammeled.

While it is not always easy to discriminate and give to each element instrumental in the general success of a great concern its due proportion of merit, it is a self-evident fact that much of a newspaper's prosperity is due to a competent business management. In the case of THE TIMES this remark is specially applicable, for it has been the absorbing motive of Mr. John A. Haldeman, who has had charge of the paper's interests during its upward strides, to advance its prosperity. In fertility of resource he is unequaled, in application to his work indefatigable, and he may claim with perfect modesty a large share in the paper's good fortune. Of the other gentlemen who are on the staff and have been with the paper from the beginning, Mr. T. G. Watkins, city editor, Mr. Walter Emerson, telegraph editor, and Mr. W. M. Hull, dramatic critic, may be mentioned as most valuable assistants to the editor-in-chief.

THE EVENING TIMES to-day, has an average circulation of 15,000, continually increasing, and is respected, admired, and sought.

JOHN A. HALDEMAN.

Louisville City Railway Company.

ST. JOHN BOYLE.

THIRTY-FIVE thousand people ride every day upon the cars of the LOUISVILLE CITY RAILWAY. On some days the number rises as high as seventy thousand, but the first number is a fair average all the year around.

The system has sixty-eight miles of track, thirty-eight of which are laid with steel rail. It takes 245 cars and 1,400 head of mules to handle the vast traffic. Each car makes an average of ninety miles per day, and a day's work for the stock is reckoned a little over sixteen miles per head. The tracks form a network which penetrates every part of the city, and there is such a perfect system of transfers in operation that by paying only one fare a passenger may go almost wherever he pleases within the corporate limits. He may also visit the Homestead suburb, and, by taking his time, can make a complete circuit of the city. A more perfect system is not possessed by any other city in the country.

There is no institution in Louisville more closely connected with the city's prosperity than her street railroads. They are fifty years in advance of the general business, and have done more to build up Louisville than probably any other one thing. They have given suburban homes and fresh air to rich and poor, and afforded facilities of quick transportation to all classes of people at the minimum prices. This has been appreciated, and there is a remarkably large and steadily increasing bulk of travel on the various lines.

The LOUISVILLE CITY RAILWAY COMPANY was organized in 1864. General J. T. Boyle was the originator, and after a charter had been secured from the Legislature and rights of way from the city council the company, of which he was president, made the start by laying four miles of single track. The first was laid on Twelfth street from Rowan to Main, then east on Main to Wenzel. The first cars were operated on this line on November 24th, of that year. From this small start has grown up the present magnificent system. The Citizens' Passenger Railway (Market street), which was organized in 1866, was, for awhile, a rival. The projectors were Isham Henderson and James R. Del Vecchio. They built the tracks on Market street, Shelby and Eighteenth streets, which they operated till 1872. In that year the CITY RAILWAY purchased all their tracks, rights, franchises, and other property, and have operated the lines ever since. Year by year other lines have been built and added until now they are operated on the following streets:

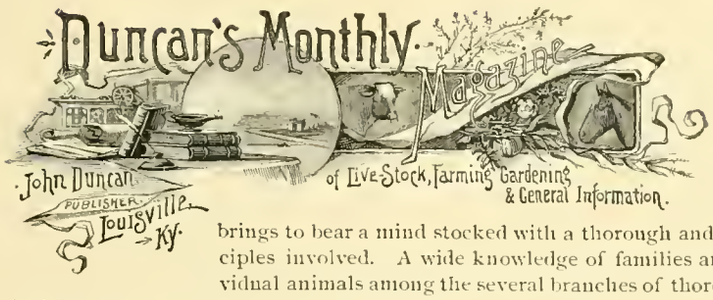
EAST AND WEST—Water street, from Thirty-fourth to Thirty-sixth; Rudd avenue, from Thirty-third to Thirty-fourth; Portland avenue, from Thirty-third to Seventeenth; Bank street, from Sixteenth to Seventeenth; Main street, from Seventeenth to Story avenue, through and along Story avenue to Ohio; Market street, from Johnson to River (seven miles); Jefferson street, from Baxter avenue to Twenty-sixth; Chestnut street, from Sixth to Ball Park; Broadway, from Cave Hill to Twenty-first; Breckinridge street, from First to Second; Dumesnil street, from Eighteenth to Twenty-eighth.

NORTH AND SOUTH—Shelby street, from Market to City Limits; Preston street, from Main to Oak; First street, from river to Jefferson, and from Breckinridge to Oak; Second street, from Jefferson to Jockey Club grounds and Wilder's Park; Fourth street, from Main to Jefferson; Sixth street, from Main to Lee; Twelfth street, from Main to Oak; Thirteenth street, from Main to Jefferson; Sixteenth street, from Main to Bank; Seventeenth street, from Main to Bank; Eighteenth street, from Market to Dumesnil; Thirty-third street, from Portland avenue to Rudd; Thirty-fourth street, from Rudd to Water.

Between six hundred and seven hundred men are given constant employment as clerks, drivers, conductors, track repairers, and in other positions. All operatives are paid by the hour, and settled with on the 10th and 25th days of each month. The drivers and conductors are treated with great liberality, and are paid at the rate of fifteen cents per hour.

The main offices of the CITY RAILWAY are at Thirteenth and Main streets, but it is the intention to erect a handsome building for the headquarters at an early day. The officers are Alexander H. Davis, President; St. John Boyle, Vice-President; H. H. Littell, Superintendent; R. A. Watts, Secretary and Treasurer. The directors are A. H. Davis, St. John Boyle, E. C. Bohne, Theodore Harris, J. B. Speed, A. P. Humphrey, and H. H. Littell. Superintendent Littell has been with the CITY RAILWAY ever since its organization, and, though a young man, has a most responsible position. Upon his shoulders has devolved the active management of the company's affairs, and an admirable executive he has made. To him is largely due the perfection of the street railway system of Louisville, his foresight and enterprise being important factors in keeping the growth of the system co-extensive with the spread of the city.

H. H. LITTELL.



JOHN DUNCAN, the editor and proprietor of DUNCAN'S MONTHLY MAGAZINE, is a worker in what may be termed the literature of live-stock, and for this business no man is better qualified, either by nature or training. From early boyhood his tastes all lay in the line of scientific investigation of practical subjects; and in treating breeding questions, he brings to bear a mind stocked with a thorough and complete knowledge of the fundamental principles involved. A wide knowledge of families and of their characteristics, and of marked individual animals among the several branches of thoroughbred live-stock, enables him to apply these principles in such a manner as to make him an authority upon the questions of which he treats, and the practical discussion of which he has made his life's business.

Mr. Duncan is a Scotchman of the purest Scottish descent, such names as Douglas, Ellis, and Kennedy appearing among his near ancestors. The name Duncan is itself significant, since it is one of those survivals that dispute the assertion of the all-absorbing power of the Anglo-Saxon and the Norman races. The name appears in the remotest periods of Scottish history. Mr. Duncan was born in 1844. Absorbing from his surroundings a love of the natural, and being thus directed to inquire into it, as a mere lad he went to London for the purpose of studying the natural sciences. After taking courses of lectures under Huxley, Tyndall, Ramsey, and others at the School of Mines, he devoted his attention especially to botany, and studied at the Royal Gardens, Kew. In this work his success was marked. In his first year he took the Society of Arts and the Royal Horticultural Society's first prize. An original discovery made by him elicited attention, and upon this he wrote a paper that was read before and published in the records of the Linnæan, a branch of the Royal Society. Thus he early evinced that aptitude for investigation and original thought that has since been of such material value to him. After concluding his course, Mr. Duncan entered the civil service and took charge of the Herbaceous Collection at the Royal Gardens, where he remained until 1871, when he came to America.

JOHN DUNCAN.

When Mr. Duncan determined to come to America he wrote to a friend here, a member of the Agricultural Bureau at Washington, whose acquaintance he had formed in London, informing him of his intentions. About that time Mr. John B. Bowman, Regent of the Kentucky University, was seeking a professor of botany and other kindred sciences for the Agricultural College, then a part of the University. He applied to Mr. Duncan's Washington friend and was recommended by him to secure Mr. Duncan. They did not meet, however, until Mr. Bowman went to the editor of the *American Agriculturist*, in New York, still in search of a teacher. The editor of that paper also recommended Mr. Duncan; for the latter, finding himself in New York without definite plans, was engaged in writing for the paper, a business with which he had become familiar in London several years previously. Thus, then, Mr. Bowman found the man he had been seeking, and Mr. Duncan, a few weeks after landing in the United States, found himself at Lexington, Kentucky. He did not long remain connected with the University, which was not quite what he had expected; but in the short period of his connection with the school he formed several acquaintances that have since ripened into lasting friendships. Almost immediately after reaching Lexington he began to write for the papers, and when he left the University he engaged regularly in journalism. From that time his connection with the press has been unbroken. It has already been explained that his mind and education peculiarly fitted him for scientific writing on subjects of every-day importance. A connection with an agricultural newspaper opened up to him the field of live-stock literature, and he entered it, determined to make his mark upon it. Having come to Louisville some years previously, he established DUNCAN'S MONTHLY MAGAZINE, in 1877. By study and great care in collecting all data pertaining to his business, he has reduced his work to the methods of exact science, giving his greatest attention to the trotting horse, his breeding, his qualities, and his performances; while similarly he has familiarized himself with thorough-bred cattle, and the other leading live-stock interests of the country.

Besides his work on his own magazine, Mr. Duncan has contributed valuable articles to other periodicals, notably several carefully-prepared papers on the great trotting families, published in the *Southern Bivouac*. He is a member of the editorial staff of the *Courier-Journal*, of which he is the editor of the Live-Stock and Agricultural Departments. Upon the death of the late Dr. T. S. Bell, he succeeded to the charge of the important "Answers to Correspondents" department of the *Courier-Journal*, the high reputation of which he has fully maintained.

Where careful work and accuracy in knowledge and statement are required in matters pertaining to live-stock, his services are sought; and no man in Kentucky possesses more entirely the respect and confidence of the stockmen of the State.

Bradstreet's Commercial Agency.

CHARLES F. HUHLINE.

BRADSTREET'S MERCANTILE AGENCY bears to the business life of Louisville a vital relationship. That it has sustained its responsibilities well is undisputed. The BRADSTREET AGENCY was established in 1849. The Louisville office was opened early in the fifties, and has thus for over thirty years been aiding and promoting sound commerce for the trade interests centering here. While the agency is an old one, it has especially earned the name of being *newest;* of being a progressive and enterprising concern. Beginning with the printed reference book or volume of ratings, BRADSTREET'S has originated the numerous improvements of great merit in connection with its business, and it is justly regarded by its patrons as progressive in the highest degree. It avoids the sensational and hypothetical, and centers its efforts in the useful, substantial, and reliable. The Louisville office is constantly amplifying its facilities and resources, and increasing its efficiency to its subscribers about the falls cities. A day spent in BRADSTREET'S office will not only reflect the immense amount of work which it performs for its patrons, but will at the same time give an excellent idea of the variety and scope of Louisville's trade interests. From Canada to the Gulf, and from Maine to the Pacific coast, reports are in demand by the great whisky, tobacco, leather, iron, woolen, implement, furniture, saddlery, and general jobbing and manufacturing interests of Louisville and vicinity. To concentrate here for the sellers, and to furnish to other points of purchasing, trustworthy information of business people of all degrees is a great work, and BRADSTREET'S is doing it efficiently.

The energies of BRADSTREET'S are confined to the legitimate functions of the business, and, in the legitimate prosecution of the business of and for Louisville, has done more for Louisville than Louisville has done for it. No expense is considered too great in procuring and applying to the conduct of the business all possible improvements. With its present system for obtaining and promulgating information this agency is justly regarded by its patrons as authority on all matters affecting commercial credit. Figures, however, are more pregnant with facts than words: There were 671 failures in the United States and Canada in June of this year (1887). The ratings of these as given in the April volume show that, with ten exceptions, the reports on all were such as tended to lead cautious business men to avoid or limit the firms indicated. The reports on these varied from unworthy of any credit to heavy shading. Of the total 671 failures but four were given a first-class rating. This statement is in substantiation of the general correctness of BRADSTREET'S work, and defeats any criticism of those who might wish to belittle the great value and service of the institution.

Mr. Huhline, the present Superintendent of BRADSTREET'S AGENCY in Louisville, has virtually grown up in the interests of which he is now the head. He began as a city reporter about ten years ago, and was made Superintendent in 1886, and, since taking the helm, has shown a vigorous hand and an unerring judgment in pushing forward the work in which he is engaged. Mr. Huhline is not yet thirty years of age but his position in business circles is such that an older man might envy. He was born and reared in Louisville, and is a product of her public schools.

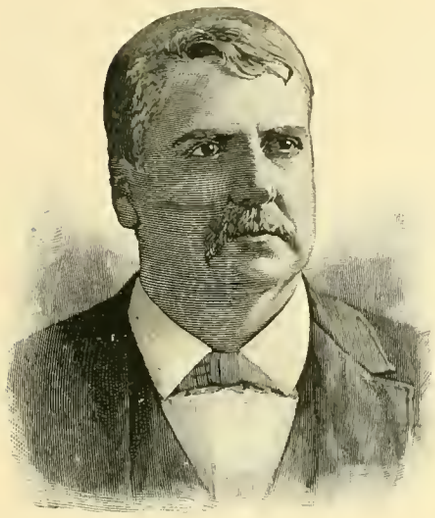
With a view to encourage every element of progress which makes itself known in Louisville, BRADSTREET'S recently secured, wherein to conduct its affairs, one of the handsomest offices in the new Kenyon building, the most palatial business edifice, and the only one of its character, in the city.

The organization of this great business, as it stands to-day, is the practical result of the wisdom and skill of thousands of employes, who have labored faithfully and earnestly in its advancement, as, also, the expenditure of millions of dollars. From being known and recognized as a "Mercantile Agency"—a title which, by the way, has no significance, and is of no possible value—this institution has earned and established a professional place and title by its conceded ability as an "Investigator of Credits." It has established its offices in every commercial center; it has correspondents in every hamlet, and by its own special agents it is investigating and formulating the history and the present condition of traders, manufacturers, and bankers throughout this entire continent.

From the simple fact of furnishing a printed volume containing a few names, with their commercial ratings—for this was the original and only service contemplated—the most careful and painstaking investigations of the character, business qualifications, and financial responsibility in all departments of business have been gradually assumed, the whole standard of the work advanced, the resources amplified, and the results established. Notwithstanding the enormous increase in the work, the great advancement in the power and ability of the organization to do better service, the compensation is the only thing which has remained practically stationary. The telegraph companies make a charge for each 500 miles and their fractions; the express companies charge, for the delivery of a small package, a certain price for 100 miles, an increased price for 500, and a very largely increased price for 3,000, but BRADSTREET'S undertakes the investigation of the subject inquired for over a territory of 3,500,000 square miles at one price, quite irrespective of distance.

One sterling quality of the BRADSTREET system is the gratifying rapidity with which its patrons are furnished with the information, simple or complex, which is demanded of it. With its thousands of trained and energetic servants covering the entire territory of the new world, and working with the unison of a well-disciplined army, or, better, with the perfection of wonderful mechanism, information of every character is transmitted hither and thither with a celerity and a minuteness as to detail that has given BRADSTREET'S the high reputation it so well deserves.

Weissinger's Tobacco Factory.



HARRY WEISSINGER.

LOUISVILLE being situated in the heart of the great tobacco producing section of the United States, and reaching this country both by rail and water, this city is the natural market for tobacco grown in Kentucky, Indiana, Tennessee, and Illinois. A number of causes have resulted in this city's having absorbed nearly all the trade in tobacco from the section indicated. A central market is desirable both for the buyer and producer, and, this being the case, the cheapness of Louisville's shipping facilities to all points, and the geographical location above alluded to, have made this city the great leaf-tobacco market of the world. The general use and consequent increased growth of white burley have materially aided this result, especially since, outside of a small strip of southern Ohio, Kentucky is the only State where the white burley can be grown to perfection. Consequently, in 1885 there were sold in this city 127,046 hogsheads of tobacco, an amount of business that largely exceeded that of any previous year in the history of any market in the world. Louisville's position, with regard to the entire Western trade, has continued to increase in importance during 1886 and 1887.

The advantage of all of this to the Louisville manufacturer is evident. He is able to make his selections in person, or directly under his eye, and he saves freight charges and the expense of a resident buyer. Mr. Harry Weissinger has appreciated and acted upon these and other advantages, which will be noticed later, and is the proprietor of one of the largest factories of navy tobacco in the country. His factory was established in 1869 by Weissinger & Bate and was then known as the Globe Tobacco Works. Its location was on Main street, near Tenth. The firm was continued until March, 1887, when Mr. Weissinger bought out Mr. Bate, the latter retiring on account of ill health. In the year 1878 the now famous brand of "Hold Fast" was introduced to the trade and was received with so much favor that an addition had to be made to the factory in order to supply the demand for this particular brand. Finally the old quarters were found to be too small and the plant could not be sufficiently enlarged, as the factory was hemmed in by other buildings; consequently, Weissinger & Bate bought a lot, 155 x 380 feet, on Floyd street, between Breckinridge and College streets, and there erected a large building and most complete factory, equipped with every convenience for the business in hand. It contains the most improved machinery, and is built with a view to economizing labor. Before putting up the building Mr. Weissinger and an architect visited the principal factories of the United States, so that the architect not only had the advantage of Mr. Weissinger's experience but the benefit of what he himself saw in other factories. About the building was left sufficient ground for any additions that the growth of the business might make necessary.

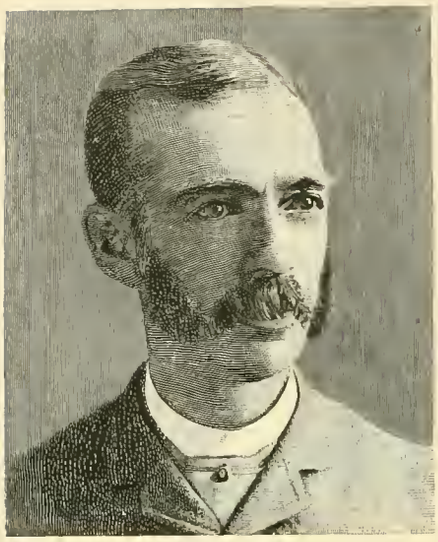
Among the advantages possessed by the Louisville manufacturer, besides those already mentioned, is that of being able to secure here any necessary number of skilled operatives who have been bred to the trade, and of getting these at as reasonable wages as are paid anywhere in the United States. This condition of things springs from the fact that living is as cheap in Louisville as in any city of its size in the country, if not cheaper. Fuel—a considerable element of cost in tobacco manufacture—is also very cheap here, cheaper than in any other city where tobacco is manufactured.

The first brand of tobacco established by Weissinger & Bate was the "Old Kentucky," which made its appearance in 1869. It is now the oldest brand of navy tobacco on the market, and more of it was sold in 1886 than in any previous year. It is standard grade. "Hold Fast," which became so popular as to require the factory to be enlarged, was put upon the market in 1878, and was the first brand made in Louisville out of the white burley, which has since cut so important a figure in the manufacture of tobacco. It was quick to go to the front. More of it is consumed in Louisville than of any other brand made in the United States. This tobacco is absolutely pure, and being made of thoroughly ripe tobacco, carefully selected, no evil results will follow the use of it. Mr. Weissinger's product has been and is confined almost exclusively to the better grades of tobacco, for the reason that the difference in the cost of manufactured tobacco consists alone in the quality of the materials used, for the tax and the workmanship amount to the same on a pound of indifferent tobacco that it does on the best. Hence it will be seen that a reduction in the price, and consequently the quality of the material, will not make a corresponding reduction in the price of the manufactured article. To illustrate, the percentage of difference in quality between five and ten cents leaf is fifty per cent., manufacture the two and the difference in cost is only about eight per cent.

"Prune Nugget" is a more expensive brand. It is made of the highest grade of white burley, seasoned to a delicious fruity flavor by a process known only to the manufacturer. This firm also makes many other brands and styles. "Hold Fast" is made in lumps of 3 x 3 inches, seven plugs to the pound, and is packed in boxes of thirteen and a half and twenty-five pounds. "Old Kentucky" is made in plugs of sixes and fours to the pound. The fours are packed in nineteen-pound caddies and twenty-five-pound boxes. The sixes are packed in sixteen-and-a-half-pound and twenty-five-pound boxes.

Mr. Harry Weissinger, now the sole proprietor of the factory, has worked in every department of a tobacco factory and knows the business practically from the cellar to the counting-room; consequently, he is able, personally, to direct every step in the making of his tobaccos. He is, moreover, a successful man of business, and is now serving his second term as President of the Louisville Board of Trade.

S. P. Graham.



S. P. Graham.

THE lumber trade of Louisville is a very important industry, and one that is certainly growing in extent and value. The city's location is such, her communications so perfect, and her facilities for the prompt and convenient filling of bills of all kind are so good that dealers and users of lumber in a large section of country turn to this market for supplies. The trade in lumber is consequently on the increase, and bids fair, with the opening up of new and heavily-timbered regions, to increase in the future more rapidly than in the past.

The river and railroad facilities are such that this city is placed within easy reach of the best lumbering regions of the North and South, thus enabling the dealers here to respond readily to the demands for all kinds of lumber. Add to these features the fact that the trade is represented here by a class of live and progressive business men, and there is abundant reason why the Falls City is considered a popular and reliable lumber market.

Among the many houses engaged in the handling of lumber in this city, none is more worthy of mention than the well-known house of S. P. GRAHAM, which is the oldest house in the business in Louisville, and has a reputation and trade that speak well for the high character of the house.

The true reason, and the only one, for success in a business venture is a thorough knowledge of the business, care in accepting and filling orders, and a comprehensive knowledge of the wants and requirements of patrons. To intelligently meet these demands, a constant study of the available materials, and the probable necessities of any given territory must be made, and this knowledge must be coupled with an executive ability to handle the details of the business; else errors in filling orders, and a consequent dissatisfaction of the buyers follow, and the trade either fails to materialize or continually declines. Then follows embarrassment, if not absolute failure. One of the oldest houses in this city is presided over by one of our youngest business men; but, although young in years, he carries on his shoulders a head weighty with knowledge of business, and an affable and courteous manner which attracts to the house a clientage of the most permanent character.

The business was established on a small scale in 1854 by John Graham, a thrifty and enterprising Scotchman. It grew steadily and surely until 1863, when the proprietor admitted his son, Mr. S. P. GRAHAM, as a partner, and for many years the house was known as John Graham & Son. Upon the decease of the elder gentleman, Mr. S. P. GRAHAM succeeded to the business, since which time, by his personal popularity, his keen appreciation of the wants of his patrons, and a square and honest method of supplying the customers of the firm, he has very largely increased its business, until it is probably to-day the most extensive lumber and supply depot in this city, if not in the South. It seems to be the rule that a man once a customer of the Grahams feels forever bound to them, not alone by ties of business interest—for they are pioneers of low prices—but by personal attachment as well.

S. P. GRAHAM deals in all kinds of lumber, making a specialty, however, of white and yellow pine. He also handles poplar to a considerable extent, as well as lath and shingles.

Mr. Graham handles an immense value of doors, sash, blinds, mantels, etc., and always keeps in stock large quantities, thus enabling him to meet promptly all demands that may be made upon his resources. These goods are the productions of the most famous manufacturers in the great lumbering sections of the North-west, and with whom he has the most favorable arrangements, thereby enabling him to supply the trade on the most advantageous terms.

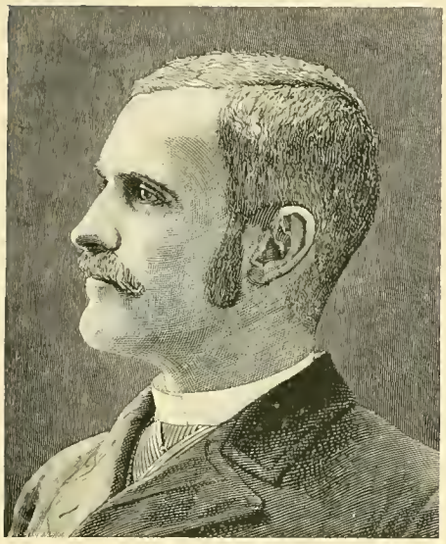
The house maintains a most extensive lumber yard and factory at No. 810 Magazine street, where a large and varied stock of rough lumber, dimension lumber, common boards, fencings, floorings, lath, shingles, moldings, doors, sash, and blinds is constantly kept on hand, something of a specialty being made of rough lumber, in which this house decidedly leads its competitors in the volume and territorial extent of its business, shipping chiefly in car-load lots to all parts of the South.

Mr. Graham supplies estimates as to the cost of building, and among resident builders his standard of lumber grades is generally recognized and approved. His customers are already very numerous, and those not recorded in that array will find it to their interest to communicate with Mr. Graham and to establish business relations with that live, enterprising house.

Mr. Graham thoroughly appreciates the value of making his institution known, patronizing all the leading papers with advertisements that talk; he is never afraid to give prices, and his customers know that that is the assurance which grows out of confidence, and shower the orders in on him in a most liberal fashion. More than two-thirds of the counties in this State do business with him, besides which he ships to every Southern State, his transactions often amounting to thousands of dollars in a single day. A striking instance of the extensiveness of his trade occurred lately in the receipt of a large and miscellaneous order from Hamburg, Germany.

Mr. Graham is a first-class example of our new order of business men in the South, and is destined to confirm and extend the honorable reputation he enjoys. Although his firm is an old one, having been established by his father, Mr. Graham is still a young man.

The Presbyterian Mutual Assurance Fund.



W. J. WILSON.

ONE of the companies conducting a life insurance business on an improved and highly successful system is the PRESBYTERIAN MUTUAL ASSURANCE FUND, of Louisville, Ky. The company was chartered in 1878 under the laws of Kentucky and its charter was amended in 1886. Its officers are Bennett H. Young, President; John H. Leathers, Vice-President and Treasurer; W. J. Wilson, Secretary; Dr. F. C. Wilson, Medical Director; James H. Moore and E. H. Martin, Superintendents of Agencies. The directors are Bennett H. Young, J. H. Leathers, W. N. Haldeman, Vincent Davis, F. C. Wilson, and W. J. Wilson.

The company's depository is the Louisville Banking Company, the assets of which are, capital, $300,000; surplus, $370,000.

The last statement issued by the company is as follows: Insurance in force July 31, 1887, $5,562,000; indemnity reserve July 31, 1887, $103,420.47; cash on hand July 31, 1887, $15,732.64; death losses paid July 31, 1887, $84,000; insurance written from January to July 31, 1887, $1,125,000.

The plan of insurance is a modified form of the old "natural premium plan," which is an increasing rate annually with advancing age. In the case of the PRESBYTERIAN MUTUAL ASSURANCE FUND instead of an annually increasing rate, the rate increases by terms of five years. The insured pays the same rate from twenty to twenty-four years of age, increasing it from twenty-five to twenty-nine, again from thirty to thirty-four, etc. But it is provided that when the first increase in the rate takes place—at the end of the first five years—dividends shall accrue to the insured to offset the increase, thereby making the premium very nearly stationary. Said dividends are to be placed to the credit of the policy-holders by the following arrangement: After the payment of five full annual premiums by the member, the company will credit on his premium annually thereafter a dividend of not less than ten per cent., and as much more as the accumulations to his reserve will warrant from year to year. (It is estimated that the accumulations from all sources will yield a dividend annually of twenty-five per cent.) Or if the member shall elect, after the expiration of the first quinquennial period, to apply the accumulations to the credit of his certificate to paid-up insurance instead of annual dividends, he shall be entitled, after the expiration of the second quinquennial period, to as much paid-up insurance as his accumulations during that period will purchase on a four per cent. basis; provided, said member shall give notice to the management, in writing, of his election, thirty days previous to the expiration of the first quinquennial period.

By this arrangement it is mathematically shown that a man can carry insurance from the time he is twenty-four years old until he is forty-five at a cost not exceeding $14.57 annually for $1,000 of insurance. In one of the "old line companies" at forty-five years of age he would pay $37.97 per $1,000.

The essential feature of the company's plan is that it furnishes insurance at cost, on the "pay as you go" principle, the policy-holder paying for the risk assumed by the company as his age advances. A security is maintained of from $200 to $300 for every $100 of liability. The accumulation or reserve fund is a practical guarantee and is arrived at by causing each policy-holder to make a deposit which is a guarantee for his indebtedness, and thus becomes a guarantee to every other policy-holder. The premium paid by each insured is only sufficient to meet the risk of the company and is fixed at a rate accurately ascertained by the "experience tables"—tables which give the legitimate cost of insurance according to the expectancy of life.

Another feature is that the company is a purely mutual one, there being no stockholders, and all surplus, from whatever source derived, being held in trust for the policy-holders for the purpose of strengthening the mortuary fund. No dividends have to be declared to share-holders, being declared and placed to the credit of the insured themselves, and no large salaries are given to officers, the salaries and other expenses being only large enough to secure competent and trustworthy officers, and to keep the affairs of the company in proper and business-like condition. Thus the cost of insurance is reduced to a minimum, the insured, in fact, receiving all the benefit accruing from the investment of the company's surplus earnings, which, in the case of most companies, is a benefit that goes to the share-holding capitalist. The PRESBYTERIAN MUTUAL ASSURANCE FUND offers insurance, pure and simple, free from investments, and maintains a reserve amply sufficient to guarantee the security and permanency of each policy. It is definite in character, simple in practice, and reliable. It is not hampered by the idea that in making his payments the policy-holder is making an investment, which would be better made with some savings institution. The plan of this company is simple life insurance reduced to the cheapest possible basis consistent with safe business principles.

The company's books and papers are always open to the inspection of members, and the business is under the supervision of the Insurance Commissioner of Kentucky. Losses are paid within ninety days after proof of death is filed. The policies issued are incontestible while in force, after three annual premiums have been paid thereon. The mortuary fund is exclusively used in payment of death claims and dividends to policy-holders. Insurance is issued in sums of from $1,000 to $6,000 on any life under sixty years of age. The company, notwithstanding its name, is strictly undenominational. It is constructed on a plan that practically guarantees its perpetuity, and secures the desideratum that the cost of insurance will not have to be raised hereafter for incoming members. It is not one of those companies that is obliged, finally, to increase its rates because it began too cheaply.

The Courier-Journal.

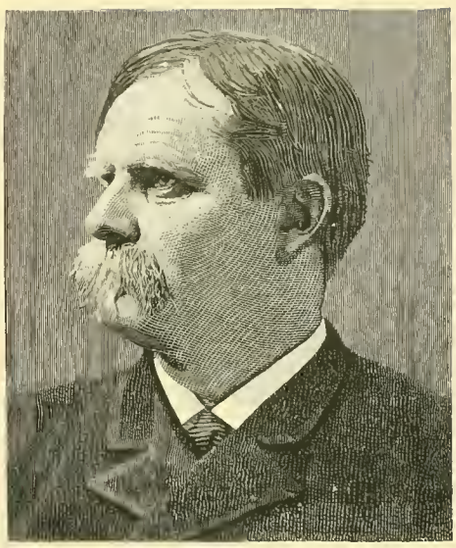
WALTER N. HALDEMAN.

IN this age of the printing-press it may almost be said that a community is known by its newspapers; and this is the case especially of Louisville, which has gained its broadest and best advertisement through one newspaper—the COURIER-JOURNAL. Indeed, this journal has been, within itself, the history, not only of a city, but of the South, in all of the potent social, political, and economical factors that, since the war, have formed the internal motives of the South's progress and its present prosperity. At the same time that the COURIER-JOURNAL has been the reflection and record of the thought and events of an epoch, it has itself been a power in molding this thought and controlling these events. Conservative only in the highest and best sense, it has led the people of a section in all that could conduce to their advancement, politically and socially. The importance of this newspaper in politics is, to a certain extent, due to location, and the same causes that should make Louisville the commercial head and front of the South and South-west have given to the two men who control the destinies of the COURIER-JOURNAL the opportunities for their great achievements. This, however, should be esteemed as merely fortunate. The essential power of the journal must be created within itself, and it is thus that the COURIER-JOURNAL has long occupied a position that is almost anomalous in the history of the newspapers of America. Leaving aside, for the moment, the consideration of pure *news*, and considering only the higher plane of journalism, the success of the COURIER-JOURNAL and its importance and power in the socio-political questions of the day are attributable alone to the most intelligent integrity. Ability to see the right and courage to advocate it and exist in it alone are the most evident characteristics of this newspaper. Soundly Democratic in politics, it has been the conservator of those fundamental principles which are embodied in the constitution of the country, and which a hundred years of political history have demonstrated to be the safeguards to our governmental frame-work and national institutions. It has fearlessly led the fight against those fallacies that its editor recently described as political proprietary articles and quack nostrums. Thus, while it has created many enmities which were vapid and unavailing, its justness and policy have, in the end, been confirmed and established by the outcome of events.

The two directing geniuses of this journal form practically a unit. They are Walter N. Haldeman, the President of the company and publisher of the paper; and Henry Watterson, its editor. The untiring energy, limitless enterprise, great business sagacity, and fine knowledge of men possessed by Mr. Haldeman have made the COURIER-JOURNAL not only one of the best newspapers of the country, but one of the best newspaper properties, the revenues of the journal having been unstintingly used for its own advancement until it is now one of the richest newspapers in the United States. Its building is one of the handsomest and most costly business houses in Louisville. Above the ground it has a height of five stories. On Fourth street it has a frontage of one hundred and sixty-five feet, and on Green street a frontage of eighty-six feet. Its perfecting presses, stereotyping rooms, and engines for heating and lighting it with electric lights are contained in the enormous basement. Its composing and editorial rooms are the most perfect in America. The cost of this magnificent structure was more than half a million dollars, and it certainly has no equal in Europe or America. The COURIER-JOURNAL'S equipment is equally perfect in all other respects.

COURIER-JOURNAL BUILDING.

Daily and Weekly.



HENRY WATTERSON.

Besides the large staff of editorial writers, editors, and reporters, it has its special correspondents at all principal points throughout the United States, special wires running into its office from New York, Washington, and elsewhere, and, in its own peculiar territory, it has correspondents at every town and village. These, supplemented by the Associated Press service, daily furnish the office with the news of the world.

The more than national reputation and influence of the COURIER-JOURNAL are mainly due to its editor, Mr. Henry Watterson, the most brilliant journalist in America. What has already been written of the paper may be said of him, since its policy is the embodiment of his views. There is no man in journalism in this country who exerts, through his newspaper, so powerful a personal influence as does Mr. Watterson. The dashing brilliancy of his literary style and its fearless originality are typical of the man himself, and his personality delightfully pervades all he writes. But it is neither as a *literateur* nor a politician that Mr. Watterson claims and receives distinction. While the utterances of but few men are received with more attention by his party —and, indeed, the nation at large—than are his, he is absolutely free from political entanglements and is thus able to discuss the questions of the day with no other motive in view than that which he conceives to be the right. No man more quickly than he scents a danger or recognizes a fallacy. The most intimate acquaintance with men and events, both of the past and of to-day, seems to give him an insight into the future that is commonly spoken of as the intuition of genius, but which is really the inevitable logic of accurate knowledge. Mr. Watterson has been and is to be found in the van of the Democracy in all questions where Democratic and not mere factional principles are involved. With Carlisle and Morrison, he leads the Democratic fight for a "tariff for revenue only," and is foremost in the opposition to the out-growing evil of the war tariff, the "Money Devil" of the South. It is due to him that the power and influence of the COURIER-JOURNAL are out of all proportion, even to the large circulation of the paper.

The COURIER-JOURNAL is essentially the "paper of the people." It is opposed to every form of monoply; no one connected with it desires political office, or in any way seeks to benefit himself otherwise than through the legitimate functions of journalism. Those who have known it longest commend it most. Whatever it believes will tend to the bettering of the whole people of the country it advocates fearlessly and constantly. Its news features cover the widest field of the newspaper on all current subjects. It is recognized as the representative journal of the South and South-west, and has, in its weekly edition, by far the largest circulation of any democratic newspaper in the country, no paper being more widely known and read. The circulation of the daily is 18,500; of the Sunday edition, 25,000; of the weekly, 110,000.

What has been said of the daily edition of this paper applies equally well to the weekly paper, which is the cheapest and best family newspaper published in the United States. It possesses the same facilities that give the daily edition its standing in journalism, and for one dollar a year may be obtained the largest and best democratic newspaper in the land. The WEEKLY COURIER-JOURNAL is an eight-page paper, each page containing eight columns of matter, each issue therefore containing sixty-four columns, while other leading weekly newspapers contain but fifty-six columns. Not only is the quantity of matter so unusual, but its quality even surpasses the quantity. The great size of the paper enables its editors, by judicious selection and condensation, to put into each issue a complete summary of the news of the week previous, thus furnishing to the farmer or other man to whom a daily paper is inaccessible, a current history of the world in which he lives. Its information about political movements and its political gossip are especially complete. It, like the daily COURIER-JOURNAL, and under the same editorship as the latter, maintains a constant fight against the war taxes and other burdens with which agricultural classes are especially oppressed for the benefit of a limited manufacturing class. By means of its enormous circulation of 110,000, which is national in character, but for the most part in the South and South-west, its views are spread throughout the entire country, and its influence is felt wherever it is read.

But the WEEKLY COURIER-JOURNAL is not only a potent political factor; it is the best family newspaper in the country. While its general news is full and complete, its miscellany makes it serve the double purpose of a newspaper and a magazine. The best known writers of current fiction contribute to its columns, and its serial and short stories make a distinctive feature of this journal. Its selections are made with the greatest care. With every issue are published sermons from eminent divines, specially furnished to the COURIER-JOURNAL. Its several departments give the paper a value in the home circle; one of these, the "Answers to Correspondents," has long been a most interesting, valuable feature of the paper, containing as it does information on all conceivable subjects furnished at the request of the paper's readers. The "Children's Department," the "Women's Department," the "Agricultural and Live Stock Departments" are all maintained fully and regularly, thus causing the paper to embrace a field of news, politics, literature, and general information not contained in any other journal in the United States. As an advertising medium the WEEKLY COURIER-JOURNAL is unequaled.

The Bradley & Gilbert Company.

JAMES C. GILBERT.

THE BRADLEY & GILBERT COMPANY, booksellers, stationers, printers, blank-book and paper-box manufacturers, is one of the oldest and most widely-known houses in Louisville. It is an incorporated company, its officers being James C. Gilbert, President; John C. Herndon, Vice-President; William Harrison, Secretary and Treasurer. The firm was founded in 1858 by Thomas Bradley and James C. Gilbert. They were journeymen printers, having no capital, but a great deal of industry. They began business in a small way but were prosperous, and, in 1861, moved from their small quarters on Market street to their present location at Third and Green streets. Here they gradually enlarged their business and their facilities, the history of the house being one of unbroken success. In 1879 Mr. Bradley died, and in January, 1882, the stock company was organized, being then called the Gilbert & Mallory Publishing Company. In March, 1884, the name of the company was changed to its present title. The company now occupies very extensive quarters, having a double house of four stories and another of three stories. The hands employed number 150, and there is the most complete equipment of machinery. The business is divided into four departments, the most important of which is the manufacture of blank and record books.

The blank-book manufactory is as complete as any in the West or South, and the work done there is equal to any in the world. It has every facility, the most improved and complete machinery; uses the best material, and employs the most skillful workmen, paying the highest prices for labor. Here are made two-thirds of the record books used in the offices of the clerks of courts throughout Kentucky. The company makes a specialty of railroad work, and has a large trade with banks and merchants, and is the only one in America that will sell a bank outfit, and then, through its Vice-President, open the books and teach the officers of the bank the routine of the banking business. This company has the credit of having made the largest blank book in the world. It is a ledger that measures twenty-five inches in width, twenty-seven inches in length, and ten and a half inches in thickness. It weighs 250 pounds and cost $150. The work is of the handsomest kind, the binding being of Russia leather, tooled and carved, and beautifully inlaid with colored leathers, and ornamented in black and gilt.

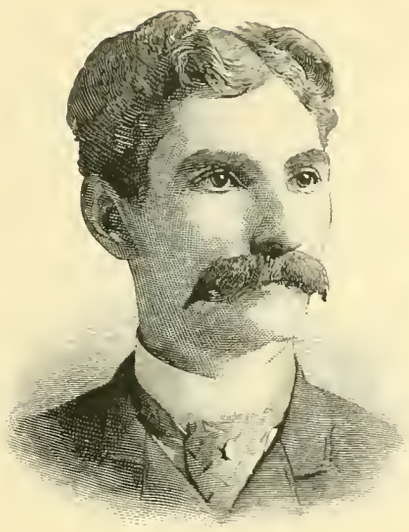
The printing department, covering an area of three large floors, contains the latest patterns of perfected printing presses and cutting machines, an abundant supply of new and standard fonts of body and display types, and all modern appliances requisite to fully equip an office for quickly and artistically executing the varied demands made on a large and prosperous printing concern. It includes all the branches known to the "art preservative," and employs a competent corps of artisans able to intelligently execute the ever-changing ideas of art and taste in letter-press printing, in a prompt and thorough manner. It keeps apace with the fluctuating trade of this progressive age of perfected printing, and adds new type faces as they appear, to meet the wants of a large and exacting trade. Among several important jobs, is now being issued a revised addition of the General Statutes of Kentucky, a book of extraordinary size and necessarily prepared with the utmost care. It is promised that the publication will be as perfect as the printer's art can make it.

The company is one of the two manufacturers of paper boxes in Louisville, the other having been started at a comparatively recent date. When the firm began making them, years ago, a very small equipment more than supplied the demand for them here. Now, with every modern improvement for making the boxes, and with many hands employed, the factory can not nearly supply the demand, though there is another factory in Louisville. That of the BRADLEY & GILBERT COMPANY has recently been entirely refitted and is now the largest anywhere west of Cincinnati.

When the firm first moved to Third and Green streets the city was without the letter-carrier system, and all people were obliged to go or send to the post-office for their letters. Messrs. Bradley & Gilbert immediately saw that their location was an admirable one for a book and stationery store; so they added that branch of business to their printing-office and bindery. The store rapidly became very popular and soon had to be enlarged in order to accommodate their increasing trade. This popularity it has never lost; their business in this line has gone on increasing, and "Bradley & Gilbert's" is a familiar household name in the city. The store now occupies the lower floors of the buildings fronting on Third street. It comprises two large and elegant rooms, thrown together by arches, and is, without doubt, one of the most handsome and attractive in the city. It has always been considered the headquarters for the retail trade in school and college books, and does an extensive business in office and fancy stationery.

Mr. James C. Gilbert, the practical head of the firm since its foundation, is a remarkable man, having many strong qualities, and would have made his mark in whatever walk of life he had selected. He was born on December 12, 1832, at Jackson, Missouri, but is descended from an old Kentucky family, his maternal grandfather, James Duncan, having been one of the early residents of Louisville. As a very young man Mr. Gilbert moved to Salem, Indiana, whence he came to Louisville. Here he has long been an important political factor. For seven years he was a member of the Board of Trustees of the Public Schools. In 1870 he was elected to represent the Ninth Ward in the Board of Aldermen, and has been returned at every election since then. Under Mayor Baxter's administration he was President of the Board for two years, and for several weeks acting Mayor. Under the present administration he is now in the third year of his term as President of the Board. He succeeded the late Hon. James Trabue as President of the Sinking Fund.

Land and Building Companies.



THOMAS W. BLACKHART.

THE recent activity in the Louisville real estate market has had, among other results, that of causing the business men of this city to see how the commerce of Louisville could be materially benefited by the development of certain unoccupied portions of the city, and tracts of land lying just outside of the city limits. Although the West End of Louisville offers more advantages for the location of factories than does any other section, it has been slowest in building up, a condition of affairs due largely to the fact that this section was distant from any railroad connection. Now, however, a line of road, called the Daisy Route, runs into it and connects it with all the railroads running into Louisville. The DAISY REALTY COMPANY was incorporated in March, 1887, its authorized capital stock being $500,000. Its officers are Thomas W. Blackhart, President; Davis Brown, Vice-President; Sidney J. Hobbs, Secretary; R. C. Kerr, Treasurer. The directors are the foregoing, and John T. O'Neil, S. W. Hegan, Dr. M. K. Allen, and C. R. Gregory. The purpose of the company is to develop West End property. It owns 125 acres of the most desirable land in the West End, on which it is proposed to build houses and establish factories, and, where necessary, take stock in factories desiring to locate on this ground. The land is all west of Twenty-eighth street, and south of Broadway. It lies along the line of the Daisy Route. Some of it has already been sold to manufacturers, and within a short time several factories will be built there.

Mr. Blackhart is also Vice-President of the WEST LOUISVILLE LAND AND IMPROVEMENT COMPANY, incorporated in June, 1887, with a capital of $1,000,000. The officers are W. C. Hall, President; Thomas W. Blackhart, Vice-President; Theodore Harris, Treasurer, and John A. Stratton, Secretary. The Directors are W. C. Hall, Jesse J. Brown, Morris McDonald, John Colgan, Henry J. Lewis, Bennett H. Young, S. S. Meddis, S. W. Hegan, and the officers of the company. The company owns and has options on 922 acres of land west of Twenty-eighth street, and south of Broadway, extending in one tract to the Ohio river, which makes a bend just below Louisville, skirting the city on the west. It is the purpose of the WEST LOUISVILLE LAND AND IMPROVEMENT COMPANY to build wharfs in the deep water of the river and make steamboat landings there, and connect the city by cable lines of cars. This will save the time and expense of going through the canal, and for freight shipped by water to or from the South, from or to factories in the West End, will cause a vast saving, both in time and money. The elevation of the ground is twenty feet higher than that on which Louisville is built, giving good drainage and preventing all danger of flood. It contains the most available factory sites about Louisville. Here the company expects to locate factories, build a town, and lay out an extensive park. The town will have its own water-works and its own municipal government.

Another company interested in the development of this locality is the WESTVIEW BUILDING COMPANY, also recently organized with a capital of $200,000. Its officers are W. T. Pyne, President; George B. Bahr, Vice-President; George M. Crawford, Secretary, and Thomas W. Blackhart, Treasurer. The company is improving 100 acres of land known as the Homestead, a subdivision of Parkland, which is a suburb of Louisville. The land is the highest tract west of Louisville. The object of the company is to build dwelling-houses and sell them on the monthly-payment plan. It is the only building association ever organized in Louisville that ever built a house. It has already sold and now has in course of construction thirty handsome frame houses, costing from $2,000 to $8,000 each, the cost of the ground being $16 a foot, in addition to the cost of the houses. The company has taken an active part in all the improvements in the West End, and was instrumental in locating the Daisy Route which runs through its land. It has also secured a post-office, and telegraph and telephone stations. It has already established one lumber-yard and will locate another. It is arranging to double its building capacity, having already received applications for houses to be built next spring.

Another important enterprise in the West End is the PARKLAND HILLS HOTEL AND AMUSEMENT COMPANY, of which Mr. Blackhart is the President. E. C. Bohne, George M. Crawford, Newton G. Rogers, J. W. Beilstein, Vernon D. Price, and W. T. Pyne are the directors. The grounds chosen for the hotel comprise about ten acres in the most beautiful part of Parkland, adjacent to the depot of the Daisy Railroad. The lot is already a handsome park, but will be still greatly improved. An artificial lake of three acres will be made in a corner of the grounds, with boat-houses and pleasure-houses. In the center of the grounds will be the large hotel, supplied with every convenience. Twenty or more villas, to be let to families, will be built about it, each containing parlor, three or four bed-rooms, bath-rooms, halls, and all conveniences. The grounds and houses will be lighted by incandescent electric lights, and the small buildings will be connected with the hotel by telephone and electric bells. The hotel will furnish hot and cold water, and heat by pure hot air in winter to all the houses. The hotel servants will do the work in the villas.

Mr. Thomas W. Blackhart, the gentleman most largely interested in these several companies, is quite a young man. He is a native of Ohio, but came to this city when fifteen years old. In 1876 he entered the house of Price & Lucas and rose to have full control of the office of that establishment. Having located in Parkland, he invested there in real estate and is the largest individual owner of property in that town. His investments have quadrupled in value, and now demand his entire time and attention. Mr. Blackhart is a man of great energy and of a progressive spirit eminently fitted to manage large affairs.

The Glenview Stock Farm Company.

JOHN E. GREEN.

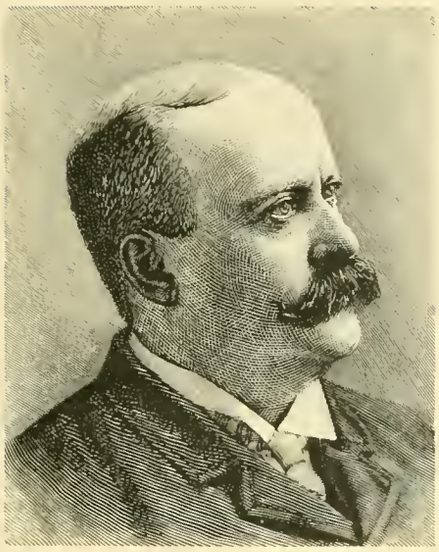
OF the numerous stock-breeding establishments of Jefferson county the most successful and the most famous is "GLENVIEW," formerly the property of the late J. C. McFerran, whose intelligence and enterprise caused his farm to take a foremost place among the trotting-horse establishments, even of Kentucky. At the executor's sale, after his death, his great number of horses brought the highest average price per head ever obtained at a sale. Such was the reputation of GLENVIEW. The reputation had been well-earned, for the farm was the home of the grandly-bred Nutwood, the speed-begetting Cuyler, and the admirable Pancoast. Here was bred Patron, Pancoast's young son, which, this season, promises to lower the stallion record. Here also were bred Patron's dam, besides Day Dream, 2:21¾; Algarth, 2:23; and Elvira, 2:18½, with others that figure in the 2:30 list.

When GLENVIEW was sold it was bought by some gentlemen who had the capacity and the will to sustain the high reputation of the place, if not to advance it still further. They then incorporated the company, which is constituted as follows: J. I. Case, President; S. H. Wheeler, of sewing-machine fame, Vice-President; John E. Green, Secretary, Treasurer, and General Manager. Mr. Green understands as well as any one the fundamental principles that insure success in breeding trotting horses. He lives upon the place, and all of the details of the business are conducted under his supervision. The farm is five miles east of Louisville and lies in a rolling, limestone country that is not surpassed in the State, the land being of the famous bluegrass formation. Besides the original GLENVIEW property other land has been purchased, so that the place now comprises 1,087 acres, all of it capable of the highest cultivation. Most of it, of course, is in meadow or pasture land, the general aim being to keep the farm in bluegrass. A large tract is heavily timbered, the woodland affording good shelter for horses running out in the winter time, though numerous sheds are also provided for this purpose. The barns and stables are ample for all the stock that the place will support. These are always in the best of repair. A good mile track enables the horses to be regularly trained. The land is divided into convenient paddocks and fields, all well fenced and well watered. But the great natural excellence of GLENVIEW consists in the quality of the soil, which is as rich as any land in the bluegrass country itself. Indeed, one may go all over that famous section of Kentucky and not find better fields of grass than are found here, where the herbage is high and so thickly matted that one is impeded as one walks. This grass affords good pasturage, except in the worst weather, and a horse could live on it quite comfortably all the year; but at GLENVIEW a high system of feeding is maintained. The colts are taught to eat even before they are weaned and they are given all they will consume, while the mothers are similarly treated. This fact is evident in the appearance of the stock.

Mr. Green, who has the entire management of the place, entertains the clearest and most intelligent ideas of breeding, and no man understands the science better than he does. It may be said in a nutshell that the principle on which he conducts the business is to go back to the highest producing dams through the most successful sires, speed being always the test of merit. Especial stress is laid on the families on the side of the dams. At the head of the stud is the two-year-old Egotist, a colt whose breeding illustrates Mr. Green's ideas, as he goes back to two of the three greatest producing mares of the country. He is by Electioneer, out of Sprite. Electioneer is out of Green Mountain Maid and she has five in the 2:30 list, they being: Elaine, 2:20; Prospero, 2:20; Dame Trot, 2:22; Storm, 2:26¾, and Antonio, 2:28¾. Mr. Backman expects to put two more in this year. So much for the sire's dam. Sprite, Egotist's dam, is by Belmont out of Waterwitch, another great mare, her sire being Pilot, Jr. To her credit stand Mambrino Gift, 2:20; Scotland (sired by a thoroughbred), 2:22½, and Viking, 2:20½. But Waterwitch is also the dam of several speed-getting mares and Sprite herself, Egotist's dam, is the dam of Spry, 2:28¾, and Sphinx, with a three-year-old record of 2:24¼. The stud books do not show more desirable breeding than this colt illustrates. There is no line in his pedigree which does not contain speed of the first order. He not only combines in a rare degree the best of the great families, but the best perpetuating capacities in those families. Electioneer's breeding is the same in blood lines as that of George Wilkes, but is really better than his, as Electioneer's dam has five in the 2:30 list. Waterwitch, on the other side, has had a test applied to her that the great Miss Russell has not yet had, in that she has shown that she transmits to the daughters the speed-getting power. Sprite, too, stands in the line that has had the test of speed-perpetuating capacity longest applied to it. Thus on every side of the pedigree there is the first order of greatness. Individually, Egotist justifies all this. He is an animal of the most noble appearance, standing already near sixteen hands high and being beautifully proportioned. His conformation shows power in every line, great driving muscles in his thigh, a full capacity in body, plenty of breathing room in his throat, a fine neck and broad head, with thick breast, strong shoulders, straight legs, and the cleanest action. In color he is a rich bay. In fact, he is the perfect type of the trotter.

As may be seen, Mr. Green attaches but little importance to a pedigree beyond where the 2:30 capacity is apparent, and likes as much of that as it is possible to get. In the selection of the forty mares now on the place the same principle has been followed, and it may be safely predicted that GLENVIEW will continue to stand among the foremost of the trotting stock farms of the country.

The Louisville Jockey Club.



M. Lewis Clark.

THERE is no institution in the State of Kentucky that has so advertised the State, and especially the city of Louisville, as has the Louisville Jockey Club. The horse is the greatest product of the State—the one of which the people are most proud. To enhance the value of this product by encouragement of the breeding interests, not only of Kentucky, but of Tennessee and the South and West, has been the sole aim of the Club, and unqualified success has been the result. Kentucky has always been famous for her horses; even as far back as 1787 they had thoroughbreds here and raced them, too. On the Oakland track at Louisville there were some great contests. Here it was, in the presence of thousands of the elite and chivalry of the South and West, that the famous races or matches, between Grey Eagle and Wagner, were run, the distance being four-mile heats. A description of one of these races still stands as a masterpiece in the literature of the turf. At that period the staying qualities of the horse were more considered and valued than his speed alone, and the races were a source of pride and sectional feeling.

After the abandonment of the Oakland course, Woodlawn was established, but, toward the close of the sixties, that fell into disuse, and racing was at a low ebb in Kentucky—in fact, in America. In the North and East there were but three courses: Jerome Park, Monmouth, and Saratoga, and in the entire West and South but three, those at Lexington, Nashville, and New Orleans. The period of racing at each was quite limited, and the added money to stakes and purses very small. The demand for thoroughbreds was confined to a few rich men in the East, and prices were so low that many breeders were seriously considering the propriety of discontinuing the business. Colonel Clark was in Woodford county at this time, and the matter was discussed thoroughly with a view of suggesting a remedy. The problem necessarily was to create a demand for the race horse, and to do this intelligently required careful study. Kentucky was the England of America, and the English had certainly solved this question with success. The organization of a Jockey Club and a race course was the first consideration. The next was the establishment of a system of stakes and races that would demonstrate the superiority of certain classes and ages of the thoroughbred, and, by reason of the value of the stakes, create a demand for their winners—the key to the situation. In the establishment of a great principle which was to be the means of reviving the thoroughbred interests, it was essential that a set of rules and scale of weights be adopted that would meet the wishes of breeders and owners of race horses.

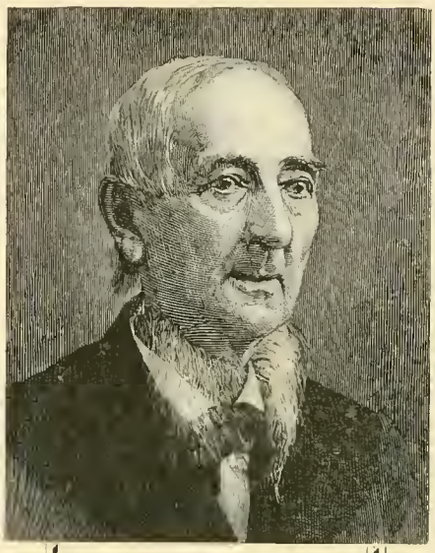
Therefore, in 1872, with a perfectly clear and comprehensive idea of what was needed, Colonel Clark visited Europe and carefully studied the systems of stakes, racing, rules, etc., of England, and also those of France. Every facility and social courtesy was shown him by those best posted and interested in such matters, and upon his return the Louisville Jockey Club was organized in June, 1874, and the course and club-house completed by November of the same year. In November, 1874, the leading breeders and turfmen of the South and West met at Louisville and were shown the grounds and club-house, and the purpose and aim of the Club were explained. Their aid, counsel, and co-operation were requested. Before this body of gentlemen Colonel Clark laid the sketch of the programme of stakes and races, which was a careful digest of his European observations. The result was the formulating of the stakes and programme of races for the first great meeting in May, 1875.

The Kentucky Derby, Kentucky Oaks, the Clark Stake, and St. Leger Stake were to be the three-year-old events, and the Louisville Cup, the test of distance for aged horses. The policy of the English Derby was recognized here. There must be one great event for the three-year-olds, a test at the distance best suited to show the colts and fillies of this age, and one mile and a half was so recognized, and the Kentucky Derby inaugurated. The Kentucky Oaks is really the Derby for the fillies, and the Clark Stake was to accentuate the Derby form at a longer distance two miles (since changed to one and a quarter miles), while the St. Leger, in the fall, was established to add greater luster to the fame of the Derby winner, in case he could win it, or enhance the value of some other colt and blood, in case he could vanquish the winner of the great spring event. Other rich and valuable stakes were established for the spring and fall meetings whenever it was to the benefit of the breeding and racing interests, notably the great American Stallion Stake, one and three-quarter miles for three-year-olds, where breeders were compelled to subscribe the price of a season of sires before their colts or fillies were eligible for entry; and the Merchants, Dixiana, and Turf, also for all ages, became fixtures. The youngsters of two years were similarly treated and fully cared for, and their merits as clearly ascertained.

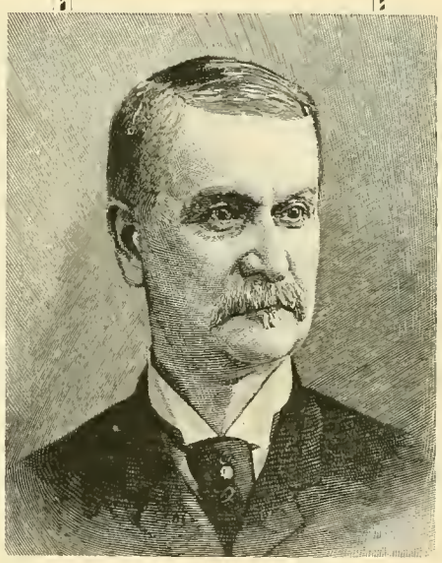
Colonel M. Lewis Clark has been the President of the Club since its organization, and, by his coolness, knowledge, and determination, has kept the course free from suspicion. He has made a noble fight for honest racing, and to this end has, for several years, advocated a desirable system of uniform judges, whose services should be compensated by the various courses. He has succeeded in getting the South and West to race under one set of rules and scale of weights, and has tried to have all America do the same thing. Colonel Clark was, also, largely instrumental in organizing the Board of Trade of this city, and was one of the gentlemen who established the Southern Exposition. Whenever enterprise and energy are needed he is always to the front.

The German Security Bank, and Insurance Company.

THE GERMAN SECURITY BANK is an altogether unique institution in that it was established to meet a particular want in the commerce of Louisville and, meeting it, has proved to its stockholders one of the best investments among the banking institutions of the country. This want was the need of an up-town bank, in a section of the city where there is a large German population, collectively doing a very important part of the trade of Louisville, which would be greatly facilitated by means of a bank located in its midst. Mr. James S. Barret was shrewd enough to see this fact and to take advantage of it. Through his efforts the GERMAN SECURITY BANK was chartered by the Legislature of Kentucky in March, 1867, and began business in May of that year, its location then being in what had been a barber shop. The institution was soon moved, however, into the handsome building on Preston and Market streets, erected by its owner to serve the purposes of the bank which still occupies it.



JOHN H. DETCHEN.



JAMES S. BARRET

The capital stock was originally $100,000, but in March, 1869, was increased to $180,000. Its first dividend was declared in December, 1867, the year of its organization, and was four per cent. The dividends were then five per cent. semi-annually until the end of 1871. From 1872 till 1877, inclusive, they were six per cent. semi-annually. Commencing with 1878 and continuously since then the bank has declared semi-annual dividends of five per cent. Up to June, 1887, in the twenty years of the bank's existence, the dividends declared aggregate 211 per cent. The stock now sells readily at $175 per share of a par value of $100. The surplus is now $90,000 and the average deposits are $760,000.

A peculiarity about this bank is that it has never changed its officers and has now the same board of directors that it had when it began business twenty years ago. It has never been troubled by any of those dissensions among the directors which so often prove fatal to the interests of financial institutions, but all of its officers have worked together with most remarkable unanimity. Its officers and board of directors were recently re-elected and at the expiration of this current term will have served twenty-two years. The officers are John H. Detchen, President; James S. Barret, Cashier; W. F. Rubel, J. B. Stoll, Wm. Ehrman, and C. Tafel, Directors. This was the organization in 1867, except that ex-Mayor Philip Tompert was then a member of the board. The vacancy caused by his death is the only one that has occurred and was filled by Mr. Tafel. The clerical force of the institution is George Gutig, teller; Charles Gutig and George W. Detchen, book-keepers, and Hugo Tafel, discount clerk.

When the bank was organized it was common to do a banking and an insurance business on one capital, as did the GERMAN SECURITY BANK. But in 1872 the Legislature of Kentucky passed a law that did away with this, requiring insurance companies to be conducted on a separate capital and to be under the supervision of the Insurance Bureau of Kentucky. Consequently, the GERMAN SECURITY INSURANCE COMPANY was organized, with a capital of $100,000 and the same officers that controlled the GERMAN SECURITY BANK. The company conducts a very conservative business and is, perhaps, the only company in Louisville that does not take any risks outside of the corporate limits of the city. It is the aim of the officers to personally examine all risks taken and to know the owners of the property insured. Consequently, since 1872 the company has only paid in fire losses $52,000 and has a surplus of $52,145, having in the meantime declared dividends to the extent of $56,500.

Mr. John H. Detchen, the President of the bank, came to this country a poor boy, from Germany. In the days of the prosperity of Ohio river navigation, he kept a small store and hotel on the levee in this city. Gradually he established a large business with the steamboats and afterward became an owner of steamboats. Finally he opened a grocery store on Preston and Market streets, which store he still conducts.

Mr. James S. Barret, may be said to have created the GERMAN SECURITY BANK. He was born in Munfordville, Hart county, Ky., and came to Louisville when sixteen years old. He was first employed as a clerk in a queensware store and in 1855 became a partner in the queensware firm of Huber & Barret. In 1863 he became a member of the firm of S. Barker & Co., who owned the "New York Store," then the largest retail dry goods establishment in the city. Here Mr. Barret remained until he got the charter for the bank of which he has ever since been the cashier.

Astoria Veneer Mills and Lumber Company.

W. H. WILLIAMS.

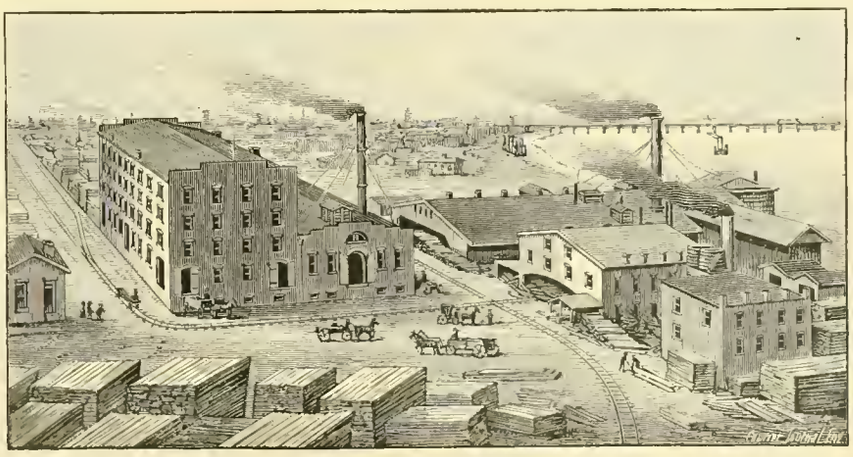
THIRTEEN years ago, in what was then the village of Astoria, now an incorporated suburb of the city of New York, Mr. W. H. Williams, a young man of great pluck and energy but somewhat limited capital, established the Astoria Veneer Mills. His process for making veneers was an entirely new one, and, like all new things, was hard to introduce. Gradually the business grew, however, until it finally became too great for the section in which it was located. Freights, too, were an item of importance, and it was no uncommon thing for the company to pay from $25,000 to $40,000 a year to railroads for hauling raw logs from the great timber sections of the South and West to their works. This was not true economy, particularly when it is known that at least one-third of the raw material was clear waste, and had to go in the furnace.

At last the business became so gigantic that a change in location was an absolute necessity. Louisville, situated in the very heart of one of the finest hard wood timber sections in the world, having railroad connection with every part of the United States, and a waterway reaching from the poplar forests of the Alleghenies to the black walnuts of Indian Territory; from the singing pines of the North to white oaks of the South; beside other natural advantages which fitted her for the peculiar business contemplated, was selected as the new site.

A stock company was organized, with $300,000 capital. Mr. R. H. Prichard, of Catlettsburg, Ky., a gentleman whose knowledge of the hard woods of the South and West made him especially adapted for the position, was elected President; Mr. C. H. Hampton, of Catlettsburg, Ky., was made Secretary and Treasurer, and Mr. W. H. Williams, the inventor of the process of veneering by machinery, was selected as Manager. Twenty-two acres of land on the river bank in the north-eastern section of the city were purchased, and on the 18th of January, 1887, work on the largest veneering mills in the world was commenced. The saw mills of Hall & Eddy and Joseph Hall were bought, and other mills were at once erected. The work on the factory was pushed rapidly, and now an immense five story brick building, fitted with every modern convenience in the way of veneering machinery, requiring 250 hands to operate it, and capable of sawing and completing 150,000 feet of veneer daily, is in operation. Agents are employed in every State in the Union, who buy and ship fine logs of every description direct to the mills. Mahogany is sent direct from Mexico and South America, while rosewood, tulip, satin, amboyne, and other rare woods come from other European countries. It is no uncommon thing for the mills to have $400,000 worth of fine logs on hand at once, while their orders for veneer from great piano, furniture, and sewing machine companies of the East and Europe extend months ahead. Rafts of logs reach for miles up the river, while the yards are stacked with lumber ready sawed awaiting shipment.

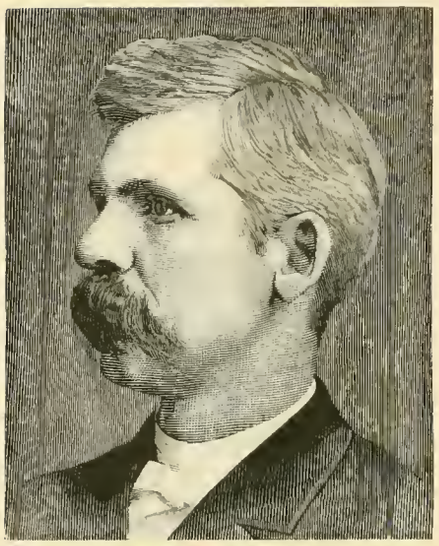
But as the name indicates, the ASTORIA VENEER MILLS AND LUMBER COMPANY will not devote all their time and attention to veneers. Lumber of every description for every purpose will be sawed and sold to builders and manufacturers in all sections of the United States. The main offices and manufactory of the company are located at 1000 FULTON STREET, LOUISVILLE, KY., while the warerooms, which, like the mills, are the largest in the world devoted to this specialty, are at No. 120 EAST THIRTEENTH STREET, NEW YORK CITY.

For the benefit of the uninitiated, a short description of the uses of veneer may not be out of place here. Years ago, before the invention of this process, pianos, furniture, sewing machines, etc., were made of solid wood, with a surface polished. This was necessarily expensive, particularly in the case of rosewood or mahogany pianos. The veneer was then introduced, and it worked a revolution. It consists of a thin strip of mahogany or other hard wood placed over a foundation of oak or something of the kind, thus presenting the same appearance as a solid wood, yet being much cheaper. At first the manufacture of veneers was expensive, but, by the use of machinery invented and patented by Mr. Williams, of this company, the cost has been reduced to a minimum.



VIEW OF THE MILLS.

The Kentucky and Indiana Bridge.



BENNETT H. YOUNG.

IN a foregoing part of this work is a good picture of the great cantilever bridge that spans the Ohio river between Louisville and New Albany, Indiana, called the KENTUCKY AND INDIANA BRIDGE. The building of this bridge was, in many respects, the most important achievement in the development of industrial Louisville within the last ten years. The bridge itself is a remarkable structure, having the longest cantilever span that has ever been built. The picture above referred to is an excellent one, showing both the bridge and its approaches from the Kentucky side of the river. A few years since, Colonel Bennett H. Young, than whom no man has done more to advance the material interests of Louisville, proposed to build a railroad bridge from this city to New Albany. What Colonel Young proposes is as good as done. Work on the bridge was begun and pushed rapidly to completion, so that in June, 1886, the bridge was opened to the public, the foot, passenger, and carriage ways being then completed. On October 16th, of the same year, the first passenger train was sent across, with appropriate ceremonies. The event was hailed with delight by the people of both cities, especially by those of New Albany, who were badly in need of a readier access to Louisville than had before been afforded them.

The length of the bridge is 2,453 feet; of the two cantilever spans, 483 feet each. The five spans forming the cantilever system extend from pier four to pier nine, a distance of 1,843 feet, making the longest cantilever system ever constructed. The draw span is 370 feet in length and can be opened or closed in three minutes. The superstructure is of steel. The cost of the bridge and the terminal together was about $1,800,000. The capital stock of the company is $1,700,000. The first mortgage bonds on the bridge are $1,000,000; on the terminal they are $40,000. A short time since the stock sold at 67, on the mere prospect that the Ohio & Mississippi Railroad would use the bridge. This prospect is shortly to be realized, as the road is building a line into New Albany from Watson, a station a few miles out, which line is about completed.

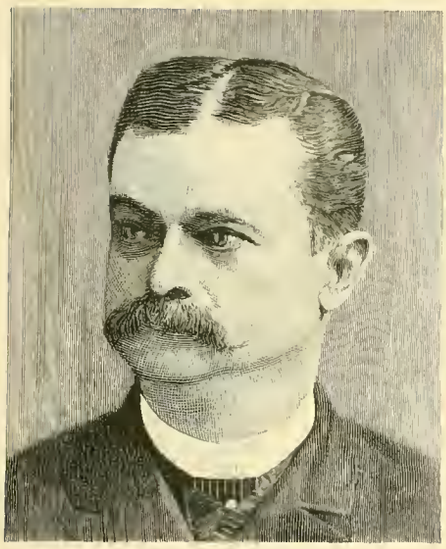
The men most active in organizing the company and building the bridge were Colonel Young, W. S. Culbertson, of New Albany, and John MacLeod, the Chief Engineer in charge of the work, the Union Bridge Company being the builders. The company is officered as follows: Bennett H. Young, President; W. S. Culbertson, First Vice-President; J. S. Winstandly, Second Vice-President and Treasurer; W. T. Grant, Vice-President and General Manager; A. J. Porter, Superintendent; John MacLeod, Chief Engineer; W. W. Hill, Secretary; A. H. Ford, Auditor; and J. K. Zollinger, Resident Engineer.

On the Indiana side of the river the bridge connects directly with the Ohio & Mississippi and the Louisville, New Albany & Chicago roads, and indirectly with the Jeffersonville, Madison & Indianapolis road and the St. Louis Air Line. On the Kentucky side it connects directly with the Louisville & Nashville and the Chesapeake, Ohio & South-western at Magnolia avenue; at Fourteenth street and Portland avenue, with the Jeffersonville, Madison & Indianapolis, Ohio & Mississippi, and Louisville, New Albany & Chicago roads; at Thirteenth and High streets, with the Chesapeake & Ohio Short Route. The latter is an elevated road that runs for some distance along the river bank and is used for transferring passenger and freight trains from one depot to another. This forms a part of a belt line, most of which was built by the KENTUCKY AND INDIANA BRIDGE COMPANY, and which, together with the bridge, is now called the "Daisy Route." Over this run thirty-six passenger trains a day between New Albany and Louisville. In the latter city trains also run from First street to Parkland, a suburb of Louisville. The fare between the two cities is only ten cents. A uniform rate of five cents is charged to all points on the Kentucky side. A very important connection with the bridge will be the Louisville Southern railroad, now approaching completion, which will connect with the belt line at Twelfth street and Magnolia avenue and which has entered into a contract to use that line as its passenger entrance into the city, making its depot in the Union depot, at Seventh street and the river.

W. T. GRANT.

The bridge has been a success ever since it was built. Its earnings in the first week amounted to $1,499.65, and the showing since then has been equally gratifying. The "Daisy" trains now do the bulk of the passenger business between this city and New Albany, and the bridge is a fashionable and beautiful drive. The bridge trains are largely used by those living in the western part of the city, who can come from Thirty-second street to Fourth street in ten minutes, whereas a street car takes half an hour. The bridge and belt line will be of manifest advantage in building up the western part of the city with factories.

The Louisville Southern Railroad.



MAJOR J. W. STINE.

PROBABLY no enterprise identified with the interests of the city of Louisville of late years has attracted so widespread attention and interest as the LOUISVILLE SOUTHERN RAILROAD COMPANY; its possibilities and benefits were noticed as long as twenty years ago, and at different times repeated efforts had been made to successfully carry out the project, up to the time that Colonel Bennett H. Young and his associates took hold of it in 1881. The importance of the enterprise was recognized by its enemies as well as its friends, and a most bitter warfare for and against its completion was carried on between the years 1880–86. Colonel Young was determined, however, and gathered about him some of the most successful business men of Louisville, who were resolute in their purpose to build the line and give Louisville the benefit of an additional outlet South. It runs from Louisville to Danville, Kentucky, a distance of eighty-seven miles, and will, immediately after construction, bring the Erlanger system, with its 1,200 miles of railways, to Louisville, and open to the city a vast territory for trade.

This road is being constructed first-class in every respect. It will be the best-built and best-equipped road in the South, and will, as soon as operated, become a part of a great trunk line. It will penetrate the best counties of Kentucky—Jefferson, Shelby, Anderson, Mercer, and Boyle—where a junction will be formed with the Cincinnati Southern with which a favorable traffic arrangement has been made, thereby giving Louisville every advantage, as far as the Southern markets are concerned, for which Cincinnati expended the enormous sum of $20,000,000. Its Directory are among our strongest and most sagacious citizens, and are as follows: J. W. Stine, President; Theo. Harris, Wm. Cornwall, Jr., Thomas H. Sherley, V. D. Price, R. S. Veech, W. H. McBrayer, St. John Boyle, Bennett H. Young, Charles Goldsmith, Thomas W. Bullitt, and W. B. Hoke.

The enormous possibilities of this line are attracting attention on every side. The present relations of the Louisville & Nashville with the lines north of the Ohio river render another Southern outlet a commercial necessity. The Louisville, New Albany & Chicago Railway, with its ever-increasing traffic, the Ohio & Mississippi Railway, and the Louisville, Evansville & St. Louis Railroad all need a Southern adjunct, and the LOUISVILLE SOUTHERN presents the only chance for this. Much freight north of the Ohio river is carried via Cincinnati on account of the lack of competitive facilities at Louisville, and this new line, via the LOUISVILLE SOUTHERN, not only offers this competitive factor but gives a shorter and more direct connection to many parts of the South. Chattanooga will be an hour and a half closer to Louisville, and this will apply to all points in Georgia and the Carolinas. It will give the Louisville merchants additional territory and facilities and open to the rapidly-expanding manufactures of Kentucky's metropolis new fields for the sale of their products. That such an important link should so long remain unfinished is astonishing to those who are acquainted with Louisville's courage and enterprise, and that her citizens are at last able and willing to undertake this work is renewed evidence of their readiness to meet every emergency in her commercial history.

One of the most important aspects of this new railroad is the return of the Bluegrass region to intimate connections with Louisville. The construction of the Cincinnati Southern, which offered such remarkable facilities to Central Kentucky for trade and travel with Cincinnati, has carried no inconsiderable portion of that section to that point. The LOUISVILLE SOUTHERN will change this condition of affairs and bring to Kentucky's chief city—where it naturally belongs—a people who will delight to again have made such commercial, social, and financial relations to Louisville.

The men who have undertaken this enterprise are public benefactors, and, with the construction of this line, they will have achieved for Louisville a prominence and importance in railway matters which lend additional force to her claims as the center and metropolis of the Ohio and Mississippi river valleys.

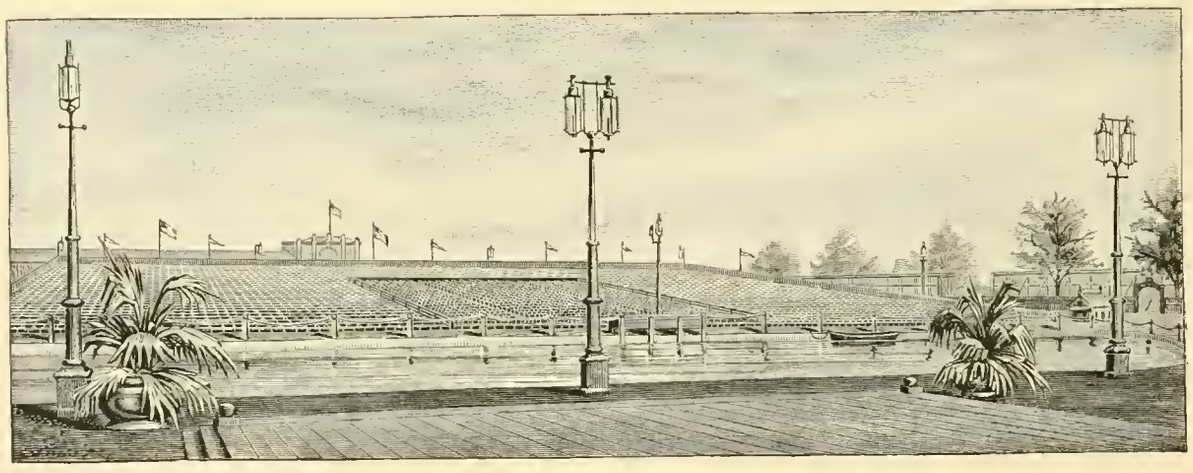
The LOUISVILLE SOUTHERN RAILROAD will be ready for business about March 1st next; it is a first-class road in every respect, built upon the Pennsylvania Company's standard, and designed for speedy and safe travel.

The President, Major J. W. Stine, has long been a leading spirit in all that has been undertaken for the development of Louisville. He connected himself with the enterprise in its darkest days, and to his courage and genius a very large share of its present success and prosperity is attributable. He was born in Baltimore, Maryland, but removed to Newport, Kentucky, in 1859. He entered the federal service with the Cincinnati Zouaves, of which he was an officer. He left the army in 1863, and, after a brief mercantile venture in the interior of Kentucky, came to Louisville in 1864 and became a member of the firm of W. B. Leonard & Co., then in the grain business. A short time afterward, he purchased a share in the Hope Woolen Mills, since which time he has devoted himself unremittingly to the "Kentucky jeans manufacture." He now partly controls and manages the Louisville (Kentucky) Woolen Mills, one of the largest manufactories of Louisville, and the most extensive establishment of its kind in the world. Major Stine has been most fortunate in all his enterprises. He is public spirited to a high degree, and has been honored by election to many offices of trust. In the Expositions, new and old, he was an active spirit and officer. For five years he was a member of the Board of Directors of the Board of Trade, and for two years a member of the council from the Second Ward. He was elected to the council in the memorable Baxter-Jacob contest. The ward voted for Baxter, but on account of Major Stine's great personal popularity, though being the Jacob candidate, he carried the ward by a handsome majority.

The Fireworks Amphitheater.

JAMES B CAMP

THE FIREWORKS AMPHITHEATER is situated on Fourth avenue, occupying a full city square (bounded on the east by Fourth avenue, on the west by Fifth avenue, on the north by Hill street, and on the south by "A" street), and is the most popular place of open air amusement in the city of Louisville. Mr. Daniel Quilp is the sole proprietor and manager, and Mr. James B. Camp is the business manager, whose handsome picture adorns this page. The enclosure embraces four acres of ground. The grand stand seats 10,000 people, and is so constructed that any entertainment that may be produced at the AMPHITHEATER can be perfectly seen from every seat. In front of the grand stand is a promenade forty feet wide, covered with a nice green carpet of grass, which is kept nicely mowed. Between the promenade and stage is a lake, in the shape of a half moon, 300 feet long and 75 feet broad in its widest part. The banks of the lake are walled up with stone, the bottom and sides are covered with cement, and it is deep enough to float boats of considerable size. The FIREWORKS AMPHITHEATER was constructed for the special purpose of producing the grand pyrotechnical spectacles of the great London pyrotechnist, Mr. James Pain, who is conceded to be the *fireworks king of the world*. The scenery used in each of these spectacles is painted by Mr. Pain's own scenic artist, Mr. Joseph Harker, together with the materials used in their construction, costing the enormous sum of £2,000, or $10,000 in United States money. The scenery requires a stage breadth of 400 feet and a stage depth of 250 feet. In the production of Pain's spectacle over 200 people or performers, all dressed in correct and appropriate costumes are required, all under the direction of Mr. Pain's own stage manager, Mr. John Raymond, for years connected with the Royal Alhambra Theater. The FIREWORKS AMPHITHEATER was opened August 28, 1886, with Pain's beautiful and romantic spectacle, "The Last Days of Pompeii," which was produced every Thursday and Saturday evenings until October 23d, the close of the season. The scenery was beautiful, correctly representing the beauties of the Italian architecture of the marble palaces of that ancient Italian city, and a vivid and thrilling representation of the eruption of Vesuvius. While this book is going to press, the season of 1887 at the FIREWORKS AMPHITHEATER has already begun with the production of Pain's grand Russian military spectacle, "The Burning of Moscow," beginning Thursday, August 18th, and will be produced every Thursday and Saturday evenings until October 22, 1887, the close of the season, and no readers of this book should fail to see this wonderful spectacle, Pain's greatest triumph. The spectacle gives a correct idea of the Russian architecture, and of the city of Moscow, the Kremlin, the mosques with their



FIREWORKS AMPHITHEATER SEATS.

golden domes, its cathedrals and magnificent palaces. It illustrates also one of the grandest events of history—the end of Napoleon's glory and the beginning of his downfall. Next year for the season of 1888, Pain's "Siege of Sebastopol" will be produced. It will be seen that all of Pain's spectacles represent some great event in history, thereby affording not only pleasure and instruction to the young, but also entertainment to the old. The spectator witnessing these spectacles at night, when the scenery is lighted up by a vast number of electric lights, and is reflected in the waters of the lake, feels as if he were transported by magic far away in some distant land, forgetting and far removed from the cares of this busy world. Popular prices of admission are charged by the management of the FIREWORKS AMPHITHEATER to witness these wonderful spectacles—twenty-five cents for adults, and ten cents for children.

George H. Dietz & Co.

GEORGE H. DIETZ.

LOUISVILLE leads the South in printing, binding, and the manufacture of blank-books. One of the oldest Main street houses in this line is that of GEORGE H. DIETZ & CO., of No. 514 West Main street. The business was established in 1868, and has steadily grown in proportions till it stands in the first rank.

Mr. Dietz, of the firm, is a practical, careful, methodical German. His training in his business fits him eminently to maintain the success his firm has achieved. He has a wide acquaintance throughout the business world, of which Louisville is the center, and is personally popular with solid business men.

The firm does a general wholesale business in printing, binding, blank-books, and stationery, plain and fancy. Their printing includes job and book printing of all ordinary forms. They are prepared to turn out job work with more than ordinary dispatch, and the books printed by them have been highly commended for the neatness and accuracy of the work. They make a specialty of blank and memorandum books of their own manufacture. They have had long experience in the manufacture of such goods, having commenced almost at the founding of the business. To all the details strict personal attention is given, and this insures the best quality of work. At the same time the extent of their trade in this line enables them to offer the lowest current prices.

In stationery the whole range of quality and prices is covered, including a full line of *papeterie* and other fancy articles. Especially as the holiday season approaches, a full stock of albums, card-cases, rulers, paper-knives, etc., suitable for presents, is kept on hand. At all times a complete and carefully-selected line of pens, ink, mucilage, pen-holders, ink-stands, paper-weights, pencils, crayon, blotters, copy-press stands, copying-presses, copying-brushes, water-cups, oil-boards, thermometers, pen-trays, sponge-cups, check-cancelers, paper-files, paper-clips, manifold paper, cap-tablets, newspaper-files, bill-holders, paper-cutters, pen-cleaners, cash-boxes, bond-boxes, office-boxes, postal-card cases, stationery-cases, envelope-cases, post-office boxes, bill-head cases, calendars, card-racks, match-safes, twine-boxes, steel erasers, paper-fasteners, rubber bands and rings, bankers' shears, ribbons for bank stamps, tape, counting-house slates, book-slates, corkscrews, thumb-tacks, letter-balances, office-baskets, shipping-tags of all styles, bottle-labels, tape-measures, twines, sealing-wax, etc. Their stock of inks includes, of course, all standard plain black and colored inks, and of pens the best kinds of steel and gold. For those who prefer the old-fashioned quill-pen, they sell a machine with which such pens can be made very rapidly. The firm does not deal in miscellaneous books. Much of their fine writing paper and other fancy goods is imported direct from England, France, and Germany.

The business house of GEORGE H. DIETZ & CO., No. 514 West Main street, is a handsome building, 22 feet front by 190 feet deep, four stories and a basement. In the basement are kept heavy goods and the stock of papers for manufacturing. On the first floor is the stock in all its lines for the inspection of customers. Also conveniently at the rear, the office. On the second floor is the printing office, one of the most complete in all its appointments in the State. In every branch the latest improved machinery is employed, and the most skilled men in their several lines are selected to do the book and job printing turned out of this office. On the third floor is the bindery, and here, also, with the best machinery known to the business, work is most carefully and substantially done. On the fourth floor is stored stock, raw material, and surplus of any kind. The firm, coming on Main street in 1871, has been at this same place for the past eight years, and its stand has become familiar to all dealers in blank-books, stationery, etc., throughout Louisville's legitimate trade territory. They have facilities equal to any, and make a specialty of filling orders promptly. In consequence, customers once secured seldom leave them. They send goods throughout the South—Mississippi, Louisiana, Alabama, Georgia, Tennessee, Arkansas, and to a few chosen points in Texas. They have also a good trade in Indiana and Illinois, while nearly every town in Kentucky of any size knows their work for its excellence.

A specialty of this firm is Arnold's Cipher for secret correspondence. It is used throughout this country, in Italy, Spain, France, and Europe generally, in Africa, India, Australia, and, in fact, throughout the civilized world, wherever telegraphic correspondence is carried on. So many railroad men can read telegraph messages from the instrument by the sound merely, it is almost impossible to carry on a correspondence secretly by the use of ordinary language. Accordingly many efforts have been made to secure a satisfactory cipher. In Arnold's it is believed the highest degree of success has been attained. It gives strict accuracy and complete secrecy. At the same time it is much more economical than ordinary language. Its advantages over other methods are that the phrases used have been selected from actual correspondence of men of large experience, the cipher words have been chosen with great care by a practical telegraph operator of fifteen years' service, and a system of keys is arranged so that the key can be changed at pleasure. The book is printed in convenient pocket size.

Correspondence is invited by the firm, and prompt attention given it. Anything in their line not named in their catalogue will be furnished at the lowest current rates. They urge upon customers the importance of explicit directions in sending orders, and ask that all orders state in what manner shipments shall be made, whether by rail or river, freight or express. The greatest care is exercised to fill orders accurately and to ship promptly.

The Louisville Banking Company.

THEODORE HARRIS.

THE LOUISVILLE BANKING COMPANY is one of the foremost financial institutions of the city of Louisville. Its stock sells for more than that of any other bank in the city, and its deposits are surprisingly large. It was incorporated under the laws of Kentucky in 1867, Mr. Theodore Harris being then, as now, President. The capital stock was then $100,000. The company did business for many years on Main street, near Fourth, and moved into the building now occupied by it in 1885, the old quarters having become too circumscribed to afford facilities for the growing business, which constantly demanded a larger clerical force. It is now on the first floor of the handsome Bull Block, a building erected especially to suit the conveniences of the bank, which has a thirty years' lease on the premises. Thus, the LOUISVILLE BANKING COMPANY obtained all the benefits that it could have derived from putting up its own building, with none of the attendant inconveniences. The vault is one of the finest in the West. It extends to the solid rock below the sub-cellar; the lower story of the vault, underneath the bank, being occupied by the Louisville Trust Company, and is built up to the roof of the house. It is absolutely fire and burglar proof. The banking rooms contain all the latest improvements, and are beautifully furnished.

JOHN H. LEATHERS.

The officers of the institution are Theodore Harris, President; J. E. Sutcliffe, Vice-President; John H. Leathers, Cashier. Mr. Harris has lived in Louisville for the greater part of his life, and has been connected with various business enterprises; but for the last twenty years the bank has absorbed his entire attention. He was the most active man in the organization, and its great success is chiefly due to his energy and skill. He is widely-known as one of the most able financiers in the South or West. Dr. Sutcliffe, the Vice-President, is a member of the successful wholesale firm of Sutcliffe & Owen, dealers in boots and shoes. He is known for his business sagacity and prudent, conservative ideas, and is eminently a safe man to be concerned in the management of a bank. Major J. H. Leathers, the Cashier, was elected to his office April 1, 1885. A Virginian by birth, he came to Louisville as a boy and has lived here ever since, except during the four years of the war, when he was with Stonewall Jackson, having entered the Confederacy from Virginia. He is a man of middle age, but he has all the snap and dash of Young America and has done not a little to increase the bank's business through his large acquaintance and strong personal following throughout the State. He is Grand Treasurer of the Grand Lodge of Kentucky Free and Accepted Masons, and also Treasurer of the Grand Chapter of Kentucky. Mr. W. S. Jones, the Teller, has recently been elected Assistant Cashier.

THE BULL BLOCK.

The Directors of the bank are representative men. In addition to Mr. Harris and Dr. Sutcliffe, they are Jas. C. Gilbert, of the Bradley & Gilbert Company, booksellers and stationers; F. A. Gerst, of the F. A. Gerst Company, wholesale notions; Jas. P. Boyce, D. D., President Southern Baptist Theological Seminary; R. L. White, of White, Green & Huffaker, wholesale boots and shoes; Alvin Wood, of Alvin Wood & Co., wholesale whiskies; R. L. Whitney, Secretary and Treasurer Falls City Jeans and Woolen Company; Vernon D. Price, of Price & Lucas, manufacturers of cider and vinegar.

The capital stock of the bank has been increased from time to time to meet the wants of its growing business. Its present capital is $350,000, and its surplus, $475,000. In July, 1887, $50,000 additional stock was issued and sold at $250 a share, the par value of a share being $100. The sale realized $125,000, of which $50,000 have been placed to capital stock, and the remaining $75,000 to surplus. Thus the total capital and surplus is $825,000. The bank pays a semi-annual dividend of eight per cent. and its stock commands, at this time, a higher price than is reached by any other bank stock in Kentucky—$250 per share, the par value being $100. The phenomenal increase of business in this bank is shown by the deposits for the last three years: July 1, 1885, $616,000; July 1, 1886, $1,186,000; July 1, 1887, $1,605,000.

The Masonic Savings Bank.

JACOB KRIEGER, SR.

THE oldest savings institution in Louisville is the MASONIC SAVINGS BANK, which was chartered in 1864, the charter being a part of that under which the Masonic Temple Company was organized. The scheme then was to make the bank a savings institution for the Masonic fraternity, and some of the officers of the Grand Lodge of the State were made officers of the bank, *ex officio*. But this scheme was never developed, and the bank was not organized until October, 1865, when it operated under a separate charter. At first, however, it was distinctly a Masonic institution, and its stockholders were all Masons. This did not prove remunerative, the balance being generally on the wrong side. A change of policy was resolved upon, and a cashier was elected, who reorganized the institution and succeeded, even beyond the expectations of those interested, in making the bank stock a paying investment.

The first officers of the bank were: A. G. Hodges, President; William Croney, Henry Wehmhoff, Fred Webber, and F. W. Merz, Directors. Afterward, Mr. Wehmhoff was elected president. On June 16, 1868, the bank was reorganized, Mr. Jacob Krieger, Sr., being made cashier. The following is a statement of the bank on that day:

ASSETS: Office furniture and improvements on banking house $7,314.54; profit and loss, $9,933.99; expense account, $531.62; notes and bills discounted, $56, 453.37; cash and stamps, $9,208.07; due by banks, $6,189.00; total, $89,630.59.

LIABILITIES: Capital, $56,352.50; discount and interest, $775.28; individual deposits, $28,256.32; savings deposits, $4,125.49; dividend, $121.00; total, $89,630.59.

The last statement, made June 30, 1887, shows what the bank has accomplished since Mr. Krieger went into it:

RESOURCES: Office furniture, $1,000; bills discounted, $1,045,500.80; real estate, $40,917.50; bonds and stock, $115,348.31; call loans, $77,885.45; cash, $69,976.64; due by banks, $63,651.50; suspended debt, $14,615.21; total, $1,428,895.41.

LIABILITIES: Capital stock, $250,000; deposits, $1,034,027.84; due to banks, $42,867.35; surplus, $75,000; undivided profits, $1,696.01; fund to pay losses, $14,615,21; dividend No. 38, $10,000; dividends unclaimed, $689; total, $1,428,895.41.

The MASONIC SAVINGS BANK has ever since the reorganization paid dividends. It now pays four per cent. semi-annually. Its capital stock is $250,000; its surplus is $75,000. The deposits average about $1,000,000. The bank pays four per cent. on time deposits, and three per cent. on deposits of a full month. The deposits of children and women are free from the control of husbands, fathers, and guardians, and the greater part of the bank's business is in the savings department, but it also does a large commercial business. Its officers now are: Jacob Krieger, Sr., President; Henry Egelhoff, Cashier; Edwin G. Hall, Henry Peter, Nicholas Miller, W. H. McKnight, and Jacob Krieger, Sr., Directors.

Mr. Krieger, the President, is eminently a self-made man. He was born in Rhenish Bavaria, in 1826. While still little more than a lad he was imbued with the revolutionary ideas then agitating Germany and France, and in the revolution of 1848–49, took such a part as made his further residence at home exceedingly uncomfortable, being liable to police surveillance and frequent annoying arrests. Consequently he came to America. After a few months spent in New York, he came out to Zanesville, Ohio, where he got employment at $6 a month and board. He was there but a few months, when he came to Louisville, where he obtained a place at $9 a month. Then he went into a dry goods store on a salary of $15 a month, which was shortly raised to $25. A man who offered to put up the money induced Mr. Krieger to go into business on his own account. This gentleman, however, did not put up the capital, and the firm failed. The creditors insisted on Mr. Krieger taking entire charge of the business, though they knew he had no money. Mr. Krieger compromised with his creditors, but finally paid $2 for every $1 he owed. He afterwards took a clerkship in the dry goods house of Anderson, McLane & Co., and then with Leight & Barret, which place he left to keep books three years for Thomas & Anderson. The war was coming on, and the business of this house began to grow slack. Mr. Krieger foresaw the result of the war, and resigned a position worth $1,100, to take one in the Merchants' Bank at $25 a month. He remained here four years, making his way rapidly. At the end of that time the Western Bank was organized, and he was elected its first cashier. It was then called the Western Insurance Company. In 1868, as above narrated, Mr. Krieger reorganized the MASONIC SAVINGS BANK, of which he was elected president in 1871.

Mr. Krieger was mainly instrumental in effecting a *coup* which was one of the most successful pieces of financeering ever known in this city. The L., C. & L. R. R.—the Cincinnati Short Line—failed in 1874, and the holders of second mortgage bonds, of whom Krieger was one, were left with little chance of being able to recover their money; he and others formed a pool of second mortgage bondholders, and on October 1, 1877, the managers of the pool bought the road, taking stock in payment for their bonds, and issuing common stock for all debts that came in. The bondholders elected Directors and soon made Mr. Krieger Vice-President of the new company. He was then elected President, and in less than a year effected a sale of the road to the Louisville & Nashville railroad. All those who had gone into the pool got 1.22\frac{5}{10}$ for their stock, and, instead of losing money, made some.

De Pauw's American Plate Glass Works.

W. C. De Pauw

ONE of the largest manufacturing enterprises in the Falls Cities is De Pauw's American Plate Glass Works, of New Albany, Indiana, the greatest manufactory in that State and the largest combined manufactory of plate and window glass and glass jars in this country, possibly in the world. Few of the mechanical industries have presented the difficulties to the manufacturer that the making of plate glass has. The experiments in this line were for a long time disastrous in this country. After a number of failures had been made and many thousands of dollars expended, some Boston and New York capitalists undertook to make plate glass at Lennox, Massachussetts. They invested considerably more than $1,000,000 and finally sold their works for $75,000, after having made plate glass for several years at a great loss. Many other similar enterprises met the same fate, among them one in Louisville, which was finally bought by Mr. W. C. De Pauw, who was already interested in glass works in Indiana.

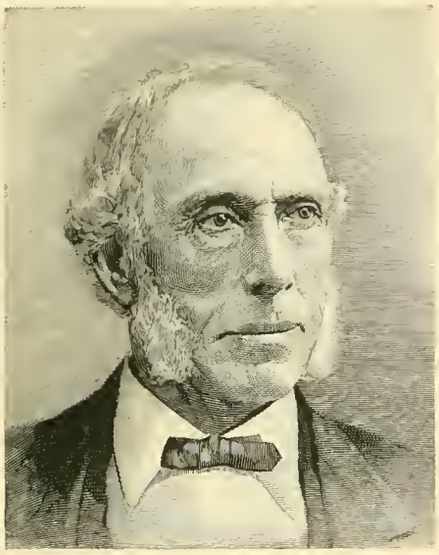
Some twenty years ago a citizen of New Albany, Indiana, decided to make plate glass. The enterprise was not prosperous and the owners could not pay for the requisite machinery, which had been ordered in England, when two New Albany gentlemen induced W. C. De Pauw to go into a company for the manufacture of plate glass. Mr. De Pauw loaned the company $200,000, besides taking an interest in it on his own account. The company lost money steadily in manufacturing, as well as in bad debts and in shrinkage. Then came a fire, and the original plant was abandoned. New ground was purchased and extensive new works were built; but there was a repetition of the old story, and the company had to go into bankruptcy. But Mr. De Pauw was not the man to be credited with a failure, and in 1872 he personally took charge of the works. He at once set about increasing his buildings, ovens, machinery, etc., four-fold. After he had made his contracts for all this he discovered that the business was still likely to be a money-losing venture. He was now involved to over half a million, however, and he went ahead, putting in more money in the hope of recovering what he had spent. Gradually the losses were cut down and the manufactory finally began to pay. In the few years last past it has proved a profitable investment.

The plant now represents an expenditure of $2,000,000. Nearly thirty acres of ground are covered with buildings and valuable machinery, or are occupied as yards. Railroad tracks connect the yards with several roads direct, and by them to all the roads. The capacity is 2,000,000 feet of plate glass, 150,000 boxes of window glass, and 30,000 gross of fruit jars per annum. The works employ from 1,000 to 1,500 men, seventy-five per cent. of the cost of plate glass being in wages. Of coal nearly 2,000,000 bushels are used annually; 3,000,000 to 4,000,000 feet of lumber, 50,000 tons of grinding sand, 12,000 tons of mixing sand, 4,000 tons of soda ash, and as much quick lime. The sand is procured in Indiana, lime in Indiana and Tennessee, soda ash in New York, emery in Turkey, beside arsenic, which they import, fire-brick and other materials amounting to $200,000 a year. At these works are made cylinders of pure white double-thick window glass eighty inches long and fifty-eight inches in circumference. Plates are here cast 135 x 215 inches and the works are about to make sheets of polished plate glass 150 x 220 inches in size. The New Albany works have a capacity of 132 pots; the Louisville works, of thirty-two pots, a total of 164 pots, when in full blast. In the same week the works have shipped goods to New York, San Francisco, St. Paul, and New Orleans, and the business is daily increasing. During the current year prices have been low, but otherwise the concern has been eminently successful and next year it is expected to do a business of over $2,000,000.

Every appliance that can facilitate the work in hand is here utilized. Surface and elevated roads run in and about the buildings. Steam elevators haul up coal, sand, lime, and other materials from the river. Water works on the premises supply all the water needed and electric light and gas plants furnish light at night; for the fires never go out; the furnaces never cool; the wheels never cease to turn, or the hands to labor in this great factory. The Louisville works are used merely to make rough plate glass, which is taken to New Albany to be ground and finished. The character of the glass compares favorably with any made in Europe, even of the finest and heaviest glass for large mirrors.

Mr. W. C. De Pauw, the real founder of this vast enterprise, came to New Albany from Salem, Indiana, in 1865, being already a millionaire. He was a man of great strength, physical and mental, and greatly increased his wealth, dying in May, 1887, worth several millions. He was a most public-spirited man and during his life did a vast work for the cause of education in Indiana, founding De Pauw College at New Albany and giving largely to Asbury—now De Pauw University at Greencastle. To these institutions he left large bequests, especially so to the institutions of the Methodist church. The glass works are now owned by N. T. De Pauw, the manager of the business; C. W. De Pauw, Miss Florence De Pauw, the children of their founder, and Mrs. W. C. De Pauw, his widow. It is expected that in January next the company will be incorporated. Mr. N. T. De Pauw is thoroughly familiar with all the details of the business, having had entire charge of it for six years. He is a young man possessing many of the qualities that made his father eminent. He is ably assisted by Mr. W. D. Keyes, Assistant Manager, who has been connected with the business from the beginning. Mr. George F. Penn, an old employe, is superintendent of the plate department, and Mr. L. L. Pierce, superintendent of the window glass department.

Dennis Long and Company.

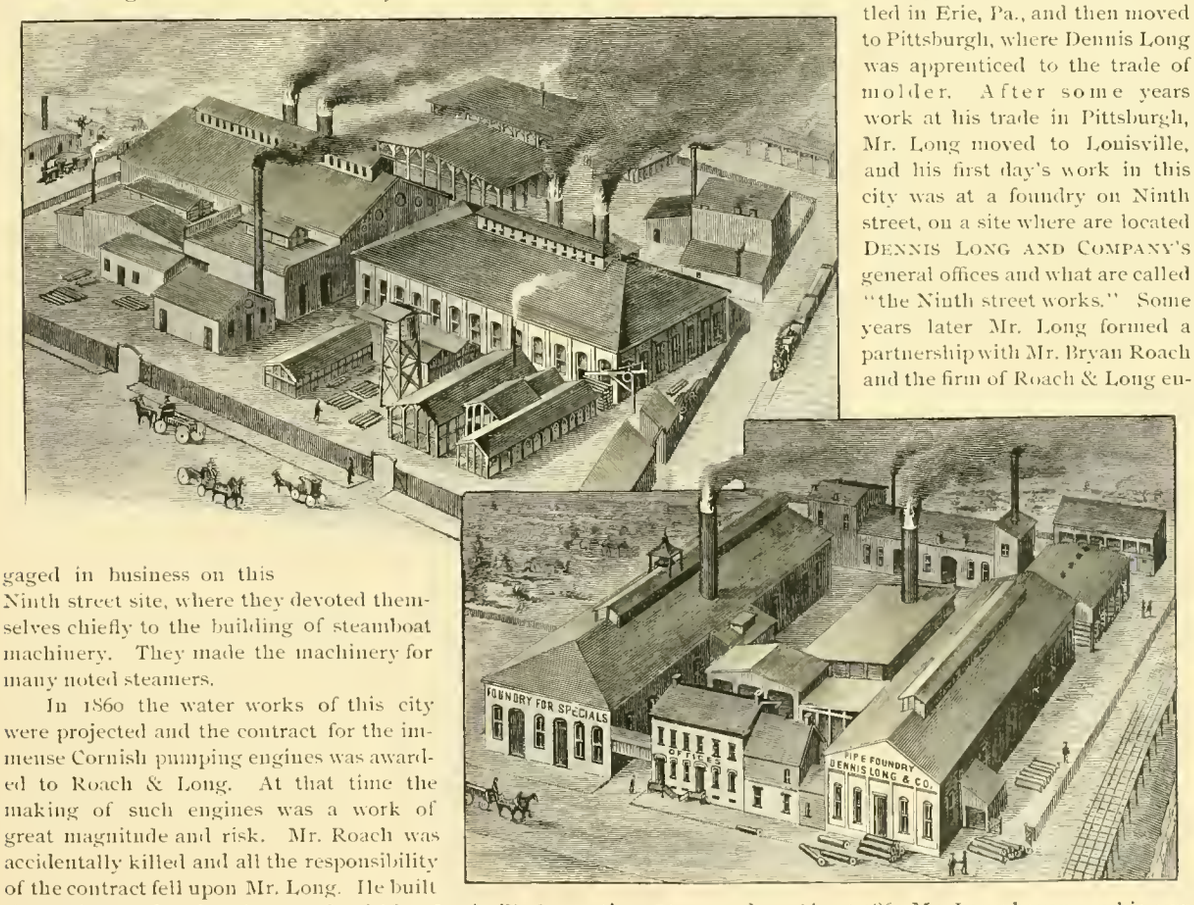


DENNIS LONG.

DENNIS LONG AND COMPANY is a corporation which manufactures cast iron pipe. The company was incorporated January 2, 1878, with the following officers: Dennis Long, President; Samuel A. Miller, Vice-President; Dennis M. Long, Superintendent; George J. Long, Secretary and Treasurer. The offices are still filled by these gentlemen. The business founded by Mr. Long had steadily increased until the formation of this company and has continued to increase, from time to time requiring extensive enlargements of the company's works. It has recently completed and is now operating a large pipe foundry near the intersection of Preston and Fulton streets, constituting a part of what are known as the "upper works."

Before making this last addition DENNIS LONG AND COMPANY was offered very considerable inducements—donations of land and favorable freight rates—if it would locate the new pipe foundry in some one of the principal manufacturing cities of the South, among them notably Chattanooga and Birmingham; but the advantages offered by Louisville were so manifest that the company decided to build here. The several foundries owned by the company now have a capacity of 250 tons a day. The works are devoted exclusively to the manufacture of cast iron pipe and special castings necessary therefor. The corporation numbers on its pay-roll over five hundred employes and sends its product as far west as the Pacific coast, all through the North-west, throughout the South and South-west, and east into Pennsylvania. This business has been slowly built up, since 1863, when Mr. Long ceased making steamboat machinery and began making cast iron pipe exclusively.

Mr. Long was born in Londonderry, Ireland, in 1816, and came to this country with his parents in 1820. They settled in Erie, Pa., and then moved to Pittsburgh, where Dennis Long was apprenticed to the trade of molder. After some years work at his trade in Pittsburgh, Mr. Long moved to Louisville, and his first day's work in this city was at a foundry on Ninth street, on a site where are located DENNIS LONG AND COMPANY'S general offices and what are called "the Ninth street works." Some years later Mr. Long formed a partnership with Mr. Bryan Roach and the firm of Roach & Long engaged in business on this Ninth street site, where they devoted themselves chiefly to the building of steamboat machinery. They made the machinery for many noted steamers.



In 1860 the water works of this city were projected and the contract for the immense Cornish pumping engines was awarded to Roach & Long. At that time the making of such engines was a work of great magnitude and risk. Mr. Roach was accidentally killed and all the responsibility of the contract fell upon Mr. Long. He built the engines and to-day they are furnishing Louisville her entire water supply. About 1863 Mr. Long began, on his own account, the manufacture of cast iron pipe. His foundry then had a capacity of only ten or fifteen tons a day.

Louisville Military Academy.

COLONEL ROBERT D. ALLEN.

THE great need of a Military Academy adjacent to the city of Louisville is now supplied in the fullest measure by the enterprise of one of Kentucky's best military teachers, Colonel Robert D. Allen, A. M., M. D., who was, for thirteen consecutive years, Superintendent of the Kentucky Military Institute at Frankfort. His continued success in that school, together with an experience of nearly thirty-five years as an educator of boys, is a sufficient guarantee of the success of the new enterprise, where the discipline and management of the pupils are as near as possible that exercised by a wise father in the control of his boys at home. Colonel Allen's long experience in the teaching and management of boys has convinced him that "character, which is the main essential to a proper education, is formed at an early age."

Character like the intellect can only be developed in *the doing*—head and hand and heart must be educated together—hence, this Academy is a manual training school in the better sense of the term. The working of hand and heart with the intellect must be begun at an early age to secure successful development. Boys entering under seventeen years of age may remain until they have completed the extensive academic course of the school which ends with the junior class of the best colleges.

The LOUISVILLE MILITARY ACADEMY is situated five miles from the court house in Louisville, on the Bardstown turnpike, and two miles from the nearest street car line to the city. The magnificent buildings, which have just been completed, are admirably adapted to the purpose for which they have recently been thoroughly furnished, equal to the best city hotels, and make a charming home for the pupils with the principal and his estimable family. These buildings would afford ample accommodations for a "family" of seventy persons, but to secure the better control and the more thorough instruction of the boys, the number of pupils is limited to thirty-five. The study halls, class-rooms, family-rooms, play-rooms and all are furnished with gas, water, fire and apparatuses essential to the development of the bodies and minds of the boys, while the comforts and conveniences are all that wealth and station in life could desire. The main brick building is 93 x 103 feet, three stories, with high ceilings, thoroughly lighted and ventilated. Another two story building, 60 x 25 feet, is used for play and working rooms for the pupils. The grounds embracing thirty acres are peculiarly suited to out-door sports and military exercises. A more healthful location could not have been found in Kentucky. The cost of these buildings was more than $60,000, and, thus equipped, the school has been opened under the most favorable circumstances. The Course of Study, methods of instruction and government are nearly those suggested by Johonnot in his celebrated "Principles and Practice of Teaching" for his ideal school, each pupil receiving such treatment and training, both of hand and head, as his nature requires. In this particular, Colonel Allen has no superior, and he has frequently developed "capacity" in cases that were considered almost hopeless. Professor Oliver, the Associate-Principal, is a teacher of experience and a graduate of Cook County Normal, of Illinois. Great advantage to the pupils has resulted from the fact that the Principal is a graduate of medicine, though in all cases of illness regular practitioners of medicine have charge of the patients.

LOUISVILLE MILITARY ACADEMY.

Advantages: First, absolute exemption from the temptations of a city life; second, the good influences of family associations; third, the good influence of a military organization in dress, time saved, physical development, habits of promptness, neatness, persistence, self-dependence, obedience, order, regularity and principles of honor, truthfulness and devotion to duty; fourth, expenses under control of the Principal; fifth, peculiar adaptation of government and instruction to the individual cadet; sixth, teachers associate with the pupils day and night; seventh, adaptation of the course of study to the needs of each pupil; eighth, manual training; ninth, limited in number and age to receive personal attention.

Colonel Allen's address is drawer 28, Louisville, Kentucky.

M. Muldoon & Co.

M. Muldoon.

THE firm of M. Muldoon & Co., designers and importers of monuments and cemetery art work, was established in Louisville in July, 1857, by Mr. Muldoon, who was born in Ireland, but who came to this country when little more than a lad. He has had several partners in the course of the thirty years of his business career, but the firm name has remained unchanged, though Mr. Muldoon now conducts the business alone. He is a man of the highest business qualities, and has established a trade that extends all over the United States. There are fashions in monuments, as well as in everything else, and Mr. Muldoon is always prepared to supply what is required in this respect. For instance, at present nearly all the demand is for granite, the marbles of Carrara, Italy, having fallen into disuse, although they can be set up as monuments in this country as cheaply as can the granite quarried in Vermont, the granite being much harder to work than the marble. But it lasts longer than the marble does, and is more imposing in appearance. Mr. Muldoon still owns an interest in a studio and workshop at Carrara, however, and employs many workmen there. The handsome chapel erected to the memory of the late General D. D. Colton, in the cemetery at San Francisco, was made entirely by Mr. Muldoon's employes at Carrara, and was shipped around the Horn and put up by M. Muldoon & Co., at a cost of $46,000. It is one of the handsomest pieces of cemetery work in the country.

But for the most part monuments are now made of granite. Mr. Muldoon owns an interest in some quarries at Barre, Vermont, where is obtained a beautiful steel-colored gray granite, capable of a very high polish, and the most enduring stone known. He also uses a great deal of the red granite from the Hill o'Fare, in the north of Scotland, a stone that has recently been brought into the market, and that is largely used in relieving the gray of the Vermont stone, especially in making sarcophagi. The stone is all worked into shape at the quarries, and the only work done at the warerooms and yards in Louisville is the polishing and lettering. For large contracts the stone is never brought to Louisville at all. In the Louisville yards and warehouse, which are located at Nos. 322 to 328 West Green street, from forty-five to fifty men are employed and are kept constantly busy in finishing off the work. Mr. Muldoon's business amounts to from $225,000 to $300,000 a year in monuments alone, and he does a small business in fine art marbles besides.

Mr. Muldoon has been remarkably successful in obtaining contracts for important pieces of work over some of the largest dealers of this country. He has just completed a very handsome monument to the late Harrison Phœbus, the builder and owner of the Hygeia Hotel at Old Point Comfort. The monument is erected in the old church yard at Hamton, one of the oldest church yards in America. It is built of gray granite. The pedestal is of three large blocks, the lowest being six by six feet. The base is surmounted by a die block, with columns at each corner, the capitals of which are elaborately ornamented with foliage. The whole is surmounted by an elaborately-worked frieze. Above this is a Grecian cap and plinth, and above this is a shaft eighteen feet high, surmounted by an urn five feet high. On the face of the shaft is a medallion likeness of Mr. Phœbus, cast in bronze. The monument is thirty feet high.

A more important historical work is the monument to John C. Calhoun, in St. Michael's church yard, Charleston, South Carolina. This is a sarcophagus of the most elaborate workmanship that was made by Mr. Muldoon. When the earthquake visited Charleston a part of the old church fell on this monument, but, fortunately, did it no serious injury. Mr. Muldoon also built the monument erected by the Odd Fellows to the memory of their late Grand Secretary, Ridgely, in Harlem square, Baltimore. The structure is surmounted by a statue of Mr. Ridgely. It is forty feet high, and cost $23,000, having been paid for by contributions from Odd Fellows all over the world, five cents being the largest amount received from any one person. The design for this monument was selected from among twenty competitors. Another handsome piece of work is the cemetery chapel at Fredericksburg, Pennsylvania, erected to the son of the philanthropist, Lick, of California. The cemetery at Louisville is filled with handsome monuments put up by M. Muldoon & Co.

M. Muldoon & Co. is represented in nearly every principal cemetery in the country. In New York's famous burying-ground, Greenwood, the firm has built several monuments. It put up the Reuben Springer monument in Cincinnati, and in the same cemetery has built nine other monuments. Its work is to be seen in several of the cemeteries in Pennsylvania. In Kentucky the firm has built monuments in nearly every town and city. The Confederate soldiers' monument at Cynthiana, Kentucky, was put up by Mr. Muldoon, and at Frankfort some of his handsomest work is to be found. At Lexington there are the Breckinridge monuments, the monument to the Confederate soldiers, beside many others. In the Nashville cemetery Mr. Muldoon built the large Cheatham chapel, C. A. R. Thompson, J. K. Morris, and other fine monuments. At Memphis he built the Confederate soldiers' monument, the Catholic clergymen's monument, and others. He designed and executed the Confederate soldiers' monuments in all of the following places: Columbia, Tennessee; Columbus, Georgia; Macon, Georgia; Sparta, Georgia, and Thomasville, Georgia. In Texas Mr. Muldoon has done some work; in St. Louis is a large sarcophagus built by him. In San Francisco are several monuments of his building, and in all the Southern States Mr. Muldoon has put up most of the handsome monuments.

Truth.

BENJAMIN H. RIDGELY.

THERE is a province in journalism which it is universally recognized that the daily newspaper does not reach and which in America is covered by the Sunday newspaper—an institution peculiar to America, being something of a compromise between the English society journals and the American daily newspaper. It is the business of the weekly paper to say all the countless things that the daily paper leaves unsaid, and to give even a new and unexpected twist to the countless things that the daily paper has said. The Sunday newspaper is the Mrs. Grundy of journalism, in one sense, the people's jester in another, and the universal critic in the third. It naturally occupies an independent position with regard to the world at large and should be deeply imbued with the local color of the community in which it exists and of which it should be felt to be an integral part. This is just what TRUTH, of Louisville, is.

The first number of the paper was published on October 11, 1885. Since then it has attained a circulation of between 7,500 and 8,000. It is published every Sunday morning and is an eight-page paper containing forty-eight columns of reading matter. The paper was established by Messrs. Young E. Allison, George W. Smith, and Benjamin H. Ridgely. Its success was instantaneous and demonstrated the fact that such a paper was a need of this city. Messrs. Allison and Smith sold their interest in the paper in September, 1886, since which time Mr. Ridgely and Mr. Isaac Dinkelspiel have been its proprietors and editors. During this second year of its existence the advertising patronage of the paper increased to more than three times what it was in the first year, and its owners, instead of having the typographical work done by contract, as they did the first year, were enabled to buy a very handsome outfit. TRUTH is printed on book paper, in large and legible type.

TRUTH started in life on an aggressive, though good natured, line of policy and has continued in it. It is outspoken, full of bright gossip of all kinds, calls things by their names, and is strongly marked by the personality of its owners and editors. It is remarkable that it has never lost a political fight, though it has been hotly engaged in every contest that has come up within the two years of its existence. This, of itself, is enough to show not only its influence, but that it reflects the sentiments of the community of which it is a part. It has no axes to grind and is consequently outspoken and honest. The paper makes an important feature of local politics and political gossip and is an important factor in the political circles of Louisville. Its political cartoons have done much to give it prominence in this respect. Next in importance after the political feature is the society feature of the paper, which is a good humored satire of the social life of Louisville, as well as a record of the doings of people in society here. The other features of the paper are base ball, which is made quite prominent, dramatic and local musical matters, a bright New York letter, and gossip of every conceivable description, with occasional special articles on matters and things of local interest. Numerous illustrations brighten up its columns and its personalities are of the keenest.

Mr. Benjamin H. Ridgely does most of the writing for the paper, Mr. Dinkelspiel being its manager. Mr. Ridgely is a unique character in journalism. He is a young man of the most original wit, giving a humorous turn to nearly all he writes. His wit is as exhaustless as his good nature, and his articles always have a characteristic flavor. Mr. Ridgely is a thoroughly trained journalist, having served in numerous positions on the daily papers of this city. He was born in Baltimore, Maryland, July 13, 1859, being the son of Frederick W. Ridgely. Early in life Mr. Ridgely moved to Woodford county, Kentucky, whence he came to Louisville in 1879. He was a reporter on the *Courier-Journal* for four years and made his mark there by his originality and cleverness. He then became associated with Mr. Dinkelspiel on the *Argus*, a weekly paper, and after working there for two years accepted the office of city editor of the Louisville *Commercial*, which place he left to establish TRUTH.

ISAAC DINKELSPIEL.

Mr. Isaac Dinkelspiel has had an equally thorough training in journalism. He is a native of this city, is thirty-two years of age. Immediately after leaving school he became a reporter on the *Courier-Journal*, where he remained nearly five years. He left that paper to form a combination with Messrs. Rothacker and Gardner on the *Argus*, when those three gentlemen made that paper such a brilliant success. Mr. Dinkelspiel remained with the paper longer than did either of the others, his connection with it as proprietor lasting five years. He left it to become manager of the Louisville *Commercial*, where he remained two years. Mr. Dinkelspiel is one of the best equipped newspaper men of the city.

McFerran, Shallcross & Co.

TO attain perfection in any department of life is the surest means of success, and this is what has been accomplished by the above styled firm in the manufacture of that homely but succulent article, the sugar-cured ham. The first of the now famous brand of Magnolia hams was cured in 1863 by McFerran & Menefee, when only 7,500 pieces were cured. The brand was continued by Mitchell, Armstrong & Co.; then by McFerran, Armstrong & Co., and then by the present firm, composed of John B. McFerran, S. H. Shallcross, R. J. Menefee, and W. P. Clancy. Under all of these various changes the Magnolia brand has steadily increased in favor until it may be described as a phenomenal success, the cure having reached 375,000 pieces in a single year, which is very much larger than that of any other strictly winter-killed, sugar-cured, canvased hams ever made. It is the intention of the firm to extend their output to 500,000 hams annually, a move from which they have only been deterred for want of space.

The effort has been to make each cure better than its predecessor, and from the favor with which the product has been received, the members of the firm believe that they have succeeded in their design. The hams are cured under what they believe to be the best formula known to the trade, and nothing but the purest and most expensive ingredients enter into the cure. Every Magnolia ham is sold under an absolute guarantee to be perfect in cut, cure, and flavor; and under this guarantee the wholesale dealer, the retailer, and the consumer alike have perfect security for the goods bought, or for their equivalent in money. Even under the most rigid inspection, in such a large cure, a few hams every year will escape the notice of the most careful of men.

As an evidence of the favor with which these hams have been received, it may be stated that Magnolia hams are now sold over the entire country, from Maine to California, and from the lakes to the Gulf. Thus, for twenty-four years, this ham has been fully tested in all climates and has been found the perfection of sugar-cured hams.

It is unnecessary to say that in the summer time the hog is soft and sappy and that his flesh is not in the best condition, while in the winter the meat is firm, hard, and healthy, and when properly cured, makes a ham more wholesome and of higher flavor. By those who are nice as to the flavor of the meats they eat, it is not contended that summer-cured meats are at all equal to those cured in the winter.

The Magnolia hams are cured with the largest percentage of pure saccharine matter put into any ham offered to the trade, and to this may be attributed their superior flavor. It costs much more to cure by this method than by the economical methods ordinarily adopted by ham curers, and the result is the Magnolia hams can not be offered in competition with the cheap brands called sugar-cured. Every barrel of syrup used in curing this meat is bought under a strict analysis and the extent to which pure sugar enters into the cure will be appreciated when it is stated that from 800 to 1,000 barrels of the purest syrup are used annually for this purpose.

The hams are pickled very carefully. They are packed into a cask and the pickling ingredients are then poured over them. They stand a few days, when they are taken out and their positions changed, so as not to mash them out of shape. They are put into another cask and the pickling fluid is again poured over them. By this process they are well aired during the curing, which is regarded as an essential part of the operation.

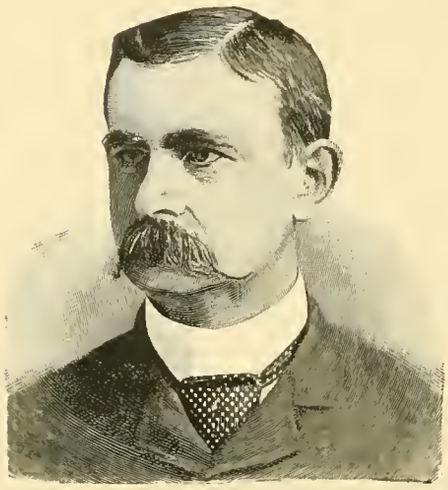
Every ham is handled four or five times before it is ready to go to the smoke-house and the pickle permeates every pore. The utmost care is exercised in all of the work and neither pains nor expense is spared to maintain the high position of the brand on the market. It is as widely known as any in the trade and is probably more favorably known than any other. McFERRAN, SHALLCROSS & Co. have agencies all over the country and do an especially large business in the South.

Their facilities for curing are unsurpassed. Their extensive packing houses are located in the south-western part of the city, on Maple street between Thirteenth and Fourteenth streets, where they have the railroads at their doors. A switch runs around the front of their buildings, where there is space for seventeen cars, with doors by means of which each car can be separately loaded and all loaded at once. In all other respects their equipment is also the best possible, while their facilities for buying and selling are equally good.

Besides curing the Magnolia hams the firm cures sides, breakfast bacon, etc., making a specialty of breakfast bacon, and in addition does a general provision business.

As is indicated in the foregoing account of their business, the gentlemen who compose this firm are all men of long experience in this especial branch of trade. They are men whose names are synonymous with commercial integrity, the firm being one of the strongest in Louisville.

The Kentucky National Bank.



JAMES M. FETTER.

THE largest business done by any bank in Kentucky, probably the largest south of the Ohio river, is that of the KENTUCKY NATIONAL BANK, which, though young in years, occupies a place second to that of no other financial institution in Louisville. The bank was organized in December, 1871, the late Bland Ballard, Judge of the United States District Court, being its first President, and Mr. Logan C. Murray its first Cashier. The capital stock was originally $300,000, but a rapidly-increasing business shortly demanded that the capital be raised, and it was accordingly increased to $500,000. This increase was made in 1874 and the capital stock has since remained at these figures. When the bank was founded it at once mapped out a progressive policy, though its business was conducted within the strictest rules of safe finance. Its officers then and since have sought every legitimate opportunity to acquire business through every proper channel, going somewhat out of the beaten paths of less energetic banks located in the interior of this country.

Judge Ballard remained the President of the bank until his death, which occurred on July 29, 1879. Mr. Logan C. Murray succeeded him and retained the Presidency until March, 1881, when he resigned and went to New York, where, with Mr. H. Victor Newcomb, he founded the United States National Bank, of which he is now the President. Upon Mr. Murray's election to the Presidency of the KENTUCKY NATIONAL BANK Mr. James M. Fetter, who had been the Teller, was made Cashier, and when Mr. Murray resigned the Presidency the management of the affairs of the institution fell entirely into the hands of the Cashier, the post of President becoming little more than an honorary one, until Mr. Fetter was himself elected President in 1885.

The bank makes special features of collections at home and abroad, the purchase and sale of government bonds and sterling exchange, and issues letters of credit to all foreign countries. It is, in fact, the headquarters in Louisville for all foreign business. The immense purchases of tobacco made in this market by foreign buyers being the chief basis of this branch of its business. The bank keeps its London account with the Union Bank of London, Limited. It also does the largest interior business south of the Ohio river, and its mail is said to be the largest received by any corporation in Louisville except the newspapers.

The bank's statement in October, 1872, shows a total footing of $737,612.56, with deposits of $174,147.28. On October, 1877, the business had increased so that the deposits amounted to $858,229.60, the statement on that date showing a total footing of about $2,000,000. The last statement on August 1, 1887, is as follows:

RESOURCES: Time loans, $1,771,857.27; United States bonds, $350,000; miscellaneous stocks and bonds, $24,587; real estate, $20,000; merchandise, $10,321.92; furniture and fixtures, $7,000; over drafts, $8,995.74; premiums on bonds, $29,050; current expenses and taxes paid, $8,302.68; cash means, $925,784.54; total, $3,155,899.15.

LIABILITIES: Capital stock, $500,000; surplus profits, $200,000; undivided profits, $38,377.65; circulation, $45,000; bills rediscounted, $90,912.86; deposits, $2,281,608.64; total, $3,155,899.15.

The bank is centrally located at Fifth and Main streets, and occupies handsome offices. It was the first of the Louisville banks to fit up its establishment with elegance and taste, and it is worthy of remark that nearly every bank in the city has followed its example, though none of them have surpassed the KENTUCKY NATIONAL either in the appearance of their interiors or the convenience of their arrangements and appliances.

The officers of the KENTUCKY NATIONAL BANK are James M. Fetter, President; A. M. Quarrier, Vice-President; H. C. Truman, Cashier. The Directors are Julius Winter, A. M. Quarrier, W. H. Thomas, A. C. Semple, W. H. Coen, W. W. Hite, J. B. Owsley, J. S. Grimes, and James M. Fetter. It has been under Mr. Fetter's management that the bank has reached its greatest prosperity. He is one of the foremost men in the commercial world of the South and South-west, and is doing much for the development of Louisville and of Kentucky. Mr. Fetter is a native of Jefferson county and is now only forty years of age. He was at college at Georgetown, D. C., when he was appointed a cadet in the military academy at West Point, where he remained until the breaking out of the war, when he, like other Southern boys, returned to his home. After some mercantile experience he became a clerk in the Falls City Bank, but left this position upon the organization of the KENTUCKY NATIONAL BANK. He rose step by step until he was made Cashier, having won the confidence of the officers of the bank. Having for some time been the practical head of the institution, on January 1, 1881, he was elected its President, thus becoming also the nominal head. He is a Director in the Louisville, New Albany & Chicago Railroad, the Louisville, Evansville & St. Louis Railroad, and in some eight or ten other important corporations. Mr. Fetter is a man of the most perfect polish of manner, of the soundest judgment, and the quickest perceptions. When he acts boldly, he acts upon a conviction that amounts to a certainty. Mr. Truman, the Cashier, is also a young man. He entered the bank as correspondent clerk in 1872, was made Assistant Cashier when Mr. Fetter was elected Cashier, and was promoted to Cashier in 1885, and, having had experience in every department in banking, is a thoroughly equipped officer. To his systematic care and progressive policy in the management of the office work is due much of the growth and popularity of the bank.

The Farmers' and Drovers' Bank.

THE FARMERS' AND DROVERS' BANK, No. 333 West Market street, was organized under the laws of Kentucky in 1869, and began business in August of that year, since which time it has had a most prosperous career. The two men who organized the institution were farmers who were but little known to the financial world, but who very soon made themselves felt in the commercial circles of Louisville. These two gentlemen were the late Bushrod O'Bannon and R. S. Veech. The former was the first president of the bank. Mr. Veech was its first cashier, and to his energy and high business ability, more than to anything else, was due the early prosperity of the FARMERS' AND DROVERS' BANK. At first the capital stock was $100,000. Now it is $300,000, and the surplus and undivided profits are $24,000.

JAMES G. CALDWELL.

Mr. O'Bannon died in February, 1870, when the late Dr. E. D. Standiford was elected president. He was one of the most able financiers this city has ever known, and he and Mr. Veech at once made their young bank one of the most important financial institutions of the South. Dr. Standiford resigned the presidency in December, 1884, when Mr. Veech was elected. He only retained the office for a year, resigning on account of the demands made upon his time by his important interests in the county, where he owns three trotting-stock farms. When Mr. Veech resigned he was succeeded by Mr. James G. Caldwell, son-in-law of Dr. Standiford. Mr. Caldwell is still the president of the bank. He is the youngest man holding a bank presidency in Louisville, having been but thirty-two years old when he was elected to that responsible office in 1885. He is a native of Louisville, and belongs to one of the oldest and most highly-respected families of the State.

The cashier of the bank is J. W. Nichols, who came into the institution as book-keeper in June, 1870. In July, 1874, he was made teller, and in May, 1880, he succeeded Mr. Veech as cashier. Mr. Nichols holds the reputation in the commercial world of being one of the most capable bank officers in Louisville. He is a native of Danville, Ky., and was educated in Boyle county. He came to Louisville from Kansas City, whither he went in 1867 and engaged in a mercantile business, until he was asked to come to Louisville and accept the position of book-keeper in the FARMERS' AND DROVERS' BANK. Much of its subsequent success is due to his thorough knowledge of his business and his conservative policy. The directors of the bank are R. S. Veech, J. W. Davis, H. T. Hanford, L. M. Paine, S. L. Gaar, J. W. Hays, W. H. Frederick, Wilson Thomas, B. K. Marshall, and James G. Caldwell. Several of these gentlemen are prominent farmers of Jefferson county, others are merchants and professional men of Louisville. Henry Thiemann is the teller, and is one of the best and most accommodating in the city. He entered the bank as book-keeper in 1871, then but seventeen years of age, and has earned his advancement by his efficient services.

As has been already said, the capital stock of the bank is $300,000, with a large surplus and undivided profits fund. The deposits vary from $600,000 to $625,000. The bank is one of the strongest in the city, and possesses the confidence of the public to an unlimited extent. Up to 1877 it paid ten per cent. dividends, and between its organization and that year declared two extra dividends that amounted to twelve per cent. From 1877 to 1880 the dividends were eight per cent. Since then they have been six per cent. A large part of its business is with the farmers, not only of Jefferson county, but of a large section of the State outside of that county, though its business with the commercial circles of Louisville is equally important. The high character of the gentlemen who form its board of directors gives the public unlimited confidence in the institution—a confidence due equally to its known conservatism and the admirable business methods and intelligence of its officers. In this connection the greatest praise is due to Mr. Veech and the late Dr. Standiford, who really established the credit and prosperity of the bank. Mr. Veech was the prime mover in its organization, and for many years he and Dr. Standiford were untiring in their work in its interest.

J. W. NICHOLS.

The bank makes a specialty of its savings department, paying four per cent. interest on time deposits. By a special provision of its charter the money of married women and children who deposit in this department is free from the control of husband, father, or guardian; so that such money is not liable for debts that husbands may incur, while the provision offers an inducement to children to begin in the FARMERS' AND DROVERS' BANK a nucleus for a fund that may well prove serviceable in later life.

Standard Oil Company.

THE accompanying engraving represents the new building erected and occupied by the STANDARD OIL COMPANY. It is located on the south side of Walnut street, between Fourth and Fifth avenues. It is one of the handsomest and most elegant office buildings in the city, having been built by the company for their own exclusive use. In the construction of this building, which was done under the company's immediate supervision, the main idea kept in view was the arrangement of the interior in such a manner as to secure the greatest convenience to the different departments of the company's office force in their relationship to each other; and, at the same time, the greatest amount of comfort in, and facilities for, the transaction of the business of each individual department. The building is in the modernized Queen Anne style, and is built of pressed brick trimmed with Corydon blue stone. The pressed brick is from the kilns of the Ohio Valley Pressed Brick Company; the stone from the quarries of the Corydon Stone Company. The foundations of the house are of City Quarry stone, and the work was done by Messrs. Busch & Weisenstein, and is of the most massive and solid character. Messrs. John Diebold & Son furnished and put up the Corydon stone trimmings, one of the noteworthy pieces of their work being the imposing stone door-way, which, in its cool blue-grey tints, makes a pleasing contrast with the bright red of the pressed-brick front. Messrs. N. Struck & Bro. did the carpenter's work. The plumbing and steam-heating apparatus, all of which is of the latest and most approved character, was furnished and put up by B. Rankin. Messrs. Matlack & Co. supplied the gas fixtures.

The interior of the building is even handsomer than the exterior, being finished in antique oak and cherry, richly carved and molded in the chaste Queen Anne style. The mantels are all of hard wood, massive and dignified in character. The staircase is perhaps one of the finest pieces of work of this kind in the city. All of the hard-wood work was made and put up by Messrs. J. V. Escott & Sons. The office furniture is also of antique oak, and in character and style harmonizes with the wood-work. Mr. F. W. Keisker had the contract for this part of the work. The lower floor of marble tiling was furnished and laid by Thomas Joyce. Thus the interior presents a most elegant and pleasing appearance, being an excellent illustration of the fact that it is quite possible to combine in the arrangement of a business office a certain dignity and beauty with features of utility and convenience, giving it a character and grace peculiarly its own, which has been heretofore supposed to belong exclusively to perfectly-appointed dwellings. It is a noteworthy fact, and speaks very highly for the artisans of Louisville, that nearly all of the material entering into the construction of this building was made in Louisville, and the work in every detail was done by Louisville workmen, so that it is strictly a home product.

STANDARD OIL COMPANY BUILDING.

The first floor front is occupied by the Cashier's department, bill clerks, and city accountants. This department is on the right as you enter and is separated from the entrance-way by a handsome antique oak partition, surmounted by brass grill work in panels; over each panel is the monogram of the company in curious old wrought brass letters. The massive stairway, which leads to the main offices upstairs, is seen on the left as you enter. The Auditor's department occupies the south half of the first floor. The managing departments and the offices of the President, Secretary, and Treasurer are on the second floor; as are also the rooms for the stenographers, type-writers, and telegraph operators. Some idea of the requirements of this company, in the way of office room, can be had from the fact that their office force, including officers, numbers at present sixty persons.

The STANDARD OIL COMPANY was chartered under the laws of Kentucky in September, 1886, and began business on November 1, 1886. Its officers are W. H. Tilford, President; George H. Vilas, Vice-President; Leon T. Rosengarten, Treasurer; W. T. Jordan, Secretary. On May 9, 1887, the company moved into its present quarters. It is one of the largest enterprises in the South or West, operating in the territory south of the Ohio river and east of the Mississippi, Louisville being the headquarters of the company. The branch offices cover the entire Southern territory, being located in Atlanta and Augusta, Georgia; Birmingham, Alabama; Chattanooga, Tennessee; Columbia, South Carolina; Cairo, Illinois; Charleston, South Carolina; Charlotte, North Carolina; Columbus, Georgia; Jacksonville, Florida; Lexington, Kentucky; Mobile, Alabama; Nashville, Tennessee; New Orleans, Louisiana; Macon, Georgia; Memphis, Tennessee; Meridian, Mississippi; Paducah, Kentucky; Pensacola, Florida; Savannah, Georgia; Selma, Alabama; Vicksburg, Mississippi; and Wilmington, North Carolina.

The business of the company is the supplying of the jobbing trade with all kinds of refined oils, including, of course, all the kinds of coal oil, naphtha, lubricating oils, greases, turpentine, and resin; the turpentine is gathered in all the producing districts of the South, and is shipped to all Eastern, Northern, and Western markets, and is also exported in large quantities. The company is in no sense a producer, but buys the products it handles from first hands.

Julius Winter, Jr., & Co.

JULIUS WINTER, JR.

THE tailoring establishment of JULIUS WINTER, JR., was opened in a store in the Courier-Journal building in 1880, and within six months found its quarters too small for the large business that at once grew up, its patronage having increased steadily during that time. Mr. Winter then rented a store on Fourth street, near Main. At the end of two years he again found that he required more room, and would have to enlarge his capacity for the business that was coming to him. He tore down the building adjacent to his, and threw the two lower floors into one large store, so that at present the firm of JULIUS WINTER, JR., & CO. occupies what would ordinarily cover the ground of three stores, Nos. 224, 226, and 228 Fourth street. The immense proportions of this establishment are so unusual that they form the largest tailoring house in America, and it is worthy of remark that the business done not only justifies, but demands, all of this space.

Of course, Mr. Winter's patronage came first from Louisville, and enabled him to establish himself on so secure a footing, but the house now does a larger business outside of the city alone than many Louisville houses do altogether. It keeps five traveling men on the road in the spring and fall, who go throughout the South and South-west, soliciting orders from individuals, among whom are some of the most prominent and best known people in the country, and in nearly every Southern city may be found men of fashion whose clothing is made by this firm. The firm does only a first-class tailoring business, making only fine clothing and catering only to the best dressed, as well as to the best people, in each community. At the same time, its facilities for doing work and for buying goods are so great that the prices charged by this house are very considerably lower than those of smaller establishments making the same grade of clothing. Since January, 1886, Mr. Phil D. Long was admitted to the firm.

The firm has branch houses at Memphis, Tenn., located at No. 3 Madison street; Nashville, Tenn., opposite the Maxwell House, and at Dallas, Tex., No. 713 Main street, and through these covers a great extent of territory in addition to that reached by its commercial men. Many orders are received from all sections of the South and South-west, which come unsolicited from parties who have never seen any of the firm's four establishments, but who write for samples and rules of self-measurement, which are furnished upon application. Thus, gentlemen living in the country, or in small towns where it is impossible to obtain fine tailoring, may appear as fashionably clad and as well fitted as if they made their daily promenade on Fifth avenue, New York.

The reasonableness of the charges of this firm is owing to its immense patronage, by means of which it is enabled to buy at first hands—direct from importers and manufacturers—thereby saving a large amount of money which smaller houses are obliged to pay out by dealing with jobbers. In other words, the man who has his clothes made by JULIUS WINTER, JR., & CO. saves one entire profit in the handling of the goods before they reach the tailor's hands. It is scarcely necessary to say that a house doing such a business as this is compelled to employ only the best cutters, as well as many of them. Only the best talent is engaged in this department, and an ill-fitting suit of clothes is almost an unknown thing in the work done by this firm.

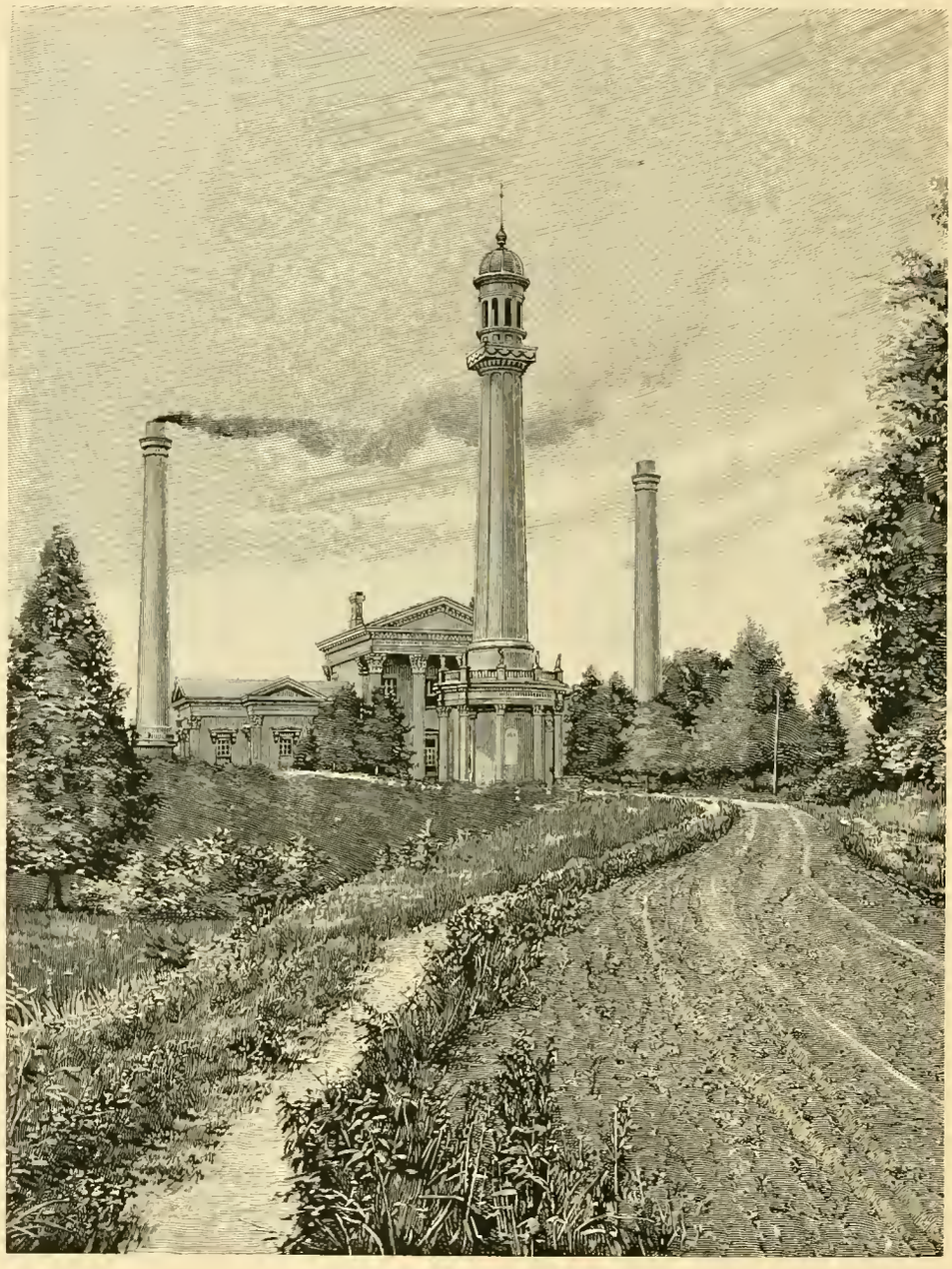
Being *leaders in fashions*, the house necessarily keeps thoroughly informed in all matters pertaining to the tailoring business. Mr. Winter himself makes several trips to New York every season, in order to purchase goods and to keep posted in the styles as soon as they are produced. His head cutters are men of established reputation, who could readily find employment in the most fashionable house in New York. His work is always in the latest and most elegant mode, and is always finished with those touches which afford such satisfaction to a man accustomed to being well-dressed, and which the practiced eye so readily detects. It is one thing to follow a pattern and a fashion-plate; but it is quite another to do this in an artistic manner, giving to a pair of trousers their proper fall, and to a coat the set about the shoulders and back that distinguishes a perfect from an imperfect job.

Mr. Julius Winter, Jr., is thirty-four years old. He is a native of this city, and was educated here and in Germany, where he concluded his studies. It may be said that he was born to the business he chose to follow, his father owning one of the large clothing houses of this city. Thus he is thoroughly informed in all the details of his business, to which he gives his personal attention. He is personally popular, and in his mercantile house every courtesy is shown to a customer. His successful career shows him to be a thorough business man. He is a very capable manager, and is untiring in his energy; but this does not express those admirable qualities that have made him one of the prominent young business men of Louisville.

The fact of being well dressed is always a gratification to a man and to his friends. A man clad in good clothing is apt to entertain a certain respect for himself. Clothes no more make a fine man than fine feathers make a fine bird, considered otherwise than as to the bird's feathers; but no one will deny that a spruce cock is a very much more agreeable object in the landscape than is a worn and battered old drake. It is equally true that a well-dressed man is more agreeable to look upon than one whose clothes do not fit him, or are shapeless. It is also true that the former is apt to meet a kinder reception in the world than the latter.

The Louisville Water Company.

A PUBLIC WATER SUPPLY to a city upon the modern plan of a high pressure service, of sufficient magnitude to convey the water to all parts thereof, commanding every cubic inch of space in its streets, alleys, and buildings of all kinds, held in readiness for instantaneous flow in lightest spray such as can be called into play and be controlled by the strength of a child, or in sweeping streams whose volumes require the united strength of many stalwart men to direct and apply in their agency of fire extinguishment or power development, maintained in perpetual readiness, whether by day or night, independent of seasons and their mutations, *perennial* in the fullest sense, constitutes an achievement in modern application of common sense, money, and science for the welfare of the people, than which there is nothing grander or greater. Rome, with her many aquedncts and gorgeous baths, appears, when compared to such a modern system, like a dromedary on the desert, to a modern race horse on an American track.



PUMPING STATION, LOUISVILLE WATER WORKS.

Such being the province and requirements of a public water supply, it is not to be wondered at that the water supply system of the city of Louisville has been the subject of constant and deep interest on the part of the public, as well as much study and unwearied effort on the part of the Water Company, by whom the department has been hitherto and is now managed. So much are the people impressed with the great beauty, utility, importance, and magnitude of this branch of the municipal service, that the works, comprising reservoirs, pumping station, and machinery, are visited by larger numbers and with greater frequency than any institution or place in or about the city, thereby attesting a public admiration, appreciation, and approval which pronounce the system a great success. It furnishes the people with an indispensable requisite for sustaining health and life in their domestic and household relations as also for public sanitary, municipal, and manufacturing purposes, and all at rates of cost which are infinitely lower than any similarly valuable service, whether rendered by corporate or individual enterprise. The cost to

Incorporated in 1854.

supply a cottage of two rooms is less than a penny a day, while to the manufacturer and other large consumer for business purposes, it is delivered at rates of less than four cents per ton, and the city for her municipal wants, including the immense quantities needed for fire extinguishment, gets it absolutely free of cost.

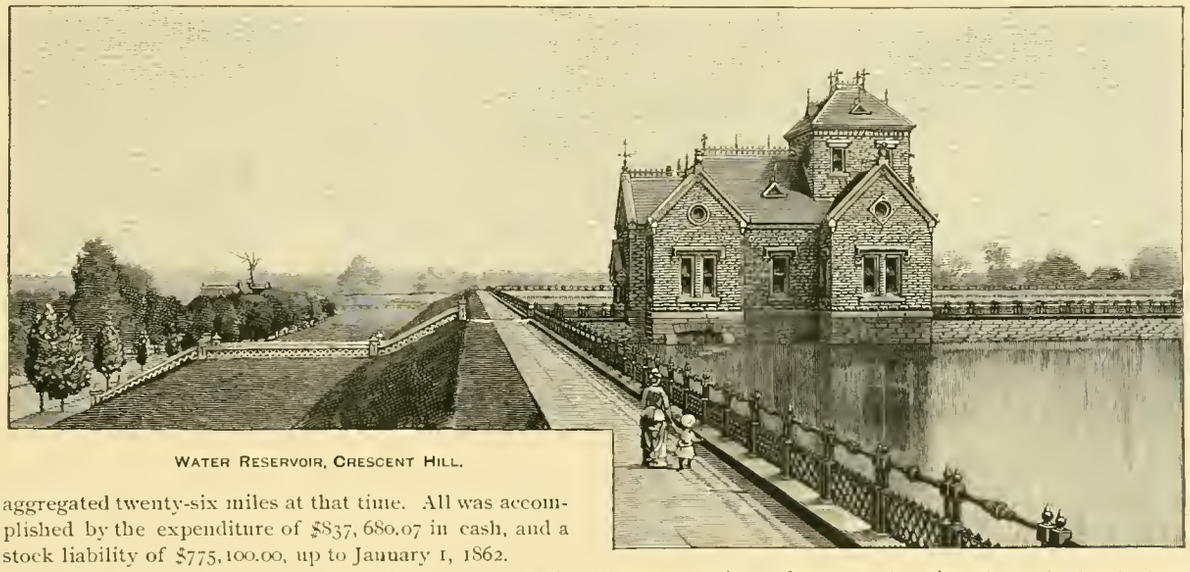
The first decisive steps toward establishing a public water supply for Louisville were taken in the fall of 1856, by a committee from the then recently elected Board of Directors in the Louisville Water Company, who visited the principal works then in operation in the cities of the Middle and Eastern States, as a means of adopting measures and plans that would bring together for the erection of the contemplated works the best judgment and ripest experience that the numerous important works in the country then exhibited.

During December of 1856 and January, February, and March, 1857, surveys were made, sites for pumping station and reservoir selected, plans of the various branches of the works with estimates of cost were made; all of which were duly adopted, and contracts let for making pipe, building pumping station, reservoir, and pumping engines. Ground was broken upon the reservoir site in a primeval beech forest in March, 1857, and upon the construction of the pumping station on the banks of the Ohio river in the following September, and quite a large quantity of pipe was made during this season.

Owing to the financial panic of this year, however, very little was done in the way of actual construction; the failure of the Ohio Life and Trust Company of Cincinnati having precipitated a financial disturbance, which greatly embarrassed all kinds of business enterprises for this and the greater part of the following season.

In March, 1858, work was resumed and pushed energetically until October, 1860, when the works were so far completed as to enable the water to be turned into the city distributing pipes. In the succeeding year the works were fully completed.

The result of this undertaking was a pumping station and machinery which have served the city for twenty-seven years, a reservoir which sufficed for nineteen years, and a beginning of a system of supply and distributing pipes, which



WATER RESERVOIR, CRESCENT HILL.

aggregated twenty-six miles at that time. All was accomplished by the expenditure of $837,680.07 in cash, and a stock liability of $775,100.00, up to January 1, 1862.

In 1874, surveys were commenced for a new reservoir of larger capacity and greater elevation above the level of the city. A site was selected, plans made and adopted, and the work contracted for in the fall of 1876, all for a reservoir of 100,000,000 gallons capacity, with its top water level 179 feet above low water in the river, being thirty-three feet higher than that in the reservoir completed in 1860. In April, 1877, active work was commenced upon the construction of this reservoir and continuously and energetically prosecuted until December 15, 1879, when it was nearly completed, water first pumped into it, and the city thenceforward supplied with water therefrom. The patronage of the company is represented by a system of main and distributing pipes of over 134 miles in extent, and varying in size from three to forty-eight inches in diameter, by 10,600 service attachments, from one-half to eight inches in diameter; and an annual gross revenue of $250,000 from water rents.

The present most urgent requirements from the company are the building of a new pumping station, pumping engine, and the laying of main and distributing pipes to meet the rapidly growing wants of the city. Work is now in progress upon these additions, which will be completed as speedily as practicable. The pumping station and machinery will be on a scale of about double the capacity of that completed in 1860.

The history of the works, from their inception, and extending through their construction and practical operation, covers a period of about thirty-one years, and their construction cost, repairs, and operating expenses combined will aggregate, by December 31, 1887, the sum of $5,000,000, with a bond indebtedness of $900,000, and a stock liability of $1,275,100.

The directors and principal officers by whom the works are at present managed are as follows, viz: Charles R. Long, President; John W. Story, T. L. Burnett, W. W. Smith, Charles R. Long, J. C. Gilbert, L. S. Reed, Directors; W. P. McDowell, Treasurer; J. B. Collins, Secretary; Charles Hermany, Chief Engineer and Superintendent.

The Falls City Lithographing Company.

CHARLES W GERMAN

THE FALLS CITY LITHOGRAPHING AND JOB PRINTING COMPANY, No. 233 West Main street, is the largest and most important establishment of its kind in this city—probably in the South. In 1859, German & Brother started a lithographing business here, having learned the trade in this city from a lithographer who never succeeded in establishing himself. Consequently, the Germans were the first to give the business any importance in Louisville. They conducted their enterprise for several years and Mr. Charles W. German continued in it. In 1880, the FALLS CITY LITHOGRAPHING COMPANY was chartered. It was the outgrowth of the old firm of German & Brother. The first offices of this company were located on Third street, where, from a comparatively small beginning, by dint of excellence of work and persistent effort, the business increased until it was necessary to have larger quarters. The adjoining building was then taken in; but in time even these enlarged accommodations became too small, and the continued growth of the company's business caused it to move to its present commodious quarters. The building it now occupies is five stories high and has a depth of 200 feet. It is admirably lighted and is thoroughly equipped, making it a model establishment in all that appertains to lithographing. Every improvement in machinery is to be found here.

On the first floor are located the offices and reception rooms, the sales counters and show cases containing stocks of cards, labels, etc., used in the business. Back of these is the press room, filled with large presses for the job printing department. The composing room is back of this. The second floor is occupied by the heavy stock and the transfer hands are engaged here. In racks along the walls, the stones are stored. Each stone is numbered and marked, so that it may be quickly discovered when wanted. On the third floor are the engraving rooms. The bindery is on the floor above this. Elevators are used in transferring stones and stock from floor to floor. Thus the building is admirably adapted to the uses of the company and the work can always be done with perfect convenience to the hands employed.

In the lithographing department there is every facility for the workmen, all of the mechanical appliances being of the best. Only the most expert engravers are engaged, and the character of the work will compare favorably with any done in the East. The company makes a specialty of bank and commercial work, in which it has a large trade, and for clearness, neatness, and taste in execution has become celebrated. It numbers among its patrons the banks in many Southern cities, and its business with them is growing daily. The most business houses in Louisville obtain their engraved paper from this establishment. The company carries an unusually large and complete stock for doing commercial work of every description in an artistic manner and to suit any taste. While this is its specialty, however, it by no means neglects the other branches of the lithographing business, and has built up a good business in the job printing department. The company is prepared to do color work, both in lithographing and printing, and makes all kinds of show cards and artistic advertisements, for all of which a large supply of materials is kept on hand. In fine commercial work, no process has ever been found that would compare favorably with a well-executed lithograph, and the FALLS CITY LITHOGRAPHING COMPANY has its full share of this class of business.

The company is fortunate in being well officered. The President is Mr. E. C. Bohne, Cashier of the Third National Bank. Mr. Bohne's wide connection with banks and bankers has gained for the lithographing company a patronage that it would have taken years to gain without some such personal consideration, and the work is always so satisfactory that a customer is safely counted on to continue his patronage. Mr. Bohne's known ability and high standing in commercial circles are a guarantee of the stability of the company.

The Secretary is Mr. Charles E. McBride, a widely known and popular business man of great energy. But the growth of the business and its increasing success are due mainly to Mr. Charles W. German, the manager of the company and, in fact, the founder of the business. He is a practical lithographer who learned his trade before he was fifteen years old and has kept pace with its growth ever since, and he is now over fifty years of age, though still as full of energy as possible. He is thoroughly informed in every detail necessary for the successful carrying on of the affairs of the company. He is enthusiastic in his work and is constantly improving its character. He has seen lithography grow up in this section of the country from a mere starving trade to a highly important branch of commerce. He has seen the introduction of steam presses and a vast improvement in all tools, as well as a great reduction in the cost of the work. In coloring lithographs great progress has been made in his day, and step by step Mr. German has kept pace with all these changes. He has drawn to him and trained up artists in every branch of lithography who are now as expert as any men employed in similar concerns anywhere in the United States. Personally he is a very popular man, and much of the business of the company is due to his extensive acquaintance. He is a man of great energy and conscientious attention to business. It is through his constant care of all details that the work of the FALLS CITY LITHOGRAPHING AND JOB PRINTING COMPANY has reached the perfection it has attained. The patrons of this company are assured that whatever may be the class of work ordered, they will receive the most careful attention and that the work will be executed with all the skill of which the company is capable.

The People's Mutual Assurance Fund.

JUDGE WILLIAM L. JACKSON.

ASSOCIATIONS for the assurance of lives are to be ranked among the very noblest institutions of civilized society, and their usefulness can be attested by thousands of happy and independent families rescued by this means from the bitterness of poverty and the degradation of charity. The PEOPLE'S MUTUAL ASSURANCE FUND is an association chartered under the laws of the State of Kentucky, with its principal office in the city of Louisville and subject to the supervision of the Insurance Commissioner. The plan of the company is based on the American Experience Table of Mortality, with twenty-five per cent. added for reserve. All losses are paid from the mortuary fund, which is seventy-five per cent. of the net receipts on premiums. The reserve fund consisting of twenty-five per cent. of the receipts from each premium is held at compound interest for the exclusive benefit of the members, and placed in the hands of the Louisville Banking Company as Trustee. The reserve fund provides for the payment of losses in excess of the American Experience Table of Mortality and the reduction of premiums after fifteen years. At the expiration of each period of five years during the continuance of a certificate, a bond is issued for an equitable proportion of the reserve fund, and at the expiration of ten years from its date the principal of such bond becomes available in payment of future premiums, thus giving all the benefits of paid-up insurance. When membership ceases from any cause, the bonds are void and the entire amount of such bonds will be applied to increase those of continuing policy-holders.

The company commenced operations on the above system about January, 1887, and the best endorsement they could receive is the immense amount of business placed on the books up to the present time. Over one thousand business men of all occupations and classes have demonstrated their confidence in the association by taking policies, and the amount represented by such policies exceeds one million and a half dollars. The death losses sustained by the company have been promptly paid on the day proof of death was filed in the office, which is somewhat unusual as in nearly all cases insurance companies require from sixty to ninety days to adjust losses. The books of the corporation make a splendid financial showing which is fully borne out by the Louisville Banking Company as Trustee.

The company requires a remarkably strict medical examination, and that department being under the able management of Dr. Frank C. Wilson, the result has been a very low death rate and an exceptionally healthy list of policy-holders.

The premiums may be paid at the option of policy-holders annually, semi-annually, quarterly, or bi-monthly, and receipts given shall be in full of all requirements for the period fixed, but if the amount so paid is in excess of the sum necessary to meet liabilities the over payments shall be applied to cover subsequent time. The plan combines all the best features of so-called old line and mutual life insurance companies, giving on the one hand a guaranteed limit to the cost per annum, and on the other providing an equitable system, whereby the policy-holder shall receive full return should the guaranteed rate exceed the actual cost of insurance furnished. The system is highly recommended by the Insurance Commissioner and is cordially endorsed by the most eminent insurance actuaries of the country. With the admirable management that has characterized the corporation and the intrinsic value of the plan the directors have perfected, it should be the most attractive and equitable for field work and should readily command the attention of all business men desiring safe protection for their families at a reasonable cost.

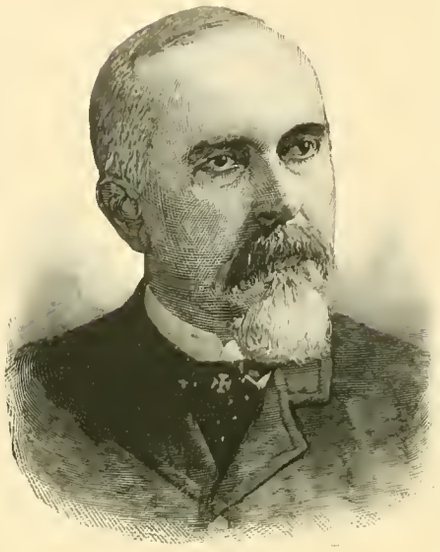
The officers of the company are Judge William L. Jackson, President; Honorable Asher G. Caruth, Vice-President; Honorable Charles Godshaw, Treasurer; and Ed N. Caldwell, Secretary. These gentlemen have for years been prominently connected with the business interests of Louisville and their names are a guarantee of able and equitable management.

Judge Jackson is a native of Virginia, where he served twice in the house of Delegates, twice as second Auditor, and as Lieutenant-Governor. In 1860 he was elected judge of the nineteenth judicial district of Virginia. He entered the Confederate army in 1861 and served with distinction and gallantry, for which he was made a brigadier-general. Coming to Louisville at the close of the war he began the practice of law, was the first president elected by the Southern Mutual Life Insurance Company, but declined to accept because of his legal business. In 1872 he became judge of the Jefferson County Circuit Court, which position he ably fills.

Honorable Asher G. Caruth is a graduate of the law department of the University of Louisville. After residing in Hopkinsville, where he practiced law and edited the *New Era*, he returned to Louisville. In 1880 he was elected Commonwealth's Attorney and served in that capacity until 1886, when he was elected to Congress from this district.

ED N. CALDWELL.

Five Brothers Tobacco Works.



JOHN FINZER.

THE FIVE BROTHERS TOBACCO WORKS, John Finzer & Bros., proprietors, is by far the largest tobacco factory in Louisville, and ranks fifth in importance in the United States. The business was started in 1866 by the five Finzer brothers, whose names were John, Benjamin, Frederick, Rudolph, and Nicholas. They were all born in the Canton Berne, Switzerland, and came to this country as mere lads. They were all marked with the best traits of the sterling Swiss character, being men of high integrity, great energy, determination, and intelligence. As boys they learned the trade of manufacturing plug tobacco and worked in nearly all the factories operated here. Their admirable qualities soon gained them the friendship of many of the business men of the city and started them upon the career of prosperity that they have followed through life. One of the brothers, Benjamin, died in 1875; Frederick died in 1883. Rudolph Finzer withdrew from the firm in 1882, so that of the five brothers John and Nicholas are the only two left in the company.

The factory was started on a small scale, but the superior quality of the goods offered by the firm soon attracted general attention and the works had to be enlarged in order to supply the demand. In four years the Finzers had built up a trade that gave them the leading position among the tobacco manufacturers of this city, which position they have maintained ever since. In fact, since 1870, they have made a third of all the plug tobacco manufactured in this market. For the month of August, 1887, the tax on tobacco paid by all the Louisville manufacturers was $96,931.90. Of this amount Finzer brothers paid $39,421, or considerably more than one-third.

In 1882 the company was incorporated. Its officers now are John Finzer, President; Nicholas Finzer, Secretary and Treasurer; M. Leopold, Vice-President; D. A. Keller, Assistant Secretary and Treasurer. The capital stock of the company is $200,000. The company manufactures 4,000,000 pounds of plug tobacco annually, and about 1,000,000 pounds of smoking tobacco. Its trade in the Eastern States is larger than that of any other tobacco factory in the West. It has a capacity of 20,000 pounds of plug and 5,000 pounds of smoking tobacco a day. The company employs from eight to a dozen traveling men, and covers the entire territory north of the Ohio river and as far west as Colorado. Its pay-roll averages 400 hands the year around. The capacity is increased every year.

The factory was destroyed by fire in 1880, the loss being $200,000, only partially covered by insurance. This disaster would have proved fatal to men of less energy; but was only a spur to these gentlemen to make greater efforts. They rented a factory in the lower part of the city and had their hands at work within thirty days after the fire. They rebuilt the factory on the old site, and on September 10, 1882, two years to the day from the date of the fire, they raised steam in the new works. The buildings were more perfect than the old could have been made. They are situated on the south-west corner of Jacob and Jackson streets and run back to Laurel street, having a frontage of 175 feet on the south side of Jacob street. Here are the main buildings, the plug factory, the smoking tobacco factory, the packing house, and the offices. On the north side of Jacob street the company owns 185 feet running back to an alley. On this ground are a new warehouse, redrying rooms, chunk shops, etc. There is a boiler on each side of the street, and the steam may be conducted from either boiler into any of the buildings.

The company has the advantage that every factory located in Louisville has—the opportunity to buy tobacco in the home market, which is the largest tobacco market in the world. Almost the entire out-put of the factory is made from the Burley leaf. The leading brand made by this company is "Old Honesty," a standard, sixteen-ounce plug of navy tobacco. It has been on the market nine years, and is the brand on which the firm made its greatest reputation. It has never varied in quality, being as good to-day as it was when it first appeared upon the market. The other leading brands are "Jolly Tar," which gained its popularity because of its being the largest plug of tobacco ever offered for the money, quality considered; the "Five Brothers," an extra fancy brand, and the "Pastime," which is the same. The last two are the only brands issued to the trade in tin packages, and have made a great success on that account. They are guaranteed to be the best tobacco that can be manufactured at any price. The leading brands of smoking tobacco are the "Five Brothers Pipe Smoking," and a mixed plug smoking tobacco. The former is largely consumed by the miners in Pennsylvania and Ohio.

The company publishes an excellent trade paper, THE TOBACCONIST, which has a guaranteed monthly circulation of 32,000 copies. It contains good selections of reading matter, and valuable information for the retail dealer.

NICHOLAS FINZER.

The Courier-Journal Job Printing Company.

FEW people in Louisville know what an immense institution and complete establishment has grown up in their midst in the last few years in the line of the "art preservative," and not many cities in the Union can boast of a printing house as thoroughly equipped, and possessing such facilities as the COURIER-JOURNAL JOB PRINTING COMPANY. Imagine yourself a visitor and take a look through the rooms occupied by this company in the magnificent *Courier-Journal* building. Commencing on the fifth floor is the electrotype and stereotype foundry. This branch of the business is in most cities a separate industry, but the trade of this company is enough to justify its operating a foundry for its own work almost exclusively.

Below this room, on the fourth floor, is the composing room in which the various newspapers printed under contract are set up. En suite are the poster room, in which there is $10,000 worth of wood type for poster work; the cut stock-room where is stored an almost endless variety of wood engravings and electrotypes, the property both of the company and their customers, color plates, extra type, and printer's materials which is also sold to the trade throughout the State and this section.

Next are the art rooms, where Mr. W. F. Clarke presides with the skill of the true artist, and, adjoining, the metal and wood engraving departments. The sample cases of the company show wood engravings second to none in America. No process or chalk work is done, as the aim of the managers is to produce only the class of engraving that is susceptible of fine printing, and nothing has yet been discovered that will begin to accomplish this as well as work engraved on wood. The engravings in this volume are specimens of the high standard of this branch of the company's business.

Adjoining is the office of the President, Mr. Louis T. Davidson; and Vice-President, Mr. August Straus. These gentlemen give their undivided attention and energy to this business and are always to be found within call. Opening out of the office is the proof-reading room; no branch of the work is more important than this, and great stress is laid on the intelligent reading of all proofs.

LOUIS T. DAVIDSON

AUGUST STRAUS

An arched door-way leads into the main composing room or job room as it is called. Here all the job-work is done, that is as far as the type-setting is concerned. The forms are here made up for orders for cards, envelopes, and all printed stationery, book headings, pamphlets, railroad time cards, books, blanks, catalogues—in fact, all the composition outside of the poster department. This room is regarded by printers as the finest of its kind in America. Unobstructed light from both sides, large, roomy windows, high ceiling, and fine ventilation.

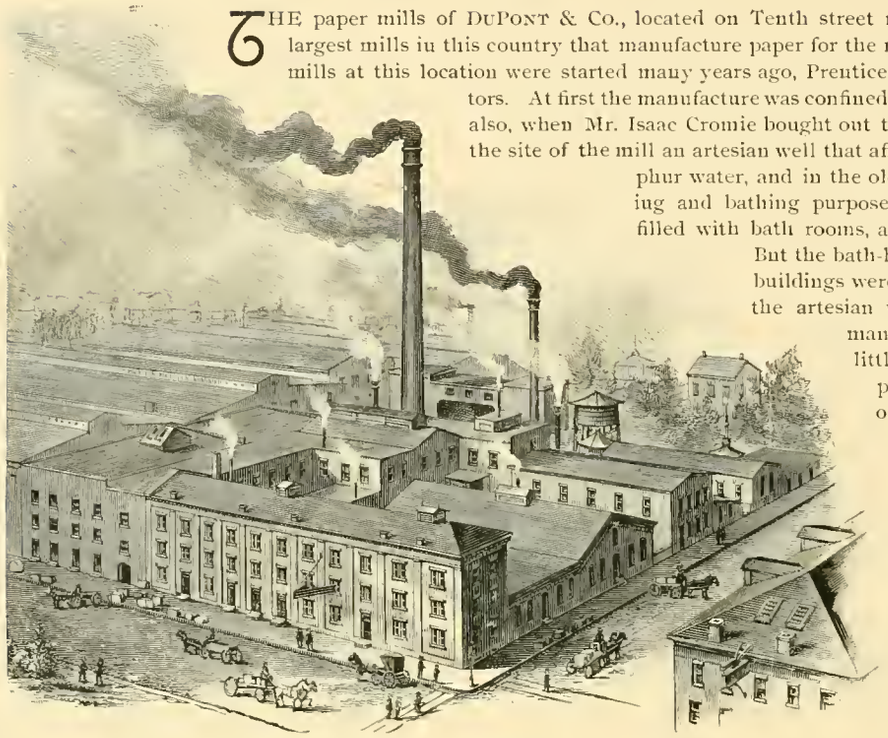
Next is the bindery, with its wealth of improved machinery, its bevy of industrious girls, folding and making up the lighter grades of work, and its corps of forwarders, finishers, rulers, etc. Adjoining and connected is the last room on the floor, used as a stock-room for bindery goods. All this comprises the entire fourth and part of fifth floor. On the first floor are the stock-room and counting-room.

The greatest feature of all is probably the press-room. When the building was first occupied the number of presses could be counted on the fingers of one hand, now they number over twenty, representing an outlay of nearly $40,000. The entire room is filled with them and other necessary appliances.

To go further into detail would be to write a book, but this can not be done here; but, to impress on the mind of the reader how big it really is, it is only necessary to say that, when trade is at all good, the pay-roll to hands alone is nearly $1,600 a week.

The company is composed of W. N. Haldeman, L. T. Davidson, August Straus, and John A. Haldeman, and is the outgrowth of the old firm of R. W. Meredith & Co., whose business was purchased in 1883 by the gentlemen named above, and by them carried on successfully until it has reached its present prominent position. This company executes a class of work superior to many other establishments, aiming always at securing the best possible assistance in the heads of all departments. It confines its facilities to no special features but does printing in plain type and colors, engraved work of all descriptions, publishes books and pamphlets, manufactures blank and record books, does railroad work for all departments of the service, and, in fact, everything in the printing line. No order for any class of printing, binding, blank blooks, engraving, or electrotyping should ever go out of Louisville because it can not be done at home—for here is *everything*. The trade of the company is drawn from all parts of the country; orders being received from the far West and North, as well as the trade directly tributary to Louisville.

DuPont & Co.'s Paper Mills.



VIEW OF THE PAPER MILLS.

THE paper mills of DUPONT & Co., located on Tenth street near the river, are among the largest mills in this country that manufacture paper for the newspaper presses. The paper mills at this location were started many years ago, Prentice & Kellogg being the proprietors. At first the manufacture was confined to wrapping paper. So it was, also, when Mr. Isaac Cromie bought out the establishment. There is on the site of the mill an artesian well that affords a bountiful supply of sulphur water, and in the old days this was used for drinking and bathing purposes. Two large buildings were filled with bath rooms, and the well had great repute. But the bath-houses were abandoned and the buildings were converted into a paper mill, the artesian well water being used in the manufacture. Now, however, very little of the water is used for this purpose, only the first washing of the rags being done in it.

Mr. Cromie sold the mills to C. I. and A. V. DuPont. C. I. DuPont in turn sold his interest, and the firm became A. V. DuPont & Co. This firm sold out in 1873 to DUPONT & Co., and the partners now are E. Hounsfield, F. Lammot, and V. DuPont, Jr. When these gentlemen took possession of the establishment, in 1873, the mills had a capacity of two tons a day; now they have a capacity of twelve tons. The buildings have been added to from time to time and now cover an area of half a large block. New machinery has been added and now the firm has every late improvement for the manufacture of the paper it makes. Some idea of the enormous proportions of the enterprise may be had when it is said that DUPONT & CO.'S MILLS annually consume nine millions of pounds of material that goes into paper. This consists of cotton waste, rags, paper, "hard stock," or gunny bagging, and wood. The supplies come from Louisville and the South, rags and cotton waste being shipped here from many Southern cities. The specialty of the firm is roll paper for newspapers.

In order to make the dirty rags into paper a great deal of cleaning has to be done, but the process is a much more simple one than one would imagine. The rags are first boiled in immense iron boilers. These are made to stand a pressure of ninety pounds of steam, and the method of boiling is to force the steam into the rags. In this process, also, all the wool in the rags is eaten up by soda ash and lime, it being impossible to make paper except out of vegetable matter. After the rags have been thoroughly boiled and reduced to a sort of uniform mass they are taken to the washers. These are great tubs full of water and bleaching materials. The water is kept moving around the tub in a strong current, carrying with it the rags that are run over and over again through washing boards that pull them to pieces and begin the operation of cutting up the fiber. From the washer they go to the drainer, where the bleaching matter and water are drained off. Next they come to the beater. This again is a big tub full of water in which the materials for making the paper are thoroughly mixed. The fiber of the rags is here separated by beating up very fine. The gunny bagging and ground wood are put in to give the paper strength. The rosin, or "sizing," is also put into the beater. This gives the paper smoothness of surface. Blueing or other coloring matter is here introduced.

The above described operations, except the boiling, take place on the upper floors. From the beaters the pulp is run, through troughs, to the paper machines on the lower floors. More water is poured into it and it looks like a milky liquid by the time it reaches the first stage of getting the pulp into the clean, white paper. First this liquid like substance is strained, so as to remove any bits of foreign matter. Bits of wood and any rags not thoroughly ground up are thus removed. From the strainer the pulp is run onto a closely woven wire netting, a broad endless band that moves over two drum-wheels, some eight or ten feet apart. This band not only has a forward motion, but also an oscillatory side motion. As the pulp falls upon it the water drains through the finer meshes of the wire, while the pulp remains above it in a sheet. The oscillatory motion causes the fibers to become interlaced as the water runs off, so that by the time they leave the wire they have something of the appearance of a sheet of paper. If one will hold a sheet of common printing paper before a strong light, he can see how the little threads have become woven into a regular network. As it leaves the wire it is led over a band of cloth that carries it between two rollers that gently press the young and tender paper, relieving it somewhat of its load of water. This process is continued through several sets of rollers, the water being gradually pressed out and the fiber being dried by heat, until the paper becomes sufficiently strong to be led over the rollers unsupported. It is finally wound over the iron bobbins into a great roll of paper.

The Louisville Anzeiger.

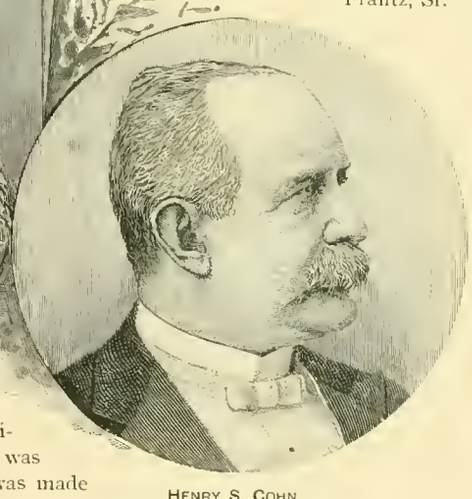
AMONG the oldest and most promiuent German newspapers of the country is the ANZEIGER, a journal founded in 1849 by George P. Doern and Otto Scheefer. Mr. Scheefer retired in 1852, but Mr. Doern continued to conduct the paper until his death. The ANZEIGER is the only daily German newspaper south of the Ohio river, except at New Orleans. It publishes daily, semi-weekly, and weekly editions, and has a large circulation in Louisville, in the larger Kentucky towns, and in Southern Indiana. The paper has always been Democratic in politics, and makes itself strongly felt in the politics of this city and State. When the paper was established it was a small sheet, twenty-eight by thirty-two inches. Now it is a four-page paper, nine columns to the page. The regular Sunday edition has twelve pages; but it frequently has to be enlarged, and has reached sixteen, twenty-four, and even thirty pages. The ANZEIGER has the Associated Press franchise, and prints the news very fully. It makes a specialty of correspondence from abroad, and has its regular correspondents in Washington and New York. It also covers the field of local news. Its editorial staff is composed as follows: Wolfgang Schoenle, editor-in-chief; Louis Stierlin, Leo Szymanski, Louis Stein, George Kuenzel, and Charles Neumeyer. The ANZEIGER is one of the papers elected to do the city and county printing.

The paper enjoys the support of all the German citizens of Louisville and of most of those throughout the State. It has the advertising patronage of the best business houses in Louisville, and is a valuable property. It has a well-equipped job printing department, where job work is done in English and German. This is an important source of revenue to the company.

In 1877 the LOUISVILLE ANZEIGER COMPANY was incorporated, its officers being George P. Doern, President; M. Borntraeger, Treasurer; G. S. Schuhmann, Secretary. Mr. Doern died the following year, and Mr. Borntraeger succeeded to the Presidency. Mr. Schuhmann was elected Treasurer, and Mr. Henry S. Cohn, Secretary. The Directors of the company are the President and Treasurer and Messrs. J. J. Fischer, Joseph Haxthausen, and David Frantz, Sr.

G. S SCHUHMANN.

M. BORNTRAEGER.



HENRY S. COHN.

Mr. Borntraeger, the President, was born in Ruedigheim, near Marburg, May 22, 1828. His parents brought their children to this country, landing in Baltimore in July, 1843. After stopping in Wheeling and Cincinnati, they came to Louisville, reaching here in November, 1844. Mr. Borntraeger was apprenticed to the printer's trade, and after serving his apprenticeship, worked in several offices, being three years in the old *Journal* office. In 1854 he left the case and took a position in the ANZEIGER office as book-keeper and business manager. He was so useful in this capacity that when the company was incorporated he was made one of its officers, and was elected to the Presidency of the company in 1878.

Mr. Schuhmann was born in Bavaria in 1837 and emigrated to the United States in 1853, in which year he came to Louisville, entering the job department of the ANZEIGER as an apprentice. He remained there nine years and then, with Edmund Rapp, founded the *Volksblatt* in 1862. This paper underwent numerous changes and Mr. Schuhmann returned to the ANZEIGER, now being its Treasurer. He has charge there of the job printing department.

Henry S. Cohn, one of the most widely known newspaper men in Louisville, was born in Hamburg, May 4, 1844. He came to America in 1859. At first he sold goods in New York, St. Louis, and Cincinnati; but on April 1, 1860, he entered a German newspaper office in Cincinnati as a "printer's devil." At the breaking out of the civil war, Mr. Cohn volunteered as drummer boy. He became drum-major, orderly sergeant, and then lieutenant of the 106th Ohio Infantry and was wounded and captured at Hartsville, Tennessee, December 7, 1862. At the close of the war he came to Louisville and got work as a compositor on the ANZEIGER. In 1871 he entered the business department of the paper.

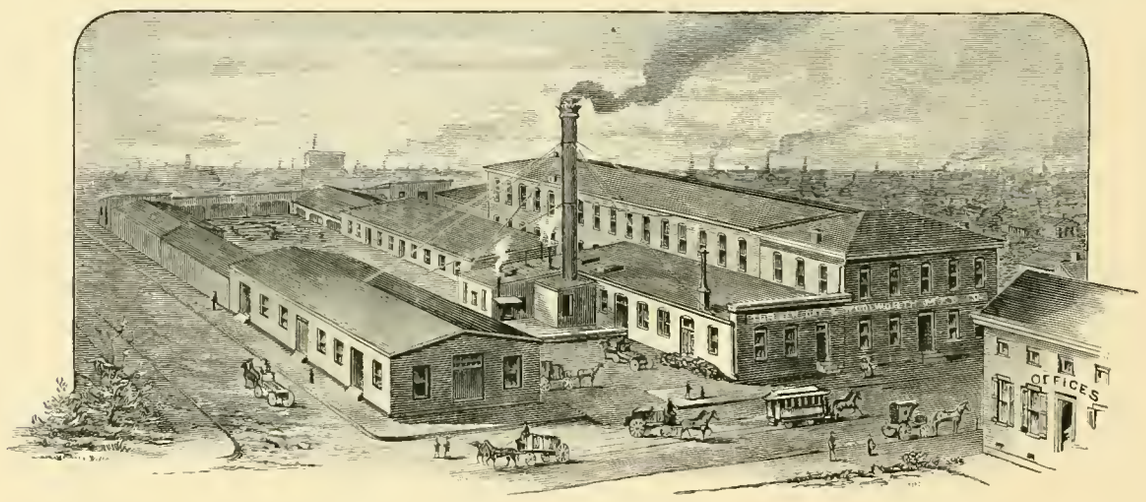
The ANZEIGER'S prosperity has been due very largely to the energies of the three gentlemen above mentioned. Mr. Cohn is one of the best solicitors in the city, and Mr. Borntraeger is a far-seeing business man. The paper is not only ably officered, but its editors are all men of distinction in German-American journalism.

Turner, Day & Woolworth Manufacturing Company.

THE largest manufactory of handles from hickory wood in the United States is at Nos. 1818 and 1820 Seventh street, this city. It is the establishment of TURNER, DAY & WOOLWORTH MANUFACTURING COMPANY, makers of all kinds of axe, adze, pick, sledge, hatchet, hammer, and mining tool handles. Their business was founded over thirty years ago at Norwich, Connecticut. Ten years ago this fall they moved from Baltimore to this city. The chief stockholders in the company to-day are Sidney Turner and Norman Day, both of Norwich, Connecticut; Albert Day, of Louisville; James Woolworth, of Sandusky, Ohio; and L. G. Wells, of Louisville. The company was incorporated in 1880. Previous to that time it had been a partnership. About 1876 the attention of the gentlemen in charge of the business was attracted by the great supply of hickory timber in Kentucky and Tennessee. They found that fuel, labor, etc., were fully as cheap here as at the older manufacturing centers, and saw that under these conditions, together with the decreased supply of timber east of the Alleghany mountains, they could in Louisville carry on their manufacture to good advantage.

Accordingly they made preparations to move their plant. Early in 1877 they purchased the property, buildings, etc., at Seventh and Dumesnil, formerly occupied by the Louisville Edge Tool Manufacturing Company, and soon after moved into the building the more valuable and important portions of their machinery from Baltimore. They have added ground and building, as their business increased, till now they occupy a lot 156 x 361 feet on the west side of Seventh, and another 100 x 200 feet on the east side. Their buildings include a substantial two-story brick, 50 x 275 feet, fronting on Seventh, near Oak. This is devoted to machinery and the operations of manufacture. Added to this is a one-story manufacturing department, 30 x 125 feet, a one-story warehouse, 40 x 125 feet, dry houses, boiler and engine rooms, and extensive sheds and stables. All these buildings are on the lot on west side of Seventh; on the lot across the street are the offices in a neat frame structure, one and a half stories, 25 x 50 feet.

Here all the operations of manufacturing handles are carried on, from the log as cut by the lumberman in the woods to the finely-polished and skillfully-shaped handle ready for the tool. But most of the work done at this factory is in



BIRDSEYE VIEW OF THE TURNER, DAY & WOOLWORTH MANUFACTURING COMPANY'S PLANT.

finishing the handles from the timber sawed proper lengths for handles and turned in the rough at their various country mills. Very much of the first work is done at a branch establishment, nearly half as large, located at Bowling Green, and a part is also done at the saw-mills of the company in operation at various points in Kentucky and Tennessee. These mills are twelve in number and cut nearly all the timber used by the company.

When running full force 200 men are employed here, 100 at Bowling Green, and 150 to 175 at the saw-mills. This gives a total working force of 450 to 500. As these are nearly all men with families, the total number supported by the enterprise is probably over 1,500. They run sixty-four lathes and other machinery, and in the busy season turn out daily 2,000 dozen long handles, and of other handles, hatchet, hammer, and the like, the daily production is, of course, a much larger quantity. The production of the company embraces all styles of handles ever made from hickory—hatchet, hammer, axe, adze, broad-axe, sledge, pick, and mining tool handles. These include many patterns of each kind. For instance, of axe handles alone, there are from fifty to one hundred different patterns adapted, some to the trade of one section, some to that of another. The establishment does a large export business, and the axe handle sent to South America is quite different from that sent to Australia and New Zealand. Other countries to which they ship are England, Germany, and the colonies of South Africa; yet the bulk of their trade is, of course, with the jobbers, the manufacturers of edge tools, and the railroad companies of the United States and Canada. There is hardly a State or Territory in which their goods are not sold, and when business is brisk, will average four or five car-loads a week to New York alone.

The Bremaker-Moore Paper Company.

CHARLES BREMAKER.

ONE of the most important industries of Louisville is the manufacture of paper, and in this particular branch she leads all other Western and Southern cities, not only in the quantity but also in the quality of paper manufactured. The BREMAKER-MOORE PAPER COMPANY'S MILLS, located here at the corner of First and Washington streets, produce exclusively a fine quality of book printing paper, and for the last twenty-four years have had a large and steadily-increasing trade in this especial grade of paper. Within the past two years new and valuable improvements have been introduced into these mills with the object of not only increasing the out-put but of improving the quality of their product also. In this latter respect the BREMAKER-MOORE PAPER COMPANY has been peculiarly successful, and, in consequence, been rewarded for its enterprise and foresight by an extensive trade in the East—a territory where hitherto the Eastern paper makers had enjoyed almost exclusive control.

The water supply is an important factor in the manufacture of paper. By means of pipe wells, water has been reached on the premises here not surpassed in purity by that of the celebrated Berkshire Hills of Massachusetts, among which are situated many famous paper mills, and this, translucent and sparkling from the bosom of mother earth, is used in the various processes of manufacture. This water of itself gives to the paper made by the BREMAKER-MOORE PAPER COMPANY a peculiarly brilliant color that can be readily recognized even by those not experts in the business, and is fast making for its mills a reputation second to that of no other mills in the country.

This corporation is an outgrowth of the old and well-known wholesale grocery firm of Moore, Bremaker & Co., which was established nearly thirty years ago by John T. Moore, Charles Bremaker, and Delaney E. Stark. These gentlemen are now the principal stockholders of the paper company. Its extensive mills were built under the personal supervision of Mr. Charles Bremaker, who retired from active membership in the grocery firm, but retained his interest therein, and was elected President of the company, and has continued as such to this date. Although not at that time a practical paper maker, in addition to fine natural business qualifications Mr. Bremaker was an experienced machinist, and soon became recognized as one of the leading paper mill men of the country. He is now not only a practical paper maker, with a thorough knowledge of all branches of the business, but a recognized authority on paper mill matters, and has patented quite a number of his own inventions, covering principally improvements in paper mill machinery. Mr. J. J. Hayes, who for fifteen years had been the financial manager of the grocery firm and a partner in that business, was in June, 1885, while still retaining his interest there, elected Secretary and Treasurer of the paper company, and has since been associated with Mr. Bremaker in the active management of the mills. He is an Eastern man, although his entire business life has been spent in the west.

The Directors of the company are Charles Bremaker, John T. Moore, Delaney E. Stark, and J. J. Hayes. Mr. John T. Moore is one of the leading and most influential citizens of Louisville, being President of the Falls City Bank, and of the Falls City Insurance Company, and a Director in several other strong financial institutions. Mr. Delaney E. Stark is the Vice-President of the paper company, and, while taking no active part in its affairs, devotes his entire time in conjunction with Mr. Buckner M. Creel to the management of the extensive grocery business, from which these justly-celebrated mills have sprung. Mr. Robert B. Moore is the paper company's Cashier, and Mr. Thomas H. Stark is in immediate charge of their product.

J. J. HAYES.

The company was organized with a cash capital of $300,000, and disburses weekly over $1,500 in wages among its numerous employes, about 125 in number, thus furnishing a livelihood to probably 500 persons through those directly employed on their premises, and indirectly in a measure to probably as many more engaged in furnishing the raw material out of which the finished product is made.

Their paper is shipped to all parts of the United States; to San Francisco, California, and Portland, Oregon, in the West, and as far South as the interior of Florida. Large quantities are sent to New Orleans, and almost all of the principal cities south of the Ohio receive a share, while the inhabitants of the cities bordering on the great lakes enjoy their weekly papers printed on the out-put of these famous mills. In this connection, it is a singular fact that the rags that to-day cover the back of the beggar may to-morrow lie on the breakfast table of the millionair, thus verifying the old adage that it is "but a step from poverty to wealth."

The Merchants' National Bank of Louisville.

J. H. LINDENBERGER.

THE MERCHANTS' NATIONAL BANK OF LOUISVILLE was organized as a national bank on July 5, 1874, succeeding the Merchants' Bank of Kentucky, which had been operated by a charter from the State since September 1, 1860. This State bank was organized by Mr. H. C. Caruth, an old merchant of this city who had previously been engaged in the hardware jobbing trade. The list of stockholders obtained by him embraced about 200 names, largely composed of the most active and prominent firms and individuals then engaged in business in Louisville. This from the outset gave the institution a distinctive character as a commercial bank, devoted to the interests of trade and manufactures. The impress thus made is still recognizable in the management.

The originally subscribed capital stock was $500,000; but before the subscription was fully paid, it was deemed advisable to reduce the capital, in view of the disturbed condition growing out of the War of the Rebellion. This was accordingly done by legislative authority. As might be supposed from the character of the stockholders, who became to a considerable extent its patrons, the bank entered upon a successful career, and for many years was enabled to pay semi-annual dividends of six per cent., while accumulating a comfortable surplus. After the close of the war it was found necessary to increase the capital, the extent of the business requiring it. At the time of the bank's reorganization as a national bank the capital stock was increased to the original amount of $500,000, at which it now stands.

Soon after this step was taken, the policy was adopted of organizing a complete system of correspondence with interior banks in this and contiguous States, with a view to identifying more thoroughly this city with the territory tributary to it in business. The list of correspondents has grown in numbers and importance, and has added much to the business of the bank, as well as aided in bringing Louisville into closer contact with the territory from which the city was seeking business. In connection with this, and growing out of the facilities which a large interior correspondence afforded, a collection department was organized for the collection of business paper throughout the United States, and to this department special attention has been paid, and a large patronage attracted.

The bank has constantly kept up with all the activities of progress, but has retained its original character in adherance to a commercial business, avoiding speculative accounts and maintaining a sound and conservative management, promotive of the different branches of the commercial and industrial interests of Louisville. Besides the capital of the bank its resources have been increased by a surplus of $150,000, and other undivided profits of $15,000 or $20,000, which enable it to carry a line of loans and discounts of about $1,500,000 upon an average deposit of a similar amount. The bank occupies a favorable location as to the business centers of Louisville, at No. 506 West Main street.

The first President of the original organization was Mr. H. C. Caruth. Its first Cashier was Mr. J. H. Lindenberger. These gentlemen continued in office until July 1, 1881, when Mr. Caruth resigned and Mr. Lindenberger was elected to succeed him. At this time Mr. Wm. R. Johnson, who had filled the position of Assistant Cashier, was elected Cashier. These officers remain unchanged. Mr. F. H. Johnson is now the Assistant Cashier. In the policy of the bank as to its interior management the rule of promotion has uniformly prevailed, and from the Cashier down through the corps of clerks, each official began service in the bank as messenger and collection clerk. This has constantly given the bank a corps of well-trained employes. The Directors are J. H. Lindenberger, President; W. George Anderson, Vice-President; John M. Robinson, P. H. Tapp, George W. Wicks, John J. Harbison, John C. Russell, and H. C. Caruth.

Mr. Lindenberger, the President, is considered one of the safest and wisest financiers of this city. He was born in Baltimore, Maryland, November 13, 1824. He came to Kentucky in 1839, and a year thereafter took service as a clerk in a wholesale drug business, to which he was admitted as a partner in 1846, being the junior partner in the firm of Rupert, Lindenberger & Co. to 1853, then Lindenberger & Co. to 1861, when he retired from mercantile business to become Cashier of the Merchants' Bank of Kentucky. Mr. Lindenberger brought to his new employment the reputation of having been successful in mercantile affairs, besides a valuable experience and a practical and methodical system of management, a most desirable quality in a bank officer, and one not to be acquired outside of a successful mercantile career. One of the chief reasons for Mr. Lindenberger's early and continued success as Cashier and President of this bank is to be found in his rapid insight into and quick decision upon all matters brought before him. His mind is commercial, financial, and legal. In short, it is a high order of the trained analytical mind. Mr. Lindenberger has filled many offices of trust, requiring the greatest sagacity. Under two administrations he was a member of the Directory of the Louisville & Nashville Railroad. He was one of the organizers of the Board of Trade; was a Director and Vice-President of the Southern Mutual (now the Mutual) Life Insurance Company; helped organize the Fidelity Trust and Safety Vault Company, of which he was Vice-President; was President of the Louisville Clearing House; helped organize the great Southern Exposition of 1883, to which he rendered valuable service; and is now Treasurer of the John N. Norton Memorial Infirmary. Of late years the growth of the business of his bank and his congeniality with its work have prompted him to concentrate his time more upon the bank's interests. He has consequently withdrawn himself, so far as he consistently could, from service in other engagements.

Western Bank and Western Insurance Company.

A. F. COLDEWEY.

THE WESTERN BANK is an institution that has had a successful career for more than twenty years. It was incorporated under the laws of Kentucky in 1865, its name then being the Western Insurance and Banking Company, with a capital stock of $250,000. In May, 1872, a new insurance law having been enacted, the banking business had to be separated from that of the insurance, and the bank became the WESTERN BANK, with a capital of $250,000, at which amount its stock is still capitalized, while the insurance business was still carried on, but with a capital distinct from that of the bank. The first President of the company was Mr. C. Henry Fink, a prominent German citizen. The pressure of other business required his resignation, and in 1868 he was succeeded by Mr. A. F. Coldewey, who still holds the office.

The officers of the bank have always pursued a conservative policy, and have built up a large and eminently a safe business, confining the operations of the company to legitimate banking. Much of its business comes from the large German population of the city, the location of the institution being favorable to this strong element in the commerce of Louisville. The bank receives deposits, makes collections here and elsewhere, having a large correspondence throughout the South-west, solicits business from merchants and manufacturers in Louisville, and deals largely in foreign and domestic exchange. The bank has regularly paid large dividends, in one year, when the Louisville banks charged a high rate of interest, having paid sixteen per cent. It now pays a semi-annual dividend of four per cent. The success of the house is demonstrated by the extent of its deposits, which average about $750,000, and its surplus and undivided profits of $55,958.30, a large accumulation on its capital stock. The last statement of the bank, made June 30, 1887, is as follows:

ASSETS: Loans and discounts, $666,236.55; fixtures and furniture, $3,750; real estate, $4,000; cash on hand, $102,-664.49; due from banks, $80,115.61; bonds and stocks, $189,394.09; total, $1,046,160.74.

LIABILITIES: Capital, $250,000; surplus and profits, $55,958.30; unpaid dividends, $468; deposits, $735,722.13; due to banks, $4,012.31; total, $1,046,160.74.

The Directors of the bank are A. F. Coldewey, W. Krippenstapel, J. Dolfinger, Wm. Springer, C. Stege, H. Dunekake, C. J. Raible, C. Jenne, and Fred W. Keisker. The first Cashier of the bank was Mr. Jacob Krieger. Mr. B. Frese now fills that office. He has been in the bank sixteen years; was Teller eleven years, and was elected Cashier January 1, 1887, succeeding Mr. Henry Hurter, who died in the foregoing month and who was one of the most popular men in this city. Mr. Frese is well-known as one of the progressive young business men of Louisville, and is courteous and engaging in manner, as well as enterprising in business.

The WESTERN INSURANCE COMPANY has a capital stock of $100,000 and a surplus of $60,000. A great deal of the fire insurance business of Louisville is done by local companies, which, though they have not the great capital of the Eastern and foreign companies, are equally as safe as they, since they do business only in a limited territory, in which they can make a personal inspection of the risks offered, and are not liable to write policies on buildings or goods that are unsafe, either from natural causes or because of the questionable character of their owner. The WESTERN INSURANCE COMPANY does a business of this safe character, accepting insurance in only small amounts. The advantages of the system are apparent in the statements of the company, which moves along easily and prosperously while larger companies are crying out at the great losses they sustain, making it a serious question whether they can continue to operate on their present plan. The WESTERN does a purely local business, but last year wrote risks to the amount of $2,500,000, and its business is constantly increasing. It takes so few hazardous risks that in 1886 its losses were only $2,000. The company pays a semi-annual dividend of five per cent. Its officers and board of directors are the same as those who manage the affairs of the bank, with the exception of Mr. H. Miller, who is the solicitor for the insurance company. The company is also local agent for the Springfield Fire and Marine Insurance Company of Springfield, Massachusetts.

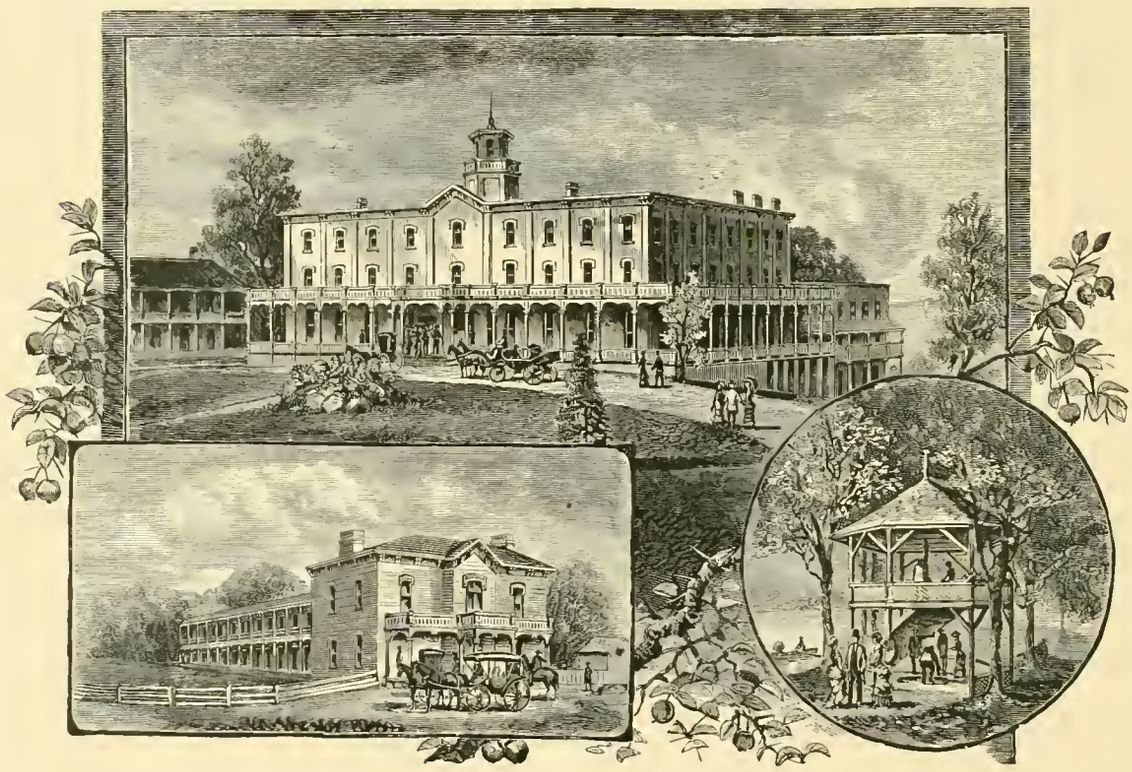
The offices of the bank are located in its own building, at No. 309 West Market street, where it established itself in 1868, having before that done business on Main street.

The President of the bank, Mr. A. F. Coldewey, is one of the most prominent German citizens of Louisville. He was born in Oldenburg, Germany, in 1829 and came to America in 1849, at once locating in Louisville and engaging in the furniture business until 1865, by which time he had acquired a fortune sufficiently large to enable him to retire from business. But in 1868 he accepted the Presidency of this bank which he has so ably managed. The constant growth of the business of the institution is illustrated by the fact that since December, 1885, the deposits have increased about $200,000. This prosperity is due to the wise and conservative management of Mr. Coldewey, who is recognized as one of the safest as well as one of the most far-sighted business men in Louisville, and whose long career as the President and active manager of the bank has given him a commercial following that is of the first importance. The clerical force of the bank and insurance company is composed as follows; Julius Hinzen, Jr., Teller; John Henseler, Individual Book-keeper; Harry Dunekake, Jr., General Ledger Book-keeper; Oscar D. Coldewey, Insurance Book-keeper; Carl Stege, Clerk.

The Crab Orchard Springs Company.

THE most popular summer resort in the South is CRAB ORCHARD SPRINGS, beautifully located among the foothills, which, further away in the shadowy distance, rise into the picturesque Cumberland mountains. The springs are on the Knoxville Division of the Louisville & Nashville Railroad, 115 miles from Louisville, and one-quarter mile from the little village of Crab Orchard. The property of the company embraces seventy-seven acres, beautifully laid off with shady, romantic walks, charming woodland nooks, where overhanging rocks and rippling springs form grateful retreats for those who have escaped from baking cities and driving care. The hotel is commodious and handsome, affording to the visitors every accommodation that can be had in the best-equipped establishment in any city. The springs are famous for the curative qualities of their waters, which, for certain ailments, are unequaled in the wide world.

For many years hundreds of people have annually sought pleasure, and rest, and health at CRAB ORCHARD SPRINGS; but, until the springs passed into the hands of the present management, the visitors had to put up with more or less inconvenience. In 1882, however, the establishment passed into the hands of a company which completely reformed all this, making such changes as justify those acquainted with the resort in calling it the "Saratoga of the South." This company is organized as follows: W. T. Grant, President; W. N. Haldeman and Bennett H. Young, Directors. The natural advantages of the place and the handsome buildings made it easy for these gentlemen to make CRAB ORCHARD



VIEWS OF THE HOTEL, AMUSEMENT HALL, AND SPRINGS.

SPRINGS one of the most attractive places in America. Good fare, numerous amusements in and out of doors, a fine orchestra, and courteous attention have increased the reputation of the springs and attracted to them the fashion of the South and South-west.

But charming as is CRAB ORCHARD in its social aspects, it is as a health-giving resort that it makes the greatest claims on the public. CRAB ORCHARD water from the American Epsom spring has no counterpart in this country. For all troubles of the liver, its virtue is unsurpassed. It is almost a certain cure for indigestion, and is remedial in cases of Bright's disease, affections of the bladder, skin, bowels, neuralgia, convalescence from febrile diseases, and in cases of general debility. The analysis of the most famous of the five springs is as follows: Carbonate of lime, .506; carbonate of magnesia, .375; carbonate of iron, a trace; sulphate of magnesia, 2.989; sulphate of lime, 1.566; sulphate of potash, .298; sulphate of soda, .398; sulphate of sodium, 1.000; silica, .021; bromine, a trace; total, 7.153 grains. The carbonates are held in solution by carbonic acid. There are four other springs, of various strength, chalybeate and sulphur.

These waters and the wholesome mountain air make CRAB ORCHARD SPRINGS a boon to invalids. Many people, those in health and those who are not, have such faith in the healing properties of the place that they return there year after year, while the young and the gay make the social attractions of CRAB ORCHARD second to those of no watering place in this country.

Mason Maury—Architect.

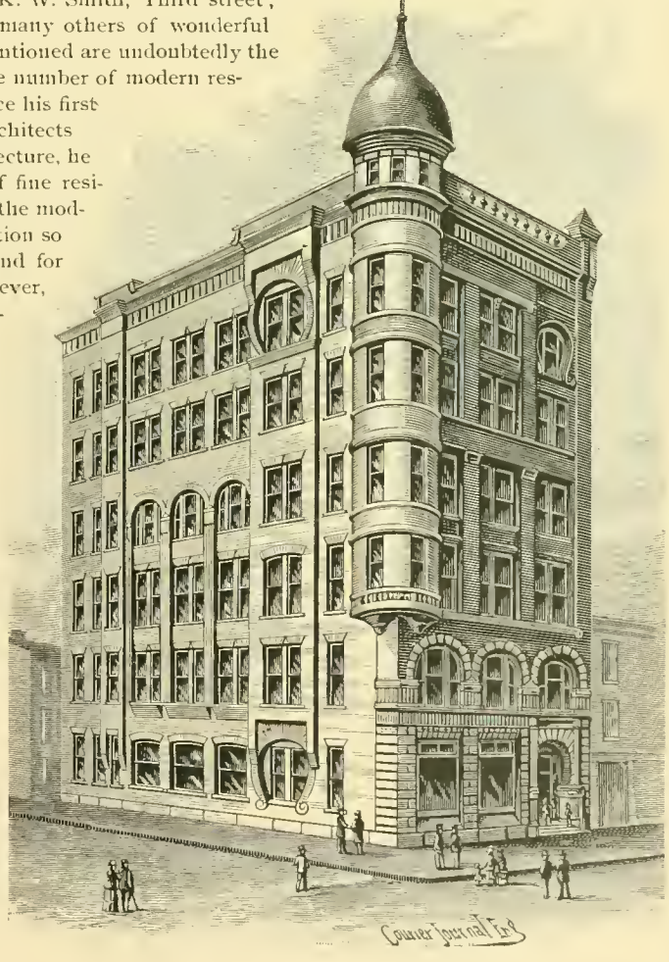
MASON MAURY.

THE vast improvement in architecture in Louisville, which is particularly noticeable in the residence portion of the city, is due in a large measure to the enterprise and aggressiveness of Mr. Mason Maury, who, within the past few years, has taken a leading position among the architects of this city. Up to the time when Mr. Maury started in business here, the style of architecture was very plain and commonplace. He had spent two years in the East, had traveled extensively, and had been a close reader of publications devoted to his profession, and, believing that Louisville people were as appreciative of the beautiful and picturesque as any other people in the world, he determined to introduce some new ideas with the hope that a general improvement might follow. The result is seen in the beauty and attractiveness of hundreds of modern-built houses which have been erected in the southern portion of the city within the past five years.

The first house of this modern style built by Mr. Maury was for Mr. Charles E. Wood, on the Highlands, in which he introduced the colonial style of architecture. This was finished throughout in hardwood cabinet work, and, at the time of its completion, was considered the most beautiful residence, both from an outside and inside view, in the city. This house established Mr. Maury's reputation as an architect. The next house designed and erected by him was that of W. F. Rubel, also on the Highlands. Then followed a beautiful residence on Third street for the late O. T. Sutfield, now owned by Major J. W. Stine. He then designed and built the handsome residences of J. F. Smith, Second street; Mrs. C. M. Short, Fourth avenue; W. S. Matthews, Fourth avenue; K. W. Smith, Third street; Judge Russell Houston, Weissinger avenue, and many others of wonderful beauty and completeness. The last two houses mentioned are undoubtedly the most beautiful residences in Louisville. The whole number of modern residences as built under Mr. Maury's supervision, since his first innovation, can not be given, but, while other architects have contributed to the vast improvement in architecture, he has done his share in the erection of hundreds of fine residences which have sprung up as if by magic under the modern idea. Until recently Mr. Maury gave his attention so exclusively to residences that he was not in demand for business structures. His opportunity came, however, when the erection of the Kenyon building was contemplated, and, having remodeled the Louisville Hotel two years ago, Mr. Henning, who is largely interested in the hotel, asked him for plans which resulted in the finest building in the city, a view of which is given on this page. This elegant structure has stimulated a demand for modern business houses, and has already demonstrated the fact that money invested in business houses in Louisville will pay a large profit.

The Kenyon building was the creation of the young architect who was supposed to know very well how to put up a handsome residence, but who paid no attention to the erection of business houses. The prominence of the Kenyon building, in the heart of the business portion of the city, brought Mr. Maury into notice and contributed more to his fame than his fifty or sixty residences.

Mr. Maury is a young man, a native of Louisville, and a graduate of the High School, and his success in his own home is a matter of pride to his numerous friends. His interests are identified with this city where he has acquired considerable property, besides some interests in important manufacturing enterprises.



KENYON BUILDING, MASON MAURY, ARCHITECT.

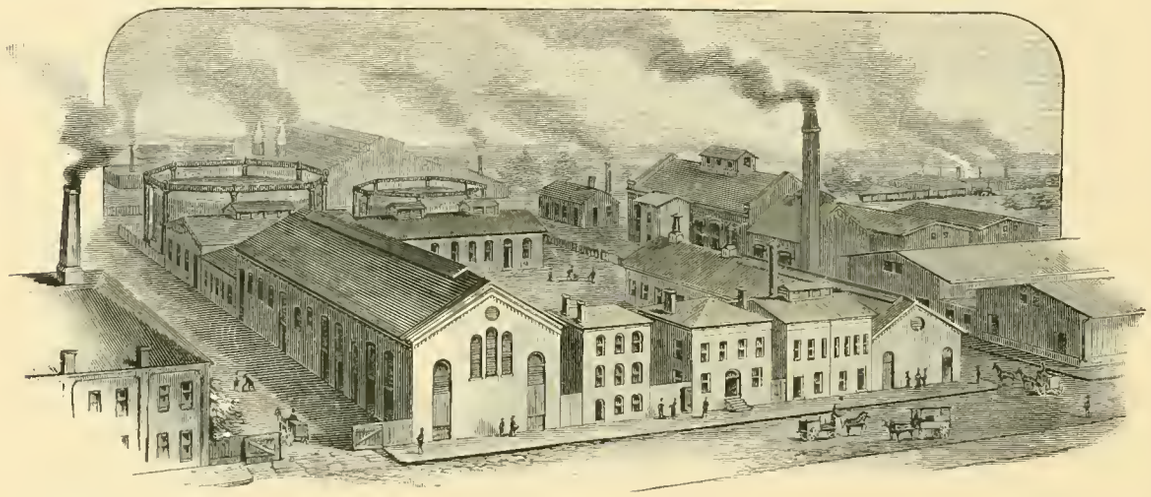
The Louisville Gas Company.

THE LOUISVILLE GAS COMPANY was chartered in 1836, and a year or two later began to distribute gas to the citizens of Louisville. The original charter granted the exclusive privilege of making gas in the city of Louisville for thirty years. In 1869 the charter was renewed with the exclusive privilege for twenty years. This privilege was granted in view of the fact that the city owned about one-third of the stock and got its streets lighted at actual cost. The company has been in active operation for fifty years, and during that time has made gas continuously except for two nights in February, 1883, when the flood put out the fires and the city was left in total darkness. In the following year the water rose higher by several inches, but precautions had been taken and the company did not have to stop work.

The capital stock of the company is now $2,500,000, of which the city owns $900,000. The city elects four of the nine Directors. The officers are George W. Morris, President; Thomas L. Barret, Vice-President; A. H. Barret, Engineer; W. P. Lee, Treasurer; E. S. Porter, Secretary; John S. Morris, Assistant Secretary and Treasurer. The Directors are George W. Morris, John M. Atherton, Thomas L. Barret, A. H. Barret, J. L. Smyser, and the following gentlemen on the part of the city: James A. Leach, Harry Bishop, E. W. McDonald, and John M. Robinson.

Mr. Morris succeeded the late John G. Baxter to the Presidency of the company in April, 1885, having been a Director active in its affairs for ten years previous to that time. Since Mr. Morris has come into the office, the policy of the company has been broadened and efforts have been made to satisfy the demands of the public in every possible way. The quality of the gas has been greatly improved and the service been in many ways rendered more efficient. The capacity of the works has been continuously increased, and, within the last two years, the company has spent $150,000 in introducing modern machinery and improvements. The manufacture of gas by means of these improvements is too intricate to be gone into here. It is only necessary to say the company keeps apace with the times and furnishes the citizens of Louisville with as fine an illuminating gas as is made anywhere in the country, and that the service is as nearly perfect as it can be made. Mr. Barret, the engineer in charge of the works, has had long experience in gas manufacture and is thoroughly skilled in his science.

Louisville is not as large a consumer of gas as its population would lead one to suppose, the wide spread of the city



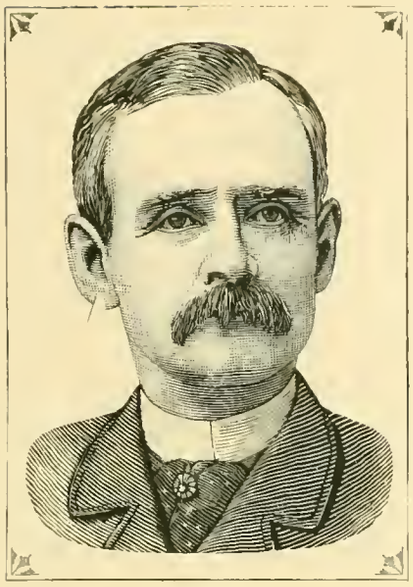
THE LOUISVILLE GAS COMPANY'S WORKS

making it at present impracticable to lay mains to some of the out-lying districts. These are illuminated by means of oil lamps in the streets. But as fast as a district becomes sufficiently settled, the gas company lays its pipes. The annual product is 375,000,000 cubic feet, to make which there is a consumption of over a million bushels of coal, the coal used being Pittsburgh with some Cannel mixed with it to give the gas a greater illuminating power. The productive capacity of the works is two million feet of gas per day, the maximum consumption being 1,600,000 feet. This capacity is to be greatly increased within the next year or two.

The company employs 150 men, exclusive of those engaged in laying pipes in the streets. There are 125 miles of street mains, and new ones are constantly put down in localities to which they have not hitherto been extended. There are 3,000 street lamps in the city, for lighting which the city pays no tax whatever. Throughout the city there are 7,500 consumers, and there are about 10,000 service pipe connections, going from the mains to the houses. At the gas works are two enormous holders, and another is located in Portland. A fourth one will be built within the near future. These great tanks cost something like $100,000 each, and on account of this expense in building them it would be poor financiering to store gas for future consumption, it being much cheaper to make the necessary supply from day to day.

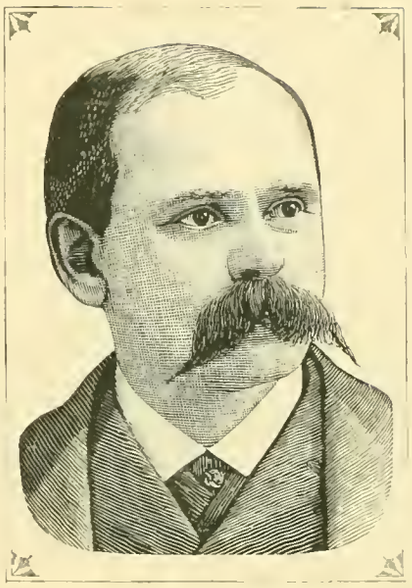
Of course, the LOUISVILLE GAS COMPANY, like every similar institution, has come in for its share of abuse from the public. Where is the gas company that has not? But within the last few years the complaints have grown less and less frequent as the service has been improved by means of modern machinery and through the efforts of the officers and directors, who have studiously endeavored to avoid all cause of grievance. There is no more capable business man in this community than Mr. George W. Morris, and no man has the confidence of the public to a greater degree.

Buchanan & Bro.



JAMES BUCHANAN.

THE real estate firm of BUCHANAN & BRO. is the leading firm of that line of business in this city. Both members, whose pictures are here shown, are native Kentuckians, and have lived in Louisville since early boyhood. The business was started by Mr. James Buchanan in 1872 and in 1879 he was joined by his brother, Mr. John W. Buchanan, at which time the firm name of BUCHANAN & BRO. was adopted, and it so continues to-day. Their office is where it was fifteen years ago, No. 404 West Main street, two doors below Fourth, in the business center of the city. No two gentlemen are better known in Louisville than are James and John Buchanan. They are men of education,



JOHN W BUCHANAN

and occupy high positions in all the relations of life. Cautious, but at the same time farsighted and progressive, and realizing that the value of real estate depends on the prosperity of the city, they are always interested in matters of public concern, and are prompt in assisting any enterprise the purpose of which is to bring Louisville to the front.

Their long residence in Louisville and the immense business they have done in real estate have familiarized them thoroughly with the growth and development of the city, and with values of all classes of property, both improved and unimproved. Their perfect knowledge of values and their known integrity give them the confidence of both buyer and seller and enable them to market property when other agents fail. While these gentlemen have in their offices the most complete maps of all the property in the city and county, they scarcely find it necessary to consult them, so intimate is their knowledge of locations and values.

A marked feature in the business of the firm is the handling of investment and trust funds; more large and important trusts are confided to their management than to any other firm in the city. Such is the confidence reposed in their integrity and ability by the leading lawyers and by the judges of our courts that their opinion is authority on all matters pertaining to real estate, and they are appointed by the higher courts to appraise and divide large estates of decedents.

Their knowledge both of the value of real estate and of the credit and solvency of borrowers has given them the leading position in the city as lenders of money on real estate security. It is a fact, perhaps without a precedent in such a business, that of the many thousands of dollars lent on mortgages by this firm in the past fifteen years but two or three of the mortgages have ever been foreclosed, and on these the mortgage creditors realized from the sales their debts with interest and costs in full.

When it is remembered that within the period of this firm's existence the legal rate of interest in Kentucky was at one time as high as ten per cent. per annum, presenting to lenders of money a strong temptation to run great risks by taking inadequate security, it is apparent that remarkably cool judgment was displayed by these gentlemen in their selection of only the best of loans, both in respect to the character and standing of the borrower and the value of the property sought to be mortgaged as security.

The opinion of these gentlemen is sought by large operators in real estate, it being well known that they do not buy and sell on their own account, hence their advice is untrammeled by personal interest. Strangers and others wishing to make inquiries in regard to real estate are made welcome at the office of this firm, and always receive prompt and reliable information. They perhaps have for sale more property than any other agency in the city; nearly every dwelling for sale in Louisville is in their hands. Their acquaintance is such that they are eminently successful in selling such property. Their list of unimproved lots suitable for residences, business, or factory purposes is larger than that of any other agency; anything in the line of improved revenue-paying property can also be found at their office. They do a large business in the sale of suburban residences—most of the changes in ownership of country seats which have occurred in the last decade have been brought about through them. They do a large business in the sale of farm lands, not only in this (Jefferson) county but in the Bluegrass counties of Kentucky; their facilities, in connection with local correspondents, for the handling of this class of property, are not surpassed by any individual or firm.

In short, the firm of BUCHANAN & BRO., as we have said at the outset, is the leading real estate firm in Louisville, and their success has been attained by the possession of those qualities that always command success in all departments of life—industry, energy, intelligence, and integrity.

J. Henry Doerr.

J. HENRY DOERR.

MR. J. HENRY DOERR is a photographer of the highest reputation, and his work is widely known in the West, South, and South-west, many people preferring it to that of the famous photographers of New York and Chicago. He has one of the finest photographic studios in the country, his building having been erected by him for this express use and being equipped with every device that could facilitate his art. It is located at Twelfth and Market streets, is three stories high, and has a frontage of forty-two, with a depth of 104 feet. The entire third floor is used as a studio, and is arranged for the comfort of Mr. Doerr's patrons, as well as to obtain the best results in photography. The reception rooms occupy the width of the building, and are deep enough to make very handsome parlors. They are decorated with some of the finest specimens of Mr. Doerr's work, and are elegantly furnished. Leading from these are the toilet rooms for ladies and gentlemen, those for ladies affording every facility for making the most elaborate toilet with comfort and elegance.

The operating room is the chief feature of the studio. Its dimensions are nineteen by thirty feet, and its lights are admirably arranged, the sky-lights and side-lights being so constructed that the best effects may always be obtained. This room is never littered up with the paraphernalia of the ordinary photograph gallery, all of the backgrounds and accessories being kept in a convenient store-room, whence they may be slid out just as they are required. Mr. Doerr is peculiarly expert in arranging these articles so as to produce the best effects of light and shade, and the most artistic results. He keeps a great variety of the accessories for posing and producing picturesque surroundings for his subjects.

Adjoining the gallery are the dark-room and the re-touching room. The latter is a model of what a re-touching room should be, care being again taken to have good lights. The printing-room is unusually complete. It is not generally understood that the temperature of the water used in washing off the pictures has much to do with their tone, very cold water making a picture harsh and uneven; therefore, Mr. Doerr's establishment is provided with hot and cold water, so that when a picture is put into the bath, the water is first tempered to the requirements of the work. The exposures for printing are also admirably arranged, having a southern exposure, and being equipped with both ground and clear glass, thus giving the artist just the amount of sunlight that he needs.

Everything pertaining to the art is to be found in the studio, and every variety of photograph is here produced, from the smallest to the largest picture. Mr. Doerr employs only first-class artists in his establishment. Just as he spared no expense in putting up a building suited to his purposes, so does he spare none in any detail of his business. In his operating room he uses only the most perfect camera, and the instruments in every department are equally fine and true.

Mr. Doerr has been in the photographic business since 1861, and has had a wide experience in every branch of the art. There is no part of the work which he can not himself perform, and perform well. After having had a very gratifying success in a smaller studio, he put up the building he now occupies, and moved into it in the fall of 1875. It was then considered somewhat out of the way, being further down town than most of the large business houses were, and the neighborhood was not settled by a class of people from whom Mr. Doerr could expect paying patronage. Nevertheless, the venture proved wise and profitable. It is an evidence of the excellence of the work, that the most fashionable people of the city leave the fashionable thoroughfares and make a little excursion to Twelfth and Market streets to have their pictures taken. In Mr. Doerr's studio are photographs and crayon drawings of the most prominent men in Louisville, while on his walls also hang the portraits of some of the most famous beauties that Louisville has ever known. Such people as these have become his regular patrons. His work is also exceedingly popular with the ladies.

While all branches of the art fall within Mr. Doerr's scope, he makes a specialty of fine porcelain work. His colored photographs on porcelain have all the freshness of color and delicacy of treatment that can be given to the most carefully painted miniature on ivory, while they have also the merit of photographic likeness. These charming porcelain pictures of Mr. Doerr's are so much admired that it is not uncommon for ladies to come to him from Cincinnati, St. Louis, Nashville, and even more distant places, for the purpose of having their features so portrayed by him. In water colors, Mr. Doerr has also had great success, and in photographs touched up in crayons he has done and now exhibits some admirable work.

In large groups and in pictures of intricately furnished interiors, Mr. Doerr has obtained remarkably fine results. Some of his photographs of interior sections of the Southern Exposition are wonderfully correct in minute detail, while embracing a large area. He exhibits on his walls some noteworthy groups, especially several of large families on which he justly prides himself not a little. One of these contains more than twenty figures closely grouped, and from the baby to the great-grandfather every feature is perfect. Mr. Doerr is also prepared to do all kinds of landscape photography, his out-of-door views being numerous and well taken. He also does a large business in commercial photography, the selling of goods by photographic samples having become an important branch of trade. Mr. Doerr took the highest awards in photography at the Southern Exposition in the years 1883, 1884, 1885, and 1886, several eminent photographers having competed.

The Louisville Public Warehouse Company.

THE LOUISVILLE PUBLIC WAREHOUSE COMPANY was incorporated under the laws of Kentucky in December, 1884. Its officers are Udolpho Snead, President; John G. Barret, Vice-President; Wm. G. Coldewey, Secretary, Treasurer, and Manager. The office of the company is at No. 208 West Main street, Louisville, and its warehouses are located here and at Athertonville, Larue county, Kentucky. The company was organized for the storage of whisky and tobacco chiefly, but also for the storage of general merchandise. The increase from year to year in the production of whisky created the demand for this institution, which is an independent and secure depository for whisky as forced out of bond, and which is eminently satisfactory to the banks on which the whisky trade so largely depends for its commercial prosperity, as well as to the trade itself. To the banks of Louisville it is eminently desirable to have warehouse receipts for whisky and tobacco which shall be out of the range of fraud, and shall be drawn by a company that is morally and financially responsible beyond question.

WILLIAM G. COLDEWEY.

The company accordingly bought the new warehouses built by the Newcomb-Buchanan Company at a cost of $200,000, having a capacity for 160,000 barrels, and being the largest, best constructed and equipped warehouses in the State. The immense building is divided into three completely disconnected warehouses by double strength fire walls laid in cement. Each warehouse is equipped with the latest improved elevators, gas engines, rack system, etc. All openings are protected by iron bars and shutters, and the buildings are practically fire-proof. Sewers tap each house for the drawing off of whisky from bursting barrels in case of fire, thus protecting the buildings from the overflow of the burning liquor. The company when it bought these buildings made extensive repairs and secured a complete railroad connection by building a switch, at a cost of $7,000.

The main warehouses of the company are located in the eastern part of the city and are numbered 1, 2, and 3. Warehouse No. 1 is the largest of the three and is used for general merchandise, with cellars for storage of wines, meats, etc. Warehouse No. 2 is for the storage of returned exported whiskies, and other merchandise in bond, and is under the control of the United States Customs Department. Warehouse No. 3 is devoted exclusively to the storage of free or tax-paid whisky. A fourth warehouse has recently been built by the company, in the rear of its offices, in the central part of the city expressly for the proper storage of all kinds of household effects, valuable merchandise, etc. This

THE COMPANY'S MAIN LOUISVILLE WAREHOUSE.

warehouse is known as No. 4, and in its construction every precaution was taken to provide a dry and dust-proof building for the proper care of fine furniture, etc. Two other warehouses of the company are located at Athertonville, Kentucky, expressly for the storage of the free whisky on the premises of the J. M. Atherton Company.

Liberal advances are negotiated, or made by the company, on its warehouse receipts, and financial arrangements are perfected with local and New York banks. The company also represents Messrs. Dulany, Meyer & Co., of Baltimore, and Messrs. C. A. Cæsar & Co., of Bremen, Germany, for the exportation and storage of whisky abroad.

The company is doing a large and successful business, and is prepared to increase its facilities as the business may demand. Under its charter the company is permitted to lease and assume control of other warehouses or storage yards, and to issue receipts therefor. Inspection of the company's warehouses and arrangements is invited.

Louisville, Evansville & St. Louis Railroad.

GEORGE F. EVANS.

THE completion in August, 1882, of the LOUISVILLE, EVANSVILLE & ST. LOUIS RAILROAD—better known in Louisville and Kentucky as the "Louisville & St. Louis Air Line"—was an event of much importance to the commercial interests of the Falls City, opening up to its merchants a territory fully one hundred miles in length and fifty miles in breadth; a region heretofore destitute of railway facilities, and giving to them not only a competing line but the shortest line to Rockport and Evansville, Indiana, and Owensboro and Henderson, Kentucky; to Vincennes and Terre Haute, Indiana, by way of the Evansville & Terre Haute Railroad, which it crosses at Princeton, Indiana; to Cairo and points in Southern Illinois via Mt. Carmel, where it intersects the Cairo, Vincennes & Chicago Line; and by the Louisville & Nashville Railroad from Mt. Vernon, Illinois, to St. Louis and all points West and Southwest. At Brown's Crossing the Peoria, Decatur & Evansville Railway gives a valuable and direct line to Peoria, Decatur, and Mattoon, Illinois.

The Main Line of the road is 182 miles in length; the Evansville Division, fifty-five miles; the Rockport Branch, seventeen miles; and the Cannelton Branch, twenty-three miles, making a total of 277 miles. The section of country through which the line passes is as fertile and productive as any portions of the rich States of Indiana and Illinois. It is in a high state of cultivation, its crops of wheat, corn, rye, oats, tobacco, etc., finding a ready market in Louisville; is already thickly populated, and is enjoying an era of progress and development that is as remarkable as it is gratifying to those who have its welfare at heart.

Beginning at a point thirty miles from Louisville the road traverses for sixty miles an extensive belt of the finest and most valuable timber in Indiana, and, about fifty-five miles from Louisville reaches the Indiana coal field, forty miles or more in length and several miles in width. Within this area is an inexhaustible supply of good coal, which, owing to its superior quality and low cost of mining, has revolutionized the coal business of New Albany by reducing the price of other coals, and has saved that city more than once from a coal famine during low stages of the Ohio river.

During the past year the line has been equipped with a full complement of new passenger coaches and passenger and freight locomotives. The new passenger coaches are patterned after those now in service in the "fast trains" between New York and Boston, and are models of comfort, convenience, and elegance.

The "Air Line" is the only line running double daily solid trains between Louisville and St. Louis with Pullman Palace Sleeping Cars of the latest improved pattern on all night trains, and Monarch Parlor Buffet Cars on day trains. With its steel track, solid stone ballasted road-bed, the principal bridges of steel and iron, and its short line, it has grown to be the popular route from the city by the Falls to the Mound City just west of the big bridge. As an evidence of this we have only to quote the following echo from the National Encampment of the Grand Army of the Republic at St. Louis in October, 1887: "At a regular meeting of George H. Thomas Post No. 6, G. A. R., held last Thursday evening, October 6th, it was unanimously resolved that a vote of thanks be extended to the officials of the St. Louis Air Line Railroad for the extraordinary facilities and courtesies extended the Post and their friends on their recent trip via that line to the Grand National Encampment at St. Louis, Missouri, and for the promptness with which they were landed and returned to Louisville on schedule time. By order, E. A. Richards, P. C.; John Hensler, Adjutant."

There are many places of interest within easy reach of the people of Louisville and vicinity. Corydon, the ancient capital of Indiana with the capital building still standing, thirty-one miles; Milltown, with its picnic park and Blue river, famous for its bass and pike, where is also located the lime kiln of J. B. Speed & Co., of Louisville, said to be the largest in the world, is thirty-four miles from Louisville. The world-renowned Wyandotte Cave, as large as the Mammoth Cave of Kentucky, is only eight miles from Milltown by stage. At Marengo, only thirty-nine miles from Louisville, is located the famous Marengo Cave, ranking next to Wyandotte Cave, which is about a half mile from the station, and at English, only fifty-two miles from Louisville, is the "Hazelwood Sulphur Springs," the summer resort of Southern Indiana. By January 1, 1888, the branch now under construction from Lincoln to Cannelton, Indiana, will be in operation and will place within easy rail communication with Louisville, Troy, with its 800 inhabitants; Tell City, with 3,000; and Cannelton, with 2,500. A new iron bridge has just been completed over the Wabash river at Mt. Carmel, Illinois.

Wm. T. Hart is President and Otis Kimball, Secretary and Treasurer, with office at Boston, Massachusetts. The main offices in Louisville are in the Board of Trade building, corner Main and Third streets. The officers are Geo. F. Evans, General Manager; Judge Alex P. Humphrey, General Counsel; John J. Collier, Auditor; J. S. Odiorne, Cashier and Paymaster; W. H. Folsom, Purchasing Agent; L. S. Parsons, General Freight Agent; G. W. Curtis, General Passenger Agent; Bland Ballard, Assistant Attorney; W. S. Martin, Master of Transportation; T. L. Dunn, Chief Engineer; and W. A. Stone, Master Mechanic.

Geo. F. Evans, the General Manager, has been connected with the company since its organization early in 1881 when he entered its service as Secretary and Treasurer. In March, 1884, he was appointed Assistant to the President in connection with his other duties; on December 31, 1884, he was made Receiver by Judge Gresham of the United States Circuit Court; and, upon the reorganization of the road in October, 1886, was elected General Manager.

N. Sid Platt.

N. Sid Platt.

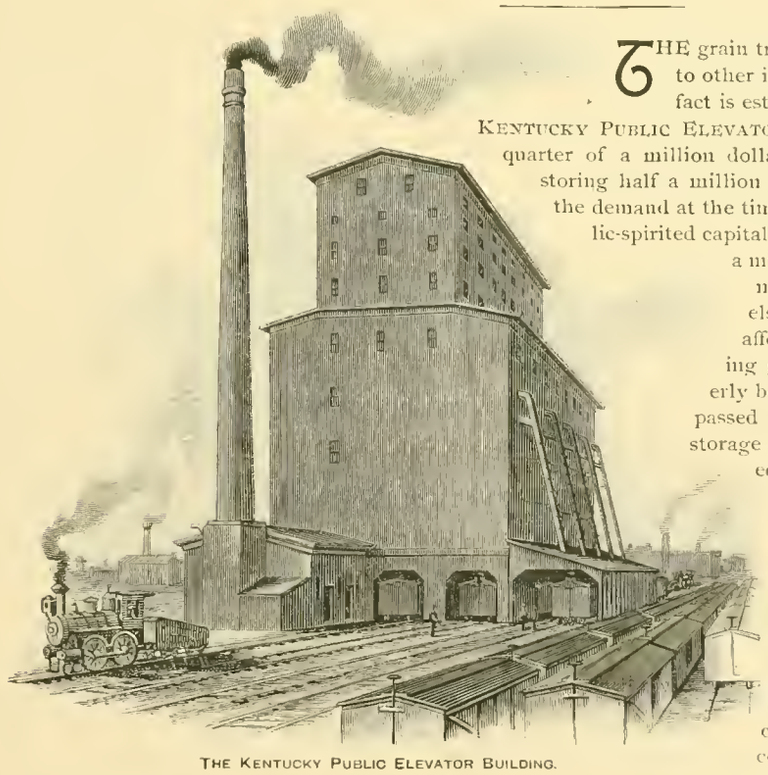
THE manufacture of custom-made shirts was in its infancy twenty-five years ago, not only in Louisville but in the whole country. The pioneer in this branch of business, which has become such an industry in our city, was Mr. N. Sid Platt. He was the first man south of the Ohio river to cut a shirt to order from measurement. By careful study of proportions of men, and by long and tiresome experiments, he originated and perfected a system of cutting and making shirts to order, by which a gentleman can be fitted with a shirt made to his special size and shape with the same facility with which a merchant tailor measures and fits his customers with accuracy.

Having accomplished this result, his custom-shirt business has grown until his customers are found in every State in the Union. Mr. Platt's first business experience was in the dry goods line, where he readily took up the study of textile fabrics, educating himself as to quality and cost of manufacture, which has proved to be of inestimable value to him in the production of high grades of goods, and in securing beauty and durability of material, and elegance and comfort of proportions. The acme of perfection in these particulars is the "Apollo Yoke" shirt, the name of which has become a household word throughout the South.

In connection with his shirt manufactory he has combined a large and successful department of Men's Furnishings, and, in this department also, he has strictly adhered to the principle that good articles find a ready market, and he has never stooped to make or vend spurious or worthless trash. He employs a large number of hands to whom he gives employment throughout the year.

His business is a pleasure to him as well as a profit, which proves the fact that, if a man combines with ability a love for his calling, his success is assured, be he physician, preacher, merchant, or manufacturer.

The Kentucky Public Elevator.

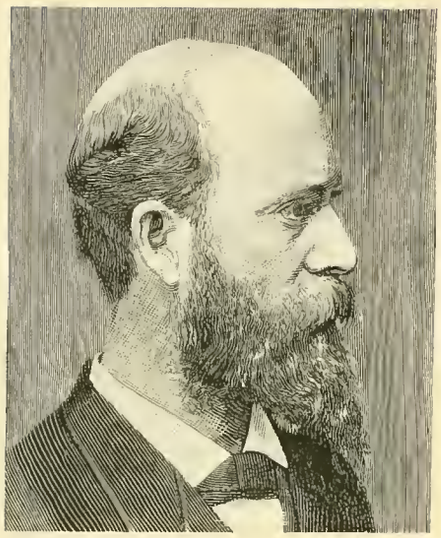


The Kentucky Public Elevator Building.

THE grain trade of Louisville has grown in proportion to other interests during the past five years. This fact is established by the increasing business of the Kentucky Public Elevator, which was built in 1881 at a cost of a quarter of a million dollars, and with a capacity of receiving and storing half a million bushels of grain. The capacity exceeded the demand at the time it was built, and it seemed that the public-spirited capitalists who projected the enterprise had made a mistake in building too great for the accommodation of a trade that was inclined to go elsewhere. But the Public Elevator has afforded such facilities for handling and storing grain that much of the grain which properly belongs to Louisville, but which formerly passed through and around the city for want of storage and transferring facilities, has been attracted to Louisville by the finest elevator in the South or West, and this magnificent enterprise, as managed by the President of the company, Mr. Bennet D. Mattingly, is realizing a fair profit for the owners.

The elevator is situated at the corner of Fourteenth and Kentucky streets, and is connected with all of the railroads entering the city, thus affording the most complete facilities for shipping and receiving grain to and from all parts of the country. Office at No. 205 W. Main street.

J. W. Sawyer.



J. W. SAWYER.

MR. J. W. SAWYER may be styled a self-made man. He entered a grocery store in 1868 as salesman and there acquired a business knowledge and experience that qualified him to conduct business successfully for himself. In 1878, he commenced the grocery business in this city with a capital of $267.50, and during that year the sales amounted to $32,000.00. During the past seven years his sales have been, on an average, $70,000 a year. His success is the more wonderful from the fact that for five years of the time referred to above, he suffered with an inflamed knee-joint and had to use crutches. His thorough business system of checks, combined with sound business maxims, carried him through successfully, notwithstanding this great drawback.

MR. SAWYER'S stores are located at Nos. 354 and 356 East Market street, and are filled with staple and fancy groceries of every description of the best grades, all of which are sold at the very lowest market rates, and satisfaction always guaranteed. He does a large retail business in the city, and his country customers are to be found all through the Ohio and Mississippi valleys from West Virginia to Texas. The specialties of the house are "Diamond" flour, which has no superior for domestic or bakers' use, "Diamond" coffee, and "Combination" mixed tea.

MR. SAWYER, besides being a first-class grocer, is also a student spending many of his leisure hours in the acquisition of knowledge. He has mastered pretty thoroughly several languages without the aid of a teacher. He is an independent and vigorous thinker. His ideas in regard to paupers are peculiar. He does not believe in taxing the public to support charitable institutions that are filled with paupers caused by strong drink, but holds to the opinion that the makers and sellers of intoxicating beverages should bear the burden of supporting that particular class, as they alone receive the profits. MR. SAWYER is much opposed to grocers selling liquor of any kind, and it is his purpose, at an early day, to publish a book showing how to sell groceries and not sell liquors and yet make money. The secret of success, MR. SAWYER says, is the study of three words, "HOW," "WHEN," and "WHERE" to buy goods to best please the trade. Politeness and strict integrity characterize all his transactions.

R. B. Cotter.

MR. R. B. COTTER, the most extensive Manufacturer and Wholesale Lumber Dealer in Louisville, is a native of this State, having been born in Bardstown in the year 1856. Early in life he moved to this city, where he was educated and for some time was interested in the iron business, but during the past seven years has been engaged exclusively in the lumber trade.

R. B. COTTER.

The office and lumber yard of MR. COTTER are located on the corner of Eighth and Zane streets. The yard covers an area of about three and one-quarter acres and, being near the main stem of the Louisville & Nashville Railroad, has side-tracks running into it, which greatly facilitates the receiving and shipping of goods. He carries a very large stock of pine and hardwood lumber — mostly hardwood — making a specialty of poplar or whitewood, selling at wholesale only and in carload lots. His trade here is quite large and extends East, West, North, and South — also through Canada and Europe. Last year the sales of lumber amounted to eighteen million feet. The well-equipped planing mill in the yard is kept constantly running, dressing and working lumber into various shapes. A large number of hands is employed in various capacities, the pay-roll amounting to $1,000 per week. This is the kind of industry that builds up a city and adds to its wealth and prosperity.

MR. COTTER owns several thousand acres of the best timber lands in Kentucky, Tennessee, and Indiana, and his resources for procuring the very best quality of hardwood lumber to meet the growing demands of his trade are almost inexhaustible. He owns and operates a sawmill in Eastern Kentucky, one in Tennessee, and another in Indiana, besides a floating mill, "Old Hickory," operating on the Ohio river and its tributaries. This floating sawmill draws less than two feet of water and can navigate the smaller streams, where a force of men is constantly engaged sawing timber and loading it on barges for transportation to Louisville. His growing trade renders it necessary for him to buy the cuts of several other mills. The secret of the success of this enterprising young merchant is found in a thorough knowledge of the business he is engaged in and reliability in filling orders according to contract.

1888. Harper's Magazine. 1888.

HARPER'S MAGAZINE, representing the best current literature and art, and being in the most effective way an exposition of the world's progress in every department of activity, is indispensable to all intelligent readers. The co-operation with the most eminent American and European writers of such artists as ABBEY, REINHART, PARSONS, BOUGHTON, FROST, PYLE, DU MAURIER, MILLET, DIELMAN, CHURCH, GIBSON, THULSTRUP, PENNELL, ZOGBAUM, ROGERS, SNYDER, GRAHAM, MACBETH, BARNARD, DUEZ, MERSON, RAFFAELI, and KAUFMANN produces a magazine as beautiful, brilliant, and varied as the literary and artistic resources of the time render possible.

The publishers of the Magazine respectfully invite public attention to a few of its principal attractions for the coming year.

In descriptive articles American subjects will, as heretofore, be especially prominent; and in this field particular attention will be given to

KENTUCKY, AND THE GREAT CENTRAL STATES OF THE WEST

In contributions from our most brilliant writers, effectively illustrated, treating of Western Humor, Social Life, Educational Institutions, Journalistic Enterprise, Industry, and Commerce. As a part of this scheme, articles upon individual States will be prepared by distinguished Western writers, and illustrated by portraits of the most eminent men associated with the progress and fortunes of these commonwealths.

Descriptive papers, superbly illustrated, on

NORWAY, SWITZERLAND, ALGIERS, AND THE WEST INDIES,

Will be contributed by BJÖRNSTJERNE BJÖRNSON, W. D. HOWELLS, F. A. BRIDGMAN, and LAFCADIO HEARN. In addition to these there will be papers on Scotland, picturesquely illustrated by JOSEPH PENNELL; "A Gypsy Fair in Surrey," by ANSTEY GUTHRIE, illustrated by F. BARNARD; "A Ramble in Kent," by DR. BENJAMIN E. MARTIN, illustrated; "London as a Literary Center," by R. R. BOWKER, illustrated by portraits; "Socialism in London," by M. ROSNEY, illustrated by F. BARNARD; "St. Andrews," by ANDREW LANG, illustrated; important papers by THEODORE CHILD, on characteristic phases of Parisian Life and Art, fully illustrated; a brilliant paper by M. COQUELIN on "French Dramatic Writers and How to Act them," illustrated; and other interesting contributions.

Another special feature of the Magazine will be the appearance from time to time of important papers on the

PRESENT CONDITION OF INDUSTRY

In America and in the various countries of Europe. The series of illustrated papers on "Great American Industries" will be continued.

NEW NOVELS.

In the January Number will be begun a new novel, entitled "In Far Lochaber," by WILLIAM BLACK, and in an early Number a new novel by WILLIAM DEAN HOWELLS. The January Number will contain a novelette entitled "Virginia of Virginia," by AMÉLIE RIVES, and in the course of the year will appear a novelette by LAFCADIO HEARN, entitled "Chita," a Legend of Lost Island; also short stories by MISS WOOLSON (with an Italian background) and HENRY JAMES.

PAPERS ON ART SUBJECTS

Will be given, each Number of the Magazine containing a special contribution of this kind, effectively illustrated.

THE EDITORIAL DEPARTMENTS.

The *Easy Chair*, contributed by GEORGE WILLIAM CURTIS, and MR. HOWELLS' *Study*, furnish a monthly comment on Society and Literature which has no counterpart in any other publication. The *Drawer* is conducted by MR. CHARLES DUDLEY WARNER, and MR. LAURENCE HUTTON will continue his *Literary Notes*.

Many of the illustrations in this book are from the pages of Harper's Magazine.

INDEX

TO PROMINENT COMMERCIAL AND MANUFACTURING INTERESTS IN LOUISVILLE.