



A L. GER'S
PATTERN BOOK.

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South Boston Iron Co.'s

PATTERN BOOK.

L I S T
OF
PATTERNS, ETC.

BELONGING TO THE
SOUTH BOSTON IRON COMPANY;
CYRUS ALGER AND OTHERS,
PROPRIETORS.

REVISED AND CORRECTED, WITH ADDITIONS MADE, TO MAY 1, 1851.

Foundry and Machine Shop — South Boston.
Office — Head of Central Wharf.

B O S T O N :
PRINTED BY JOHN WILSON & SON,
22, SCHOOL STREET.
1851.

Copy

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SOUTH BOSTON IRON COMPANY.

THE SOUTH BOSTON IRON COMPANY are prepared to execute orders for CASTINGS of every description, at the shortest notice, and on the most favorable terms.

In addition to the Geer-wheels, &c. which are particularly enumerated in the following pages, they are constantly adding new patterns to the list, and have first-rate pattern-makers in their employ, so that those who are unable to accommodate themselves from such as are already on hand can be suited with new ones, made at short notice, and of such form and dimensions as may be required. They have also a great variety of Gudgeon, Shaft, Pedestal, Box, and other Patterns used in the various kinds of ma-

chinery; and Hanger Patterns from $8\frac{1}{2}$ to 18 inches, suitable for shafts from $1\frac{1}{4}$ to $2\frac{1}{2}$ inches.

They have also a *Machine Shop* attached to the Foundry, where all kinds of Boring and Turning, including Wrought Iron and Blacksmith Work, are executed in the best manner.

ROLLING-MILL CASTINGS.

All descriptions of castings for Rolling-mills are furnished to order.

Chilled Rollers, of any dimensions desired, are made to order and warranted. From long experience in this branch of business (Mr. Alger having originally invented and patented the present mode of casting them), they feel confident of being able to furnish a first-rate article.

COMPOSITION CASTINGS AND BRONZE CANNON.

These will be furnished at short notice, and of the best quality. These Guns intended for Merchantmen or Steamers to give notice of arrival or departure, as well as for defence, if

occasion should require, are of various calibers, usually 4, 6 and 9 pounders. They are attached to carriages, and are furnished with percussion locks.

A constant supply of the following articles, among many others, kept on hand : —

Potash Kettles	Cespoils
Cauldrons, 15 to 75 galls.	Travellers
Bark Mills	Grind-stone Cranks
Corn Craekers	Friction Rollers for do.
Door Serapers	Hoisting Wheels and Pin-
Hawser Pipes	ions
Chain Deck Pipes	Lathe Wheels
Stove Deck Pipes	Lathe Poppetts
Tire Benders	Rests and T's for do.
Forge Baeks	Windlass Boxes
Oven Doors	Truck Wheels
Ash Doors	Furnaees for Heating
Boiler Doors	Houses
Do. Grates	Dumb Bells
Grate Bars, 12 to 36 inches	Wing Gudgeons
Cylinder Stoves	Saw Mill Cranks
Frames and Grates	Fulling Mill do.
Basket Grates	Rollers for Doors

Barrow's celebrated Cooking Ranges, three sizes, constantly on hand.


SUGAR MILLS.

Sugar Mills, both *horizontal* for *steam power*, and *perpendicular* for *cattle power*, made at short notice, and usually on hand.

LOAM CASTINGS.

Large Kettles from 100 to 1,500 gallons, and of any form required, made at short notice. Also *Curbs* for the same, for the use of *Soap-boilers* and others. *Sugar Pans* and *Oil Kettles* of all sizes. *Cylinders* for *Paper Manufacturers*, *Powder Works* or any other purpose, of any size that may be wanted, from one foot or less to fifteen feet in diameter. An assortment of *Soap Kettles*, &c. usually kept on hand.

Heavy Loam and *Dry Sand* Castings, made of gun iron, are warranted to be from 50 to 100 per cent stronger than if made of common foundry iron.

 ORDERS for *Locomotive Cranks*, *Car Axles*, and all descriptions of *Shafting* of forged iron, executed with despatch.

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
215	1	7	$3\frac{1}{2}$	17	5	16 segmt.
	3-	$4\frac{1}{2}$	$3\frac{1}{4}$	39	10	
	5-	$5\frac{1}{2}$	$3\frac{1}{4}$	63	10	
	2-	$8\frac{1}{2}$	$3\frac{1}{4}$	31	10	
	6-	6	$3\frac{1}{4}$	76	9	
216	2	$3\frac{1}{4}$	$3\frac{1}{4}$	26	$4\frac{3}{8}$	16 segmt.
482	1	$7\frac{3}{4}$	$2\frac{1}{4}$	19	9	
483	21	$7\frac{1}{2}$	$3\frac{1}{4}$	256	9	
484	10		$3\frac{1}{4}$	117	9	
485	2	$10\frac{3}{4}$	$3\frac{1}{4}$	35	9	
217	2	$3\frac{1}{4}$	$3\frac{1}{8}$	27	$4\frac{1}{2}$	
218	1	$10\frac{3}{8}$	$3\frac{1}{8}$	22	$3\frac{5}{8}$	
223	2		$3\frac{1}{8}$	24	$7\frac{1}{2}$	
224		$10\frac{1}{2}$	$3\frac{1}{8}$	11	$7\frac{1}{2}$	
219	4	$2\frac{1}{4}$	3	53	$5\frac{1}{2}$	
220	3	1	3	39	$5\frac{1}{2}$	
221	2	$9\frac{1}{4}$	3	35	$5\frac{1}{2}$	
222	2	$1\frac{5}{8}$	3	27	$5\frac{1}{2}$	

SPUR WHEELS.

No.	Diameter.		P.tch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
193	1	10 $\frac{3}{4}$	3	24	6 $\frac{1}{2}$	
442	2	4	3	29	5 $\frac{1}{2}$	
1	20		2 $\frac{7}{8}$	220	7	24 segmt.
2	5	11 $\frac{5}{8}$	2 $\frac{7}{8}$	78	7	
3	2	11 $\frac{1}{2}$	2 $\frac{7}{8}$	39	7	
4	2	4 $\frac{3}{8}$	2 $\frac{7}{8}$	31	7	
5	20		2 $\frac{7}{8}$	220	6	24 segmt.
6	4	1 $\frac{3}{4}$	2 $\frac{7}{8}$	54	5	mortice.
0	2		2 $\frac{7}{8}$	26	5	
27	24	4 $\frac{1}{2}$	2 $\frac{7}{8}$	323	7	{ 11 of 14 cogs.
486	1	6 $\frac{3}{8}$	2 $\frac{1}{3}$	20	7	{ 13 of 13 do.

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
7	6	$6\frac{3}{4}$	$2\frac{1}{16}$	88	$6\frac{3}{8}$	
8	3		$2\frac{1}{16}$	40	$6\frac{3}{8}$	
9	2	$\frac{1}{4}$	$2\frac{1}{16}$	27	$6\frac{1}{2}$	
10	1	$6\frac{7}{8}$	$2\frac{1}{16}$	21	$6\frac{3}{8}$	
11	1	$5\frac{3}{16}$	$2\frac{1}{16}$	19	$6\frac{3}{8}$	
12	10	8	$2\frac{1}{16}$	144	6	16 segmt.
13	6	$6\frac{3}{8}$	$2\frac{1}{16}$	88	5	mortice.
453	10		$2\frac{1}{16}$	137	$6\frac{1}{2}$	{ 5 segmt. 12 cogs. { 7 do. 11 do.
15	1	8	$2\frac{3}{4}$	23	$4\frac{1}{4}$	
16	9	8	$2\frac{3}{4}$	132	8	12 segmt.
17	4	$7\frac{3}{4}$	$2\frac{3}{4}$	64	8	
18	12		$2\frac{3}{4}$	165	$7\frac{1}{2}$	15 segmt.
19	5		$2\frac{3}{4}$	68	$7\frac{3}{8}$	
20	4	$\frac{1}{2}$	$2\frac{3}{4}$	55	7	
21	1	$11\frac{3}{4}$	$2\frac{3}{4}$	27	$7\frac{3}{8}$	
22	1	$9\frac{1}{4}$	$2\frac{3}{4}$	24	6	
23	3		$2\frac{3}{4}$	41	$7\frac{3}{8}$	

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.		
	Ft.	In.			Inches.		
24	3	9½	2¼	52	4¾		
25	1	½	2¼	14	4¾		
73	1	10	2¼	25	6		
74	19		2¼	360	8	20 segmt.	
75	2		2¼	27	8		
487	1	½	2¼	14	8½		
	4	-	2¾	54	6¾		
	1	- 5¾	"	20	7		
26	2		2¼	28	5		
71	2		2¼	28	7		
60	2	7¾	2½	38	3½		
61		10¾	2½	13	3½		
62	1	9½	2½	26	3½		
63	1	8	2½	24	5		

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
64	1	8	$2\frac{5}{8}$	24	5	
65	13	$10\frac{1}{2}$	$2\frac{5}{8}$	201	7	{ 9 segmt. 13 cogs. 7 do. 12 do.
67	10		$2\frac{5}{8}$	144	7	8 segmt.
76	2	4	$2\frac{5}{8}$	34	7	
137	1	$10\frac{1}{2}$	$2\frac{5}{8}$	27	11	
136	14	2	$2\frac{5}{8}$	208	11	16 segmt.
446	18	$5\frac{1}{2}$	$2\frac{5}{8}$	264	7	24 segmt.
	1-	$11\frac{5}{8}$	$2\frac{7}{8}$	29	4	
	1-	$10\frac{5}{8}$	$2\frac{7}{8}$	27	4	
28	13		$2\frac{9}{16}$	192	7	16 segmt.
29	1	$8\frac{5}{8}$	$2\frac{9}{16}$	25	7	
53	5	$8\frac{3}{4}$	$2\frac{9}{16}$	84	5	
54	4	$\frac{1}{2}$	$2\frac{9}{16}$	60	4	
55	2		$2\frac{9}{16}$	30	4	
56	1	$11\frac{1}{2}$	$2\frac{9}{16}$	17	$4\frac{3}{4}$	
57		$8\frac{3}{8}$	$2\frac{9}{16}$	10	4	

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
59	2	5½	2 $\frac{9}{16}$	36	4	
78	1	8½	2 $\frac{9}{16}$	25	7	
448	20		2 $\frac{9}{16}$	300	7	20 segmt.
	2 -	5 $\frac{5}{16}$	2 $\frac{9}{16}$	31	4	
	1 -	8½	2 $\frac{9}{16}$	25	4	
	1 -	10 $\frac{7}{8}$	2 $\frac{9}{16}$	28	5	
	2 -	½	2 $\frac{9}{16}$	30	4	
	1 -	9 $\frac{1}{4}$	2 $\frac{9}{16}$	26	4	
		10	2 $\frac{9}{16}$	12	6	
30	18	1 $\frac{3}{4}$	2½	272	5½	16 segmt.
31	2	¼	2½	30	5½	
32	4	4	2½	66	4 $\frac{3}{4}$	
33	2	11¼	2½	44	4 $\frac{3}{4}$	
34	18	1	2½	272	7	16 segmt.
35	2	10	2½	42	7	
36	1	¾	2½	16	5¼	
37	16	2	2½	242	4 $\frac{1}{8}$	22 segmt.
38	3	5¼	2½	53	5 $\frac{3}{4}$	
39	1	7 $\frac{5}{8}$	2½	24	3 $\frac{7}{8}$	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
40	2	2 $\frac{1}{2}$	2 $\frac{1}{2}$	33	5 $\frac{1}{2}$	} pinions for mortice wheels.
41	1	4	2 $\frac{1}{2}$	20	5 $\frac{1}{2}$	
42	1	1 $\frac{3}{4}$	2 $\frac{1}{2}$	17	5	
43	4	5	2 $\frac{1}{2}$	66	5	mortice.
44	17	2	2 $\frac{1}{2}$	256	7 $\frac{1}{4}$	16 segmt.
45	2	10 $\frac{3}{4}$	2 $\frac{1}{2}$	43	7 $\frac{1}{4}$	
46	15	10 $\frac{1}{2}$	2 $\frac{1}{2}$	240	7	16 segmt.
47	2	$\frac{1}{4}$	2 $\frac{1}{2}$	30	7	
48	11	6	2 $\frac{1}{2}$	176	5	16 segmt.
49	1	7	2 $\frac{1}{2}$	24	5	
50	21		2 $\frac{1}{2}$	312	8 $\frac{1}{2}$	24 segmt.
51	2	$\frac{3}{4}$	2 $\frac{1}{2}$	31	8 $\frac{1}{2}$	
52	4	6 $\frac{1}{2}$	2 $\frac{1}{2}$	68	6	
395	3	2	2 $\frac{1}{2}$	48	6 $\frac{1}{2}$	
396	1		2 $\frac{1}{2}$	15	7	
397		11	2 $\frac{1}{2}$	14	7 $\frac{1}{2}$	
398	1	2 $\frac{1}{4}$	2 $\frac{1}{2}$	18	8	
399	10		2 $\frac{1}{2}$	152	5 $\frac{1}{2}$	8 segmt.
400	7		2 $\frac{1}{2}$	108	6	
58	4	11	2 $\frac{1}{2}$	76	4 $\frac{3}{4}$	} 4 segmt. 13 cogs. 2 do. 12 do.
66	21	7	2 $\frac{1}{2}$	320	7	
68	18		2 $\frac{1}{2}$	272	6	16 segmt.
70	9	2	2 $\frac{1}{2}$	140	5	} 8 segmt. 12 cogs. 4 do. 11 do.
69	18		2 $\frac{1}{2}$	272	7	
72	2		2 $\frac{1}{2}$	30	7	
77	1	8	2 $\frac{1}{2}$	25	7	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
79	3	10	$2\frac{1}{2}$	58	6	
488	2	$4\frac{1}{2}$	$2\frac{1}{2}$	36	6	
489	1	$\frac{1}{4}$	$2\frac{1}{2}$	15	4	
490	1	$11\frac{1}{4}$	$2\frac{1}{2}$	29	$5\frac{1}{2}$	
	1-	$2\frac{1}{4}$	$2\frac{1}{2}$	18	$6\frac{1}{2}$	
80	3	11	$2\frac{7}{16}$	60	$6\frac{3}{8}$	
81	18	$1\frac{1}{2}$	$2\frac{7}{16}$	280	4	20 segmt.
447	14	$6\frac{1}{2}$	$2\frac{7}{16}$	224	$5\frac{1}{2}$	16 segmt.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
87	17		$7\frac{7}{16}$	264	$5\frac{1}{2}$	24 segmt.
424	1	8	$2\frac{7}{16}$	26	6	
	$1-3\frac{1}{2}$		$2\frac{7}{16}$	20	$5\frac{1}{2}$	
90	15		$2\frac{3}{8}$	240	6	16 segmt.
91	2	$11\frac{1}{4}$	$2\frac{3}{8}$	47	6	
92	1		$2\frac{3}{8}$	16	6	
93	2	$11\frac{3}{4}$	$2\frac{3}{8}$	46	$5\frac{1}{8}$	
94	14		$2\frac{3}{8}$	224	5	16 segmt.
95	11	6	$2\frac{3}{8}$	192	4	12 segmt.
96	2	$1\frac{3}{8}$	$2\frac{3}{8}$	33	$5\frac{7}{8}$	
97			$2\frac{3}{8}$		6	
98	1	$11\frac{1}{4}$	$2\frac{3}{8}$	30	5	
99	4	$1\frac{1}{2}$	$2\frac{3}{8}$	66	6	
100	1	$4\frac{1}{2}$	$2\frac{3}{8}$	22	6	
101	12	$1\frac{1}{2}$	$2\frac{3}{8}$	192	$5\frac{1}{4}$	
102	1	$6\frac{3}{8}$	$2\frac{3}{8}$	24	$5\frac{1}{2}$	
103	2		$2\frac{3}{8}$	32	$5\frac{1}{2}$	
104	15	$10\frac{1}{2}$	$2\frac{3}{8}$	156	4	16 segmt.
105	1	$4\frac{1}{2}$	$2\frac{3}{8}$	22	4	
106	8	$1\frac{1}{2}$	$2\frac{3}{8}$	130	$5\frac{1}{2}$	10 segmt.
420	1	$7\frac{1}{2}$	$2\frac{3}{8}$	26	6	
421	24	$1\frac{1}{2}$	$2\frac{3}{8}$	384	7	24 segmt.
422	1	$4\frac{3}{4}$	$2\frac{3}{8}$	22	7	

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		
418	5	7 $\frac{1}{4}$	2 $\frac{3}{8}$	86	5 { 6 segmt. 11 cogs. 2 do. 10 do.
419	23	10	2 $\frac{3}{8}$	382	5 $\frac{1}{2}$ { 30 segmt. 12 cogs. 2 do. 11 do.
89	17		2 $\frac{3}{8}$	272	6 $\frac{1}{2}$ 16 segmt.
88	9	9	2 $\frac{3}{8}$	156	5 $\frac{1}{2}$ 12 segmt.
86	20		2 $\frac{3}{8}$	321	5 $\frac{1}{2}$ { 9 segmt. 14 cogs. 15 do. 13 do.
85	13	2	2 $\frac{3}{8}$	216	6 { 16 segmt. 11 cogs. 4 do. 10 do.
84	5	4 $\frac{1}{2}$	2 $\frac{3}{8}$	86	6 { 7 segmt. 11 cogs. 1 do. 9 do.
83	2	$\frac{1}{4}$	2 $\frac{3}{8}$	32	6 $\frac{1}{2}$
430	15		2 $\frac{3}{8}$	262	5 { 6 segmt. 17 cogs. 10 do. 16 do.
429	9	7 $\frac{1}{2}$	2 $\frac{3}{8}$	156	6 12 segmt.
428	1	7 $\frac{1}{2}$	2 $\frac{3}{8}$	26	6
82	1	4 $\frac{3}{4}$	2 $\frac{3}{8}$	22	7
449	24		2 $\frac{3}{8}$	384	7 24 segmt.
501	12	3	2 $\frac{3}{8}$	196	6 $\frac{1}{2}$ { 4 segmt. 17 cogs. 8 do. 16 do.
	2-	4 $\frac{7}{8}$	2 $\frac{3}{8}$	37	6 $\frac{1}{2}$

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
107	11	7	$2\frac{5}{16}$	192	$6\frac{1}{2}$	16 segmt.
108	1	$6\frac{1}{4}$	$2\frac{5}{16}$	25	$6\frac{1}{2}$	
110	16	$1\frac{1}{2}$	$2\frac{5}{16}$	264	5	24 segmt.
111	1	6	$2\frac{5}{16}$	24	5	
112	1		$2\frac{5}{16}$	16	5	
113		$8\frac{7}{8}$	$2\frac{5}{16}$	12	5	
114	11	$10\frac{5}{8}$	$2\frac{5}{16}$	194	5	{ 10 segmt. 16 cogs. 2 do. 17 do.
	<i>16</i>	<i>3 3/4</i>	<i>2 5/16</i>	<i>266</i>	<i>4 1/2</i>	<i>{ 10 17 cogs 6 " 16 "</i>

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
124	1	10 $\frac{3}{4}$	2 $\frac{1}{4}$	32	5 $\frac{1}{2}$	
125	15	10 $\frac{3}{4}$	2 $\frac{1}{4}$	270	5 $\frac{1}{2}$	18 segmt.
126	2	4 $\frac{1}{2}$	2 $\frac{1}{4}$	39	5	
128	13	9	2 $\frac{1}{4}$	228	4 $\frac{1}{2}$	19 segmt.
129	1	8 $\frac{1}{2}$	2 $\frac{1}{4}$	28	5	
130	8	6	2 $\frac{1}{4}$	144	4 $\frac{7}{8}$	12 segmt.
131	3	1	2 $\frac{1}{4}$	53	4	
132	1	11 $\frac{1}{2}$	2 $\frac{1}{4}$	33	4	
133	1	3 $\frac{3}{8}$	2 $\frac{1}{4}$	17	12	} pinions for rolling mills.
134		11 $\frac{1}{2}$	2 $\frac{1}{4}$	16	12	
135	28		2 $\frac{1}{4}$	432	7	24 segmt.
136	17		2 $\frac{1}{4}$	288	7	16 segmt.
137	20		2 $\frac{1}{4}$	336	7	24 segmt.
138	7	10 $\frac{1}{2}$	2 $\frac{1}{4}$	132	5 $\frac{1}{2}$	11 segmt.
139	3	4 $\frac{1}{4}$	2 $\frac{1}{4}$	57	7	
140	2	9	2 $\frac{1}{4}$	47	7	

on hand
" "

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
141	2	11 $\frac{3}{4}$	2 $\frac{1}{4}$	50	5 $\frac{1}{2}$	
143	2	5 $\frac{1}{4}$	2 $\frac{1}{4}$	41	7	
144	1	9 $\frac{1}{2}$	2 $\frac{1}{4}$	31	7	
145	2	1 $\frac{1}{2}$	2 $\frac{1}{4}$	36	7	
146		9 $\frac{1}{4}$	2 $\frac{1}{4}$	13	7	
147	1	3 $\frac{3}{4}$	2 $\frac{1}{4}$	22	5 $\frac{1}{2}$	
149	15		2 $\frac{1}{4}$	256	5	16 segmt.
123	12		2 $\frac{1}{4}$	201	5 $\frac{1}{2}$	{ 12 segmt. 14 cogs. 3 do. 11 do.
122	16		2 $\frac{1}{4}$	256	5 $\frac{1}{2}$	16 segmt.
121	10		2 $\frac{1}{4}$	168	5 $\frac{1}{2}$	8 segmt.
120	2	4	2 $\frac{1}{4}$	38	5	
438	1	7 $\frac{1}{2}$	2 $\frac{1}{4}$	27	5	
450	19		2 $\frac{1}{4}$	320	7	16 segmt.
451	18	2	2 $\frac{1}{4}$	304	5 $\frac{1}{2}$	16 segmt.
490	1	11 $\frac{1}{4}$	2 $\frac{1}{4}$	29	5 $\frac{1}{2}$	
491	2	1 $\frac{7}{8}$	2 $\frac{1}{4}$	36	7	
492	32	1	2 $\frac{1}{4}$	539	7	{ 35 segmt. 15 cogs. 1 do. 14 do.
	10-		2 $\frac{1}{4}$	168	7	{ 8 of 10 cogs 8" 11"
	10-	10 $\frac{1}{4}$	2 $\frac{1}{4}$	180	5-	183 cog 10 teeth
	1-	8 $\frac{1}{4}$	2 $\frac{1}{4}$	28	5	

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
142	1	3 $\frac{1}{4}$	2 $\frac{3}{16}$	39	4 $\frac{1}{2}$ mortice.
481	9	4	2 $\frac{3}{16}$	160	5 $\frac{1}{2}$ } 4 segmt. 14 cogs.
493	3	8 $\frac{1}{4}$	2 $\frac{3}{16}$	65	4 $\frac{1}{2}$ } 8 do. 13 do. mortice.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
150	6	10 $\frac{5}{8}$	2 $\frac{1}{8}$	120	4	
151	5	4 $\frac{1}{2}$	2 $\frac{1}{8}$	94	4	
152	3	8 $\frac{1}{2}$	2 $\frac{1}{8}$	65	4	
153	2	7 $\frac{1}{2}$	2 $\frac{1}{8}$	46	4	
154	2	5 $\frac{5}{8}$	2 $\frac{1}{8}$	36	4	
155	2		2 $\frac{1}{8}$	35	4	
156	1	1 $\frac{1}{8}$	2 $\frac{1}{8}$	19	4	
157		11	2 $\frac{1}{8}$	16	3 $\frac{5}{8}$	
158		9	2 $\frac{1}{8}$	13	5	
159	12	10 $\frac{1}{2}$	2 $\frac{1}{8}$	224	3 $\frac{1}{2}$	16 segmt.
160	20		2 $\frac{1}{8}$	352	4	32 segmt.
161	13	8	2 $\frac{1}{8}$	240	4	16 segmt.
162	11	10	2 $\frac{1}{8}$	213	4	16 segmt.
163	10		2 $\frac{1}{8}$	180	4	12 segmt.
164	14		2 $\frac{1}{8}$	252	4	{ 12 segmt. 16 cogs. 4 do. 15 do.
166	11	2	2 $\frac{1}{8}$	192	5 $\frac{1}{4}$	16 segmt.
423	2	9	2 $\frac{1}{8}$	48	5	
167	10		2 $\frac{1}{8}$	180	5	12 segmt.
168	11		2 $\frac{1}{8}$	198	5	18 segmt.
169	2	1	2 $\frac{1}{8}$	37	5	
170	1	5 $\frac{3}{4}$	2 $\frac{1}{8}$	26	5	
171	7	10 $\frac{1}{2}$	2 $\frac{1}{8}$	140	4	10 segmt.
172		11	2 $\frac{1}{8}$	16	4 $\frac{1}{4}$	
173	4	8	2 $\frac{1}{8}$	83	4	{ 3 segmt. 11 cogs. 5 do. 10 do.
174	6		2 $\frac{1}{8}$	105	4	7 segmt. 15 cogs.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
182	10	10 $\frac{3}{4}$	2 $\frac{1}{8}$	195	5	{ 3 segmt. 13 cogs. 13 do. 12 do.
183	8	1 $\frac{1}{2}$	2 $\frac{1}{8}$	144	5	8 segmt.
184	5	4	2 $\frac{1}{8}$	94	4	{ 6 segmt. 12 cogs. 2 do. 11 do.
185	15		2 $\frac{1}{8}$	265	4	{ 15 segmt. 17 cogs. 1 do. 16 do.
186	5	11 $\frac{1}{2}$	2 $\frac{1}{8}$	106	4	{ 2 segmt. 14 cogs. 6 do. 13 do.
187	2	5	2 $\frac{1}{8}$	43	5	
115	2	3 $\frac{1}{2}$	2 $\frac{1}{8}$	41	5	
109	2	9	2 $\frac{1}{8}$	48	5	
535	1	6 $\frac{3}{8}$	2 $\frac{1}{8}$	27	4	
431	15	10 $\frac{1}{2}$	2 $\frac{1}{8}$	283	4	{ 11 segmt. 18 cogs. 5 do. 17 do.
494	3		2 $\frac{1}{8}$	54	4	mortice.
	12	4	2 $\frac{1}{8}$	216	5	{ 8 $\frac{7}{14}$ 8 $\frac{1}{13}$
	1	$\frac{1}{4}$	2 $\frac{1}{8}$	18	4	
	1	7 $\frac{3}{16}$	"	28	4	

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	Inches.
175	11	10½	2	228	4⅛	12 segmt.
176	10	1	2	192	4	12 segmt.
177	7		2	132	4	12 segmt.
178	1	6⅜	2	29	4⅛	
180		11	2	17	7	
181	14	1½	2	256	5	16 segmt.
116	3	1¼	2	59	5½	
444	2	2½	2	42	5½	
443	5		2	96	4½	mortice.
445	11		2	208	6	16 segmt.
495	2	¼	2	38	5	
	1-	5-	2	26	5-	

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
188	7	2	$1\frac{7}{8}$	144	$2\frac{3}{4}$	8 segmt.
189		$9\frac{5}{8}$	$1\frac{7}{8}$	16	3	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
	4		$1\frac{1}{4}$		<i>4 mortise rim</i>	
	3		$1\frac{1}{4}$		<i>4 " "</i>	
195	14		$1\frac{3}{4}$	304	4	16 segmt.
196	11	6	$1\frac{3}{4}$	252	$3\frac{3}{4}$	18 segmt.
197	11	4	$1\frac{3}{4}$	252	5	12 segmt.
198	9	10	$1\frac{3}{4}$	216	4	18 segmt.
199	5		$1\frac{3}{4}$	108	4	6 segmt.
200	4	$11\frac{5}{8}$	$1\frac{3}{4}$	108	$4\frac{3}{4}$	
201	3	$4\frac{1}{4}$	$1\frac{3}{4}$	73	$4\frac{3}{4}$	wt. 370 lb.
202	1	$6\frac{7}{8}$	$1\frac{3}{4}$	34	4	
203	1	$5\frac{5}{8}$	$1\frac{3}{4}$	32	$5\frac{1}{4}$	wt. 156 lb.
204	1	$1\frac{7}{8}$	$1\frac{3}{4}$	25	$4\frac{1}{8}$	
205		10	$1\frac{3}{4}$	18	$4\frac{3}{4}$	
206	1	$7\frac{7}{8}$	$1\frac{3}{4}$	36	$3\frac{1}{8}$	
207	7	6	$1\frac{3}{4}$	160	$3\frac{5}{8}$	10 segmt.
208	8	6	$1\frac{3}{4}$	204	$3\frac{1}{2}$	11 segmt.

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
209	8		$1\frac{3}{4}$	176	4	16 segmt.
210	1	$1\frac{1}{2}$	$1\frac{3}{4}$	24	$3\frac{5}{8}$	
211	1	$1\frac{1}{2}$	$1\frac{3}{4}$	25	4	
212	10	10	$1\frac{3}{4}$	234	5	18 segmt.
213	6	1	$1\frac{3}{4}$	132	7	
214	1	2	$1\frac{3}{4}$	25	7	
194	1	$\frac{1}{4}$	$1\frac{3}{4}$	22	7	
192		$7\frac{1}{2}$	$1\frac{3}{4}$	14	7	
191	1	5	$1\frac{3}{4}$	31	$4\frac{1}{2}$	
190		$9\frac{1}{2}$	$1\frac{3}{4}$	17	4	
119		$7\frac{3}{4}$	$1\frac{3}{4}$	14	4	
118		6	$1\frac{3}{4}$	11	4	
434	4		$1\frac{3}{4}$	86	4	
433	1	$\frac{1}{4}$	$1\frac{3}{4}$	22	4	
432	3	$\frac{1}{4}$	$1\frac{3}{4}$	65	4	
427	2	$\frac{1}{4}$	$1\frac{3}{4}$	43	4	
426	2	$5\frac{1}{4}$	$1\frac{3}{4}$	53	$4\frac{3}{4}$	
441	9	5	$1\frac{3}{4}$	204	$3\frac{1}{2}$	12 segmt.
496	1	$8\frac{3}{8}$	$1\frac{3}{4}$	36	$3\frac{1}{4}$	
504		$11\frac{7}{8}$	$1\frac{3}{4}$	21	4	
505		$11\frac{1}{2}$	$1\frac{3}{4}$	21	4	
	12-	$1\frac{1}{2}$	$1\frac{3}{4}$	264	4	
	1-	$8\frac{7}{8}$	$1\frac{3}{4}$	37	4	
	3-	$6\frac{1}{2}$	$1\frac{3}{4}$	76	$4\frac{3}{4}$	
		$8\frac{7}{8}$	$1\frac{3}{4}$	16	$4\frac{5}{8}$	
	1-	8	$1\frac{3}{4}$	36	$4\frac{1}{8}$	

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
225	7	6	$1\frac{5}{8}$	174	5
226	1		$1\frac{5}{8}$	23	5
227	1	1	$1\frac{5}{8}$	25	5

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
440	2		$1\frac{9}{16}$	48	3	
439	6	11	$1\frac{9}{16}$	128	3	12 segmt.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
232	12	1½	1½	288	3	18 segmt.
233	11		1½	272	3½	16 segmt.
234	5	10	1½	144	3	12 segmt.
235	10	2½	1½	256	3	16 segmt.
236	3	7	1½	89	3	
237	2	6	1½	62	3	
238	2	2⅛	1½	54	3	
239	1	6	1½	37	3	
240		8½	1½	18	3⅛	
241		8¼	1½	17	3	
242		7⅜	1½	15	3	
243	7		1½	180	2¾	12 segmt.
244		6⅛	1½	13	2⅜	
245		5⅞	1½	12	3½	
246	1	3	1½	31	3	
247	6		1½	144	4½	
248	5		1½	128	4½	
249	8	4½	1½	216	4	12 segmt.
250	10		1½	152	3¼	12 segmt.
251	7	4	1½	192	3⅜	12 segmt.
252	5	10	1½	140	3¼	{ 7 segmt. 18 cogs. 1 do. 14 do.
253	3		1½	75	4½	
254	1	8	1½	42	4½	
255	1	6	1½	38	4½	
401		9	1½	20	4½	

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
402	1		$1\frac{1}{2}$	25	$4\frac{1}{2}$	
403		$7\frac{1}{8}$	$1\frac{1}{2}$	15	$4\frac{1}{2}$	
404	2		$1\frac{1}{2}$	50	$3\frac{1}{4}$	
405	4	$4\frac{1}{2}$	$1\frac{1}{2}$	110	$3\frac{1}{4}$	
406	3		$1\frac{1}{2}$	75	$3\frac{1}{4}$	
407	1	$2\frac{3}{8}$	$1\frac{1}{2}$	30	$3\frac{1}{4}$	
408	1		$1\frac{1}{2}$	25	$3\frac{1}{4}$	
409		$8\frac{5}{8}$	$1\frac{1}{2}$	18	$3\frac{1}{4}$	
410		$5\frac{7}{8}$	$1\frac{1}{2}$	12	$3\frac{1}{4}$	
257	25	9	$1\frac{1}{2}$	646	$3\frac{1}{4}$	38 segmt.
258	16	$\frac{1}{2}$	$1\frac{1}{2}$	408	3	24 segmt.
259	1	11	$1\frac{1}{2}$	48	$3\frac{1}{4}$	
284	4	$6\frac{3}{4}$	$1\frac{1}{2}$	115	$3\frac{1}{4}$	
117	5	$2\frac{3}{4}$	$1\frac{1}{2}$	130	3	
425	10	1	$1\frac{1}{2}$	240	3	16 segmt.
424	9	5	$1\frac{1}{2}$	228	3	12 segmt.
497		$10\frac{1}{8}$	$1\frac{1}{2}$	21	$3\frac{1}{4}$	
505	1	8	$1\frac{1}{2}$	42	3	
	2-	$10\frac{1}{4}$	$1\frac{1}{2}$	72	$3\frac{1}{2}$	
	3-	6	$1\frac{1}{2}$	87	$3\frac{3}{4}$	
		$5\frac{1}{2}$	$1\frac{1}{2}$	11	$3\frac{3}{4}$	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
256	4	1 $\frac{1}{4}$	1 $\frac{3}{8}$	96	3 $\frac{1}{4}$	mortice.

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
286	2	4 $\frac{5}{8}$	1 $\frac{1}{4}$	71	2 $\frac{3}{4}$
287	1	7	1 $\frac{1}{4}$	48	2 $\frac{3}{4}$
288	1	2 $\frac{3}{8}$	1 $\frac{1}{4}$	36	2 $\frac{3}{4}$
289	1	1 $\frac{1}{2}$	1 $\frac{1}{4}$	34	2 $\frac{3}{4}$
290	1	$\frac{5}{8}$	1 $\frac{1}{4}$	32	2 $\frac{3}{4}$
291	1		1 $\frac{1}{4}$	30	2 $\frac{3}{4}$
292		10 $\frac{3}{4}$	1 $\frac{1}{4}$	28	2 $\frac{3}{4}$
293		10 $\frac{3}{8}$	1 $\frac{1}{4}$	26	2 $\frac{3}{4}$
294		9 $\frac{3}{8}$	1 $\frac{1}{4}$	24	2 $\frac{3}{4}$
295		8 $\frac{3}{4}$	1 $\frac{1}{4}$	22	2 $\frac{3}{4}$
296		7 $\frac{1}{8}$	1 $\frac{1}{4}$	18	2 $\frac{3}{4}$
297		6 $\frac{1}{4}$	1 $\frac{1}{4}$	16	2 $\frac{5}{8}$
298		4 $\frac{3}{4}$	1 $\frac{1}{4}$	12	2 $\frac{3}{4}$
299		4 $\frac{1}{2}$	1 $\frac{1}{4}$	11	2 $\frac{7}{8}$
300	1	2 $\frac{1}{2}$	1 $\frac{1}{4}$	38	1 $\frac{5}{8}$
301		7 $\frac{1}{2}$	1 $\frac{1}{4}$	19	1 $\frac{5}{8}$
302	2	6	1 $\frac{1}{4}$	75	3 $\frac{3}{4}$
285	1	5 $\frac{1}{2}$	1 $\frac{1}{4}$	44	3 $\frac{3}{4}$
	1-	1 $\frac{5}{4}$	1 $\frac{1}{4}$	33	3 $\frac{1}{2}$

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
282	2	$\frac{1}{2}$	$1\frac{3}{16}$	65	$2\frac{1}{4}$
283		$4\frac{1}{8}$	$1\frac{3}{16}$	11	$2\frac{1}{2}$
498	1	10	$1\frac{3}{16}$	58	3
499	1	$3\frac{5}{8}$	$1\frac{3}{16}$	42	3
		6	"	16	$2\frac{1}{4}$
498	1	10	$1\frac{3}{16}$	58	3
262	3	$7\frac{3}{4}$	$1\frac{1}{8}$	116	3
263	3	$\frac{1}{8}$	$1\frac{1}{8}$	96	3
264	2	$\frac{1}{2}$	$1\frac{1}{8}$	65	3

Mistake

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
265	1	8	$1\frac{1}{8}$	53	3	
266	1	6	$1\frac{1}{8}$	48	3	
267	1	2	$1\frac{1}{8}$	37	3	
268		$10\frac{1}{4}$	$1\frac{1}{8}$	27	3	
269		9	$1\frac{1}{8}$	24	3	
270		$6\frac{1}{8}$	$1\frac{1}{8}$	16	3	
271		$4\frac{1}{8}$	$1\frac{1}{8}$	10	$2\frac{3}{4}$	
272	19	6	$1\frac{1}{8}$	630	3	30 segmt.
273	1	4	$1\frac{1}{8}$	43	3	
274	1		$1\frac{1}{8}$	32	$2\frac{1}{4}$	
275		$7\frac{7}{8}$	$1\frac{1}{8}$	21	$2\frac{1}{4}$	
276		$4\frac{1}{4}$	$1\frac{1}{8}$	11	3	
277	2	$3\frac{3}{4}$	$1\frac{1}{8}$	78	$2\frac{5}{8}$	
278		$5\frac{5}{8}$	$1\frac{1}{8}$	16	$2\frac{5}{8}$	
279		$9\frac{1}{4}$	$1\frac{1}{8}$	27	$2\frac{3}{4}$	
280		8	$1\frac{1}{8}$	21	3	
281		7	$1\frac{1}{8}$	18	3	
228	3	4	$1\frac{1}{8}$	106	3	
229	2	6	$1\frac{1}{8}$	80	3	
230		$11\frac{3}{4}$	$1\frac{1}{8}$	31	3	
231		8	$1\frac{1}{8}$	22	$2\frac{1}{2}$	
260	1	$2\frac{1}{2}$	$1\frac{1}{8}$	39	$2\frac{1}{4}$	
261	1	$9\frac{1}{2}$	$1\frac{1}{8}$	60	$2\frac{1}{2}$	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
304	1	6	$1\frac{1}{16}$	54	2
305	1		$1\frac{1}{16}$	36	2
306	2		$1\frac{1}{16}$	72	2
307	1	2	$1\frac{1}{16}$	41	2
308		6	$1\frac{1}{16}$	18	2

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs. .	
	Ft.	In.	Inches.		Inches.	
309		8	$1\frac{1}{16}$	24	2	
409 $\frac{1}{2}$		5	$1\frac{1}{16}$	15	2	15
410 $\frac{1}{2}$		$4\frac{7}{8}$	$1\frac{1}{16}$	14	$2\frac{7}{8}$	
303	1	$8\frac{3}{4}$	$1\frac{1}{16}$	59	$2\frac{1}{2}$	
336	1	8	$1\frac{1}{16}$	58	2	
	2	$1\frac{3}{4}$	$1\frac{1}{16}$	75	2	
310	4	6	1	168	$4\frac{1}{2}$	6 segmt.
311	4	5	1	162	$3\frac{1}{2}$	6 segmt.
312	4		1	150	$2\frac{1}{4}$	6 segmt.
313		8	1	25	$4\frac{1}{2}$	
314		$8\frac{1}{4}$	1	25	$3\frac{1}{2}$	

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs. Inches.
	Ft.	In.			
315		4	1	12	$3\frac{3}{4}$
316	2	$4\frac{3}{8}$	1	90	3
317		$9\frac{3}{4}$	1	31	3
318		$9\frac{3}{8}$	1	30	3
319		$6\frac{7}{8}$	1	22	3
320		$4\frac{3}{4}$	1	15	3
321		$3\frac{3}{8}$	1	11	3
322	1	4	1	50	$2\frac{1}{4}$
323		8	1	25	$2\frac{1}{4}$
324		$6\frac{1}{4}$	1	19	$2\frac{1}{4}$
325		$4\frac{1}{4}$	1	13	$2\frac{1}{4}$
326	1	$4\frac{1}{8}$	1	52	$1\frac{1}{4}$
327		7	1	23	$1\frac{1}{2}$
328	2	$7\frac{5}{8}$	1	101	$2\frac{1}{4}$
329	2	$7\frac{3}{4}$	1	79	$2\frac{1}{4}$
330		$7\frac{3}{4}$	1	25	$2\frac{1}{4}$
331		$6\frac{1}{8}$	1	20	$2\frac{3}{8}$
332		5	1	16	$2\frac{1}{4}$
411		$4\frac{1}{8}$	1	13	$2\frac{1}{4}$
412		$3\frac{3}{16}$	1	10	$2\frac{1}{4}$
335	2	$9\frac{3}{4}$	1	103	2
	3-	3	/	122	2

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs. Inches.
	Ft.	In.			
390	2		$\frac{7}{8}$	87	2
382		10	$\frac{7}{8}$	35	2
381		$4\frac{1}{2}$	$\frac{7}{8}$	16	2
353		4	$\frac{7}{8}$	15	2
500	1		$\frac{7}{8}$	36	2

SPUR WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs. Inches.
	Ft.	In.			
333	1	$2\frac{3}{8}$	$1\frac{3}{16}$	56	$1\frac{3}{16}$
334		$4\frac{3}{8}$	$1\frac{3}{16}$	17	$1\frac{3}{16}$
340	2	$1\frac{1}{4}$	$\frac{3}{4}$	100	3
341	1	$\frac{1}{8}$	$\frac{3}{4}$	50	3
342		$7\frac{1}{8}$	$\frac{3}{4}$	33	3
343		$6\frac{3}{8}$	$\frac{3}{4}$	27	3
344		$3\frac{7}{8}$	$\frac{3}{4}$	16	3
345	3	$5\frac{3}{8}$	$\frac{3}{4}$	169	2
346		$10\frac{1}{8}$	$\frac{3}{4}$	41	2

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs. Inches.
	Ft.	In.			
347		$7\frac{1}{8}$	$\frac{3}{4}$	29	2
348		$6\frac{3}{8}$	$\frac{3}{4}$	26	2
349		$3\frac{1}{2}$	$\frac{3}{4}$	14	2
350	2	$5\frac{3}{8}$	$\frac{3}{4}$	120	$1\frac{1}{2}$
351	1	$9\frac{1}{4}$	$\frac{3}{4}$	87	$1\frac{1}{2}$
352	1	$2\frac{5}{8}$	$\frac{3}{4}$	60	$1\frac{1}{2}$
354	1	$3\frac{3}{8}$	$\frac{3}{4}$	50	$1\frac{1}{2}$
355		$10\frac{1}{2}$	$\frac{3}{4}$	43	$1\frac{1}{2}$
356		$9\frac{3}{4}$	$\frac{3}{4}$	40	$1\frac{1}{2}$
357		$8\frac{3}{4}$	$\frac{3}{4}$	36	$1\frac{1}{2}$
358		$7\frac{7}{8}$	$\frac{3}{4}$	32	$1\frac{1}{2}$
359		$5\frac{7}{8}$	$\frac{3}{4}$	25	$1\frac{1}{2}$
360		$5\frac{3}{8}$	$\frac{3}{4}$	22	$1\frac{1}{2}$
361		$4\frac{5}{8}$	$\frac{3}{4}$	19	$1\frac{1}{2}$
362		$3\frac{5}{8}$	$\frac{3}{4}$	15	$1\frac{1}{2}$
363		3	$\frac{3}{4}$	12	$1\frac{1}{2}$
364		$2\frac{1}{4}$	$\frac{3}{4}$	9	$1\frac{1}{2}$
365	2	$1\frac{1}{4}$	$\frac{3}{4}$	98	$1\frac{1}{2}$
366		$11\frac{7}{8}$	$\frac{3}{4}$	48	$\frac{7}{8}$
367		$3\frac{1}{2}$	$\frac{3}{4}$	14	$\frac{7}{8}$
368		11	$\frac{3}{4}$	48	$1\frac{1}{2}$
369		$2\frac{7}{8}$	$\frac{3}{4}$	12	$1\frac{3}{4}$
370		$8\frac{3}{4}$	$\frac{3}{4}$	36	$1\frac{1}{4}$
371		5	$\frac{3}{4}$	20	$1\frac{3}{8}$
372		$3\frac{1}{2}$	$\frac{3}{4}$	14	$1\frac{3}{8}$
413		$2\frac{7}{8}$	$\frac{3}{4}$	12	$1\frac{1}{2}$

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
339	1	6	$\frac{3}{4}$	74	$1\frac{1}{2}$
502	2	2	$\frac{3}{4}$	109	3
503		$4\frac{5}{8}$	$\frac{3}{4}$	19	3
373	1	$2\frac{1}{2}$	$\frac{11}{16}$	64	1
374		3	$\frac{11}{16}$	13	1
375	1	$5\frac{1}{2}$	$\frac{5}{8}$	88	2
376	1	3	$\frac{5}{8}$	75	2
377		5	$\frac{5}{8}$	25	2

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
378		$2\frac{3}{8}$	$\frac{5}{8}$	12	2
379	1	$\frac{1}{2}$	$\frac{5}{8}$	60	$\frac{7}{8}$
380		$3\frac{1}{8}$	$\frac{5}{8}$	15	$\frac{7}{8}$
383	1	$2\frac{5}{8}$	$\frac{9}{16}$	80	$1\frac{1}{4}$
384		$2\frac{1}{16}$	$\frac{9}{16}$	11	$1\frac{1}{4}$
385	1	$4\frac{3}{4}$	$\frac{9}{16}$	96	$1\frac{1}{4}$
386		$4\frac{1}{8}$	$\frac{9}{16}$	24	$1\frac{1}{2}$
414		4	$\frac{9}{16}$	24	$1\frac{1}{2}$
415		$3\frac{1}{8}$	$\frac{9}{16}$	23	$1\frac{1}{8}$
416		$2\frac{1}{4}$	$\frac{9}{16}$	13	$1\frac{3}{4}$
417		$2\frac{1}{8}$	$\frac{9}{16}$	12	$1\frac{1}{2}$

SPUR WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
387		$9\frac{7}{8}$	$\frac{1}{2}$	64	$1\frac{3}{8}$
388		$6\frac{3}{4}$	$\frac{1}{2}$	44	$1\frac{3}{8}$
389		3	$\frac{1}{2}$	19	$1\frac{5}{16}$
391		$11\frac{7}{8}$	$\frac{3}{8}$	96	$1\frac{1}{8}$
392		6	$\frac{3}{8}$	48	1
393		$4\frac{1}{4}$	$\frac{3}{8}$	34	$1\frac{1}{4}$
394	1	$3\frac{1}{2}$	$\frac{3}{8}$	126	$1\frac{1}{8}$
14		$9\frac{3}{4}$	$\frac{5}{16}$	90	$1\frac{1}{16}$

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
1	1	5 $\frac{1}{4}$	3	18	4 $\frac{1}{2}$	} To run with wooden wheel of 54 cogs.
174	2		3	25	6 $\frac{3}{8}$	
173	9	7	3	120	6 $\frac{3}{8}$	} 12 segmt.
189	7	8	3	96	5 $\frac{1}{8}$	
190	2		3	25	5 $\frac{1}{8}$	
	4	2 $\frac{1}{4}$	3	52	8	
	3	6 $\frac{1}{2}$	3	44	8	
203	5	1 $\frac{1}{4}$	2 $\frac{7}{8}$	66	6	}
204	2	$\frac{1}{4}$	2 $\frac{7}{8}$	26	6	
23	2	8	2 $\frac{3}{4}$	36	6	} mortice.
24	3		2 $\frac{3}{4}$	41	6	
2	3		2 $\frac{3}{4}$	41	6	

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
183	2	10	$2\frac{11}{16}$	40	6	12 segmt.
182	6	$8\frac{1}{2}$	$2\frac{11}{16}$	96	6	
176	3	1	$2\frac{5}{8}$	44	8	
175	5	$\frac{5}{8}$	$2\frac{5}{8}$	73	8	

BEVEL WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
3	3	$1\frac{1}{4}$	$2\frac{5}{8}$	45	$6\frac{1}{4}$	} 16 segmt.
4	13	2	$2\frac{5}{8}$	192	$6\frac{1}{4}$	
145	12		$2\frac{5}{8}$	176	$7\frac{5}{8}$	} 16 segmt.
146	3	$\frac{3}{8}$	$2\frac{5}{8}$	45	$7\frac{5}{8}$	
147	8	10	$2\frac{5}{8}$	128	7	} 16 segmt.
148	2	11	$2\frac{5}{8}$	42	7	
201	3	$8\frac{1}{2}$	$2\frac{5}{8}$	53	7	} 7
202	2	$5\frac{1}{4}$	$2\frac{5}{8}$	35	7	
	<i>8-10</i>		$2\frac{5}{8}$	<i>128</i>	<i>7-8 segts of 16 teeth</i>	

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
25	2		$2\frac{9}{16}$	29	7	} 16 segmt.
26	5	2	$2\frac{9}{16}$	75	7	
32	2	7	$2\frac{9}{16}$	37	7	
33	5	2	$2\frac{9}{16}$	75	7	
185	3	$6\frac{1}{2}$	$2\frac{9}{16}$	52	$7\frac{1}{2}$	
184	11	$4\frac{1}{2}$	$2\frac{9}{16}$	170	$7\frac{1}{2}$	
5	1	8	$2\frac{1}{2}$	25	$6\frac{1}{2}$	} { 6 segmt. 13 cogs. 6 do. 12 do.
6	9	11	$2\frac{1}{2}$	150	$6\frac{1}{2}$	

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
7	4	4½	2½	66	5½	} mortice.
8	1	4	2½	20	5½	
9	1	4½	2½	20	6½	
150	4	6	2½	68	5	
151	2	3	2½	34	5	
152	2	6	2½	38	5	
153	1	6½	2½	23	5	
101	3	7	2½	53	6	
102	2	4	2½	35	6	
50	2	4½	2½	36	6	} 16 segmt.
51	12	9½	2½	192	6	

BEVEL WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
11	3	$9\frac{1}{2}$	$2\frac{3}{8}$	60	6	}
12	2	$\frac{1}{4}$	$2\frac{3}{8}$	32	6	
13	3	$6\frac{5}{8}$	$2\frac{3}{8}$	56	7	}
14	9	2	$2\frac{3}{8}$	154	7	
15	3	$5\frac{1}{2}$	$2\frac{3}{8}$	53	$5\frac{1}{2}$	}
16	11	3	$2\frac{3}{8}$	176	$5\frac{1}{2}$	
17	3	$3\frac{1}{2}$	$2\frac{3}{8}$	51	$7\frac{1}{4}$	}
18	10	3	$2\frac{3}{8}$	160	$7\frac{1}{4}$	
19	2	$4\frac{3}{4}$	$2\frac{3}{8}$	37	$5\frac{1}{2}$	}
20	10		$2\frac{3}{8}$	156	$5\frac{1}{2}$	
21	3	$\frac{1}{2}$	$2\frac{3}{8}$	48	3	}
22		10	$2\frac{3}{8}$	13	3	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
30	2	11½	2 $\frac{5}{16}$	32	6	} 12 segmt.
31	8		2 $\frac{5}{16}$	132	6	
36	3	1¼	2¼	52	5	} 16 segmt.
37	2	1	2¼	35	5	
38	15	7	2¼	156	5	
39	2	4	2¼	38	5	

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
35	4	3½	2¼	72	7	} mortice.
34	1	9½	2¼	30	7	
	2-	6	2 ¾	42	4 ¾	})
	2-	1	2 ¾	34	4 ¾	
40	2	⅛	2⅛	36	4	} 12 segmt.
41	10		2⅛	180	4	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	Inches.
46	1	$6\frac{1}{8}$	$2\frac{1}{16}$	27	4	} 12 segmt.
47	9		$2\frac{1}{16}$	168	4	
48	4		$2\frac{1}{16}$	72	$4\frac{1}{2}$	
49	2	$\frac{3}{4}$	$2\frac{1}{16}$	37	$4\frac{1}{2}$	
178	1	$3\frac{3}{4}$	2	24	$4\frac{1}{2}$	} 6 segmt.
177	3	$10\frac{1}{2}$	2	72	$4\frac{1}{2}$	
54	4	$\frac{3}{8}$	2	76	5	} 6 segmt.
55	2	$\frac{1}{4}$	2	38	5	
56	3	$4\frac{3}{4}$	2	64	5	} 6 segmt.
57	2	6	2	47	5	
58	4	10	2	91	6	} mortice.
59	1	$7\frac{1}{2}$	2	30	6	
60	8	3	2	156	5	} 12 segmt.
61	1	$7\frac{1}{4}$	2	30	5	
53	3	$\frac{1}{4}$	2	56	5	} 12 segmt.
52	1	1	2	20	5	

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	Inches.
70	1	8	2	32	6	} mortice.
71	2	6	2	48	6	
42	1	$7\frac{3}{4}$	2	31	$5\frac{1}{2}$	} mortice.
43	4	2	2	76	$5\frac{1}{2}$	
191	3	3 $\frac{3}{8}$	2	57	6	} mortice.
192	2	8	2	50	6	
197	4	$8\frac{7}{8}$	2	88	7	} mortice.
198	2	$5\frac{1}{8}$	2	45	7	

BEVEL WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
54½	3	3¾	1½	64	¾	} 18 segmt.
55½		10	1½	16	¾	
62	1	7¼	1⅞	32	5½	} 18 segmt.
63	10	9	1⅞		5½	
64	5	6	1⅞	110	4	
65		8	1⅞	13	5	
44	2	2¼	1⅞	43	6	
45	8	7	1⅞	171	6	

BEVEL WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
180	1	4 $\frac{1}{2}$	1 $\frac{13}{16}$	28	5	}
179	4	$\frac{1}{2}$	1 $\frac{13}{16}$	84	5	
199	4	9 $\frac{3}{4}$	1 $\frac{3}{4}$	102	5	} mortice.
200	1	4 $\frac{3}{8}$	1 $\frac{3}{4}$	29	5	
193	5		1 $\frac{3}{4}$	110	3 $\frac{3}{4}$	} 640 lbs.
194	1		1 $\frac{3}{4}$	22	3 $\frac{3}{4}$	
68	3	5 $\frac{3}{4}$	1 $\frac{3}{4}$	75	4 $\frac{3}{4}$	}
69	1	6 $\frac{3}{4}$	1 $\frac{3}{4}$	33	4 $\frac{3}{4}$	
	3-	$\frac{1}{4}$	1 $\frac{3}{4}$	66	5 $\frac{1}{2}$	}
	1-	7 $\frac{1}{2}$	"	33	5)	

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
	3 -	1	$1\frac{3}{4}$	66	5 } <i>motion</i> 5 }
	1 -	$6\frac{1}{2}$	"	38	
72	2		$1\frac{11}{16}$	44	3 }
73	1	$5\frac{3}{4}$	$1\frac{11}{16}$	33	3 }
76	3		$1\frac{5}{8}$	68	4 }
77	1	$5\frac{1}{2}$	$1\frac{5}{8}$	33	4 }

BEVEL WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
78	1	7 $\frac{1}{2}$	1 $\frac{5}{8}$	37	4	
79	2	10 $\frac{1}{4}$	1 $\frac{5}{8}$	66	3 $\frac{3}{4}$	} 8 segmt.
80	2	4 $\frac{5}{8}$	1 $\frac{5}{8}$	55	3 $\frac{3}{4}$	
81	6	3 $\frac{1}{2}$	1 $\frac{5}{8}$	144	3	
82		19 $\frac{3}{4}$	1 $\frac{5}{8}$	37	3	
195	2	8	1 $\frac{5}{8}$	62	5	
196	1	1	1 $\frac{5}{8}$	25	5	} 500 lbs.
197	1	10	1 $\frac{5}{8}$	42	3	
198		11	1 $\frac{5}{8}$	21	3	
87	5		1 $\frac{9}{16}$	125	3 $\frac{1}{4}$	} 6 segmt.
88	1		1 $\frac{9}{16}$	21	3 $\frac{1}{4}$	
85	5		1 $\frac{9}{16}$	120	3 $\frac{1}{2}$	
86		10	1 $\frac{9}{16}$	20	3 $\frac{1}{2}$	
188	2	6	1 $\frac{9}{16}$	60	3 $\frac{1}{2}$	
187	1	8	1 $\frac{9}{16}$	40	3 $\frac{1}{2}$	

205
206

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	Inches.
91		$9\frac{1}{2}$	$1\frac{1}{2}$	20	$2\frac{3}{4}$	} 6 segmt.
92	6		$1\frac{1}{2}$	150	$2\frac{3}{4}$	
93	3	$8\frac{1}{8}$	$1\frac{1}{2}$	92	$3\frac{1}{2}$	
94	1	$8\frac{5}{8}$	$1\frac{1}{2}$	43	$3\frac{1}{2}$	} 12 segmt.
95	8	$7\frac{1}{2}$	$1\frac{1}{2}$	216	$3\frac{3}{4}$	
96	1	3	$1\frac{1}{2}$	31	$3\frac{3}{4}$	
97	5		$1\frac{1}{2}$	128	$3\frac{3}{4}$	} 8 segmt.
98		$10\frac{1}{8}$	$1\frac{1}{2}$	21	$3\frac{3}{4}$	
154	2	1	$1\frac{1}{2}$	54	$3\frac{3}{8}$	
155	1	$\frac{1}{2}$	$1\frac{1}{2}$	27	$3\frac{3}{8}$	} mortice.
160	2	6	$1\frac{1}{2}$	64	3	
161	1	$2\frac{1}{2}$	$1\frac{1}{2}$	31	3	
	10-		$1\frac{1}{2}$	252	$3\frac{3}{4}$	} 12 segmt.
	1-		$1\frac{1}{2}$	25	$3\frac{3}{4}$	

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
99	2	6	$1\frac{7}{16}$	64	4	} mortice.
100	1	3	$1\frac{7}{16}$	32	4	
105	3		$1\frac{3}{8}$	81	3	})
106	1		$1\frac{3}{8}$	27	3	
107	1	6	$1\frac{3}{8}$	41	$2\frac{3}{4}$	
108		11	$1\frac{3}{8}$	25	$2\frac{3}{4}$	
109	1	$3\frac{1}{4}$	$1\frac{3}{8}$	35	$2\frac{7}{8}$	
110	1	$\frac{1}{8}$	$1\frac{3}{8}$	28	$2\frac{7}{8}$	
111	4		$1\frac{3}{8}$	112	$3\frac{3}{4}$	
112	1		$1\frac{3}{8}$	28	$3\frac{3}{4}$	
113	2	8	$1\frac{3}{8}$	72	$3\frac{1}{4}$	
114		8	$1\frac{3}{8}$	18	$3\frac{1}{4}$	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
115	1	6	$1\frac{3}{8}$	40	3	}
116	1	$3\frac{3}{4}$	$1\frac{3}{8}$	35	3	
156	2	6	$1\frac{5}{16}$	72	$3\frac{1}{4}$	}
157	1	3	$1\frac{5}{16}$	36	$3\frac{1}{4}$	
117	2	$\frac{1}{4}$	$1\frac{1}{4}$	60	$2\frac{3}{4}$	}
118		$9\frac{5}{8}$	$1\frac{1}{4}$	24	$2\frac{3}{4}$	

BEVEL WHEELS.

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
119	17	9	$1\frac{1}{4}$	528	3	} 24 segmt.
120	1	2	$1\frac{1}{4}$	34	3	
121	5	6	$1\frac{1}{4}$	166	$4\frac{7}{8}$	} 16 segmt.
122		6	$1\frac{1}{4}$	15	$4\frac{7}{8}$	
123 $\frac{1}{2}$	10	1	$1\frac{1}{4}$	304	3	} 16 segmt.
124 $\frac{1}{2}$	1		$1\frac{1}{4}$	30	3	
125 $\frac{1}{2}$	8	6	$1\frac{1}{4}$	126	3	} 16 segmt.
126 $\frac{1}{2}$	1	3	$1\frac{1}{4}$	38	3	
158	1	1	$1\frac{1}{4}$	32	$2\frac{1}{8}$	} 16 segmt.
159		$6\frac{1}{2}$	$1\frac{1}{4}$	16	$2\frac{1}{8}$	
162	2	$1\frac{1}{4}$	$1\frac{1}{4}$	60	$3\frac{1}{2}$	} 16 segmt.
163		$5\frac{1}{2}$	$1\frac{1}{4}$	13	$3\frac{1}{2}$	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
165	12		$1\frac{3}{16}$	404	$2\frac{3}{4}$ } 16 segmt.
166	1	2	$1\frac{3}{16}$	37	$2\frac{3}{4}$ }
123	2	$7\frac{1}{2}$	$1\frac{1}{8}$	86	$2\frac{3}{8}$ }
124	1	7	$1\frac{1}{8}$	51	$2\frac{3}{8}$ }
125	2		$1\frac{1}{8}$	66	$3\frac{1}{4}$ }
126	1		$1\frac{1}{8}$	33	$3\frac{1}{4}$ }
167	2	$8\frac{1}{4}$	$1\frac{1}{8}$	88	3 }
168		$5\frac{7}{8}$	$1\frac{1}{8}$	16	3 }

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
169	2	4½	1⅛	88	3 }
170		7	1⅛	22	3 }
	1-	2¾	1⅛	41	2 ¼
		4¾	1⅛	12	2 ¼
127	2	4½	1 1/16	81	3 1/8 }
128		9½	1 1/16	27	3 1/8 }
27	1	6½	1 1/16	54	2 3/4 }
28		9¼	1 1/16	27	2 3/4 }
129	2	2¼	1	85	2½ }
130		6½	1	21	2½ }

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.			
137	1	$5\frac{3}{4}$	$\frac{15}{16}$	60	$1\frac{1}{4}$ }
138		$11\frac{5}{8}$	$\frac{15}{16}$	40	$1\frac{1}{4}$ }
141	1	$3\frac{1}{4}$	$\frac{7}{8}$	54	$2\frac{1}{2}$ }
142		$7\frac{5}{8}$	$\frac{7}{8}$	27	$2\frac{1}{2}$ }

BEVEL WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
143	1	$2\frac{3}{4}$	$\frac{3}{4}$	60	$1\frac{1}{8}$)
144		$4\frac{7}{8}$	$\frac{3}{4}$	20	$1\frac{1}{8}$)
172		$6\frac{7}{8}$	$\frac{3}{4}$	28	$2\frac{1}{4}$)
171	1	$8\frac{1}{2}$	$\frac{3}{4}$	84	$2\frac{1}{4}$)
<i>Miter Gears</i>					
3 - $2\frac{5}{8}$ $3\frac{7}{8}$ 34 $9\frac{1}{2}$					

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
3	3	10	$2\frac{3}{4}$	52	8
19	1	6	$2\frac{5}{8}$	35	7
40	3	1	$2\frac{5}{8}$	44	8
1	1	8	$2\frac{1}{2}$	25	5

MITRE WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
2	1	6½	2¼	25	5½	
28	1	10	2⅛	32	6 mortice.	
33	1	10	2⅛	32	6	
4	2	11¾	2	53	4¾	

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs.	
	Ft.	In.			Inches.	
6	3	$7\frac{3}{4}$	2	69	$4\frac{3}{4}$	
7	2	$1\frac{1}{4}$	2	40	4	
8	3		2	55	6	mortice.
9	3		2	56	6	
5	1	$\frac{1}{2}$	2	19	5	
41	2	6	2	47	$5\frac{1}{2}$	
42	2	$6\frac{5}{8}$	2	48	$5\frac{1}{2}$	mortice.
10	2	$\frac{5}{8}$	$1\frac{15}{16}$	40	$4\frac{1}{8}$	
11	2	$\frac{5}{8}$	$1\frac{15}{16}$	40	$4\frac{1}{8}$	mortice.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
12	1	$3\frac{1}{4}$	$1\frac{3}{4}$	27	4
13	3	4	$1\frac{3}{4}$	71	$4\frac{1}{2}$
14	1	$\frac{1}{2}$	$1\frac{1}{2}$	26	$2\frac{7}{8}$
15	2	$5\frac{1}{2}$	$1\frac{1}{2}$	63	$2\frac{3}{16}$
18	2		$1\frac{1}{2}$	49	$3\frac{1}{2}$
16	1	$\frac{1}{4}$	$1\frac{7}{16}$	27	$3\frac{5}{8}$
17	1	$4\frac{3}{4}$	$1\frac{7}{16}$	37	3

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.	
	Ft.	In.	Inches.		Inches.	
23	1	9	$1\frac{5}{8}$	39	4	
24	1	$8\frac{1}{2}$	$1\frac{5}{8}$	40	4	mortice.
		$1 - 8\frac{3}{4}$	$1\frac{7}{8}$	41	4	
20	1		$1\frac{3}{8}$	28	3	
43	1	4	$1\frac{1}{4}$	40	3	
21	1	8	$1\frac{1}{4}$	50	$3\frac{1}{8}$	
22	1	$\frac{5}{8}$	$1\frac{1}{4}$	31	$1\frac{3}{4}$	

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
25	1	3	$1\frac{1}{8}$	42	$2\frac{1}{4}$
26	1	2	$1\frac{1}{8}$	39	$2\frac{1}{4}$
27	1	6	$1\frac{1}{8}$	50	$3\frac{1}{4}$
29	1	7	1	59	$2\frac{7}{8}$
36	1	$5\frac{3}{4}$	$\frac{15}{16}$	58	$2\frac{1}{8}$

MITRE WHEELS.

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
38		10	$\frac{7}{8}$	34	$2\frac{3}{4}$
39		6	$\frac{7}{8}$	22	$1\frac{1}{4}$
30		9	$\frac{3}{4}$	38	$1\frac{5}{8}$
31		$8\frac{5}{8}$	$\frac{3}{4}$	36	$1\frac{3}{16}$
44		$9\frac{5}{8}$	$\frac{3}{4}$	40	$1\frac{3}{4}$
32	1		$\frac{1}{2}$	78	$1\frac{1}{4}$
34		$5\frac{3}{8}$	$\frac{3}{8}$	45	$\frac{5}{8}$
35		$3\frac{7}{8}$	$\frac{3}{8}$	30	$\frac{5}{8}$

No.	Diameter.	Pitch.	No. Cogs.	Length of Cogs.
	Ft. In.	Inches.		Inches.
1	Rack.	$2\frac{1}{8}$	14	$2\frac{1}{2}$
2	$11\frac{1}{8}$	$2\frac{1}{8}$	16	3
30	Rack.	$1\frac{3}{4}$	22	$3\frac{5}{8}$
210	1 $1\frac{5}{8}$	$1\frac{3}{4}$	24	$3\frac{5}{8}$
3	Rack.	$1\frac{1}{8}$	31	3
4	$4\frac{7}{8}$	$1\frac{1}{8}$	13	3

No.	Diameter.		Pitch.	No. Cogs.	Length of Cogs.
	Ft.	In.	Inches.		Inches.
5	Rack.		$1\frac{1}{8}$	72	$2\frac{1}{4}$
6		$6\frac{3}{4}$	$1\frac{1}{8}$	18	$2\frac{3}{8}$
7		$3\frac{3}{8}$	$1\frac{1}{8}$	9	$2\frac{3}{8}$
8	Rack.		$1\frac{1}{8}$	18	4
4		$4\frac{7}{8}$	$1\frac{1}{8}$	13	3
33	Rack.		$1\frac{1}{8}$	22	$2\frac{1}{2}$
34	Rack.		$1\frac{1}{8}$	16	3
35		$4\frac{3}{8}$	$1\frac{1}{8}$	12	$2\frac{7}{8}$
36		$4\frac{1}{2}$	$1\frac{1}{8}$	12	$2\frac{3}{4}$
37		$3\frac{3}{4}$	$1\frac{1}{8}$	10	$3\frac{1}{8}$
38		$3\frac{1}{2}$	$1\frac{1}{8}$	10	$2\frac{7}{8}$
9	Rack.		1	20	$1\frac{5}{8}$
10		$3\frac{3}{8}$	1	10	$1\frac{5}{8}$
41	Rack.		1	65	$1\frac{1}{2}$
42		$3\frac{7}{8}$	1	12	$1\frac{1}{2}$
43		3	1	10	$1\frac{5}{8}$
44		$2\frac{7}{8}$	1	9	2

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs. Inches.
	Ft.	In.			
15	Rack.		$\frac{3}{4}$	33	$1\frac{1}{2}$
16		$2\frac{3}{8}$	$\frac{3}{4}$	10	$1\frac{3}{8}$
11	Rack.		$\frac{11}{16}$	53	$2\frac{1}{4}$
12	Rack.		$\frac{11}{16}$	53	$1\frac{3}{4}$
13		$4\frac{5}{8}$	$\frac{11}{16}$	21	$1\frac{3}{4}$
14		$2\frac{5}{8}$	$\frac{11}{16}$	12	$1\frac{3}{4}$
17	Rack.		$\frac{11}{16}$	53	$1\frac{1}{8}$
18		$2\frac{5}{8}$	$\frac{11}{16}$	12	$1\frac{1}{4}$
21	Rack.		$\frac{5}{8}$	40	$1\frac{1}{8}$
22		$3\frac{1}{8}$	$\frac{5}{8}$	16	1

No.	Diameter.		Pitch. Inches.	No. Cogs.	Length of Cogs. Inches.
	Ft.	In.			
25	Rack.		$\frac{9}{16}$	140	2
26		3	$\frac{9}{16}$	18	$2\frac{1}{4}$
27	Rack.		$\frac{9}{16}$	68	$1\frac{1}{2}$
28		$4\frac{1}{4}$	$\frac{9}{16}$	23	$1\frac{1}{2}$
47	Rack.		$\frac{5}{16}$	157	2
48		$3\frac{7}{8}$	$\frac{5}{16}$	38	2
45	Rack.		$\frac{3}{8}$	138	$1\frac{1}{4}$
46		$1\frac{1}{2}$	$\frac{3}{8}$	12	$1\frac{1}{2}$

PULLEYS.

No.	Diameter.		Face.		Lbs.	
	Ft.	In.	Ft.	In.		
1	12		2	1	9000	
2	12		1	9	6160	
3	12		2	1	6840	
4	10		1	8	4200	
5	10		2	X	4700	
6	10		1	4	3750	
7	9		1	8	3250	
8	9		1	5	3000	
9	8		1	6	2510	
10	8		1	2	2100	
11	7		1	2	2475	
12	7		1	2	1550	
13	6			11	1045	
14	5		1		840	
15	5		1	8	1730	Wrought arms.
16	4			9	400	
17	4	$1\frac{1}{8}$		$3\frac{5}{8}$		
18	3			8	225	
19	3			6	120	
20	3		-1	0	210	
21	3			6		
22	3		1	2	300	Strong arms.
23	3			$9\frac{1}{2}$		
24	2	6		$9\frac{1}{2}$		
25	2	6		6		
26	2	$4\frac{1}{8}$		5		

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PULLEYS.

No.	Diameter.		Face.		Lbs.
	Ft.	In.	Ft.	In.	
27	2	4		6	
28	2	2		6	
29	2	$\frac{1}{4}$		$4\frac{1}{2}$	
30	2			$10\frac{1}{2}$	
31	2			6	
32	2			3	
33	2			8	
34	1	10		6	
35	1	9		9	
36	1	$9\frac{1}{2}$		$4\frac{1}{2}$	
37	1	$8\frac{3}{4}$		$2\frac{1}{2}$	
38	1	8		7	Half pulley.
39	1	$7\frac{1}{4}$		6	
40	1	8		6	
41	1	8		$4\frac{1}{2}$	
42	1	$6\frac{1}{8}$	1	$1\frac{1}{4}$	
43	1	6		8	
44	1	$5\frac{1}{4}$		6	
45	1	$4\frac{1}{4}$		6	
46	1	4		7	
47	1	4		2	
48	1	6		6	
49	1	6		$4\frac{1}{2}$	
50	1	6		$3\frac{1}{2}$	
51	1	4		$4\frac{1}{4}$	
52	1	4		$3\frac{1}{2}$	



No.	Diameter.		Face.		Lbs.
	Ft.	In.	Ft.	In.	
53	1	4		9	
54	1	3		$2\frac{5}{8}$	
55	1	$2\frac{7}{8}$		$2\frac{3}{8}$	
56	1	2	10		
57	1	2		6	
58	1	2		$4\frac{1}{2}$	
59	1	$1\frac{5}{8}$		$3\frac{3}{8}$	
60	1	$1\frac{1}{8}$		6	
61	1	$\frac{1}{4}$		5	
62	1			$4\frac{3}{4}$	
63	1			$2\frac{3}{8}$	
64	1			$1\frac{5}{8}$	
65	1		1		
66		$11\frac{3}{4}$		$2\frac{3}{8}$	
67		$11\frac{1}{8}$		6	
68		11		$8\frac{1}{8}$	
69		11		$3\frac{3}{8}$	
70		10		4	
71		10		$2\frac{5}{8}$	
72		10		6	
73		10		$4\frac{1}{2}$	
74		$9\frac{3}{8}$		6	
75		9		$8\frac{1}{8}$	
76		9		$2\frac{1}{2}$	
77		$8\frac{1}{4}$		3	
78		7		7	

PULLEYS.

No.	Diameter.		Face.		Lbs.
	Ft.	In.	Ft.	In.	
79		7		6	
80		8		10	
81		8		6	
82		$6\frac{3}{8}$		$1\frac{5}{8}$	
83		6		$2\frac{1}{2}$	
84		$5\frac{1}{2}$		$2\frac{1}{2}$	
85		6		6	
86		5		6	
87		5		5	
88		6		$4\frac{1}{2}$	
	2	—		$5\frac{1}{2}$	
	2	—		6	
	1	—		5	

84 FLY WHEELS — SQUARE RIMS.

No.	Diameter.		Face.	Depth.	Lbs.		
	Ft.	In.	Inches.	Inches.			
36	5	8			1200	Cast iron arms.	
8	4	6	2 $\frac{1}{4}$	3 $\frac{7}{8}$			
9	4		2	3			
10	3	10 $\frac{3}{4}$	2 $\frac{1}{2}$	3 $\frac{1}{2}$			
11	3	6	2 $\frac{1}{4}$	2 $\frac{1}{2}$			
12	3	6	1 $\frac{5}{8}$	2 $\frac{1}{2}$			
35	3	4			300		Wro't. iron arms.
13	3	3 $\frac{3}{4}$	3	2 $\frac{1}{4}$			
14	3	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{7}{8}$			
15	2	7 $\frac{3}{4}$	2	3 $\frac{3}{4}$			
16	2	7 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{3}{8}$			
17	2	6	2 $\frac{3}{4}$	1 $\frac{1}{4}$			
18	1	5 $\frac{1}{2}$	3 $\frac{3}{4}$	1 $\frac{1}{8}$			
19	1	5 $\frac{7}{8}$	1 $\frac{1}{2}$	1			
20	1	2 $\frac{5}{8}$	1	1 $\frac{1}{2}$			
21	1		3 $\frac{3}{4}$	3 $\frac{3}{4}$			
22	1	1 $\frac{1}{4}$	1 $\frac{3}{8}$	Round.			
23	8	1	4 $\frac{1}{2}$	6	2800	Wrought arms.	

FLY WHEELS — OVAL RIMS. 85

No.	Diameter.		Lbs.	
	Ft.	In.		
23	10		2000	Wro't. iron arms.
24	9		2450	Wro't. iron arms.
25	8		1700	
26	7	2	1000	
27	6	10	800	
4	5			
28	5	9	600	
29	5	1	400	
2	4	11 $\frac{3}{4}$		
3	4	11 $\frac{3}{4}$	296	
30	4	7	260	Cast iron arms.
5	4	1 $\frac{1}{2}$	209	
7	4	1 $\frac{1}{2}$		
6	4		277	
31	3		130	<i>Wro't arms</i>
34	2	6	63	Cast iron arms.
32	2	4	128	
33	2			
	7	6	1400	Wro't. iron arms.
			68	

86 BAND WHEELS FOR LATHES.

No.	Diameter.		Face.	
	Ft.	In.	Inches.	
1	2	8	$2\frac{7}{8}$	6 straight arms.
2	2	$3\frac{3}{4}$	$3\frac{1}{4}$	6 crooked arms.
3	2	2	$2\frac{7}{5}$	4 branched arms.
4	2	2	$2\frac{3}{8}$	4 straight arms.
5	2	$1\frac{3}{4}$	$1\frac{3}{4}$	4 branched arms.
6	1	$11\frac{1}{2}$	$1\frac{1}{8}$	4 straight arms.
7	1	$10\frac{1}{2}$	$2\frac{3}{4}$	4 branched arms.
8	2	$\frac{1}{2}$		cone wheel.

No.	Diam.	Thickness.		No.	Diam.	Thickness.
	Inches.	Inches.			Inches.	Inches.
1	20	$2\frac{3}{4}$	Arms.	27	$7\frac{1}{2}$	$1\frac{1}{4}$
2	24	3		28	$7\frac{1}{2}$	1
3	15	2	Arms.	29	7	2
4	12	$2\frac{1}{4}$		30	7	$1\frac{3}{4}$
5	12	$1\frac{3}{4}$		31	7	$1\frac{1}{2}$
6	11	$2\frac{1}{2}$		32	7	$1\frac{1}{4}$
7	11	$2\frac{1}{4}$		33	7	1
8	$10\frac{1}{2}$	$2\frac{1}{8}$		34	$6\frac{3}{4}$	$1\frac{1}{2}$
9	$10\frac{1}{2}$	$1\frac{3}{4}$		35	$6\frac{1}{2}$	$1\frac{1}{2}$
10	10	2		36	$6\frac{1}{2}$	$1\frac{1}{4}$
11	10	$1\frac{1}{2}$		37	$6\frac{1}{2}$	1
12	10	1		38	$6\frac{1}{2}$	$2\frac{1}{8}$
13	9	2		39	$6\frac{1}{2}$	$1\frac{7}{8}$
14	9	$1\frac{3}{4}$		40	$6\frac{1}{4}$	$1\frac{3}{4}$
15	9	$1\frac{1}{2}$		41	$6\frac{1}{4}$	$1\frac{1}{2}$
16	9	$1\frac{1}{4}$		42	$6\frac{1}{4}$	$1\frac{1}{4}$
17	9	1		43	6	$2\frac{1}{8}$
18	$8\frac{3}{4}$	$1\frac{3}{4}$		44	6	$1\frac{3}{4}$
19	8	3		45	6	$1\frac{1}{2}$
20	8	2		46	6	$1\frac{1}{4}$
21	8	$1\frac{3}{4}$		47	6	1
22	8	$1\frac{1}{4}$		48	$5\frac{3}{4}$	$1\frac{1}{4}$
23	8	1		49		
24				50	$5\frac{1}{2}$	$1\frac{1}{2}$
25	$7\frac{1}{2}$	$2\frac{1}{4}$		51	$5\frac{1}{2}$	$1\frac{1}{4}$
26	$7\frac{1}{2}$	$1\frac{3}{4}$		52	$5\frac{1}{2}$	1

No.	Diam.	Thickness.	No.	Diam.	Thickness.
	Inches.	Inches.		Inches.	Inches.
53	5	$1\frac{1}{2}$	79	$3\frac{1}{2}$	$\frac{7}{8}$
54	5	$1\frac{1}{4}$	80	$3\frac{1}{2}$	$\frac{3}{4}$
55	5	$1\frac{1}{8}$	81	$3\frac{1}{4}$	1
56	5	1	82	$3\frac{1}{4}$	$\frac{7}{8}$
57	$4\frac{3}{4}$	$1\frac{1}{2}$	83	3	$1\frac{1}{4}$
58	$4\frac{3}{4}$	$1\frac{1}{4}$	84	3	1
59	$4\frac{3}{4}$	$1\frac{1}{8}$	85	3	$\frac{7}{8}$
60	$4\frac{1}{2}$	2	86	$2\frac{3}{4}$	1
61	$4\frac{1}{2}$	$1\frac{3}{4}$	87	$2\frac{3}{4}$	$\frac{7}{8}$
62	$4\frac{1}{2}$	$1\frac{1}{2}$	88	$2\frac{1}{2}$	$\frac{7}{8}$
63	$4\frac{1}{2}$	$1\frac{1}{4}$			
64	$4\frac{1}{2}$	$1\frac{1}{8}$			
65	$4\frac{1}{2}$	1			
66	$4\frac{1}{4}$	$1\frac{1}{2}$			
67	$4\frac{1}{4}$	$1\frac{1}{4}$			
68	$4\frac{1}{4}$	1			
69	4	$1\frac{1}{2}$			
70	4	$1\frac{1}{4}$			
71	4	1			
72	$3\frac{3}{4}$	$1\frac{1}{4}$			
73	$3\frac{3}{4}$	1			
74	$3\frac{3}{4}$	$\frac{7}{8}$			
75	$3\frac{3}{4}$	$\frac{3}{4}$			
76	$3\frac{1}{2}$	$1\frac{1}{2}$			
77	$3\frac{1}{2}$	$1\frac{1}{4}$			
78	$3\frac{1}{2}$	1			



