The Metal Trades'

REFEREE

WITH

OTHER USEFUL INFORMATION

TENTH EDITION

(WITH APPENDIX)

The Metal Trades' REFEREE

10th EDITION.

BEING

A GENERAL GUIDE FOR IRONWORKERS, STOREKEEPERS, COUNTRY RESIDENTS, &c.

CONTAINING

TABLES OF WEIGHTS, MEASUREMENTS, AVERAGE RAINFALL, POSTAL AND OTHER USEFUL INFORMATION.

Whether it be in Times of Peace or War. every detail of the manufacture of LYSAGHT'S SHEETS receives the same careful scrutiny as has served to gain world-wide recognition of their reliability for more than half-a-century.

THE IMPERIAL PRESS,
395 Elizabeth Street, Melbourne.

Calendar 1918.

JANUARY.							FEBRUARY.							MARCH.						
Sun.		6	13	20	27			3	10	17	24		31	3	10	17	24
Mon.		7	14	21	28			4	11	18	25			4	11	18	25
Tue.	1	8	15	22	29			5	12	19	26			5	12	19	26
Wed	2	9	16	23	30			6	13	20	27			6	13	20	27
Thu.	3	10	17	24	31			7	14	21	28			7	14	21	28
Fri.	4	11	18	25	...		1	8	15	22	...		1	8	15	22	29
Sat.	5	12	19	26	...		2	9	16	23	...		2	9	16	23	30

APRIL.							MAY.							JUNE.						
Sun.		7	14	21	28			5	12	19	26		30	2	9	16	23
Mon.	1	8	15	22	29			6	13	20	27			3	10	17	24
Tue.	2	9	16	23	30			7	14	21	28			4	11	18	25
Wed.	3	10	17	24	..		1	8	15	22	29			5	12	19	26
Thu.	4	11	18	25	...		2	9	16	23	30			6	13	20	27
Fri.	5	12	19	26	...		3	10	17	24	31			7	14	21	28
Sat.	6	13	20	27	...		4	11	18	25	...		1	8	15	22	29

JULY.							AUGUST.							SEPTEMBER.						
Sun.		7	14	21	28			4	11	18	25		1	8	15	22	29
Mon.	1	8	15	22	29			5	12	19	26		2	9	16	23	30
Tue	2	9	16	23	30			6	13	20	27		3	10	17	24	
Wed	3	10	17	24	31			7	14	21	28		4	11	18	25	
Thu.	4	11	18	25	...		1	8	15	22	29		5	12	19	26	
Fri.	5	12	19	26	...		2	9	16	23	30		6	13	20	27	
Sat.	6	13	20	27	...		3	10	17	24	31		7	14	21	28	

OCTOBER.							NOVEMBER.							DECEMBER.						
Sun.		6	13	20	27			3	10	17	24		1	8	15	22	29
Mon.		7	14	21	28			4	11	18	25		2	9	16	23	30
Tue.	1	8	15	22	29			5	12	19	26		3	10	17	24	31
Wed.	2	9	16	23	30			6	13	20	27		4	11	18	25	
Thu.	3	10	17	24	31			7	14	21	28		5	12	19	26	
Fri.	4	11	18	25	...		1	8	15	22	29		6	13	20	27	
Sat.	5	12	19	26	...		2	9	16	23	30		7	14	21	28	

The Evolution of Galvanized Iron

IT is interesting to note at the present day, when the use of Galvanized Iron has become so widely extended, that its introduction dates back only to 1837. Although a plain sheet was exhibited at the Great Exhibition in 1851, it was not until the application of steam power for the purpose of corrugating was brought about in 1854, that Galvanized Iron really came into practical use

In 1857 the celebrated "ORB" Brand was first manufactured by MR. JOHN LYSAGHT.

During the half-century which has since elapsed, greatly improved methods for its production, and extreme care displayed in its manufacture, have secured for **LYSAGHT'S GALVANIZED IRON** an unrivalled reputation throughout the world, and so universally has it been adopted to meet the needs of modern civilization, that it may with truth be said that the sun is always shining on "ORB IRON."

Consumers of Galvanized Iron are respectfully requested to note that every sheet of LYSAGHT'S "ORB" IRON has the Trade Mark stencilled thereon in blue, and is guaranteed. Beware of Imitations.

INDEX.

TENTH EDITION.

The various tables contained herein have been carefully compiled from existing sources of information. No responsibility is accepted, and no originality is claimed in respect thereof. They are intended to give closely approximate information which may not always be readily accessible elsewhere

The Publisher will be thankful to receive suggestions for further improvements or to have pointed out any printers' or other's errors which may have inadvertently crept in. Communications may be addressed to P.O. Box 52, Stock Exchange, Melbourne, or Box 196, G.P.O., Sydney.

Galvanized Iron—Corrugated.

Approximate number of sheets to a case (ordinary Corrugations) weighing about 10cwt.

Length.	Gauges.					
	18	20	22	24	26	28
5 feet	42	53	66	83	118	134
6 feet	35	44	55	69	98	111
7 feet	30	38	47	59	84	95
8 feet	26	33	41	51	73	83
9 feet	23	29	36	45	65	74
10 feet	21	26	32	41	58	66
11 feet	19	24	30	38	54	62
12 feet	17	22	28	35	49	56

BRANDS ALWAYS RELIABLE

Approximate weight per sheet in lbs. (based on above table) to nearest ¼ lb.

G'ge.	5 ft.	6 ft.	7 ft.	8 ft.	9 ft.	10ft	11ft	12 ft.
18	26½	32	37¼	43	49	53	58½	64 lbs.
20	21	25½	29½	34	38½	43	46½	51 ,,
22	17	20¼	24	27¼	31	35	37¼	40½
24	13½	16¼	19	22	25	27¼	29¾	32½
26	9½	11½	13½	15½	17¼	19¼	20¾	23 ,,
28	8¼	10	11¾	13½	15¼	17	18¼	20 ,,

Cases of LYSAGHT'S Brands of Corrugated Iron usually contain sheets in excess of the numbers given in above tables.

SECTIONS OF LYSAGHT'S CORRUGATIONS

The sizes stocked in Australia are :—

½ in. x ⅛ in. 1 in. x ¼ in. 3 in. x ¾ in.

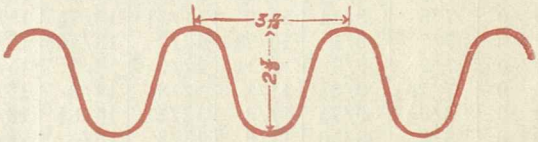
The following are also supplied to order, viz :—

1½ in. x ⅜ in. 2 in. x ½ in. 2½ in. x ⅝ in.
4 in. x 1 in. 5 in x 1¼ in. 5 in. x 1½ in.
5 1/10 in. x 1 in. 6 in x 1½ in.

Made in widths from 24 in. to 33 in.

Weight-Bearing Sections as follows :—

3 11/16 in. x 2⅜ in. (illustrated).



The following are the approximate weights per sq. ft. of the above.

16 g.—5 lbs 8 ozs. 18 g.—4 lbs 4 ozs.
20 g.—3 lbs 12 ozs. 22 g.—2 lbs 14 ozs.
24 g.—2 lbs 6 ozs.

Lysaghts also supply Section 4in. x 2in. if required

Galvanized Iron—Corrugated

Approximate price per sheet based on given rates per ton.

22 G.

Price per Ton.			132 Sheets 5 ft.	110 Sheets 6 ft.	94 Sheets 7 ft.	82 Sheets 8 ft.	72 Sheets 9 ft.	64 Sheets 10 ft.
£	s.	d.						
35	0	0	5/3½	6/4½	7/5½	8/6½	9/8½	10/11½
36	0	0	5/5½	6/6½	7/8	8/9½	10/–	11/3
37	0	0	5/7½	6/9	7/10½	9/0½	10/3½	11/7
38	0	0	5/9	6/11	8/1	9/3½	10/6½	11/10½
39	0	0	5/11	7/1	8/3½	9/6½	10/10	12/2½
40	0	0	6/1	7/3½	8/6	9/9	11/1½	12/6
41	0	0	6/2½	7/5	8/8½	10/–	11/4½	12/10
42	0	0	6/4	7/7½	8/11	10/3	11/8	13/1½
43	0	0	6/6	7/10	9/2	10/6	11/11	13/5
44	0	0	6/8	8/–	9/4	10/9	12/2½	13/9
45	0	0	6/10	8/2	9/7	10/11½	12/6	14/1
46	0	0	7/–	8/4	9/9½	11/2½	12/9	14/4½
47	0	0	7/1½	8/6½	10/–	11/5½	13/0½	14/8
48	0	0	7/3	8/8½	10/2½	11/8½	13/4	15/–
49	0	0	7/5	8/11	10/5	11/11	13/7½	15/4
50	0	0	7/7	9/1	10/7½	12/2	13/10½	15/7½
51	0	0	7/9	9/3	10/10	12/5	14/2	15/11
52	0	0	7/10½	9/5½	11/1	12/8	14/5	16/3
53	0	0	8/0½	9/7½	11/3	12/11	14/8½	16/7
54	0	0	8/2	9/10	11/6	13/2	15/–	16/10½
55	0	0	8/4	10/–	11/8½	13/5	15/3	17/2
57	10	0	8/8½	10/5	12/2½	14/1	15/11½	17/11½
60	0	0	9/1	10/11	12/9	14/7½	16/8	18/9
62	10	0	9/5½	11/4	13/3½	15/3	17/4	19/6
65	0	0	9/10	11/10	13/10	15/10	18/0½	20/4
67	10	0	10/2½	12/3	14/4	16/5½	18/9	21/1
70	0	0	10/7	12/8½	14/10½	17/1½	19/5	21/11
72	10	0	11/–	13/2	15/5	17/8	20/1	22/8
75	0	0	11/4	13/7½	15/11½	18/3½	20/10	23/5

Galvanized Iron—Corrugated

Price per sheet based (on weights and counts on page 8) on given rates per ton.

24 G.

Price per Ton.			166 Sheets 5 ft.	138 Sheets 6 ft.	119 Sheets 7 ft.	102 Sheets 8 ft.	90 Sheets 9 ft.	82 Sheets 10 ft.
£	s.	d.						
35	0	0	4/2½	5/1	5/11	6/10½	7/9½	8/6½
36	0	0	4/4	5/2½	6/1½	7/0½	8/–	8/9½
37	0	0	4/5½	5/4½	6/3½	7/3	8/2½	9/0½
38	0	0	4/7	5/6	6/5½	7/5½	8/5½	9/3½
39	0	0	4/8½	5/8	6/7½	7/8	8/8	9/6½
40	0	0	4/10	5/9½	6/9½	7/10	8/10½	9/9½
41	0	0	4/11	5/11	6/11½	8/0½	9/1	10/–
42	0	0	5/1	6/1	7/1½	8/3	9/4	10/3
43	0	0	5/2	6/3	7/3½	8/5	9/7	10/6
44	0	0	5/3½	6/4½	7/5½	8/7½	9/9	10/9
45	0	0	5/5	6/6	7/7½	8/10	10/–	11/–
46	0	0	5/6½	6/8	7/9½	9/–	10/2½	11/3
47	0	0	5/8	6/10	7/11½	9/2½	10/5	11/5½
48	0	0	5/9½	6/11½	8/1½	9/5	10/8	11/8½
49	0	0	5/11	7/1	8/3½	9/7	10/10½	11/11½
50	0	0	6/–	7/3	8/6	9/9½	11/1	12/2
51	0	0	6/1½	7/5	8/7½	10/–	11/4	12/5
52	0	0	6/3	7/6½	8/10	10/2	11/6½	12/8
53	0	0	6/4½	7/8	9/–	10/4½	11/9	12/11
54	0	0	6/6	7/10	9/2	10/7	12/–	13/2
55	0	0	6/7½	7/11½	9/4	10/9½	12/2½	13/5
57	10	0	6/11	8/4	9/9	11/3	12/9	14/1
60	0	0	7/3	8/8	10/2	11/9	13/4	14/7½
62	10	0	7/6	9/0½	10/6	12/3	13/10½	15/3
65	0	0	7/10	9/5	11/–	12/9	14/5	15/10
67	10	0	8/1½	9/10	11/5	13/2½	15/–	16/5
70	0	0	8/5	10/2	11/10	13/8½	15/6½	17/1
72	10	0	8/9	10/6	12/3½	14/2½	16/1	17/8
75	0	0	9/–	10/10½	12/8½	14/8½	16/8	18/3½

Galvanized Iron—Corrugated

Price per sheet based (on weights and counts on Page 8) on given rates per ton.

26 G.

Price per Ton.			236 Sheets 5 ft.	145 Sheets 6 ft.	168 Sheets 7 ft.	146 Sheets 8 ft.	130 Sheets 9 ft.	116 Sheets 10 ft.
£	s.	d.						
35	0	0	2/11½	3/7	4/2	4/9½	5/4½	6/0½
36	0	0	3/0½	3/8	4/3½	4/11	5/6½	6/2½
37	0	0	3/1½	3/9½	4/5	5/1	5/8½	6/4½
38	0	0	3/2½	3/10½	4/6½	5/2½	5/10½	6/6½
39	0	0	3/3½	4/–	4/8	5/4	6/–	6/8½
40	0	0	3/4½	4/1	4/9½	5/6	6/2	6/10½
41	0	0	3/6	4/2½	4/10½	5/7	6/3½	7/1
42	0	0	3/6½	4/3½	5/–	5/9	6/5½	7/3
43	0	0	3/8	4/5	5/1½	5/10½	6/7	7/5
44	0	0	3/9	4/6	5/3	6/–	6/9	7/7
45	0	0	3/10	4/7	5/4	6/2	6/11	7/9
46	0	0	3/11	4/8½	5/5½	6/3½	7/1	7/11
47	0	0	4/–	4/10	5/7	6/5	7/3	8/1
48	0	0	4/1	4/11	5/8½	6/7	7/4½	8/3
49	0	0	4/2	5/–	5/10	6/8½	7/6	8/5
50	0	0	4/3	5/1½	5/11½	6/10	7/8	8/7
51	0	0	4/4	5/2½	6/1	7/–	7/10	8/9½
52	0	0	4/5	5/4	6/2	7/1	8/–	9/–
53	0	0	4/6	5/5	6/3½	7/3	8/2	9/1½
54	0	0	4/7	5/6½	6/5	7/5	8/3½	9/3½
55	0	0	4/8	5/7½	6/6½	7/6	8/5½	9/6
57	10	0	4/10	5/10	6/10	7/10½	8/10	9/11
60	0	0	5/1	6/2	7/1½	8/2½	9/3	10/4
62	10	0	5/3½	6/5	7/5	8/6½	9/7	10/9
65	0	0	5/6	6/8	7/9	8/11	10/–	11/2½
67	10	0	5/8½	6/11	8/–	9/3	10/4½	11/7½
70	0	0	5/11	7/2	8/4	9/7	10/9	12/1
72	10	0	6/1½	7/5	8/7½	9/11	11/2	12/6
75	0	0	6/4	7/8	8/11	10/3	11/6	12/11

ERRATA—Page 12, 6 ft. 26 G.
Number of sheets per ton should be 196.

GALVANIZED IRON—PLAIN. Approximate Price per Sheet.

Price per Ton.	24 Gauge.			26 Gauge.			28 Gauge.		
	24 inch. 172 Sheets	30 inch. 138 Sheets	36 inch. 114 Sheets	24 inch. 240 Sheets	30 inch. 194 Sheets	36 inch. 160 Sheets	24 inch. 280 Sheets	30 inch. 224 Sheets	36 inch. 184 Sheets
£35 0 0	4 1	5 1	6 2	2 11	3 7½	4 4½	2 6	3 1½	3 10
36 0 0	4 2½	5 3	6 4	3 0	3 8½	4 6	2 7	3 2½	3 11½
37 0 0	4 4	5 4½	6 6	3 1	3 10	4 7½	2 8	3 4	4 0½
38 0 0	4 5	5 6½	6 8	3 2	3 11	4 9	2 9	3 5	4 1½
39 0 0	4 6½	5 8	6 10½	3 3	4 0½	4 10½	2 9½	3 6	4 3
40 0 0	4 8	5 10	7 0½	3 4	4 1½	5 0	2 10½	3 7	4 4½
41 0 0	4 9	5 11	7 2	3 5	4 3	5 1½	2 11	3 8	4 5½
42 0 0	4 10½	6 1	7 4½	3 6	4 4	5 3	3 0	3 9	4 7
43 0 0	5 0	6 3	7 6½	3 7	4 5	5 4½	3 1	3 10	4 8
44 0 0	5 1	6 4½	7 8½	3 8	4 6½	5 6	3 2	3 11	4 9½
45 0 0	5 3	6 6	7 11	3 9	4 7½	5 7½	3 2½	4 0	4 10½
46 0 0	5 4	6 8	8 1	3 10	4 9	5 9	3 3½	4 1	5 0
47 0 0	5 5½	6 10	8 3	3 11	4 10	5 10½	3 4	4 2	5 1
48 0 0	5 7	6 11½	8 5	4 0	4 11	6 0	3 5	4 3½	5 2½
49 0 0	5 8	7 1	8 7	4 1	5 0½	6 1½	3 6	4 4½	5 4
50 0 0	5 10	7 3	8 9	4 2	5 2	6 3	3 7	4 5½	5 5
51 0 0	5 11	7 4½	8 11	4 3	5 3	6 4½	3 8	4 6½	5 6½
52 0 0	6 0½	7 6½	9 1	4 4	5 4	6 6	3 8½	4 7½	5 8
53 0 0	6 2	7 8	9 3½	4 5	5 5½	6 7½	3 9	4 9	5 9
54 0 0	6 3	7 10	9 5½	4 6	5 7	6 9	3 10	4 10	5 10½
55 0 0	6 5	7 11½	9 6	4 7	5 8	6 10½	3 11	4 11	6 0
57 10 0	6 8½	8 4	10 1½	4 9½	5 11	7 2	4 1	5 1½	6 3
60 0 0	7 0	8 8	10 6	5 0	6 2	7 6	4 3½	5 4	6 6
62 10 0	7 3	9 0½	10 11½	5 2½	6 5	7 9	4 5½	5 6½	6 9½
65 0 0	7 6½	9 5	11 5	5 5	6 8½	8 1½	4 7½	5 9½	7 1
67 10 0	7 10	9 9	11 10	5 7½	7 0	8 5	4 9½	6 0	7 4
70 0 0	8 1½	10 2	12 3	5 10	7 2½	8 9	5 0	6 3	7 7
72 10 0	8 5	10 6	12 8	6 0½	7 5½	9 1	5 2	6 5	7 10½
75 0 0	8 9	10 10	13 2	6 3	7 9	9 4½	5 4½	6 8½	8 2

and even quality, is a perfect Roofing Sheet.

Galvanized Iron—Plain.

Approximate number of 6ft. sheets to a case. Plain Iron averaging about 10 cwt.

Gauge	Width.		
	24 in	30 in	36 in.
16	36	29	24 shts.
18	47	37	31 ,,
20	57	45	38 ,,
22	74	59	49 ,,
24	86	69	57 ,,
26	120	97	80 ,,
28	140	112	92 ,,
30	160	130	112 ,,

Approximate weight per sheet 6 ft. long, in lbs., based on foregoing list.

Gauge	Width		
	24 in.	30 in.	36 in.
16	31	38⅔	46⅔ lbs
18	24	30¼	36 ,,
20	19½	25	29½ ,,
22	15	19	23 ,,
24	13	16¼	19⅔ ,,
26	9⅓	11½	14 ,,
28	8	10	12¼ ,,
30	7	8¾	10 ,,

Cases of Lysaght's Brands of Plain Galvanized Iron usually contain sheets in excess of the number given in the above tables.

QUEEN'S HEAD

LYSAGHT'S "Queen's Head" Special Flat Plain Galvanized Iron is a High-grade Sheet of exceptional finish. It will stand the severest tests and commands the confidence of Iron-workers everywhere. Obtainable also in Special Sizes other than above, to order.

LYSAGHT'S "Fleur de Lis" Plain Iron is largely used for the manufacture of the lighter classes of guttering, down-pipe ridging, &c., its smoothness of surface and freedom from buckle being conspicuous features.


FLEUR DE LIS

Iron—Black Sheet.

Weight and Thickness.

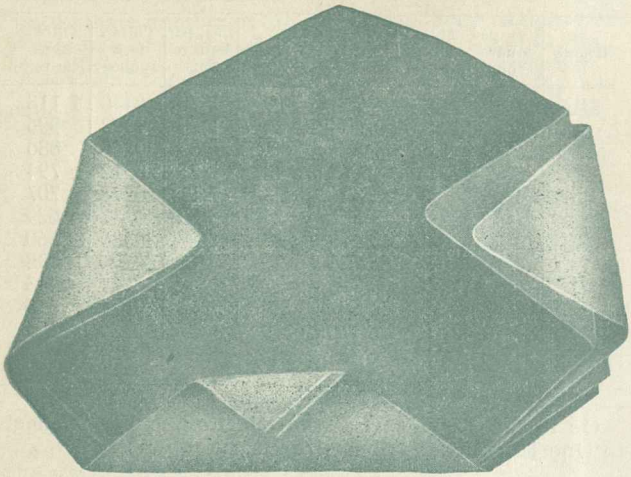
Gauge	Lbs per square foot	Thickness inches	Thickness mm.	Gauge	Lbs. per square foot	Thickness inches	Thickness mm.
3/16	7·50	·1874	4 770	19	1·76	·0440	1 118
8	6·28	·1570	3·988	20	1·56	·0392	·996
9	5·59	·1398	3·551	21	1·39	·0349	·886
10	5 00	·1250	3·175	22	1·25	·0312	·794
11	4 45	·1113	2·827	23	1·11	·0278	·707
12	3·96	·0991	2·517	24	·99	·0247	·629
13	3·52	·0882	2 240	25	·88	·0220	·560
14	3·14	·0785	1 994	26	·78	·0196	·498
15	2·79	·0699	1·775	27	·69	·0174	·443
16	2·50	·0625	1·587	28	62	·0156	396
17	2·22	·0556	1·412	29	·55	·0139	·353
18	1·98	·0495	1·257	30	·50	·0124	·315

On the above basis, the approximate Number of Sheets in One Ton of Black Sheet Iron is as follows :—

Gauge	WIDTH		
	24in	30in	36in
10g	37	29	24
12	47	37	31
14	59	47	39
16	74	59	49
18	94	75	62
20	119	95	79
22	149	119	99
24	188	150	125
26	239	191	159
27	270	216	180
28	301	241	200
30	373	298	248

Weight of Steel is about 2 per cent. more than Iron.

Lysaght's Black Steel Sheets.



1. **Charcoal Tenax, C.R.C.A.**—Very highest quality and finish. For purposes where a sheet of exceptional finish is required. It is sometimes used as a substitute for Copper.

2. **Queen's Head T. Crown. C.R.C.A.**—A specially prepared high grade sheet, suitable for all working up purposes.

3 **Southern Cross C.R.C.A.**—An excellent quality of sheet for the majority of purposes—cold rolled, close annealed, and specially flattened. Every sheet true to size and gauge. Guaranteed to seam and bend both ways of grain.

All the above qualities are obtainable in all gauges from 3/16 to 30-g and in widths up to 56 inches.

Bar Iron—Flat.

Approximate Weight per Lineal Foot.

	¼	5/16	⅜	7/16	½	⅝	¾	⅞	1
In.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
1	·83	1·04	1·25	1·45	1·66	2·08	2·50	2·91	3·33
1⅛	·94	1·17	1·40	1·64	1·87	2·34	2·81	3·28	3·75
1¼	1·04	1 30	1·56	1·82	2·08	2·60	3·12	3·54	4·16
1⅜	1·14	1·43	1·71	2·	2·29	2·86	3·43	4·01	4·58
1½	1·25	1·56	1·87	2·18	2 50	3·12	3·75	4·37	5·
1⅝	1·35	1·69	2·03	2·36	2·70	3·38	4·06	4·73	5·41
1¾	1·45	1·82	2·18	2·55	2·91	3·64	4·37	5·10	5·83
1⅞	1·56	1·95	2·34	2·73	3·12	3·90	4·68	5·46	6·25
2	1·66	2·08	2·50	2·91	3·33	4·16	5·	5·83	6·66
2⅛	1·77	2·21	2·65	3·09	3·54	4·42	5·31	6·19	7·08
2¼	1·87	2·34	2·81	3·28	3·75	4·68	5·62	6·56	7·50
2⅜	1·97	2·47	2·96	3·46	3·95	4 94	5·93	6·92	7·91
2½	2·08	2·60	3·12	3·64	4 16	5·20	6·25	7·29	8·33
2⅝	2·18	2·73	3·28	3·82	4·37	5·46	6·56	7 65	8·75
2¾	2·29	2·86	3·43	4·01	4·58	5·72	6·87	8·02	9·16
2⅞	2·39	2·99	3·59	4·19	4·79	5·98	7·18	8·38	9·58
3	2·50	3·12	3·75	4·37	5·	6·25	7·50	8·75	10·
3¼	2·70	3·38	4·06	4·73	5·41	6·77	8·12	9·47	10·83
3½	2·91	3·64	4·37	5·10	5·83	7·29	8·75	10·20	11·66
3¾	3·12	3·90	4·68	5·46	6·25	7·81	9·37	10·93	12·50
4	3·33	4·16	5·	5·83	6·66	8·33	10·	11·66	13·33
4¼	3·54	4·42	5·31	6·19	7·08	8·85	10·62	12·39	14·16
4½	3·75	4·68	5·62	6·56	7·50	9·37	11·25	13·12	15·
4¾	3·95	4·94	5·93	6·92	7·91	9·89	11·87	13·85	15·83
5	4·17	5·20	6·25	7·29	8·33	10·41	12·50	14·58	16·66
5¼	4·37	5·46	6·56	7·65	8·75	10·93	13·12	15·31	17·50
5½	4·58	5·72	6·87	8.02	9·16	11·45	13·75	16·04	18·33
5¾	4·79	5·98	7·18	8·38	9·58	11·97	14·37	16·77	19·16
6	5	6·26	7·50	8·75	10	12·50	15·	17·50	20·

Weight of Steel is about 2 per cent. more than Iron.

Weight of Round and Square Iron and Steel.

Size (dia)	IRON.		STEEL.	
	Round Weight per lineal foot	Square Weight per lineal foot	Round Weight per lineal foot	Square Weight per Lineal foot
3/16	0.092	0.117	0.094	0.120
¼	0.164	0.208	0.157	0.213
5/16	0.256	0.326	0.261	0.332
⅜	0.368	0.469	0.376	0.478
7/16	0.501	0.638	0.511	0.651
½	0.654	0.833	0.668	0.849
9/16	0.828	1.062	0.845	1.076
⅝	1.023	1.302	1.043	1.328
11/16	1.237	1.576	1.262	1.607
¾	1.473	1.875	1.502	1.912
13/16	1.728	2.201	1.763	2.245
⅞	2.004	2.552	2.044	2.603
15/16	2.301	2.930	2.347	2.988
1	2.618	3.333	2.670	3.400
1⅛	3.313	4.219	3.380	4.303
1¼	4.091	5.208	4.172	5.312
1⅜	4.950	6.302	5.049	6.428
1½	5.890	7.500	6.008	7.750
1⅝	6.913	8.802	7.051	8.978
1¾	8.018	10.208	8.178	10.412
1⅞	9.204	11.719	9.388	11.953
2	10.472	13.333	10.681	13.600
2⅛	11.82	15.05	12.06	15.35
2¼	13.25	16.87	13.52	17.21
2⅜	14.77	18.80	15.06	19.18
2½	16.36	20.83	16.69	21.25
2⅝	18.04	22.97	18.40	23.43
2¾	19.80	25.21	20.19	25.71
2⅞	21.64	27.55	22.07	28.10
3	23.56	30.00	24.03	30.60
3¼	27.65	35.21	28.21	35.91
3½	32.07	40.83	32.71	41.65
3¾	36.82	46.87	37.55	47.81
4	41.89	53.33	42.73	54.40
4¼	47.29	60.21	48.23	61.41
4½	53.01	67.50	54.07	68.85
4¾	59.07	75.21	60.25	76.71
5	65.45	83.33	66.76	85.00
5½	79.19	100.83	80.78	102.85
6	94.25	120.00	96.13	122.40

TABLE

Shewing Weight in Pounds

OF VARIOUS AREAS OF

Iron Plates of Different Thicknesses.

Area in feet.	Thickness in Fractions of an Inch.									
	1/8	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
1	5	10	12.5	15	17.5	20	25	30	35	40
2	10	20	25.0	30	35.0	40	50	60	70	80
3	15	30	37.5	45	52.5	60	75	90	105	120
4	20	40	50.0	60	70.0	80	100	120	140	160
5	25	50	62.5	75	87.5	100	125	150	175	200
6	30	60	75.0	90	105.0	120	150	180	210	240
7	35	70	87.5	105	122.5	140	175	210	245	280
8	40	80	100.0	120	140.0	160	200	240	280	320
9	45	90	112.5	135	157.5	180	225	270	315	360
10	50	100	125.0	150	175.0	200	250	300	350	400
11	55	110	137.5	165	192.5	220	275	330	385	440
12	60	120	150.0	180	210.0	240	300	360	420	480
13	65	130	162.5	195	227.5	260	325	390	455	520
14	70	140	175.0	210	245.0	280	350	420	490	560
15	75	150	187.5	225	262.5	300	375	450	525	600
16	80	160	200.0	240	280.0	320	400	480	560	640
17	85	170	212.5	255	297.5	340	425	510	595	680
18	90	180	225.0	270	315.0	360	450	540	630	720
19	95	190	237.5	285	332.5	380	475	570	665	760
20	100	200	250.0	300	350.0	400	500	600	700	800
30	150	300	375.0	450	525.0	600	750	900	1050	1200
40	200	400	500.0	600	700.0	800	1000	1200	1400	1600
50	250	500	625.0	750	875.0	1000	1250	1500	1750	2000
60	300	600	750.0	900	1050	1200	1500	1800	2100	2400
70	350	700	875.0	1050	1225	1400	1750	2100	2450	2800
80	400	800	1000	1200	1400	1600	2000	2400	2800	3200
90	450	900	1087	1350	1575	1800	2250	2700	3150	3600
100	500	1000	1250	1500	1750	2000	2500	3000	3500	4000

STEEL JOISTS.—British Standard Sections.

A=Depth C=Thickness of Web.
B=Width of Flange D=Thickness of Flange.

Dimensions in Inches.				Weight lbs per foot-run	Safe Load Tons distributed for Spans of					
A	B	C	D		6 ft	10 ft	12 ft	16 ft	20 ft	30 ft
3	1½	0.16	0.248	4.0	0.92	0.55	0.46	—	—	—
3	3	0.20	0.332	5.5	2.0	1.2	1.0	—	—	—
4	1¾	0.17	0.24	5.0	1.5	0.91	0.76	—	—	—
4	3	0.22	0.336	9.5	3.1	1.9	1.6	—	—	—
4¾	1¾	0.18	0.325	6.5	2.4	1.4	1.2	—	—	—
5	3	0.22	0.376	11.0	4.5	2.7	2.3	1.7	—	—
5	4½	0.29	0.448	18.0	7.6	4.5	3.8	2.8	—	—
6	3	0.26	0.348	12.0	5.6	3.4	2.8	2.1	—	—
6	4½	0.37	0.431	20.0	9.6	5.8	4.8	3.6	—	—
6	5	0.41	0.520	25.0	12.0	7.3	6.0	4.5	—	—
7	4	0.25	0.387	16.0	9.4	5.6	4.7	3.5	2.8	—
8	4	0.28	0.402	18.0	11.0	7.0	5.8	4.3	3.5	—
8	5	0.35	0.575	28.0	18.0	11.0	9.0	7.0	5.5	—
8	6	0.44	0.597	35.0	23.0	14.0	11.0	8.6	7.0	—
9	4	0.30	0.460	21.0	15.0	9.0	7.5	5.6	4.5	—
9	7	0.55	0.924	58.0	42.0	25.0	21.0	16.0	12.0	—
10	5	0.36	0.552	30.0	24.0	14.0	12.0	9.0	7.2	—
10	6	0.40	0.736	42.0	35.0	21.0	17.0	13.0	10.0	—
10	8	0.60	0.970	70.0	53.0	34.0	28.0	21.0	17.0	—
12	5	0.35	0.550	32.0	30.0	18.0	15.0	11.0	9.0	—
12	6	0.40	0.717	44.0	40.0	26.0	22.0	16.0	13.0	—
12	6	0.50	0.883	54.0	52.0	31.0	26.0	19.0	15.0	10.0
14	6	0.40	0.698	46.0	43.0	31.0	26.0	19.0	15.0	10.0
14	6	0.50	0.873	57.0	59.0	38.0	31.0	24.0	19.0	12.0
15	5	0.42	0.647	42.0	47.0	28.0	24.0	18.0	14.0	9.5
15	6	0.50	0.880	59.0	62.0	42.0	35.0	26.0	21.0	14.0
16	6	0.55	0.847	62.0	73.0	45.0	38.0	28.0	22.0	15.0
18	7	0.55	0.928	75.0	—	64.0	53.0	40.0	32.0	21.0
20	7½	0.60	1.01	89.0	—	83.0	69.0	52.0	41.0	27.0
24	7½	0.60	1.07	100.0	—	102.0	92.0	69.0	55.0	36.0

Span should not exceed 20 x A, or deflection will be excessive.

Various Metals.

The Comparative Weight of a Superficial Foot.

Thickness in Inches.	Wrought Iron.	Cast Iron.	Steel.	Copper.	Brass.	Lead.	Zinc.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1/16	2·526	2·344	2·552	2·891	2·734	3·708	2·344
1/8	5·052	4·687	5·104	5·781	5·469	7·417	4·687
3/16	7·578	7·031	7·656	8·672	8·303	11·125	7·031
1/4	10·104	9·375	10·208	11·563	10·938	14·833	9·375
5/16	12·630	11·719	12·760	14·453	13·672	18·542	11·719
3/8	15·156	14·062	15·312	17·344	16·406	22·250	14·062
7/16	17·682	16·406	17·865	20·234	19·141	25·958	16·406
1/2	20·208	18·750	20·417	23·125	21·875	29·667	18·750
9/16	22·734	21·094	22·969	26·016	24·609	33·375	21·094
5/8	25·260	23·437	25·521	28·906	27·344	37·083	23·437
11/16	27·786	25·781	28·073	31·797	30·078	40·792	25·781
3/4	30·312	28·125	30·625	34·688	32·813	44·500	28·125
13/16	32·839	30·469	33·177	37·578	35·547	48·208	30·469
7/8	35·635	32·812	35·729	40·469	38·281	51·917	32·812
15/16	37·801	35·156	38·281	43·359	41·016	55·625	35·156
1	40·417	37·500	40·833	46·250	43·750	59·333	37·500

Gauge.	Iron.	Copper.	Brass.	Gauge.	Iron.	Copper.	Brass.
30	·48	·550	·527	15	2·88	3·298	3·161
29	·52	·595	·579	14	3·32	3·801	3·644
28	·56	·641	·615	13	3·80	4·351	4·170
27	·64	·733	·702	12	4·36	4·992	4·785
26	·72	·824	·790	11	4·80	5·496	5·268
25	·80	·916	·878	10	5·36	5·137	5·883
24	·88	1·008	·966	9	5·92	6·778	6·497
23	1·00	1·145	1·097	8	6·60	7·557	7·248
22	1·12	1·282	1·229	7	7·20	8·244	7·902
21	1·28	1·466	1·405	6	8·12	9·297	8·912
20	1·40	1·603	1·536	5	8·80	10·076	9·658
19	1·68	1·924	1·844	4	9·52	10·900	10·448
18	1·96	2·244	2·151	3	10·36	11·862	11·370
17	2·32	2·656	2·546	2	11·36	13·007	12·468
16	2·60	2·977	2·853	1	12·00	13·740	13·170

Zinc Sheets.

Gauge No.	Approx. Weight per sq. ft.	Thousandths of an inch.	7′ x 2′ 8″ Approximate		7′ x 3′ Approximate		8′ x 3′ Approximate		Nearest Wire Gauge.
			Weight per sht.	No. of shts. in 10 cwt.	Weight per sht.	No. of shts. in 10 cwt.	Weight per sht.	No. of shts. in 10 cwt.	
	oz.		lb. oz.		lb. oz.		lb. oz.		
1	2¼	·004	2 10	427	—	—	—	—	41
2	3	·006	3 13	294	—	—	—	—	38
3	3½	·007	—	—	4 15	227	—	—	37
4	4½	·008	—	—	6 4	180	—	—	34
5	5¼	·010	—	—	7 9	148	—	—	31
6	6¾	·011	7 14	142	8 14	126	10 2	111	30
7	7¼	·013	9 1	124	10 3	110	11 10	96	29
8	9	·015	10 8	107	11 13	95	13 8	83	28
9	10	·017	11 11	96	13 2	85	15 0	75	27
10	11½	·019	13 7	83	15 2	74	17 4	65	25
11	13	·021	15 3	74	17 1	66	19 8	57	24
12	15	·025	17 8	64	19 11	57	22 8	50	23
13	17	·028	—	—	22 5	50	25 8	44	22
14	19	·031	—	—	24 15	45	28 8	39	21
15	22	·036	—	—	28 14	39	33 0	34	20
16	25	·041	—	—	32 13	34	37 8	30	19
17	28	·046	—	—	36 12	30	42 0	27	18
18	31	·051	—	—	40 11	28	46 8	24	—
19	35	·059	—	—	45 15	24	52 8	21	17
20	39	·065	—	—	51 3	22	58 8	19	16
21	43	·072	—	—	56 7	20	64 8	17	15

Tin Plates.

The Principal Denominations and Sizes with their Equivalent Thicknesses in Millimetres.

Strength or Gauge.	Size.	Sheets per Box.	Weight per Box.	Thicknesses of Sheets.	
	Inches		lb.	Mm.	Inch.
IC	14 x 10	225	108	0·313	0·0123
IX	,,	,,	136	0·395	0·0155
IXX	,,	,,	156	0·453	0·0179
IXXX	,,	,,	176	0·511	0·0201
IC	20 x 14	112	108	0·315	0·0123
ICL	,,	,,	100	0·292	0·0114
ICL	,,	,,	95	0·277	0·0109
ICL	,,	,,	90	0·262	0·0103
ICL	,,	,,	85	0·248	0·0097
ICL	,,	,,	80	0·233	0·0091
IX	,,	,,	136	0·396	0·0155
IXX	,,	,,	156	0·455	0·0179
IXXX	,,	,,	176	0·513	0·0201
IXXXX	,,	,,	196	0·571	0·0223
IC	28 x 20	,,	216	0·315	0·0124
IX	,,	,,	272	0·396	0·0156
IC	,,	56	108	0·315	0·0123
IX	,,	,,	136	0·396	0·0155
1C	20 x 10	225	154	0·313	0·0123
IX	,,	,,	194	0·394	0·0155
IC	14 x 18½	124	110	0·309	0·0122
IC	14 x 19¼	120	110	0·311	0·0122
IC	30 x 21	112	243	0·315	0·0124
CL	,,	,,	224	0·290	0·0114
CLL	,,	,,	190	0·246	0·0097
CLLL	,,	,,	176	0·228	0·0090
CLLLL	,,	,,	160	0·207	0 0081
DC	17 x 12½	100	94	0·404	0·0160
DX	,,	,,	122	0·525	0·0206
DXX	,,	,,	143	0·615	0·0242
DXXX	,,	,,	164	0·706	0·0278
DXXXX	,,	,,	185	0·796	0·0313

Tin Plates.

Thickness of Tinplates by Gauge.

Tinplate.	Gauge.	Tinplate.	Gauge.
IC	30	DXXXX	22
IX	28	DXXXXX ..	21
IXX	27	DXXXXXX ..	20
IXXX	26	S D C	28 full
IXXXX	25	S DX	25 easy
IXXXXX ..	24	S DXX	25 full
IXXXXXX ..	22 easy	S DXXX ..	24
DC	28 full	S DXXXX ..	24 full
DX	26	S DXXXXX ..	22 easy
DXX	25	S DXXXXXX ..	22 full
DXXX	24		

LEAD.

Weight per Super Foot.

Inch.	Lbs.	Inch.	Lbs.	Inch.	Lbs.
1/16	3·7	7/16	25·8	3/4	44·7
1/8	7·4	1/2	29·5	13/16	48·3
3/16	11·1	9/16	33·2	7/8	51·0
1/4	14·8	5/8	36·9	15/16	55·1
5/16	18·5	11/16	40·6	1	59·4
3/8	22·2				

LEAD.—Sheet.

Weight per Roll—30 feet x 7 feet 9 inches.

	C.	Q.	L.		C.	Q.	L.
3 lbs. ..	6	0	14	5 lbs. ..	10	1	14
3½ ,, ..	7	0	20	6 ,, ..	12	1	0
4 ,, ..	8	1	0	7 ,, ..	14	2	0
4½ ,, ..	9	1	0				

EXPANSION OF METAL.

A comparison between the common metals at 32° Fahr, and 212° Fahr. showed the following results :—

Lead expands	1	part in	349	Block Tin expands	1	part in	403
Zinc "	1	"	322	Cast Iron "	1	"	901
Copper "	1	"	581	Wrought Iron	1	"	846
				Brass "	1	"	584

It will be observed that in expansiveness lead is only beaten by zinc.

Sheet Copper—Weights of.

No.	Per Square Foot.	No.	Per Square Foot.
1	14 lbs. 0 oz.	16	3 lbs. 0 oz
2	13 ,, 0 ,,	17	2 ,, 12 ,,
3	12 ,, 0 ,,	18	2 ,, 4 ,,
4	11 ,, 0 ,,	19	2 ,, 0 ,,
5	10 ,, 2 ,,	20	1 ,, 12 ,,
6	9 ,, 8 ,,	21	1 ,, 8 ,,
7	8 ,, 8 ,,	22	1 ,, 6 ,,
8	7 ,, 10 ,,	23	1 ,, 3 ,,
9	7 ,, 0 ,,	24	1 ,, 0 ,,
10	6 ,, 4 ,,	25	0 ,, 14 ,,
11	5 ,, 8 ,,	26	0 ,, 13 ,,
12	5 ,, 0 ,,	27	0 ,, 11½ ,,
13	4 ,, 8 ,,	28	0 ,, 10 ,,
14	4 ,, 0 ,,	29	0 ,, 9 ,,
15	3 ,, 8 ,,	30	0 ,, 8 ,,

Gauges of Copper Sheets.

48 in x 24 in x 8 lbs = 24 W G

,,	10	,, 23	,,	full
,,	12	,, 21	,,	
,,	14	,, 20	,,	
,,	16	,, 19	,,	
,,	18	,, 18	,,	
,,	24	,, 16	,,	

ALUMINIUM.

Gauge.	Weight per square foot in lbs.	Weight of Sheet 24 x 48 in., in lbs
16	·875	7
18	·656	5¼
20	·5	4
22	·375	3

A cube foot of Aluminium weighs 166 lbs.

SOLDERS.

For Lead	...	1 part Tin, 2 parts Lead.
For Brass	...	2 parts Brass, 1 part Zinc.
Hard Solder	...	2 parts Copper, 1 part Zinc.
Soft Solder	...	2 parts Tin, 1 part Lead.

FLUXES—For Soldering.

Tinned Iron	...	Resin or Spirits of Salts
Copper and Brass	...	Sal Ammonia or Spirits of Salts
Zinc	...	Spirits of Salts
Lead	...	Resin

Fusing Temperature of Metals.

	Degrees Fahr.
Solder	330
Tin	426
Lead	630
Zinc	800
Brass	1650
Silver	1830
Copper	2192
Gold	2280
Cast Iron	2912

SOMETHING ABOUT TANKS.

CIRCULAR.
CORRUGATED IRON

REPUTED COMPACITY.

Diam.		Height of Tank			
		4 ft.	5 ft.	6 ft.	8ft.
ft.	in.	gall.	gall.	gall.	gall.
3	3	200	250	300	400
3	6	240	300	360	480
3	9	280	350	420	560
4	0	310	390	470	620
4	4	—	—	540	720
4	6	—	—	590	787
5	0	—	—	720	960
6	0	—	—	1 050	1.400

SQUARE IRON.

CAPACITY.	
2 ft. 8 in. sq.	100 gall.
3 ,, 3 ,, ,,	200 ,,
3 ,, 8 ,, ,,	300 ,,
4 ,, 0 ,, ,,	400 ,,

WATER.

1 pint pure water weighs 1¼ lb.

1 gallon pure water contains 277.274 cubic ins.

1 cubic ft. distilled water, 62 deg. Fahr. weighs 62.321 lbs

1 cubic yard distilled water, 62 deg. Fahr, weighs ⅞ ton

1 cubic fathom distilled water, 62 deg. Fahr. weighs 6 tons

To Compute the Capacity of a Tank.

SQUARE OR RECTANGULAR.—Multiply the length by the breadth and the product by the depth; the result multiplied by 6¼ (6.2321) will give the base and contents in gallons.

Example:—Circumference 20 ft., height 6 ft.
20 ft. x 20 ft. x 3 ft. = 1,200 gals. approximate capacity.

CIRCULAR.—RULE A—Multiply the circumference by itself and the product by half the height.

RULE B—Multiply the diameter by itself and the product by five times the height.

Example:—Diameter 6 ft., height 6 ft.
6 ft. x 6 ft. x 30 ft. = 1,080 gals. approximate capacity.

A GOOD TANK.

It is highly neeessary that a **Corrugated Iron Tank** should possess lasting properties, and adaptability to withstand the climatic conditions of the locality in which it is to be used.

Thousands of TANKS are made every year from **Lysaght's Corrugated "ORB" Sheets,** the durable properties or which, in a pure dry atmosphere remote from the sea, are almost unlimited.

In tropical countries and other localities in which the water possesses minersl properties, the result is, however, less satisfactory, and in such cases Tanks should be made from **Lysaght's Special Blue Tank-making Sheets,** which are largely used for this purpose in India and other tropical countries.

Weight per Lineal Foot of Seamless Drawn Copper Tubes.

Imp. St'd Gauge.	Thickness of Copper.							
	6	8	10	12	14	16	18	20
Inch's	0.192	0.160	0.128	0.104	0.080	0.064	0.048	0.036
Inside Diam. Inch's	Weight of a Lineal Foot in Pounds.							
¼	1.03	0.79	0.58	0.44	0.32	0.24	0.17	0.12
⅜	1.32	1.04	0.78	0.60	0.44	0.34	0.25	0.18
½	1.61	1.28	0.97	0.76	0.56	0.44	0.32	0.23
⅝	1.90	1.52	1.17	0.92	0.68	0.53	0.39	0.29
¾	2.19	1.76	1.36	1.07	0.80	0.63	0.46	0.34
⅞	2.48	2.00	1.55	1.23	0.92	0.73	0.54	0.40
1	2.77	2.24	1.75	1.39	1.04	0.82	0.61	0.45
1⅛	3.06	2.49	1.94	1.55	1.17	0.92	0.68	0.51
1¼	3.35	2.73	2.13	1.70	1.29	1.02	0.75	0.56
1⅜	3.64	2.97	2.33	1.86	1.41	1.11	0.83	0.61
1½	3.93	3.21	2.52	2.02	1.53	1.21	0.90	0.67
1⅝	4.22	3.45	2.71	2.17	1.65	1.31	0.97	0.72
1¾	4.51	3.70	2.91	2.33	1.77	1.40	1.04	0.78
1⅞	4.80	3.94	3.10	2.49	1.89	1.50	1.12	0.83
2	5.09	4.18	3.29	2.65	2.01	1.60	1.19	0.89
2⅛	5.38	4.42	3.49	2.80	2.13	1.69	1.26	0.94
2¼	5.67	4.66	3.68	2.96	2.25	1.79	1.33	1.00
2⅜	5.96	4.91	3.88	3.12	2.38	1.89	1.41	1.05
2½	6.25	5.15	4.07	3.28	2.50	1.98	1.48	1.10
2⅝	6.83	5.63	4.46	3.59	2.74	2.18	1.62	1.21

To ascertain the weight of a Seamless Tube of other metal, multiply the weight of a similar Copper Tube by 0.9626 for Brass (70 & 30 alloy)—by 0.86 for Wrought Iron—by 0.81 for Cast Iron—or by 1.28 for Lead.

The above weights are theoretically correct, but in practice a slight deviation from the theoretical weights must be expected.

Lead Pipe—Water and Gas.

Inside Dia.	Strength.	Weight per Yard.	Average Length.	Inside Dia.	Strength.	Weight per Yard.	Average Length.
Inch.		Lbs.	Yards.	Inch.		Lbs.	Yards.
⅜	Thin	3½	35	1¼	Thin	10	17
,,	Middle	4	32	,,	Thin	11	16
,,	Strong	4½	28	,,	Middle	12	14
,,	Strong	5	24 or 48	,,	Middle	12½	13
,,	Strong	5½	22 or 44	,,	Strong	14	12
½	Thin	3	39	,,	Strong	16	11
,,	Thin	3½	35	1½	Thin	12	14
,,	Middle	4	32	,,	Thin	14	12
,,	Strong	4½	28	,,	Middle	15½	11
,,	Strong	5	48	,,	Strong	17½	9
,,	Strong	6	38	,,	Strong	21	8
,,	Strong	7	33	1¾	Thin	15	11
,,	Strong	8	29	,,	Middle	17	10
⅝	Thin	4½	28	,,	Strong	19	9
,,	Middle	5	24 or 48	2	Thin	19	9
,,	Strong	6	38	,,	Middle	23	7
,,	Strong	7	33	,,	Strong	26	7
,,	Strong	8	29	,,	Thin	19	
¾	Thin	5	24	,,	Middle	23	
,,	Thin	6	20	,,	Strong	26	
,,	Middle	7	25	,,	Strong	30	
,,	Strong	8	22	2½	Thin	26	
,,	Strong	8½	20	,,	Thin	27	
,,	Strong	9	19	,,	Middle	30	
,,	Strong	10	17	,,	Strong	33	
,,	Strong	11	16	3	Thin	36	
,,	Strong	12	14	,,	Middle	42	
1	Thin	7	25	,,	Strong	44	
,,	Thin	8	22	3½	Thin	45	
,,	Middle	9	19	,,	Middle	49	
,,	Middle	9½	18	,,	Strong	52	
,,	Strong	10	17	4	Thin	48	
,,	Strong	11	16	,,	Middle	57	
,,	Strong	12	14	,,	Strong	61	
,,	Strong	14	12	5	Thin	73	
,,	Strong	15	11	,,	Strong	84	
				6		68	

12-foot Length.

Trade Price-List of Gas, Water, and Steam Tubes.

Issued 1st September, 1914, cancelling all other Lists.

TUBES

Internal Diam. in inches.	⅛ & ¼	⅜	½	¾	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3½	4	4½	5	5½	6
Tubes 2ft long & over per ft	/3½	/4	/5	/6½	/9	1/1	1/4	1/8	1/10	2/6	2/9	3/-	3/3	4/3	4/9	5/6	6/-	6/9	7/6
Pieces 12 to 23½ in. long (each)	/9	/10	1/1	1/4	1/10	2/6	3/4	4/3	4/9	6/9	8/-	9/-	10/-	13/6	15/6	21/-	24/-	28/6	32/6
Pieces 4 to 11½ in. long (each)	/5½	/6	/8	/10	1/2	1/6	2/-	2/7	3/-	4/3	5/3	6/-	6/9	9/3	10/9	15/6	18/-	21/9	25/3
Long Screws, 12 to 23½ in. long (each)	/10	/11	1/2	1/5	2/-	2/8	3/7	4/8	5/3	7/6	9/-	10/-	11/6	15/6	17/-	23/-	26/6	31/6	35/6
Long Screws, 3 to 11½ in. long (each)	/6½	/7	/9	/11	1/3	1/8	2/3	3/-	3/3	4/8	6/3	6/7	8/-	10/9	12/3	17/-	20/-	24/-	28/-
Barrel nipples (each) ..	/5	/5	/6	/7	/9	1/-	1/4	1/8	1/9	2/6	3/-	3/6	4/-	6/-	7/-	10/-	12/6	15/-	20/-
Bends (each)	/7	/8	/10	1/-	1/6	2/6	3/-	4/-	5/-	8/6	12/-	15/-	18/-	25/-	32/6	80/-	105/	135/	150/
Springs, not socketted (each)	/5	/6	/7	/9	1/1½	1/11½	2/3½	3/1	3/11	6/9	9/6	12/-	14/6	20/-	26/6	70/-	93/-	120/	132/

Trade Price-List of Water and Steam Fittings.

Issued 1st September, 1914, cancelling all other Lists.

FITTINGS

Internal Diam in inches.	⅛ & ¼	⅜	½	¾	1	1¼	1½	1¾	2	2½	2½	2¾	3	3½	4	4½	5	5½	6
Pipe Union - - - each	2/-	2/6	3/-	4/-	5/6	6/9	8/-	9/-	10/-	15/-	17/6	20/-	22/6	27/6	35/-	48/-	66/-	84/-	105/
Elbows, square - - „	/8½	/9	/10	1/-	1/4	1/10	2/5	3/-	3/10	6/3	9/-	11/6	14/-	22/-	28/-	75/-	95/-	120/	150/
Elbows, round - - „	/9½	/11	1/-	1/3	1/6	2/1	2/7	3/6	4/6	6/9	10/-	13/-	17/-	25/-	32/-	75/-	95/-	120/	150/
Tees - - - - - - „	/9	/10	/11	1/2	1/5	2/-	2/6	3/2	4/3	6/6	9/6	12/6	16/6	24/-	30/-	78/-	98/-	125/	155/
Crosses - - - - - „	1/4	1/6	1/11	2/4	3/-	4/-	4/10	6/-	7/9	14/-	21/4	28/-	40/-	56/-	66/8	176/	220/	280/	350/
Sockets, plain - - - „	/2	/2	/3	/3½	/4½	/6½	/8½	/11	1/1	1/9	2/6	3/-	3/6	5/-	6/-	10/-	12/-	15/-	18/-
Sockets, diminished „	/3	/4	/5	/6	/7	/9	/11	1/2	1/4	2/3	3/3	4/-	5/-	7/-	9/-	25/-	35/-	45/-	55/-
Flanges - - - - - „	/9	/10	1/-	1/2	1/4	1/9	2/-	2/3	2/9	4/-	5/-	6/9	8/6	10/-	11/6	16/	18/	23/	27/
Caps - - - - - - „	/8½	/8½	/5	/6	/8	1/-	1/3	1/7	2/-	3/	4/4	5/3	6/-	9/9	10/6	25/-	30/-	37/6	45/-
Plugs - - - - - - „	/3	/3	/4	/5	/6	/8	/10	1/-	1/3	2/-	2/6	3/6	4/9	7/-	10/-	22/-	30/-	39/-	48/-
Backnuts - - - - „	/2	/2	/3	3½	/5	/6	/8	/10	1/1	1/9	2/3	3/-	3/6	4/6	5/6	14/	18/	21/	26/
Nipples - - - - - „	/2	/2	/3	3½	/4	/6	/8	/10	1/-	1/9	2/3	3/-	3/6	4/6	5/6	14/	18/	21/	26/
Main Cocks - - - „	2/3	2/9	3/6	4/6	6/6	8/6	11/-	14/-	18/-	27/-	40/-	50/-	60/-	85/-	110/	210/	270/	360/	420/
„ with brass plugs „		7/-	8/9	11/6	16/	21/6	28/	35/	45/	68/	100/	112/	125/	212/	250/	360/	450/	570/	660/
Round way cocks „		3/6	4/	5/6	7/6	10/	13/	17/6	22/	38/	60/	65/	75/	120/	160/				
„ with brass plugs „		10/6	12/	16/6	22/6	30/	39/	52/6	68/	114/	180/	195/	225/	360/	480/				
Cock Spanners, wrought „		1/6	1/8	2/2	2/8	3/2	3/6	4/	4/3	4/9	6/	7/6	9/	12/	14/	16/	19/	22/	24/
„ Malleable cast „		1/	1/4	1/8	3/	2/4	3/	3/6	4/	4/9	6/	7/6	9/	12/	14/	16/	19/	22/	24/
Syphon Boxes, 1 quart „			22/9	23/	23/4	24/	24/6	25/2	26/3	28/6									
„ „ 2 quarts „				27/	27/4	28/	28/6	29/2	30/3	32/6	35/6	38/6	42/6						
„ „ 3 quarts „				32/	32/4	33/	33/6	34/2	35/3	37/6	40/6	43/6	47/6	55/6	61/6				
„ „ 4 quarts „				38/	38/4	39/	39/6	40/2	41/3	43/6	46/6	49/6	53/6	61/6	67/6				

Composition Pipe.

(INSIDE DIAMETER).

Inch	lbs	oz		Inch	lbs	oz	
¼	0	13	per yard	⅝	3	4	per yard
5/16	1	0	,,	¾	4	4	,,
⅜	1	5	,,	⅞	4	12	,,
7/16	1	10	,,	1	5	8	,,
½	2	2	,,				

Length of Coils up to ½ inch, usually 50 yards.

⅝ inch	¾ inch	⅞ inch	1 inch
40 yards	30 yards	25 yards	20 yards

Pipes—Cast Iron (Water)

Spigot and Faucet

NINE FEET LENGTHS.

Diameter	Cwts	Qrs.	Lbs.	Diameter	Cwts.	Qrs.	Lbs.
2½	0	3	2	14	9	1	26
3	1	0	10	15	9	3	26
4	1	1	16	16	10	3	6
5	2	0	14	18	14	0	25
6	2	2	0	20	16	1	20
7	3	0	20	22	17	3	2
8	3	2	14	24	22	0	0
9	4	2	10	27	24	0	21
10	5	1	0	30	27	0	0
12	7	0	0	33	32	0	0

Galvanized Piping—(Iron)

Weight per 100 feet.

Size	Per 100 Feet			Size	Per 100 Feet.		
	C.	Q.	L.		C	Q.	L.
½	0	3	0	1½	2	3	2
¾	1	0	5	2	4	0	6
1	1	1	22	3	6	0	8
1¼	2	1	10				

SIZES of PIPES for WATER.

The table below gives approximately suitable diameters of pipes for passing different quantities of water. For short mains up to 200 yards long, the diameter of same, if smaller than the figures given, is not of much importance, but when they exceed 200 yds. in length the diameters given in this table are desirable.

Gallons per Minute.	Diameter of pipe in in.	Gallons per minute.	Diameter of pipe in in.
½	½	60	4
¾	¾	100	5
1½	1	160	6
3	1¼	220	7
5	1½	300	8
10	2	450	9
15	2½	500	10
20	3	800	12
40	3½	1,000	14

ACETYLENE PIPE SERVICE

Number of half-foot Burners or equivalent of of other sizes, to burn at 2½ inches or higher pressure at the burners.	Distance from Generating apparatus if a main pipe, or distance from main pipe if a branch.	Sizes of Pipes.
2	15 feet	⅛ inch
5	30 ,,	¼ ,,
10	40 ,,	⅜ ,,
20	50 ,,	½ ,,
50	100 ,,	¾ ,,
70	130 ,,	1 ,,
100	150 ,,	1¼ ,,
150	180 ,,	1½ ,,
270	250 ,,	2 ,,

Consumers of Galvanized Iron are respectfully requested to note that every sheet of LYSAGHT'S "ORB" IRON has the Trade Mark stencilled thereon in blue, and is guaranteed. Beware of Imitations.

Iron, Copper & Brass Wires.

	IRON.			100 FEET.	
S.W.G. No.	Weight of 100 yards in Avoir. lbs.	Weight of 1 Statute Mile in Avoir. lbs.	Length of 1 cwt. in Yards.	Copper Wire in Lbs.	Brass Wire in Lbs.
7/0	193·4	3,404	58	76·576	72·006
6/0	166·5	2,930	67	65·947	62 010
5/0	144·4	2,541	78	57·104	53 752
4/0	123·8	2,179	91	49·009	46·083
3/0	107·1	1,885	105	42·388	39·858
2/0	93·7	1,649	120	37·095	34·88
0	81·2	1,429	138	32·155	30·235
1	69·6	1,225	161	27·5445	25·922
2	58·9	1,037	190	23·333	21·940
3	49·1	864	228	19·451	18·290
4	41·6	732	269	16·486	15·502
5	34·8	612	322	13·768	12·940
6	28·5	502	393	11·792	10·617
7	24·0	422	467	9·4882	8·921
8	19·8	348	566	7·8414	7·373
9	16·0	282	700	6·3516	5·972
10	12·7	223	882	5·0185	4·7189
11	10·4	183	1,077	4·1217	3·8756
12	8·4	148	1,333	3·313	3·1153
13	6·5	114	1,723	2·5926	2·4378
14	5·0	88	2,240	1·9603	1·8433
15	4·0	70	2,800	1·5879	1·4931
16	3·2	56	3,500	1·2546	1·1767
17	2·4	42	4,667	0·96058	0·9324
18	1·8	32	6,222	0·70573	0·6636
19	1·2	21	9,333	0·49000	0·46083
20	1·0	18	11,200	0·39698	0·37328
21	0·795	13·9	14,199	0·21366	0·29493
22	0·609	10·7	18,418	0·24014	0·22529
23	0·448	7·8	25,070	0·17643	0·1659
24	0·376	6·6	29,835	0·14826	0·1394
25	0·311	5·4	36,100	0·12252	0·1152
26	0·252	4·4	44,568	0·099243	0·093318

Weight of a Cubic Inch of

Lead	equals ·4103 lbs.	Iron, cast	equals ·263 lbs.
Copper, sheet	,, ·3225 ,,	Tin	,, ·2636 ,,
Brass	,, ·3037 ,,	Zinc	,, ·26 ,,
Iron	,, ·279 ,,	Water	,, ·03617 ,,

Steel Wire.

Table showing quantity required per mile of fencing.

Gauge.	Length per cwt	Weight Required per Mile.											
		1 Wire			2 Wires			3 Wires			4 Wires			5 Wires		
No.	yds.	C.	Q.	L.	C.	Q.	L.	C.	Q.	L.	C.	Q.	L.	C.	Q.	L.
4	269	6	2	4	13	0	8	19	2	12	26	0	16	32	2	20
5	322	5	1	24	10	3	20	16	1	16	21	3	12	27	1	12
6	393	4	1	26	8	3	24	13	1	22	17	3	20	22	1	18
7	467	3	3	2	7	2	4	11	1	6	15	0	8	18	3	10
8	566	3	0	12	6	0	24	9	1	8	12	1	20	15	2	4
9	700	2	2	2	5	0	4	7	2	6	10	0	8	12	2	10
10	882	1	3	27	3	3	26	5	3	25	7	3	24	9	3	23
11	1077	1	2	15	3	1	2	4	3	17	6	2	4	8	0	19
12	1333	1	1	8	2	2	16	3	3	24	5	1	4	6	2	12

Iron Wire is **2** °/₀ less than Steel.

Galvanized Barbed Wire Fencing

Description.	Weight.		Length of 112 lbs
	100 yds.	1 Mile	
	Lbs.	Lbs.	Yards
2-point ordinary round, one wire only, 5 in apart ...	19	335	598
2-point thick set, 2½ in apart	21	370	533
4-point ordinary, 6 in. apart ...	20	352	560
4-point thick set, 3 in apart	25	440	448
4-point ordinary round both wires 6 in apart	20	352	560
4-point thick set, round, both wires 3 in. apart	25	440	448

Galvanized Barb Wire Fencing.

Approximate Weight

Points	Marks	Gauge	100 Yards	1 Mile	Length of 112 lbs. in Yards.
4	IGWA	12	25 lbs	438 lbs	450
4	,,	14	16 ,,	281 ,,	700
4	SPECIAL	12½	17 ,,	303 ,,	650
4	,,	14	12 ,,	211 ,,	935
2	GLIDDEN	12	21 ,,	375 ,,	525
2	,,	14	13 ,,	225 ,,	875

WIRE NETTING.

Estimated Weight, 24 inches wide.

(Other Widths may be estimated pro rata.)

The following is not to be regarded as a Standard, but is merely an approximate guide.

Size.	Weight per Mile.	Weight of Roll 50 yds.	Size.	Weight per Mile.	Weight of Roll 50 yds.
Inches.	cwt. qr. lb.	lbs.	Inches.	cwt. qr. lb.	lbs.
24 x ½ x 20	18 0 26	57	24 x 2 x 19	6 1 21	19
24 x ¾ x 19	16 3 25	53	24 x 2 x 18	8 1 12	25
24 x ¾ x 20	12 2 12	41	24 x 2 x 17	12 0 14	35
24 x 1 x 19	12 2 8	36	24 x 2 x 16	14 0 25	45
24 x 1 x 20	9 3 17	28	24 x 2½ x 18	6 3 8	22
24 x 1¼ x 19	9 3 8	32	24 x 2½ x 17	9 3 17	30
24 x 1¼ x 18	12 0 10	42	24 x 2½ x 16	11 2 15	35
24 x 1¼ x 17	16 2 19	54	24 x 3 x 18	5 1 8	16
24 x 1½ x 19	8 2 14	26	24 x 3 x 17	7 2 16	22
24 x 1½ x 18	11 1 1	33	24 x 3 x 16	9 2 18	30
24 x 1½ x 17	14 1 10	46	24 x 3 x 15	13 0 14	38
24 x 1⅝ x 19	7 0 17	21	24 x 3 x 14	15 0 12	47
24 x 1⅝ x 18	8 2 7	31	24 x 4 x 16	7 2 22	24
24 x 1⅝ x 17	13 1 6	42	24 x 4 x 15	9 2 6	30
			24 x 4 x 14	11 0 26	35

Rabbit Proof Wire Netting Weights.

Size	Grade	Approximate weight per mile. Tons.	Cwts.	Qrs.	Lbs.
42 x 1¼ x 17	A	1	12	0	0
42 x 1¼ x 17	B	1	9	0	0
42 x 1½ x 18	A	1	2	0	0
42 x 1¼ x 18	B	1	0	3	0
42 x 1½ x 17	A	1	7	2	0
42 x 1½ x 17	B	1	4	2	0
42 x 1½ x 18	A		19	2	0
42 x 1½ x 18	B		18	2	0
36 x 1¼ x 17	A	1	7	2	0
36 x 1¼ x 17	B	1	5	0	0
36 x 1¼ x 18	A		18	2	0
36 x 1¼ x 18	B		17	2	0
36 x 1½ x 17	A	1	3	2	0
36 x 1½ x 17	B	1	1	2	0
36 x 1½ x 18	A		16	2	0
36 x 1½ x 18	B		15	2	0

Relative Value Based on Mile Measurements

Per Mile,	Per 100 Yards	Per Mile.	Per 100 Yards
£40 0 0	£2 5 5	22 0 0	1 5 0
39 0 0	2 4 4	21 0 0	1 3 10
38 0 0	2 3 2	20 0 0	1 2 9
37 0 0	2 2 1	19 0 0	1 1 7
36 0 0	2 0 11	18 0 0	1 0 5
35 0 0	1 19 9	17 0 0	0 19 4
34 0 0	1 18 8	16 0 0	0 18 2
33 0 0	1 17 6	15 0 0	0 17 1
32 0 0	1 16 4	14 0 0	0 15 11
31 0 0	1 15 3	13 0 0	0 14 9
30 0 0	1 14 1	12 0 0	0 13 8
29 0 0	1 12 11	11 0 0	0 12 6
28 0 0	1 11 10	10 0 0	0 11 4
27 0 0	1 10 8	9 0 0	0 10 3
26 0 0	1 9 7	8 0 0	0 9 1
25 0 0	1 8 5	7 0 0	0 7 11
24 0 0	1 7 3	6 0 0	0 6 10
23 0 0	1 6 2	5 0 0	0 5 8

GALVANIZED WIRE NETTING.

TABLE OF GROSS PRICES at per Roll of 50 Yards.

1st June, 1915.

Mesh.	G.	12 inches wide.	18 inches wide.	24 inches wide.	30 inches wide.	36 inches wide.	42 inches wide.	48 inches wide.	60 inches wide.	72 inches wide.	G.	Mesh.
½ inch	22	0 14 6	1 0 11	1 7 2	1 13 2	1 19 9	2 6 5	2 13 0	3 6 4	3 19 6	22	½ inch
,,	20	0 17 7	1 5 3	1 12 10	2 0 0	2 8 0	2 16 0	3 4 0	4 0 0	4 16 0	20	,,
,,	19	1 3 6	1 13 7	2 3 9	2 13 4	3 4 0	3 14 8	4 5 4	5 6 8	6 8 0	19	,,
¾ inch	22	0 7 11	0 11 2	0 14 4	0 17 6	1	5	1 3 10	1 7 3	1 14 0	22	¾ inch
,,	20	0 10 2	0 14 7	0 18 7	1 2 7	1 6 6	1 10 11	1 15 4	2 4 2	2 13 0	20	,,
,,	19	0 13 0	0 18 8	1 3 8	1 9 0	1 13 10	1 19 6	2 5 1	2 16 1	3 7 8	19	,,
,,	18	0 17 8	1 5 5	1 12 4	1 19 5	2 6 2	2 13 11	3 1 7	3 17 0	4 12 5	18	,,
1 inch	20	0 7 5	0 10 7	0 13 5	0 16 5	0 19 2	1 2 4	1 5 6			20	1 inch
,,	19	0 8 10	0 12 8	0 16 1	0 19 8	1 3 0	1 6 10	1 10 8			19	,,
,,	18	0 10 9	0 15 5	0 19 7	1 3 11	1 8 0	1 12 8	1 17 4			18	,,
,,	17	0 15 10	1 2 9	1 8 10	1 15 2	2 2 1	3 2 8	1 2 15	0		17	,,
1¼ inch	19	0 7 5	0 10 8	0 13 7	0 16 4	0 18 11	1 2 1	1 5 2	1 11 6	1 17 10	19	1¼ inch
,,	18	0 8 8	0 12 5	0 15 9	0 19 1	1 2 0	1 5 8	1 9 4	1 16 8	2 4 0	18	,,
,,	17	0 11 4	0 16 4	1 0 9	1 5 1	1 9 0	1 13 10	1 18 8	2 8 4	2 18 0	17	,,
,,	16	0 15 3	1 1 1	1 8 0	1 13 9	1 19 0	2 5 6	2 12 0	3 5 0	3 18 0	16	,,
1½ inch	19	0 6 2	0 8 11	0 11 3	0 13 7	0 15 8	0 18 4	1 0 11	1 6 2	1 11 4	19	1½ inch
,,	18	0 7 5	0 10 8	0 13 7	0 16 4	0 18 11	1 2 1	1 5 2	1 11 6	1 17 10	18	,,
,,	17	0 9 3	0 13 3	0 16 10	1 0 4	1 3 6	1 7 5	1 11 4	1 19 2	2 7 0	17	,,
,,	16	0 11 9	0 16 11	1 1 1	1 6 1	1 10 0	1 15 0	2 0 0	2 10 0	3 0 0	16	,,
1⅝ inch	19	0 5 5	0 7 9	0 9 11	0 12 0	0 13 10	0 16 1	0 18 5	1 3 0	1 7 8	19	1⅝ inch
,,	18	0 6 8	0 9 6	0 12 2	0 14 8	0 17 0	0 19 9	1 2 7	1 8 3	1 13 11	18	,,
,,	17	0 8 8	0 12 5	0 15 10	0 19 1	1 1 2	1 5 9	1 9 5	1 16 9	2 4 1	17	,,
,,	16	0 10 10	0 15 7	0 19 9	1 3 11	1 7 5	1 12 2	1 16 9	2 5 11	2 15 2	16	,,
2 inch	19	0 4 5	0 6 4	0 8 1	0 9 8	0 11 0	0 12 10	0 14 8	0 18 4	1 2 0	19	2 inch
,,	18	0 5 7	0 8 1	0 10 3	0 12 3	0 14 0	0 16 4	0 18 8	1 3 4	1 8 0	18	,,
,,	17	0 7 3	0 10 5	0 13 3	0 15 9	0 18 0	0 1 1	0 1 4	0 1 10	0 1 16	17	,,
,,	16	0 9 5	0 13 6	0 17 3	1 0 7	1 3 6	1 7 5	1 11 4	1 19 2	2 7 0	16	,,
,,	15	0 11 10	0 17 0	1 1 8	1 5 10	1 9 6	1 14 5	1 19 4	2 9 2	2 19 0	15	,,
2½ inch	19	0 3 9	0 5 6	0 7 0	0 8 4	0 9 6	0 11 1	0 12 8	0 15 10	0 19 0	19	2½ inch
,,	18	0 4 8	0 6 8	0 8 8	0 10 8	0 11 8	0 13 5	0 15 7	0 19 6	1 3 4	18	,,
,,	17	0 6 2	0 8 10	0 11 4	0 13 7	0 15 11	0 18 1	0 1 0	0 1 5	0 1 11	17	,,
,,	16	0 7 9	0 11 3	0 14 4	0 17 6	0 20 8	1 0 11	1 3 6	1 11 12	1 19 0	16	,,
,,	15	0 9 7	0 13 9	0 17 7	1 1 6	1 5 4	1 9 3	1 13 2	2 1 0	2 8 10	15	,,

GALVANIZED WIRE NETTING—Continued.

Mesh.	G.	12 inches wide.	18 inches wide.	24 inches wide.	30 inches wide.	36 inches wide.	42 inches wide.	48 inches wide.	60 inches wide.	72 inches wide.	G.	Mesh.
3 inch	19	0 3 6	0 5 0	0 6 4	0 7 7	0 8 8	0 10 1	0 11 6	0 14 5	0 17 4	19	3 inch
,,	18	0 4 1	0 5 10	0 7 5	0 8 11	0 10 2	0 11 10	0 13 6	0 16 11	1 0 4	18	,,
,,	17	0 5 8	0 7 7	0 9 8	0 11 7	0 13 2	0 15 4	0 17 6	1 1 11	1 6 4	17	,,
,,	16	0 6 11	0 9 6	0 12 1	0 14 5	0 16 6	0 19 3	1 2 0	1 7 6	1 13 0	16	,,
,,	15	0 8 0	0 11 3	0 14 4	0 17 1	0 19 6	1 2 9	1 6 0	1 12 6	1 19 0	15	,,
,,	14	0 10 0	0 13 8	0 17 4	1 0 9	1 3 8	1 7 7	1 11 6	1 19 5	2 7 4	14	,,
4 inch	18	0 3 6	0 5 0	0 6 4	0 7 7	0 8 8	0 10 1	0 11 6	0 14 5	0 17 4	18	4 inch
,,	17	0 5 10	0 6 3	0 8 1	0 9 7	0 11 0	0 12 8	0 14 5	0 18 3	1 2 0	17	,,
,,	16	0 6 9	0 7 7	0 9 8	0 11 4	0 13 2	0 15 3	0 17 5	1 2 0	1 6 4	16	,,
,,	15	0 7 6	0 9 8	0 12 4	0 14 6	0 16 9	0 19 5	1 2 4	1 8 2	1 13 10	15	,,
,,	14	0 8 6	0 11 1	0 14 3	0 16 9	0 19 5	1 2 6	1 5 9	1 12 4	1 18 10	14	,,

For Prices of Intermediate Widths, see Note Below.

SHEEP NETTING, WITH 3-PLY STRAND WIRE SELVAGES.

3 inch	16	0 8 6	0 9 9	0 10 12	0 14 11	0 17 0	0 19 10	1 2 8	1 8 4	1 14 0	16	3 inch
,,	15	0 9 6	0 11 10	0 15 1	0 17 11	1 0 6	1 3 11	1 7 4	1 14 2	2 1 0	15	,,
,,	14	0 11 0	0 14 5	0 18 4	1 1 11	1 5 0	1 9 2	1 13 4	2 1 8	2 10 0	14	,,
,,	13	0 13 0	0 17 10	1 2 9	1 7 2	1 11 0	1 16 2	2 1 4	2 11 8	3 2 0	13	,,
4 inch	16	0 7 6	0 8 4	0 10 5	0 12 1	0 13 11	0 16 3	0 18 7	1 3 3	1 7 10	16	4 inch
,,	15	0 8 6	0 10 8	0 13 4	0 15 6	0 17 9	1 0 9	1 3 9	1 9 8	1 15 6	15	,,
,,	14	0 10 0	0 12 1	0 15 3	0 17 9	1 0 5	1 3 10	1 7 3	1 14 1	2 0 10	14	,,
,,	13	0 11 6	0 13 10	0 17 7	1 1 1	1 4 0	1 8 0	1 12 0	2 0 0	2 8 0	13	,,
,,	12	0 14 0	0 18 8	1 3 10	1 8 5	1 12 6	1 17 11	2 3 4	2 14 2	3 5 0	12	,,

3 and 4 inch only Centre Strands—17, 16, and 15 gauges, 1/9; 14 and 13 gauges, 2/-; 12 gauge, 2/6 each extra per roll gross.

WIDTHS UNDER 12 inch are charged as 12 inch, and INTERMEDIATE WIDTHS are charged the same rate as the next greater width up to 4 feet wide. INTERMEDIATE WIDTHS over 4 feet are charged by steps of 6 inches, viz.:—54 inch at the mean between the extra for 4 feet and 5 feet. 56 inches would be charged as 60 inches. This applies to both Ordinary and Sheep Netting.

BLACK OILED WIRE NETTING, 10 per cent. less above prices.

NOTE.—A Special Tariff is issued from time to time for Rabbit-proof Sizes.

Definition of the "Imperial" Standard Wire Gauge.

Approximate Inch	W.G.	Decimal of an Inch	M/M	Approximate Inch	W.G.	Decimal of an Inch	M/M
½	7/0	.500	12.70		13	.092	2.33
	6/0	.464	11.78		14	.080	2.03
	5/0	.432	10.97		15	.072	1.83
	4/0	.400	10.16	1/16	16	.064	1.62
⅜	3/0	.372	9.45		17	.056	1.42
	2/0	.348	8.84		18	.048	1.22
	0	.324	8.23		19	.040	1.01
	1	.300	7.62		20	.036	.914
	2	.276	7.01		21	.032	.813
¼	3	.252	6.40	1/32	22	.028	.711
	4	.232	5.89		23	.024	.610
	5	.212	5.38		24	.022	.559
3/16	6	.192	4.87		25	.020	.508
	7	.176	4.47		26	.018	.457
	8	.160	4.06		27	.0164	.416
	9	.144	3.65	1/64	28	.0148	.376
⅛	10	.128	3.25		29	.0136	.345
	11	.116	2.94		30	.0124	.315
1/10	12	.104	2.64				

Birmingham Wire Gauge.

Comparative Sizes.

No.	1	4	7	11	16	22	gauges equal
	5/16	¼	3/16	⅛	1/16	1/32	of an inch.

SOMETHING ABOUT WALLPAPERS.

EFFECT OF COLOUR ON LIGHT.

The question is often asked "What is the best colour for Wall papers or Hangings" The following Table will give the fullest particulars. Common Wallpapers tested in an Illuminating Laboratory for the light absorbing qualities have given the following results:—

Colour of Wallpaper.	Percentage of Light absorbed.	Colour of Wallpaper.	Percentage of Light absorbed.
White	30	Emerald Green ...	82
Chrome Yellow...	38	Dark Brown	87
Orange	50	Vermilion	88
Plain Deal ...	55	Blue-green	88
Yellow	60	Cobalt Blue	88
Light Pink ...	64	Deep Chocolate ...	96

This Table shows that if a room papered with dark green be repapered with Chrome Yellow, it will be four times as light with the same lamps and windows. In many cases householders pay too much for electricity and gas lighting because their light-absorbing wall coverings destroy the light rays.

Wallpaper is made in rolls 12 yards long, 21 inches wide.

Table of Measurements for Wallpapers.

Approximate number of pieces of English Wallpaper required for any Room, allowance to be made for doors and windows.

NUMBER OF PIECES REQUIRED.

Measurement in feet round walls.	Height of Room in Feet from Skirting to Cornice.									
	6	7	8	9	10	11	12	13	14	15
32	4	4	5	5	6	6	7	7	8	8
36	4	5	5	6	6	7	7	8	9	9
40	4	5	6	6	7	8	8	9	9	10
44	5	5	6	7	8	8	9	10	10	11
48	5	6	7	7	8	9	10	10	11	12
52	6	6	7	8	9	10	10	11	12	13
56	6	7	8	8	9	10	11	12	13	14
60	6	7	8	9	10	11	12	13	14	15
64	7	8	9	10	11	12	13	14	15	16
68	7	8	9	10	11	12	13	15	16	17
72	7	9	10	11	12	13	14	15	17	18
76	8	9	10	11	13	14	15	16	17	19
80	8	9	11	11	13	15	16	17	18	20
84	9	10	11	12	14	15	17	18	19	21
88	9	10	12	12	14	16	17	19	20	22
92	9	11	12	13	15	17	18	19	21	22
96	10	11	13	13	16	17	19	20	22	23
100	10	12	13	13	16	18	20	21	24	24

HOOPS.

Weight of a Ten-foot length in Pounds.

Width	16 WG	18 WG	19 WG	20 WG	21 WG	22 WG
½	1 10	.83	.71	.60	.54	.48
⅝	1 38	1.04	.89	.74	.68	.60
¾	1 66	1.25	1.07	.89	.82	.71
⅞	1 80	1 35	1.16	.97	.88	.77
	10 WG	12 WG	14 WG	16 WG	17 WG	18 WG
1	4.68	3.65	2.60	2.08	1.81	1.55
1⅛	5.26	4 10	2.92	2.34	2.04	1.75
1¼	5 85	4.56	3.25	2.60	2.27	1.93
1⅜	6.43	5.01	3.57	2.86	2.49	2.13
1½	7 02	5.47	3.90	3.12	2.72	2.32
1¾	8.15	6.35	4.55	3.60	3.15	2.70
2	9 36	7.30	5.20	4.16	3.63	3.10
2¼	10.53	8.20	5.85	4.68	4.08	3.50
2½	11.71	9.12	6.50	5.20	4.54	3.87
2¾	12.87	10.03	7.15	5.72	4.99	4.26
3	14.05	10.95	7.80	6.25	5.45	4.65
3¼	15 10	11.80	8.40	6.70	5.80	5.00
3½	16.30	12.70	9. 0	7.20	6.30	5.40
3¾	17.50	13.60	9.70	7.70	6.70	5.80
4	18.73	14.60	10.40	8.33	7.26	6.20
4¼	19.19	15.50	11.05	8.84	7.70	6.60
4½	21.07	16.40	11.70	9.36	8.17	7.00
4¾	22 23	17.33	12.35	9.88	8.62	7.36
5	23.42	18.25	13.00	10.41	9.08	7.75
5½	25 75	20.07	14.30	11.45	9.98	8.22
5	28.10	21.90	15.60	12.50	10.90	9.30

(Galvanized Hoops slightly exceed these weights.)

Wire Ropes—Weights and Strength.

Circumference.	Diameter	Weights in lbs. per fathom.			Breaking Strain in gross tons.				Circumference.
		Patent Steel Hoisting Ropes	B.B. Wire Rigging.	Flexible Hawsers	Patent Cast Steel	Plough Quality Cast Steel	Galv'd B.B. Rigging	Galv'd C.S. Hawsers	
6	1⅞	34¾	32	30	115	170	55	88	6
5½	1¾	29	26	26	95	142	42	74	5½
5	1⅝	24	22	21	80	120	34	59	5
4¾	1½	21¾	20	17	71	107	32	47	4¾
4½	1⅜	17½	16	12½	57	85	28	36	4¼
4	1¼	15½	14	11	51	75	22	33	4
3½	1⅛	12	11	8	39	58	16	26	3½
3	1	8¾	8	6	28	42	11	18	3
2¾	⅞	7	7	5	24	36	8.55	15½	2¾
2½	13/16	6	6	4	20	29	7.4	12	2½
2¼	11/16	5	5	3	15½	23	6.35	9½	2¼
2	⅝	4	4	2½	12½	18½	4.3	7	2
1¾	9/16	3	3	2	9½	14¼	3.25	5½	1¾
1½	½	2	2	1½	7	10½	2.25		1½
1¼	7/16	1½	1½	1⅛	4½	7	1.75	3	1¼
1	5/16	1	1	¾	3	4½	1	1¾	1

MANILA ROPE

Approximate Weight for given Lengths :

Coils of 800 Feet.

Size in.	Weight cwt	qrs	lbs	Size in	Weight cwt	qrs	lbs	Size in	Weight cwt	qrs	lbs
½	0	0	14	1¼	0	1	20	2½	1	1	0
⅝	0	0	18	1½	0	2	10	2½	1	1	22
¾	0	1	0	1⅝	0	2	21	2⅝	1	2	20
1½	0	1	7	2	1	0	5	3	2	0	12

Coils of 100 Feet.

Size in	Weight cwt	qrs	lbs	Size in	Weight cwt	qrs	lbs	Size in	Weight cwt	qrs	lbs
3½	0	1	16	5	0	3	4	6	1	0	14
4	0	2	0	5½	0	3	22	6½	1	1	8
4½	0	2	14								

Covering Capacity of Galvanized Corrugated Iron.

One Ton of Galvanized Corrugated Iron has the following approximate covering capacity—

	24g 3in Cor.	26g 3in Cor	26g 1 in. Cor.	28g 1 in. Cor.
Single Lap	1,600 sq. ft	2,200 sq. ft.	2,327 sq ft	2,645 sq. ft
Lap and half	—	2,000 ,,	—	—
Double Lap	1,400 ,,	1,900 ,,	2,230 ,,	2,535 ,,

NOTE—To ascertain the number of squares (10 ft x 10 ft) divide by 100.

To ascertain cost per square divide price per ton by number of squares.

SPRING HEAD NAILS.

One packet (100 nails) is usually allowed to one square of roofing.

Useful Information.

BRICKS.—About 1,000 bricks, with two bags of lime and one load of sand, are required for an ordinary Cottage Chimney; and 2,000 bricks, 3½ bags of lime and 1½ loads of sand for a Double Chimney. About 1,000 bricks, on an average, go to 3½ tons weight.

LIME.—From 15 to 16 bags to 1 ton weight.

CEMENT.—About 3½ cwt. to one cask or barrel.

PLASTER OF PARIS.—Per barrel, weighs about 2¾ cwt.

LATH and PLASTER.—100 square yards require 4 bags of lime, 3 yards of sand, 16 bundles of 4ft. 6in. American laths, 8lbs. 1¼-inch nails, and half bag of hair.

LATHS.—A bundle of 4ft. 6in. American laths covers 6½ square yards; a bundle of 4ft. 6in. ceiling laths covers 5 square yards.

OIL.—Oil weighs about 56lbs. per 5-gallon drum.

PAINT.—One gallon of mixed paint weighs 18 to 20 lbs., and will cover from 40 to 50 square yards with one coat, according to surface; 1lb. mixed paint will cover one square yard, three coats, or 90lbs. to 100 square yards, three coats. Allow 4lbs. mixed paint to every foot run of 11ft. high walls for three coats. Paint materials required for 100 square yards: ½ cwt. white lead, 2 gallons of oil, 1 quart turps., 7lbs. dryers, 3lbs. putty, and colors as desired, for three coats. One gallon of Glassard oil will cover 50 square yards, two coats, or 2 gallons per 100 square yards, two coats.

NAILS.—1lb. 2-inch brads, 1½lb. 2½-inch, 2lbs. 2¼-inch to every 100 feet of flooring; allow ½lb. 1½-inch nails to every 100 feet of lining: 1lb. of 2-inch nails to every 300 feet of weatherboards.

HOW TO MEASURE SPOUTING, RIDGING and DOWNPIPE:—Spouting—From back to front, inside head. Ridging—From one edge to the other. Downpipe—Actual diameter.

TIMBER, &c.

Deals— as 9 x 3	No. of running feet to ton (20 cwt.)			350
Flooring—				
6 x 1⅛	,,	,,	,,	1557
6 x 1	,,	,,	,,	1750
6 x ⅞	,,	,,	,,	2000
6 x ¾	,,	,,	,,	2330
Matchboards—				
6 x ⅝	,,	,,	,,	2800
6 x ½	,,	,,	,,	3400
6 x ⅜	,,	,,	,,	4800
Weatherboards, single	,,	,,	,,	3100
Oregon	No. of Super. feet		,,	790
V.D.L. Hardwood	,,	,,	,,	450
Jarrah	,,	,,	,,	400
Iron Bark	,,	,,	,,	310
Black Butt	,,	,,	,,	333
Shelving (American) 12 x ⅞		,,	,,	1050
6 feet Tasmanian Palings (Hobart)	No. to		,,	650
5 feet Tasmanian Palings	,,	,,	,,	800
6 feet Tasmanian Palings (Launceston)	,,		,,	400
5 feet Tasmanian Palings	,,	,,	,,	500
Spruce Deals as 9 x 3	No. of running feet to		,,	400
Kauri	No. of super. feet to		,,	600
Cedar	,,	,,	,,	600
Clear Pine	,,	,,	,,	900
Doors 6ft. 8in. x 2ft. 8in. x 1½in.			No. to ton	55
Doors 6ft. 8in. x 2ft. 8in. x 1¼in			,,	70
Doors 6ft. 6in. x 2ft. 6in. x 1½in.			,,	58
Doors 6ft. 6in. x 2ft. 6in. x 1¼in.			,,	75

Superficial Feet in a Board or Plank.

is known by multiplying the length by the breadth. If the board be tapering, add the breadth of the two ends together, and take half their sum for the mean breadth and multiply the length by this mean breadth.

Covering Capacity and Weight of French Tiles.

127 Tiles cover 100 super feet of roof.
100 super feet of Tiling weigh 635 lbs.
90 lineal feet of 2 in. x 1 in. battens to one square of roofing.

SLATES (ROOFING). Approximate.

Actual number of Slates required to cover one square (100 square feet).

Description.	Size.	2 in. Lap.	3 in. Lap.	4 in. Lap.
Duchess ...	24 x 12	109	115	120
Countess ...	20 x 10	160	169	180
Vis-Countess	18 x 10	180	192	205
Ladies ...	16 x 8	257	277	300

TO BUILDERS AND CONTRACTORS.

BRICKWORK.

3800 9 x 4½ x 3 Bricks will build a rod of Brickwork.

816 sup. ft. of a 4½ inch Brick
408 ,, ,, ,, 9 ,, ,,
272 ,, ,, ,, 14 ,, ,,
204 ,, ,, ,, 18 ,, ,,
163 ,, ,, ,, 22½ ,, ,,

} Will make a rod of Brickwork

A rod of Brickwork contains 306 cubic feet.

1000 Fire Bricks weigh 3 tons 5 cwt. to 3 tons 7 cwt.

1000 Ordinary Bricks weigh 3 tons 15 cwt. to 4 tons.

About 5 casks Cement are required to build a rod of Brickwork, 3 parts of Sand to 1 of Cement; 7 casks if 2 of Sand to 1 of Cement.

About 3½ bags of Lime will build 1 rod of Brickwork.

A cubic yard of Sydney Sand weighs about 1 ton 10. cwt.

A cubic yard of Sandstone weighs about 2 tons 5 cwt.

A cubic yard of Trachite weighs about 2 tons 10 cwt.

Hints for Reckoning.

TO FIND THE SUPERFICIAL MEASUREMENT OF TIMBER.

Multiply the breadth by the thickness in inches, divide by 12, then multiply product by the length.

TO FIND THE VALUE OF A GIVEN WEIGHT AT A GIVEN PRICE PER TON.

EXAMPLE.— Tons cwt. qr. lbs.
2 10 1 18 @ £5/10/- per ton.

Reckon the tons as pounds; cwts. as shillings; each qr. 3d. and for every 9 lbs. 1d., equals

£2 10 5 multiplied by the price per ton = 5½ pounds sterling.

£12 12 1
1 5 2½

£13 17 3½ Answer.

TO FIND THE PREMIUM OR DISCOUNT OF ANY SUM.

EXAMPLE :—£24/10/6 @ 3½%.

Multiply the sum named by double the rate per cent. and point off the product one to the right.

£24 10 6
Double 3½ = 7

£17·1 13 6 Answer 17 1/10th of a shilling say 17/2.

ANOTHER SIMPLE CALCULATION is to divide the discount rate by 5; and multiply the amount to be dealt with by the quotient; then by reading the pounds as shillings, and the shillings in equal proportion, the result will be the amount of discount or premium, as the case may require.

EXAMPLE :—£9 10 0 @ 40%.

Divide 40 by 5 leaves 8; multiply

£9 10 0
by 8

£76 0 0 Answer 76 shillings.

and even quality, is a perfect Roofing Sheet.

MENSURATION.

Simple Rules.

The **Area** of a circle is about three-fourths of the area of a square, having a side equal to its diameter.

The **Circumference** of a circle is about three and one-seventh times its diameter.

The cubical contents of **cones or pyramids** are one-third that of cylinders or prisms, respectively, which have the same size base and are equal in height.

The **area** of the **curved surface** of a cone can be found by multiplying the slope of the cone by the circumference of the base and dividing by two.

Drums or Pulleys.

Rules for Calculating the Speed.

The diameter of the driven been given, to find its number of revolutions :—

RULE : Multiply the diameter of the driver by its number of revolutions, and divide the product by the diameter of the driven ; the quotient will be the number of revolutions of the driven.

The diameter and revolutions of the driver being given, to find the diameter of the driven, that shall make any number of revolutions in the same time :—

RULE : Multiply the diameter of the driver by its number of revolutions, and divide the product by the number of revolutions of the driven, the quotient will be its diameter.

To ascertain the size of the driver :

RULE : Multiply the diameter of the driven by the number of revolutions you wish it to make, and divide the product by the revolutions of the driver ; the quotient will be the size of the driver.

Commonwealth Postal Rates.

Letters, including United Kingdom, Oversea Dominions, British Colonies, and Protectorates, one penny per half-ounce.

Letter Cards, single, 1d. each; reply, 1d. each half.

Post Cards, single, 1d., reply, 1d. each half.

Printed Papers, other than newspapers, as prescribed, ½d. per 2 oz., or part of 2 oz. up to 5 lbs.

Catalogues, (wholly set up and printed in Australia), 4 ozs. or part of 4 ozs. 1d.; every additional 4 ozs. ½d.

Books, printed outside Australia, ½d. per 4 oz., or part of 4 oz.

Books, printed in Australia, ½d. per 8 oz., or part of 8 oz.

Newspapers, For places within the Commonwealth, or to New Zealand, Fiji, and Papua. Each newspaper (published and registered in the Commonwealth) for every 10 oz. or under, ½d.

(Newspapers printed or published outside the Commonwealth, when posted in the Commonwealth, are subject to Magazine Rates of Postage).

United Kingdom: Not exceeding 8 oz., 1d. each newspaper; exceeding 8 oz., but not exceeding 10 oz., 2½d., every additional 2 oz., or fraction thereof, ½d. All Sea Route up to 16 oz., 1d. (one paper only to be enclosed in same wrapper).

United Kingdom: Specially endorsed via America.—Not exceeding 4 ozs. 1d. each newspaper, and ½d. for every additional 2 ozs. or fraction thereof.

All other places: Not exceeding 4 oz., 1d. each newspaper and ½d. for every additional 2 oz., or fraction thereof.

(a) **Magazines**, reviews, serials, and other similar publications printed and published in Australia, in numbers at intervals not exceeding three months, ½d. for 8 oz., or part of 8 oz.

(b) **Magazines**, reviews, serials, and other similar publications (including newspapers), printed and published outside Australia, in numbers at intervals not exceeding three months, ½d. per 4 oz., or part of 4 oz.

Commercial Papers, patterns, samples, and merchandise, as prescribed, 1d. per 2 oz., or part of 2 oz.

Parcels Post, Inland, 1 lb. or under, 6d., each additional 1lb. 3d.

Parcels Post, Inter-State, 1 lb. or under, 8d., each additional 1 lb., 6d.

REGISTRATION FEE. Letters, 3d.

Commonwealth Postal Rates

Continued.

MONEY ORDERS.

	£2	£2 to £5	£5 to £7	£7 to £10	£10 to £12	£12 to £15	£15 to £17	£17 to £20
The Commonwealth .	6d.	6d.	1/	1/	1/6	1/6	2/	2/
New Zealand & Fiji	6d.	1/	1/6	2/	2/6	3/	3/6	4/
Papua	9d.	9d.	1/6	1/6	2/3	2/3	3/	3/

United Kingdom and Foreign, 6d. for any amount up to £2, and 3d. for each additional pound or fraction of a pound.

POSTAL NOTES.

Payable throughout the Commonwealth, 1/-, 1/6, ½d.; 2/-, 2/6, 3/-, 3/6, 4/-, 4/6, 1d.; 5/-, 1½d.; 7/6, 2d.; 10/-, 10/6, 15/-, 20/-, 3d.

TELEGRAPHIC.

Including Address and Signature.

Town and Suburban—16 words, 6d. Each additional word, 1d.

Country—16 words, 9d. Each additional word, 1d.

Inter-State—16 words, 1/-. Each additional word, 1d.

New Caledonia—Per word, 9d.

New Zealand—Per word, 4½d.

Norfolk Island—Per word, 3d.

United Kingdom—Per word, 3/-.

Suva, Fiji—Per word, 8d.

Cape Colony—Per word, 2/3.

New York—Per word, 2/8.

BRITISH WEIGHTS AND MEASURES.

Avoirdupois Weight.

27.344 Grains	equals	1 Dram
16 Drams	,,	1 Ounce (Oz)
16 Ounces	,,	1 Pound (Lb.)
28 Pounds	,,	1 Quarter (Qr.)
4 Quarters	,,	1 Hundredweight(Cwt)
20 Cwt. (112 lbs. each)	,,	1 Ton (2240 Lbs)

The Avoirdupois Pound exceeds Troy in the proportion of 17 to 14 nearly, and the Troy Ounce is greater than the Avoirdupois in the proportion of 79 to 72 nearly.

Troy Weight.

4 Grains	equal	1 Carat
24 Grains	,,	1 Pennyweight (Dwt)
20 Pennyweights	,,	1 Ounce
12 Ounces	,,	1 Pound
25 Pounds	,,	1 Quarter
100 Pounds	,,	1 Hundredweight
20 Hundredweights	,,	1 Ton of Gold or Silver

By this weight, Gold, Silver, Platinum, and Precious Stones (except Diamonds) are weighed. Diamonds and Pearls are weighed by Carats of 4 Grains each (equal only to 3.2 Grains Troy). The Troy Ounce is equal to 151½ Diamond Carats. Gold, when pure, is said to be 24 Carats fine; if it contains one part alloy, it is said to be 23 Carats fine, and so on.

Standard Gold (i.e., Gold of our coinage) is 22 Carats fine. 40lbs. (Troy) of Standard Gold are coined into 1869 Sovereigns.

Apothecaries Weight.

20 Grains equal 1 Scruple 8 Drachms equal 1 Ounce
3 Scruples ,, 1 Drachm 12 Ounces ,, 1 Pound

The Pound and Ounce are the same as in Troy weight.

Apothecaries Fluid Measure.

60 Minims equal 1 Drachm 20 Ounces equal 1 Pint.
8 Drachms ,, 1 Ounce 8 Pints ,, 1 Gallon

There are 437½ Grains in a Fluid Ounce.
,, 4 Drachms in one Tablespoonful.
,, 2 Ounces in one Wineglassful.
,, 3 Ounces in one Teacupful.

Grain and Produce.

	Weight per bushel.	Bushels per bag.		Weight per bushel.	Bushels per bag.
Barley	.. 50lb. ..	4	Oats	40lb. ..	4
Beans	.. 60lb. ..	4	Wheat	60lb. ..	3
Bran	.. 20lb. ..	8	Pollard	20lb. ..	9
Maize	.. 56lb. ..	4	Peas	60lb. ..	4
Malt	.. 40lb. ..	4			

A Bag of Flour:—Australian, 150lb.; English, 280lb.

British Weights and Measures—*cont.*

Measure of Capacity.

4 Gills	equal 1 Pint		4 Pecks	„	1 Bushel
2 Pints	„ 1 Quart		3 Bushels	„	1 Bag
4 Quarts	„ 1 Gallon		8 Bushels	„	1 Quarter
2 Gallons	„ 1 Peck		5 Quarters	„	1 Load

Measure of Length.

12 Lines	equal	1 Inch
7.92 Inches	„	1 Link
9 Inches	„	1 Span
12 Inches	„	1 Foot
18 Inches	„	1 Cubit
36 Inch. or 3 Feet	„	1 Yard
5½ Yards	„	1 Rod, Pole or Perch.
4 Poles, 22 Yards, or 100 Links	equal	1 Chain
40 Rods	„	1 Furlong
8 Furlongs 80 Chains, 320 Rods, or 1760 Yards	„	1 Mile

Measure of Surface.

144 Sq. Inches	equal	1 Sq. Foot
9 Sq. Feet	„	1 Sq. Yard
30¼ Sq. Yards	„	1 Sq. Rod
16 Sq. Rods	„	1 Sq. Chain
40 Sq. Rods	„	1 Rood
4 Roods	„	1 Acre
10 Sq. Chains	„	1 Acre
640 Acres	„	1 Sq. Mile

1 Acre contains 100,000 Sq. Links.
1 „ „ 4,840 Sq. Yards.

A square whose side is 60½ Yards is approximately 1 Acre.

Geographical and Nautical Measure.

6 Feet	equal	1 Fathom
110 Fathoms or 660 Feet	„	1 Furlong
6,080 Feet	„	1 Knot
3 Knots	„	1 League
20 Leagues or 60 Geographical Miles	„	1 Degree
360 Degrees or 24,856 Miles	„	The Earth's Circumference

Measure of Solidity.

1728	Cubic Inches	equal	1 Cubic Foot
27	„ Feet	„	1 Cubic Yard
5	„ Feet	„	1 Barrel Bulk Shipping
40	„ Feet	„	1 Ton Shipping (Merchandise)
42	„ Feet	„	1 Ton Shipping (Timber)

British Weights and Measures—*cont.*

Measure of Time.

60 Seconds	equal	1	Minute
60 Minutes	,,	1	Hour
24 Hours	,,	1	Day
(23h. 56m. 4s. equal 1 Sidereal Day)			
7 Days	equal	1	Week
28 Days	,,	1	Lunar Month
28, 29, 30, or 31 days	,,	1	Calendar Month
12 Calendar Months)	,,	1	Year
52 Weeks)			
365¼ Days	,,	1	Common Year
366 Days	,,	1	Leap Year
365d. 5h. 48m. 46s.	,,	1	Tropical Year

Electrical Measure.

The chief units, as generally accepted by Electricians, are as follow:—

Volt—Electromotive force is equal to about 92.6 per cent. of that given by one Daniell's Battery Cell.

Ohm—Resistance equals the resistance offered to the passage of a current of Electricity by a thread of Mercury 106 cm. long and 1 mm. cross-section at the temperature of melting ice.

Ampere—Current equals the current 1 Volt will drive through 1 ohm.

Watt—Power equals 44 ft. lbs. per minute.

Board of Trade Unit—Officially defined as "the energy contained in a current of 1000 Amperes flowing under an electromotive force of 1 Volt during an hour.

Killowatt equals one Board of Trade Unit. One Board of Trade Unit will keep a 16-candle incandescent lamp alight for about 16 hours.

746 Watts equals 1 horse-power.

METRIC WEIGHTS AND MEASURES.

Lineal Measures.

The unit for length is the Metre.

	Yds.	Ft.	In.		
10 Millimetres or	0	0	0.3937	equal 1	Centimetre
10 Centimetres or	0	0	3.9370	,, 1	Decimetre
10 Decimetres or	1	0	3.3708	,, 1	METRE
10 Metres or	10	2	9.7079	,, 1	Decametre
10 Decametres or	109	1	1.079	,, 1	Hectometre
10 Hectometres or	1093	1	10.79	,, 1	Kilometre

Weight.

The unit for weight is the Gramme.

	Lb.	Oz.	Drams.		
10 Milligrammes or	0	0	0.0056438	equal 1	Centigram.
10 Centigrammes or	0	0	0.056438	equal 1	Decigramme
10 Decigrammes or	0	0	0.56438	equal 1	Gramme
10 Grammes or	0	0	5.6438	equal 1	Decagramme
10 Decagrammes or	0	3	6.438	equal 1	Hectogramme
10 Hectogrammes or	2	3	4.38	equal 1	Kilogramme

A Milligramme measures .01543 of a Grain.

Foreign Monies

And their English Equivalents.

(Subject to variation in Standard Currencies.)

English Money			United States and Canada		France		Germany.	
£	s.	d.	Dol.	Cent	Franc	Cent.	Mark	Pfeg.
0	5	0	1	22	6	30	5	10
0	6	0	1	46	7	50	6	12
0	7	0	1	70	8	80	7	14
0	8	0	1	94	10	0	8	16
0	9	0	2	19	11	30	9	18
0	10	0	2	43	12	61	10	20
0	11	0	2	67	13	80	11	22
0	12	0	2	92	15	10	12	24
0	13	0	3	16	16	30	13	26
0	14	0	3	40	17	60	14	28
0	15	0	3	65	18	90	15	30
0	16	0	3	89	20	10	16	32
0	17	0	4	12	21	40	17	34
0	18	0	4	38	22	60	18	36
0	19	0	4	62	23	90	19	38
1	0	0	4	86	25	22	20	40

INDIA.—RUPEE is nominally of the value of 1/4 sterling.

SPAIN.—One PESETA .. .. nearly 9½d.

AUSTRIA.—One KRONER .. ..10d.

JAPAN.—10 ren equal 1 sen equal ¼d. 100 sen equal 1 yen equal 2/1.

To ascertain the ENGLISH equivalent of AMERICAN dollars and cents, divide the same by 2, then by 12, and again by 20.

Answer.—£104 4s.4d.

EXAMPLE:—

	Dol. Cent.
2	500-25 to Eng. equiv.
12	250.12—1
20	2084-4 shillings & pence
	104-4 pounds & shills.

From Official Year Book: Pages 638.

State Government Railways

at 30/6/16.

State or Territory	Mileage Open for Traffic	Cost of Construction.
New South Wales ..	4,188 Miles	£68,825,592
Victoria	4,100 ,,	54,391,989
Queensland	4,967 ,,	34,787,623
South Australia ..	2,187 ,,	17,236,543
Western Australia ..	3,332 ,,	17,118,195
Tasmania	562 ,,	1,798,646
Total	19,336 Miles	£197,158,588

Pages 626.

Mileage under Different Gauges.

5ft 3in	4,955 Miles
4ft 8½in	4,148 ,,
3ft 6in	10,057 ,,
2ft 6in	122 ,,
2ft	54 ,,
	19,336 Miles.

Distance by Rail and Times between Capitals.

Brisbane to Sydney	725 miles in 26 hours 55 minutes
Sydney to Melbourne	582½ miles in 16 hours 51 minutes
Melbourne to Adelaide	482¾ miles in 17 hours 26 minutes
Adelaide to Perth	1687 miles in 64 hours.

The time occupied in the journey from Adelaide to Perth is expected to be considerably reduced when the ballasting of the Trans-continental Railway is completed.

Federal Government Railways

Open for Traffic.

Darwin to Pine Creek (Northern Territory)	146 miles
Port Augusta to Oodnadatta (South Australia)	478 miles
Queanbeyan (N.S.W.) to Canberra (Federal Territory.) ..	5 miles
Kalgoorlie (Western Australia) to Port Augusta (S.A.) ..	1,053 miles
	1,682 miles

From Commonwealth Year Book: Page 14.

Areas of States and Territories.

Date of Creation	Name of State, &c.	Area in Square Miles
1786	New South Wales	309,460
1825	Tasmania	26,215
1829	Western Australia	975,920
1834	South Australia	380,070
1851	Victoria	87,884
1859	Queensland	670,500
1863	Northern Territory	523,620
1911	Federal Capital Territory ..	912
	Commonwealth	2,974 581

From Official Year Book: Appendix Page 1160.

Commonwealth.

1916	Vital Statistics	
BIRTHS ..	Number	131,426
	Rate	26.78 per 1,000
DEATHS ..	Number	54,197
	Rate	11.04 per 1,000
MARRIAGES ..	Number	40,289
	Rate	8.21 per 1,000

From Official Year Book: Appendix Page 1157.

Commonwealth.

Estimated Population, June 30th, 1917.

States, &c.	Males.	Females	Totals
New South Wales	922,279	946,121	1,868,400
Victoria	666,440	736,210	1,402,650
Queensland	349,686	331,616	681,302
South Australia	198,981	230,909	429,890
West Australia	158,336	150,194	308,530
Tasmania	98,561	98,776	197,337
Northern Territory	4,066	977	5,043
Federal Territory	1,559	1,183	2,742
Commonwealth	2,399,908	2,495,986	4,895,894

FERTILIZERS.

Analysis of fertilisers for different purposes, reprinted from pamphlet issued by Messrs. George Shirley Limited, Sydney :—

	Phosphoric Acid (soluble in water.)	Equal to Tri-calic Phosphate (soluble in water.)	Nitrogen	Equal to Ammonia. (Fixed.)	Sulphate of Potash.	Equal to Pure Potash
SUPERPHOSPHATE for WHEAT ..	17·	36/38	—	—	—	—
Mangold, Turnips, Carrots, etc.	15·	33	1·6	2	1·80	1
Cabbages, Hay Crops Maize, Sorghum Millets, Pumkins, Oats	13·	28	3·3	4	3·70	2
Potatoes, Tomatoes, Citrus Fruits Apples, Pears, Tobacco	12·	26	3 3	4	12·95	7
Top-dressing Pastures—**Rape**	11·4	25	1·6	2	1·85	1
Onions, Stone Fruits, Sugar Cane, Flowers, Strawberries	6·5	14 ·	4 1	5	7·40	4
Peas, Beans, Clover, **Lucerne** (for Top-dressing Lucerne)	11·4	25	—	—	12·95	7

From Official Year Book: Page 371.

Commonwealth Imports of Fertilizers.

1914—1915 and 1915—1916.

Fertilizers	1914—1915.		1915—1916.	
	Cwts.	Value	Cwts.	Value
Bonedust	10,901	£3,136	—	—
Guano	2,053	814	1,800	£792
Superphosphates ..	502,382	79,889	57,790	10,308
Rock Phosphates ..	3,464,547	397,284	3,813,788	440,434
Other	175,799	65,703	117,312	52,972
	4,155,682	£546,826	3,990,690	£504,506

BENEFITS DERIVED FROM USE OF FERTILIZERS

There is little doubt that the increased and increasing use throughout the Commonwealth of fertilizers, natural and artificial, combined with the greater attention being devoted to fallowing and to the combination of sheep farming with agriculture, is having the effect of improving the prospects of those dependent for a livelihood on the products of the soil. Reference has been made, previously, to the loss to the soil of phosphoric acid which the Commonwealth export of wheat and its milled products involves, and the necessity which then arises for returning this ingredient in some form. Similarly, other staple products exported impose their respective tolls upon the soil of the Commonwealth, and the increased use of fertilizers furnishes evidence that producers are alive to the necessity for making good the deficiency so arising.

From Official Year Book: Pages 325—355.

Agricultural Statistics for Commonwealth.

1915—1916.

	Acres cultivated	Yield	Average per acre
Wheat	12,484,512	179,065,703 Bushels	14.34 Bushels
Oats	721,644	16,538,979 „	22.92 „
Maize	323,637	6,793,509 „	20.99 „
Barley	169,514	3,801,550 „	22.43 „
Hay	3,597,771	5,633,988 Tons	1.57 Tons
Potatoes ..	120,993	332,704 „	2.75 „
Sugar Cane ..	164,285	1,310,264 „	13.04 „

Tables of Distances between Ports.

FREMANTLE TO BURKETOWN.

Fremantle.													
1378	**Adelaide**												
1886	508	**Melbourne**											
2450	1072	564	**Sydney**										
2960	1582	1074	510	**Brisbane**									
3310	1933	1424	860	350	**Keppel Bay**								
3500	2122	1614	1050	540	190	**Mackay**							
3605	2227	1719	1155	645	295	105	**Bowen**						
3708	2330	1822	1258	748	398	208	103	**Townsville**					
3868	2490	1982	1418	908	558	368	263	160	**Cairns**				
3903	2525	2017	1453	943	593	403	298	195	35	**Port Douglas**			
3968	2590	2082	1518	1008	658	468	363	260	100	65	**Cooktown**		
4408	3030	2522	1958	1448	1098	908	803	700	540	505	440	**Thursday Island**	
4908	3530	3022	2458	1948	1598	1408	1303	1200	1040	1005	940	500	**Normanton**
5040	3668	3160	2596	2086	1736	1546	1441	1338	1178	1143	1078	638	138 **Burketown**

AVERAGE RAINFALL IN AUSTRALIA.

This Information is compiled from Official Year Book of the Commonwealth

VICTORIA.

	Inches		Inches
Bairnsdale	29.01	Omeo	25.73
Ballarat	28.45	Outtrim	45 69
Bendigo	21.53	Portland	32.87
Casterton	25.60	Port Albert	25.48
Castlemaine	23.86	Sale	23.74
Cape Otway	34 15	Swan Hill	13.43
Colac	26.28	Wodonga	26 58
Echuca	17 05	Warracknabeal	14 68
Geelong	16 74	Warragul	39.76
Hopetoun	11.74	Warrnambool	25.03
Horsham	17 30	Wilson's Promty.	42.45
Melbourne	25 43	Yarrawonga	19.98
Mildura	11.01		

TASMANIA

	Inches		Inches
Hobart	23 29	Stanley	33 17
Launceston	27.72	Waratah	84 53

NORTHERN TERRITORY

	Inches		Inches
Alice Springs .	10.78	Port Darwin . .	61.56
Charlotte Waters	5 38	Tennant's Creek	15.18
Daly Waters . .	27.14		

WEST AUSTRALIA.

	Inches		Inches
Broome . . .	23.41	Laverton . . .	10.43
Bunbury . . .	36.56	Lawlers. . . .	8.68
Carnarvon. . .	8.81	Magnet . . .	7.20
Coolgardie . .	9.08	Nullagine. . .	13 69
Derby	27.25	Northampton .	20.74
Eucla	10.11	Onslow . . .	8.13
Eyre	10.89	Perth	33.35
Esperance . .	25.13	Peak Hill . . .	10 60
Geraldton . .	17.35	Southern Cross .	9.06
Hall's Creek . .	21.40	Walebing . . .	18.55
Katanning . .	17.49	Wyndham . .	28.08
Kellerberrin . .	11.86	York	17.05

SOUTH AUSTRALIA.

	Inches		Inches
Adelaide . . .	20.32	Port Augusta . .	9.14
Blinman . . .	12.94	Oodnadatta . .	4 67
Cape Borda . .	24.80	Streaky Bay . .	15.11
Cowell	11.70	Ororoo	13 33
Kooringa . . .	17.64	William Creek .	5 32
Mount Gambier	31.80	Wilgena . . .	6.81

NEW SOUTH WALES.

	Inches		Inches
Armidale	31.85	Lismore	53.69
Bathurst	23.95	Maitland	33.79
Bourke	15.29	Moulamein	14.60
Broken Hill	9 25	Mudgee	26 26
Condoblin	17.82	Mungindi	20 45
Cobar	14.81	Manilla	26.09
Deniliquin	16.58	Moree	23.61
Delegate	26.70	Newcastle	47.33
Dubbo	22.23	Narrandera	17.45
Eden	34.45	Orange	36.71
Forbes	20.28	Parramatta	36.67
Grafton	38.62	Sydney	48.80
Goulburn	25 95	Walgett	18.88
Hay	14.50	Wagga	21.87
Hungerford	12.70	Wentworth	11.84
Kempsey	48 65	Wilcannia	10.46
Kiama	52.26		

QUEENSLAND.

	Inches		Inches
Adavale	15.73	Georgetown	31 77
Brisbane	48.36	Geraldtown	145.71
Burketown	29.03	Isisford	20.01
Birdsville	6.38	Longreach	17.28
Boulia	11.09	Mackay	69.42
Banana	28.50	Maryborough	46.58
Cooktown	65 92	Mein	44 33
Charters Towers	26 66	Normanton	37.97
Cloncurry	19.93	St George	21.70
Clermont	25 99	Thursday Island	60.30
Charleville	20.32	Taroom	27.36
Fairview	38.07	Winton	14.91

Lysaght's Trade Marks.

"ORB" Galvanized Corrugated Iron is favorably known and used throughout the world. Its uniformly reliable character is recognised by consumers everywhere. There are many imitations, but to those who compare its covering capacity with other nominally cheaper brands, its superiority in all respects is at once apparent.

"REDCLIFFE Corrugated Iron" —A brand of well-established repute and in large demand occupying a premier position in those markets in which price is a primary consideration.

'WEIGHT BEARING' Iron Lysaght's **"ORB"** brand used for building purposes, maintains the maker's reputation, and may be specified by Architects and Engineers in the full confidence that it will justify their preference for British Manufactures.

Lysaght's Trade Marks.

"ORB" Tenax Flat Sheet

Iron, for working up, is of the finest possible quality suitable for special high-class work, and is, in many instances used as a substitute for copper.

"QUEEN'S HEAD"

Galvanized Tinned Special Flat Sheets.

This brand will stand the severest tests, and commands the confidence of iron-workers everywhere.

QUEEN'S HEAD

"BLACK SHEETS"

of the same brand are extensively used by manufacturers of ventilating and other Pipes, Trunks, Stoves, Fender Bottoms, Ovens, Stamping, Perforating, &c, and the many other purposes where a reliable quality is necessary.

"FLEUR-DE-LIS" Galvanized Tinned Flat Sheets

enter largely into consumption in the lighter gauges, for that class of work in which a somewhat cheaper sheet is asked for. It will be found equal to all such requirements.


FLEUR DE LIS

The following Appendix (for which the Publisher accepts no responsibility), has been compiled from standard sources of information—and will it is hoped prove of value to residents in country districts—who may be remote from medical aid.

FIRST AID TO THE INJURED

WOUNDS.

Bleeding from Arteries.

HEAD.—Pad and bandage the wound.

NECK.—Place thumb in wound and press backward against spine.

ARMPIT.—Press thumb into wound, second person to press main artery behind middle of collarbone.

UPPER AND FOREARM.—Press with fingers, or apply tourniquet to inside of upper arm where pulsating. When below elbow, place pad in hollow or bend of elbow, and bend forearm against upper arm.

PALM OF HAND.—Bandage hand, closed over a piece of stick, or press arteries at front of wrist.

THIGH.—Hand pressure at centre of fold of groin, or by tourniquet on inside of thigh.

HAM OR BACK OF KNEE-JOINT.—Same as for a thigh, or press by hand or tourniquet in ham above wound.

FRONT OR BACK OF LEG.—Press by hand or tourniquet at back of knee-joint, or double the leg up against a pad placed in the ham.

A tourniquet can be made by placing a stone over the main artery, tieing a handkerchief loosely over it, and then twisting it tight with a stick.

Blood from an artery is bright red and flows in jets.

Blood from a vein is dark bluish, and flows slowly.

The flow of arteries is from heart to head, hands to feet.

The flow in veins is just the reverse.

INSTEP.—Pressure to the middle of front of ankle.

SOLE OF FOOT.—Bandage with pads behind inner ankle bones and middle of instep.

FOR ALL SITUATIONS.—Elevate the part and apply pad and bandages.

FLESH WOUNDS.—Wash, stop bleeding, fix parts in natural position without delay.

GUNSHOT WOUNDS OF CHEST OR BELLY.—Place patient on wounded side with knees drawn up; give complete rest; no stimulants.

BRUISED WOUNDS.—Wash, apply wet cloths; if about head, poultices.

SPECIAL NOTE.—VALUE OF IODINE AS A FIRST AID DRESSING.—It is stated that, in the Franco-Prussian War, out of every 100 men wounded and operated upon, 75 died of blood poisoning. In the South African War and in the Russo-Japanese War, only 2 per cent. died from this cause. The explanation of this marvellous improvement is cleanliness. In the intervening period Scientists had discovered that an immediate application of Iodine to the wound removed all danger of septicemia or blood-poisoning, so that unless a vital part was struck, the chances of recovery were greatly enhanced. Special phials of Iodine are now prepared, and the method of application is to break off the end of the phial, pour a little Iodine in and about the wound, and on the pad of lint, binding it closely together with a bandage.

BROKEN BONES.

LOWER JAW.—Bandage the lower to upper jaw with handkerchief.

COLLAR BONE.—Place pad in armpit, bandage elbow to side, sling forearm.

RIBS.—Apply bandage 6 inches wide, 8 yards long, round chest.

UPPER ARM.—Bend arm and apply roller bandage to hand and forearm, splints to back and front, and sling forearm.

FOREARM.—Apply padded splints to back and front from hand to elbow, holding the arm extended with thumb pointing upwards.

HAND.—Apply splint bandage, and support in sling.

THIGH.—Apply a long splint from armpit to outside of heel, and short one from fork to knee on inside, and bandage.

LEG.—Apply splints inside and outside and bandage.

STRETCHER DRILL.

1. Three men fall in, facing feet of injured man, and are numbered off from the right.
2. Place foot of stretcher at patient's head in a line continuous with the body.
3. Nos. 1 and 2 one at either side—locking hands underneath the shoulders and hips, raise the patient, carry him forward over the stretcher, and then lower him on it.
4. No. 3 takes charge of the injured portion (limb or head) and steadies it with a hand on either side of the wound.
5. Nos. 1 and 2 then take their places at the

head and foot of the stretcher, lift, and carry off, while No. 3 walks at side of stretcher.

SIGNS OF BROKEN BONES.

Motion at the part; crackling sensation on moving broken ends; alteration in shape; often shortening. Always apply splints before lifting or carrying. Dangers are of pushing the end through flesh, blood-vessels, nerves, or internal organs (lungs).

Splints may be formed of soldiers' weapons—rifles, swords, — and scabbards, umbrellas, walking sticks, broom handles, folded newspapers, etc. Bandages from handkerchiefs, sheets, and shirts. Stretchers from doors, ladders, or two rifles and a blanket.

GENERAL.

AGUE.—As a preventative, give five grains of quinine every morning. As a cure, act on the bowels, give ten grains of quinine three times a day, and a vapour bath every evening.

APPENDICITIS.—Pain and tenderness in lower right front of abdomen often beginning in pit of stomach accompanied at times by vomiting and fever. For temporary relief apply hot fomentations. No purgatives. Slight sips of water may be taken. Await medical advice.

APOPLEXY.—Act on the bowels, apply wet cloths to the head, undo collar.

BITES.—Of snakes, mad dogs. Apply a ligature (a cord) on the side nearest the heart; suck the wound, scratch the edges with a penknife,

and apply caustic or carbolic acid to the wound.

BURNS.—Place the part in a natural position, and apply cloths, soaked in oil.

COLIC AND DIARRHOEA.—Give 20 drops of chlorodyne in a little brandy and water.

DYSENTERY.—A small teaspoonful of Ipecacuanha, and a powder every two hours.

DELIRIUM TREMENS.—Act on the bowels, beef-tea every half-hour, 20 grains of chloral in water as a sleeping draught.

DROWNING.—Strip the patient to the waist, open and clear the mouth and throat with the face downwards, placing one arm under the forehead; turn the patient well and instantly on the side, supporting the head, replace on the face, raising and supporting chest, turn body gently on the side and a little beyond and then briskly on the face, back again, repeat about fifteen times a minute; each time the body is placed on the face, make uniform but efficient pressure on the back between the shoulder blades, with brisk movement; excite breathing by smelling salts or snuff. If unsuccessful within five minutes, place the patient on his back with his clothing underneath his shoulders, draw forward tongue, and keep it projecting beyond the lips, and grasping the arms above the elbows, raise them above his head for two seconds, then lower and press against the sides for two seconds. Repeat these motions fifteen times per minute for an hour if necessary. On restoring the breathing, apply warmth to the

body by hot bottles, rubbing the skin, hot bath, and weak brandy and water.

EMETICS.—Substances which cause vomiting. A tablespoonful of salt, or mustard and water; an ounce of Ipecacuanha wine; 15 grains of sulphate of zinc in water.

FAINTING.—From loss of blood, weakness, or shock, Keep the body in the lying position, undo the dress, give plenty of air, sprinkle the face and chest with cold water; smelling salts to nostrils.

FITS.—Loosen the clothing about the neck; fresh air, and prevent patient from injuring himself.

MENINGITIS.—Violent headache, unusual irritability or drowsiness, frequent vomiting, tendency to curl up in bed on side, resisting interference, feverish tendencies. Keep in dark room until Doctor comes.

POISONS:—1. Give an emetic in the case of poisons which do not stain the mouth, such as Arsenic Phosphorus, Strychnine, Prussic Acid, Belladonna, and also in the case of Ptomaine Poisoning, Alcoholic Poisoning, Opium, Morphia, Laudanum, Paregoric, Chlorodyne, Syrup of Poppies, etc. (See Emetics above.)

2. DO NOT give an emetic for the following poisons, which burn or stain the mouth, viz.:—

(a) Acids, i.e., Nitric Acid, Sulphuric Acid, Hydro-chloric Acid, Muriatic Acid (Spirits of Salt), Carbolic Acid, Oxalic Acid, etc.

(b) Alkalies, i.e., Caustic Potash, Caustic Soda, and Ammonia, etc.

TREATMENT—See page 74.

(a) Acid Poisoning: Give an alkali, i.e., Lime Water, Magnesia, Chalk, Whiting (and soda, except in the case of Oxalic Acid poisoning); also Oil (Olive, Salad, Cod Liver or Castor).

(b) Alkali Poisoning: Give an acid, i.e., Lemon Juice or Vinegar, diluted with an equal quantity of water, also Oil (Olive, Salad, Cod Liver or Castor).

NOTE.—STRONG TEA is a direct neutraliser of many poisons, and is always safe to take.

RHEUMATISM—This painful malady is generally due to errors of diet or other causes such as damp ground, wet clothes, or excess of alcohol, and before any cure can be attempted, the cause must first be removed. TREATMENT—Any good saline preparation, mineral water, etc., while for external application Eucalyptus or other warming and stimulating embrocation will be found to give good results.

RUPTURE.—The escape of a portion of the bowel from the belly at the groin. To return it, place the patient on his back, with the knees drawn up, and apply pressure to the swelling in an upward and outward direction.

SORE FEET.—Anoint with oil or soap before marching, and harden the skin at night by washing with salt and water or spirits.

SCALDS.—Smear with a solution of lime oil, and envelope in cotton wool.

SPRAINS.—Elevate and rest limbs, apply cold water cloths.

SUNSTROKE.—Loosen dress at neck, act on bowels, cold water at head.

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Calendar 1919.

JANUARY.					FEBRUARY.					MARCH.				
Sun.	5	12	19	26		2	9	16	23	30	2	9	16	23
Mon.	6	13	20	27		3	10	17	24	31	3	10	17	24
Tue.	7	14	21	28		4	11	18	25		4	11	18	25
Wed. 1	8	15	22	29		5	12	19	26		5	12	19	26
Thu. 2	9	16	23	30		6	13	20	27		6	13	20	27
Fri. 3	10	17	24	31		7	14	21	28		7	14	21	28
Sat. 4	11	18	25	...	1	8	15	22	...	1	8	15	22	29

APRIL.					MAY.					JUNE.				
Sun.	6	13	20	27		4	11	18	25	1	8	15	22	29
Mon.	7	14	21	28		5	12	19	26	2	9	16	23	30
Tue. 1	8	15	22	29		6	13	20	27	3	10	17	24	...
Wed. 2	9	16	23	30		7	14	21	28	4	11	18	25	...
Thu. 3	10	17	24	..	1	8	15	22	29	5	12	19	26	...
Fri. 4	11	18	25	...	2	9	16	23	30	6	13	20	27	..
Sat. 5	12	19	26	...	3	10	17	24	31	7	14	21	28	...

JULY.					AUGUST.					SEPTEMBER.				
Sun.	6	13	20	27	31	3	10	17	24		7	14	21	28
Mon.	7	14	21	28		4	11	18	25	1	8	15	22	29
Tue. 1	8	15	22	29		5	12	19	26	2	9	16	23	30
Wed. 2	9	16	23	30		6	13	20	27	3	10	17	24	
Thu. 3	10	17	24	31		7	14	21	28	4	11	18	25	
Fri. 4	11	18	25	...	1	8	15	22	29	5	12	19	26	
Sat. 5	12	19	26	...	2	9	16	23	30	6	13	20	27	

OCTOBER.					NOVEMBER.					DECEMBER.				
Sun.	5	12	19	26	30	2	9	16	23		7	14	21	28
Mon.	6	13	20	27		3	10	17	24	1	8	15	22	29
Tue.	7	14	21	28		4	11	18	25	2	9	16	23	30
Wed. 1	8	15	22	29		5	12	19	26	3	10	17	24	31
Thu. 2	9	16	23	30		6	13	20	27	4	11	18	25	...
Fri. 3	10	17	24	31		7	14	21	28	5	12	19	26	...
Sat. 4	11	18	25	...	1	8	15	22	29	6	13	20	27	...