THE

REFEREE

A HANDBOOK OF USEFUL INFORMATION

THIRTEENTH EDITION

(WITH APPENDIX)

THE REFEREE

13TH EDITION

BEING

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

CONTAINING

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

Revised April, 1923.

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 printer's or other errors which may have inadvertently crept in. Communications may be addressed to Box 196 G.P.O., Sydney.

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MEMORANDA

CALENDAR 1923

JANUARY.

S	M	T	W	T	F	S
..	1	2	3	4	5	6
7	8	9	10	11	12	13
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FEBRUARY.

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MARCH.

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CALENDAR 1924

JANUARY.

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NOVEMBER.

S	M	T	W	T	F	S
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23	24	25	26	27	28	29
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DECEMBER.

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14	15	16	17	18	19	20
21	22	23	24	25	26	27
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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.

We are pleased to record that the major portion of the heavy sheets of "Elephant Iron," and the more familiar corrugated curved sheets so extensively used for roofing Hutments and Dug-outs on the Western and other Fronts during the Great War were manufactured by Messrs. John Lysaght Limited, of Bristol, Newport and Scunthorpe (Eng.).

LYSAGHT'S TRADE MARKS

LYSAGHT

"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.

AUSTRALIA

Lysaght "ORB" Australia

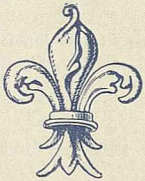
The highest grade of galvanized corrugated sheet produced at Lysaght's Newcastle Works, and which will be found in every respect the equal of its English namesake.

"QUEEN'S HEAD"

"QUEEN'S HEAD"

GALVANIZED TINNED SPECIAL FLAT SHEETS.

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



"FLEUR-DE-LIS"

"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.

BLACK SHEETS — See Pages 22 and 23

Galvanized Iron—Corrugated.

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

Length	Gauges.					
	18	20	22	24	26	28
5 feet	42	53	66	83	116	132
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	33	41	58	66
11 feet	19	24	30	38	54	62
12 feet	17	22	28	35	49	56

NOTE:—2 cwt. bundles contain approximately one-fifth of the above number of sheets.

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

Gauge	5 ft.	6 ft.	7 ft.	8 ft.	9 ft.	10 ft.	11 ft.	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	34	37¼	40½ ,,
24	13¾	16¼	19	22	25	27¼	29¾	32¼ ,,
26	9½	11½	13½	15½	17½	19¼	20¾	23 ,,
28	8½	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.

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.

Galvanized Iron—Corrugated

Approximate price per sheet based on given rates per ton.

20 G.

Price per Ton.	106 Sheets. **5 ft.**	88 Sheets **6 ft.**	76 Sheets **7ft.**	66 Sheets **8 ft.**	58 Sheets **9 ft.**	52 Sheets **10ft.**
£14/0/-	2/7½	3/2	3/8	4/3	4/10	5/5
£14/10/-	2/8½	3/3½	3/10	4/4½	5/-	5/7
£15/0/-	2/10	3/5	3/11	4/6½	5/2	5/9
£15/10/-	2/11	3/6	4/1	4/8	5/4	5/11½
£16/0/-	3/-	3/8	4/2½	4/10	5/6	6/2
£16/10/-	3/1	3/9	4/4	5/-	5/8	6/4
£17/0/-	3/2½	3/10	4/6	5/2	5/10	6/6½
£17/10/-	3/4	4/-	4/7	5/4	6/-	6/9
£18/0/-	3/5	4/1	4/9	5/5½	6/2½	6/11
£18/10/-	3/6	4/2	4/10	5/7	6/5	7/1
£19/0/-	3/7	4/4	5/-	5/9	6/7	7/4
£19/10/-	3/8	4/5	5/2	5/11	6/9	7/6
£20/0/-	3/9	4/6½	5/3	6/1	6/11	7/8

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.**	66 Sheets **10 ft.**
£14/0/-	2/1½	2/6⅓	3/-	3/5	3/10½	4/3
£14/10/-	2/2	2/7½	3/1	3/6	4/-	4/4½
£15/0/-	2/3½	2/9	3/2	3/8	4/2	4/6
£15/10/-	2/4	2/10	3/3	3/9	4/4	4/8
£16/0/-	2/5	2/11	3/5	3/11	4/5	4/10
£16/10/-	2/6	3/-	3/6	4/-	4/7	5/-
£17/0/-	2/7	3/1	3/7	4/2	4/9	5/2
£17/10/-	2/8	3/2	3/9	4/3	4/10	5/4
£18/0/-	2/9	3/3	3/10	4/4½	5/-	5/5½
£18/10/-	2/10	3/4	3/11	4/6	5/2	5/7
£19/0/-	2/10½	3/5½	4/0½	4/8	5/3	5/9
£19/10/-	2/11½	3/6½	4/2	4/9	5/5	5/11
£20/0/-	3/-	3/8	4/3	4/10½	5/7	6/1

Galvanized Iron—Corrugated.

Price per sheet based 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.
£18 0 0	2/2	2/7	3/0½	3/7	4/-	4/5
18 10 0	2/3½	2/8½	3/1½	3/7½	4/1½	4/6
19 0 0	2/3½	2/9	3/2½	3/9	4/3	4/8
19 10 0	2/4	2/10	3/3½	3/10	4/4	4/9
20 0 0	2/5	2/11	3/4½	3/11	4/5½	4/11
20 10 0	2/6	3/-	3/5½	4/-	4/7	5/-
21 0 0	2/6½	3/0½	3/6½	4/2	4/8	5/1½
21 10 0	2/7	3/1½	3/7½	4/2½	4/9½	5/3
22 0 0	2/8	3/2	3/8½	4/4	4/10½	5/4½
22 10 0	2/8½	3/3	3/9½	4/5	5/-	5/6
23 0 0	2/9	3/4	3/10½	4/6	5/1½	5/7½
23 10 0	2/10	3/5	4/-	4/7	5/2½	5/9
24 0 0	2/10½	3/6	4/0½	4/8½	5/4	5/10
24 10 0	2/11½	3/7	4/1	4/9½	5/5	6/-
25 0 0	3/-	3/7½	4/2½	4/10½	5/6½	6/1
25 10 0	3/1	3/8½	4/3½	5/-	5/8	6/2½
26 0 0	3/1½	3/9	4/4½	5/1	5/9	6/4
26 10 0	3/2	3/10	4/5½	5/2	5/10½	6/5½
27 0 0	3/3	3/11	4/6½	5/3½	6/-	6/7
27 10 0	3/3½	4/-	4/7¼	5/4½	6/1	6/8½
28 0 0	3/4½	4/0½	4/8½	5/6	6/2½	6/10
28 10 0	3/5	4/1½	4/9½	5/7	6/4	6/11
29 0 0	3/6	4/2½	4/10¼	5/8	6/5	7/1
29 10 0	3/6½	4/3	4/11½	5/9	6/6½	7/2
30 0 0	3/7½	4/4	5/0½	5/10½	6/8	7/4
30 10 0	3/8	4/5	5/1½	5/11½	6/9	7/5
31 0 0	3/9	4/6	5/2½	6/1	6/10½	7/6½
31 10 0	3/9½	4/7	5/3½	6/2	7/-	7/8
32 0 0	3/10	4/7½	5/4½	6/3	7/1	7/9½
32 10 0	3/11	4/8½	5/5½	6/4	7/2½	7/11
33 0 0	3/11½	4/9½	5/6½	6/5½	7/4	8/0½
33 10 0	4/0½	4/10	5/7½	6/6½	7/5	8/2
34 0 0	4/1	4/11	5/8½	6/8	7/6½	8/3½
34 10 0	4/2	5/-	5/9½	6/9	7/8	8/5
35 0 0	4/2½	5/1	5/10½	6/10	7/9	8/6½
35 10 0	4/3	5/1½	5/11½	6/11	7/10½	8/8
36 0 0	4/4	5/2½	6/0½	7/0½	8/-	8/9
36 10 0	4/4½	5/3½	6/1½	7/1½	8/1	8/10½
37 0 0	4/5½	5/4½	6/2¼	7/3	8/2½	9/-
37 10 0	4/6	5/5	6/3½	7/4	8/4	9/1½
38 0 0	4/7	5/6	6/4½	7/5	8/5	9/3
38 10 0	4/7½	5/7	6/5½	7/6½	8/6½	9/4½
39 0 0	4/8½	5/8	6/6½	7/7½	8/8	9/6
39 10 0	4/9	5/9	6/7½	7/9	8/9	9/7½
40 0 0	4/10	5/9½	6/8½	7/10	8/10½	9/9

Galvanized Iron—Corrugated.

Price per sheet (to nearest half-penny) based on given rates per ton.

26 G

Price per ton.	236 Sheets 5 ft.	196 Sheets 6 ft.	168 Sheets 7 ft.	146 Sheets 8 ft.	130 Sheets 9 ft.	116 Sheets 10 ft.
£18 0 0	1/6	1/10	2/2	2/6	2/9	3/1
18 10 0	1/7	1/11	2/2	2/6½	2/10	3/2
19 0 0	1/7	1/11	2/3	2/7	2/11	3/3
19 10 0	1/8	2/-	2/4	2/8	3/-	3/4
20 0 0	1/8	2/0½	2/5	2/9	3/1	3/5
20 10 0	1/9	2/1	2/5	2/10	3/2	3/6
21 0 0	1/9	2/1½	2/6	2/10½	3/3	3/7
21 10 0	1/10	2/2½	2/7	2/11	3/4	3/8
22 0 0	1/10½	2/3	2/7½	3/-	3/5	3/9½
22 10 0	1/11	2/4	2/8	3/1	3/6	3/10½
23 0 0	1/11	2/4½	2/9	3/2	3/6	4/-
23 10 0	1/11½	2/5	2/10	3/3	3/7	4/1
24 0 0	2/-	2/5½	2/10	3/3	3/8	4/2
24 10 0	2/0½	2/6	2/11	3/4	3/9	4/3
25 0 0	2/0½	2/6½	3/-	3/5	3/10	4/4
25 10 0	2/2	2/7	3/0½	3/6	3/11	4/5
26 0 0	2/2½	2/8	3/1	3/7	4/-	4/6
26 10 0	2/3	2/8½	3/2	3/7½	4/1	4/7
27 0 0	2/3½	2/9	3/2½	3/8	4/2	4/8
27 10 0	2/4	2/9½	3/3	3/9	4/3	4/9
28 0 0	2/4½	2/10½	3/4	3/10	4/3½	4/10
28 10 0	2/5	2/11	3/5	3/11	4/5	4/11
29 0 0	2/5½	2/11½	3/5½	4/-	4/5½	5/-
29 10 0	2/6	3/-	3/6	4/0½	4/6½	5/1
30 0 0	2/6½	3/1	3/7	4/1	4/7½	5/2
30 10 0	2/7	3/1½	3/8	4/2	4/8	5/3
31 0 0	2/7½	3/2	3/8½	4/3	4/9	5/4
31 10 0	2/8	3/2½	3/9	4/4	4/10	5/5
32 0 0	2/8½	3/3	3/10	4/4½	4/11	5/6
32 10 0	2/9	3/4	3/10½	4/5	5/-	5/7
33 0 0	2/9½	3/4½	3/11	4/6	5/1	5/8
33 10 0	2/10	3/5	4/-	4/7	5/2	5/9
34 0 0	2/10½	3/5½	4/0½	4/8	5/3	5/10½
34 10 0	2/11	3/6	4/1	4/9	5/4	5/11
35 0 0	2/11½	3/7	4/2	4/9½	5/4½	6/0½
35 10 0	3/-	3/7½	4/3	4/10	5/5½	6/1½
36 0 0	3/0½	3/8	4/3½	4/11	5/6½	6/2½
36 10 0	3/1	3/8½	4/4	5/-	5/7½	6/3½
37 0 0	3/1½	3/9½	4/5	5/1	5/8½	6/4½
37 10 0	3/2	3/10	4/5½	5/1½	5/9	6/5½
38 0 0	3/2½	3/10½	4/6½	5/2½	5/10½	6/6½
38 10 0	3/3	3/11	4/7	5/3	5/11	6/7½
39 0 0	3/3½	4/-	4/8	5/4	6/-	6/8½
39 10 0	3/4	4/0½	4/8½	5/5	6/1	6/10
40 0 0	3/4½	4/1	4/9½	5/6	6/2	6/10½

The Life of a Galvanized Sheet is Dependent

upon the weight and perfection of its **Zinc Coating.** This fact is universally acknowledged by scientists, and is not controvertible.

Claims have been advanced that the life of a galvanized sheet is affected by the material upon which the zinc coating is deposited. These claims cannot be sustained. So long as the coating remains unimpaired **corrosion cannot take place.**

Lysaght's Orb and **Queen's Head Brands** hold the premier position for **perfection of galvanizing,** and the **life** of these sheets is **guaranteed.**

Galvanized Iron—Plain

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

Gauge	Width.		
	24 in.	30 in.	36 in.
14	30	23	19 shts.
16	36	29	24 ,,
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.
14	37	48⅔	59 lbs.
16	31	38⅔	46⅔ ,,
18	24	30¼	36 ,,
20	19½	25	29½ ,,
22	15	19	23 ,,
24	13	16¼	19⅔ ,,
26	9⅓	11⅓	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 Ironworkers everywhere.

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

"FLEUR-DE-LIS"

LYSAGHT'S BRANDS of Plain Iron are obtainable to order in any gauge in sheets up to 12 feet long and 56 inches wide, subject to a maximum area of 48 square feet.

Galvanized Iron—Plain.

Approximate price per sheet based on given rates per ton.

Price per Ton.	16 G			18 G		
	72 Sheets. 24 in.	58 Sheets. 30 in.	48 Sheets. 36 in.	94 Sheets. 24 in.	74 Sheets. 30 in.	62 Sheets. 36 in.
£18 0 0	5/-	6/2½	7/6	3/10	4/10	5/10
18 10 0	5/2	6/4½	7/8	4/-	5/-	6/-
19 0 0	5/3	6/6½	7/11	4/0½	5/1½	6/1½
19 10 0	5/5	6/8½	8/1½	4/2	5/3	6/3
20 0 0	5/7	6/10½	8/4	4/3	5/5	6/5
20 10 0	5/8	7/0½	8/6½	4/4	5/6½	6/7
21 0 0	5/10	7/3	8/9	4/5½	5/8	6/9
21 10 0	5/11	7/5	8/11½	4/7	5/10	6/11
22 0 0	6/1	7/7	9/2	4/8	6/-	7/1
22 10 0	6/3	7/9	9/4	4/9	6/1	7/3
23 0 0	6/4½	7/11	9/7	4/10½	6/2½	7/5
23 10 0	6/6	8/1	9/9	5/-	6/4	7/7
24 0 0	6/8	8/3	10/-	5/1	6/6	7/9
24 10 0	6/10	8/5½	10/2½	5/2½	6/7½	7/11
25 0 0	6/11	8/7½	10/5	5/4	6/9	8/1
25 10 0	7/1	8/9½	10/7½	5/5	6/10½	8/3
26 0 0	7/2½	8/11½	10/10	5/6	7/-	8/5
26 10 0	7/4	9/1½	11/0½	5/7½	7/2	8/6½
27 0 0	7/6	9/3½	11/3	5/9	7/3½	8/8½
27 10 0	7/7½	9/6	11/5½	5/10	7/5	8/10
28 0 0	7/9	9/9	11/8	5/11½	7/7	9/0½
28 10 0	7/11	9/10	11/10½	6/1	7/8½	9/2
29 0 0	8/0½	10/-	12/1	6/2	7/10	9/4
29 10 0	8/2	10/2	12/3½	6/3	7/11½	9/6
30 0 0	8/4	10/4	12/6	6/4½	8/1	9/8
30 10 0	8/5½	10/6	12/8½	6/6	8/3	9/10
31 0 0	8/7	10/8	12/11	6/7	8/4½	10/-
31 10 0	8/9	10/10	13/1½	6/8½	8/6	10/2
32 0 0	8/10½	11/0½	13/4	6/9½	8/7½	10/4
32 10 0	9/-	11/2½	13/6½	6/11	8/9	10/6
33 0 0	9/2	11/4½	13/9	7/-	8/11	10/7½
33 10 0	9/3½	11/6½	13/11½	7/1½	9/0½	10/9
34 0 0	9/5	11/8½	14/2	7/3	9/2½	10/11½
34 10 0	9/7	11/10½	14/5½	7/4	9/4	11/1½
35 0 0	9/8½	12/1	14/7	7/5	9/5½	11/3
35 10 0	9/10	12/3	14/9½	7/6½	9/7	11/5
36 0 0	10/-	12/4½	15/-	7/8	9/8½	11/7
36 10 0	10/1½	12/7	15/2½	7/9	9/10	11/9
37 0 0	10/3½	12/9	15/5	7/10½	10/-	11/11
37 10 0	10/5	12/11	15/7½	8/-	10/1½	12/1
38 0 0	10/6½	13/1	15/10	8/1	10/3	12/3
38 10 0	10/8	13/3	16/0½	8/2	10/5	12/5
39 0 0	10/10	13/5	16/3	8/3½	10/6½	12/7
39 10 0	10/11½	13/7½	16/5½	8/5	10/8	12/9
40 0 0	11/1	13/9½	16/8	8/6	10/9½	12/10½

Galvanized Iron—Plain.

Approximate price per sheet based on given rates per ton.

Price per Ton.	20 G			22 G		
	114 Sheets. 24 in.	90 Sheets. 30 in.	76 Sheets. 36 in.	148 Sheets. 24 in.	118 Sheets. 30 in.	98 Sheets. 36 in.
£18 0 0	3/2	4/-	4/9	2/5	3/0½	3/8
18 10 0	3/3	4/1	4/10	2/6	3/1½	3/9
19 0 0	3/4	4/3	5/-	2/7	3/2½	3/10½
19 10 0	3/5	4/4	5/1½	2/7½	3/3½	4/-
20 0 0	3/6	4/5	5/3	2/8	3/4½	4/1
20 10 0	3/7	4/7	5/5	2/9	3/5½	4/2
21 0 0	3/8	4/8	5/6	2/10	3/6½	4/3
21 10 0	3/9	4/9	5/8	2/11	3/7½	4/4½
22 0 0	3/10	4/11	5/9½	2/11½	3/8½	4/6
22 10 0	3/11	5/-	5/11	3/0½	3/10	4/7
23 0 0	4/-	5/1	6/0½	3/1	3/11	4/8
23 10 0	4/1	5/3	6/2½	3/2	4/-	4/9½
24 0 0	4/2	5/4	6/4	3/3	4/1	4/10½
24 10 0	4/3½	5/5	6/5	3/4	4/2	5/-
25 0 0	4/4½	5/7	6/7	3/4½	4/3	5/1
25 10 0	4/5½	5/8	6/8½	3/5	4/4	5/2½
26 0 0	4/7	5/9	6/10	3/6	4/5	5/3½
26 10 0	4/8	5/11	7/-	3/7	4/6	5/5
27 0 0	4/9	6/-	7/1	3/8	4/7	5/6
27 10 0	4/10	6/1	7/2½	3/9	4/8	5/7
28 0 0	4/11	6/3	7/4½	3/9½	4/9	5/8
28 10 0	5/-	6/4	7/6	3/10	4/10	5/9½
29 0 0	5/1	6/5	7/7½	3/11	4/11	5/11
29 10 0	5/2	6/7	7/9	4/-	5/-	6/-
30 0 0	5/3	6/8	7/10	4/1	5/1	6/1½
30 10 0	5/4	6/9	8/-	4/1½	5/2	6/2½
31 0 0	5/5	6/11	8/2	4/2	5/3	6/4
31 10 0	5/6	7/-	8/3½	4/3	5/4	6/5
32 0 0	5/7	7/1	8/5	4/4	5/5	6/6½
32 10 0	5/8	7/3	8/6½	4/5	5/6	6/7½
33 0 0	5/9	7/4	8/8	4/5½	5/7	6/9
33 10 0	5/10	7/5	8/10	4/6	5/8	6/10
34 0 0	5/11	7/7	8/11	4/7	5/9	6/11
34 10 0	6/0½	7/8	9/1	4/8	5/10	7/0½
35 0 0	6/1½	7/9	9/2½	4/9	5/11	7/2
35 10 0	6/2½	7/11	9/4	4/9½	6/-	7/3
36 0 0	6/3½	8/-	9/5½	4/10	6/1	7/4
36 10 0	6/5	8/1	9/7	4/11	6/2	7/5½
37 0 0	6/6	8/3	9/9	5/-	6/3	7/6½
37 10 0	6/7	8/4	9/10½	5/1	6/4	7/8
38 0 0	6/8	8/5	10/-	5/1½	6/5	7/9
38 10 0	6/9	8/7	10/1½	5/2	6/6	7/10½
39 0 0	6/10	8/8	10/3	5/3	6/7	7/11
39 10 0	6/11	8/9	10/4½	5/4	6/8	8/1
40 0 0	7/-	8/11	10/6	5/5	6/9	8/2

Galvanized Iron—Plain.

Approximate price per sheet based on given rates per ton.

Price per Ton.	24 G			26 G		
	172 Sheets. 24 in.	138 Sheets. 30 in.	114 Sheets. 36 in.	240 Sheets. 24 in.	194 Sheets. 30 in.	160 Sheets. 36 in.
£18 0 0	2/1	2/7	3/2	1/6	1/10	2/3
18 10 0	2/2	2/8	3/3	1/6½	1/11	2/4
19 0 0	2/2½	2/9	3/4	1/7	1/11½	2/4½
19 10 0	2/3	2/10	3/5	1/7½	2/-	2/5
20 0 0	2/3½	2/11	3/6	1/8	2/1	2/6
20 10 0	2/4½	3/-	3/7	1/8½	2/1½	2/7
21 0 0	2/5	3/0½	3/8	1/9	2/2	2/7½
21 10 0	2/6	3/1½	3/9	1/9½	2/2½	2/8
22 0 0	2/7	3/2	3/10	1/10	2/3	2/9
22 10 0	2/7½	3/3	3/11	1/10½	2/4	2/10
23 0 0	2/8	3/4	4/-	1/11	2/4½	2/10½
23 10 0	2/9	3/5	4/1½	1/11½	2/5	2/11
24 0 0	2/9½	3/6	4/2½	2/-	2/6	3/-
24 10 0	2/10	3/6½	4/3½	2/0½	2/6	3/1
25 0 0	2/11	3/7½	4/4½	2/1	2/7	3/1½
25 10 0	3/-	3/8½	4/5½	2/1½	2/7½	3/2
26 0 0	3/0½	3/9½	4/7	2/2	2/8½	3/3
26 10 0	3/1	3/10	4/8	2/2½	2/9	3/4
27 0 0	3/2	3/11	4/9	2/3	2/9½	3/4½
27 10 0	3/2½	4/-	4/10	2/3½	2/10	3/5
28 0 0	3/3	4/1	4/11	2/4	2/11	3/6
28 10 0	3/4	4/1½	5/-	2/4½	2/11½	3/7
29 0 0	3/4½	4/2½	5/1	2/5	3/-	3/7½
29 10 0	3/5	4/3	5/2	2/5½	3/0½	3/8
30 0 0	3/6	4/4	5/3	2/6	3/1½	3/9
30 10 0	3/6½	4/5	5/4	2/6½	3/2	3/10
31 0 0	3/7½	4/6	5/5	2/7	3/2½	3/10½
31 10 0	3/8	4/6½	5/6	2/7½	3/3	3/11
32 0 0	3/9	4/7½	5/7	2/8	3/3½	4/-
32 10 0	3/9½	4/8½	5/8	2/8½	3/4	4/1
33 0 0	3/10	4/9½	5/9½	2/9	3/5	4/1½
33 10 0	3/11	4/10	5/10½	2/9½	3/5½	4/2
34 0 0	3/11½	4/11½	6/-	2/10	3/6	4/3
34 10 0	4/-	5/-	6/0½	2/10½	3/7	4/4
35 0 0	4/1	5/1	6/1½	2/11	3/7½	4/4½
35 10 0	4/1½	5/2	6/2½	2/11½	3/8	4/5
36 0 0	4/2½	5/3	6/4	3/-	3/8½	4/6
36 10 0	4/3	5/3½	6/5	3/0½	3/9	4/7
37 0 0	4/4	5/4	6/6	3/1	3/10	4/7½
37 10 0	4/4½	5/5	6/7	3/1½	3/10½	4/8
38 0 0	4/5	5/6½	6/8	3/2	3/11	4/9
38 10 0	4/6	5/7	6/9	3/2½	4/-	4/10
39 0 0	4/6½	5/8	6/10	3/3	4/0½	4/10½
39 10 0	4/7	5/9	6/11	3/3½	4/1	4/11
40 0 0	4/8	5/10	7/-	3/4	4/1½	5/-

Galvanized Iron—Plain.

Approximate price per sheet based on given rates per ton.

Price per Ton.	28 G			30 G		
	280 Sheets. 24 in.	224 Sheets. 30 in.	184 Sheets. 36 in.	320 Sheets. 24 in.	260 Sheets. 30 in.	224 Sheets. 36 in.
£18 0 0	1/3½	1/7	1/11½	1/1½	1/4½	1/7
18 10 0	1/4	1/7½	2/-	—	—	—
19 0 0	1/4	1/8	2/2½	1/2	1/5½	1/8
19 10 0	1/4½	1/8½	2/1	—	—	—
20 0 0	1/5	1/9	2/2	1/3	1/6½	1/9
20 10 0	1/5½	1/10	2/2½	—	—	—
21 0 0	1/6	1/10½	2/3	1/4	1/7½	1/10
21 10 0	1/6½	1/11	2/4	—	—	—
22 0 0	1/7	1/11½	2/4½	1/4½	1/8	1/11
22 10 0	1/7	2/-	2/5	—	—	—
23 0 0	1/7½	2/0½	2/6	1/5	1/9	2/0½
23 10 0	1/8	2/1	2/6½	—	—	—
24 0 0	1/8½	2/1½	2/7	1/6	1/10	2/1½
24 10 0	1/9	2/2	2/8	—	—	—
25 0 0	1/9½	2/2½	2/8½	1/6½	1/11	2/2½
25 10 0	1/10	2/3	2/9	—	—	—
26 0 0	1/10	2/3½	2/10	1/7½	2/-	2/3½
26 10 0	1/10½	2/4	2/10½	—	—	—
27 0 0	1/11	2/5	2/11	1/8	2/1	2/5
27 10 0	1/11½	2/5½	3/-	—	—	—
28 0 0	2/-	2/6	3/0½	1/8½	2/2	2/6
28 10 0	2/0½	2/6½	3/1	—	—	—
29 0 0	2/1	2/7	3/2	1/9½	2/3	2/7
29 10 0	2/1	2/7½	3/2½	—	—	—
30 0 0	2/1½	2/8	3/3	1/10½	2/4	2/8
30 10 0	2/2	2/8½	3/4	—	—	—
31 0 0	2/2½	2/9	3/4½	1/11	2/4½	2/9
31 10 0	2/3	2/9½	3/5	—	—	—
32 0 0	2/3½	2/10	3/6	2/-	2/5½	2/10
32 10 0	2/4	2/10½	3/6½	—	—	—
33 0 0	2/4	2/11	3/7	2/1	2/6½	2/11
33 10 0	2/4½	2/11½	3/7½	—	—	—
34 0 0	2/5	3/-	3/8	2/1½	2/7½	3/-
34 10 0	2/5½	3/1	3/9	—	—	—
35 0 0	2/6	3/1½	3/9½	2/2	2/8	3/1½
35 10 0	2/6½	3/2	3/10	—	—	—
36 0 0	2/7	3/2½	3/11	2/3	2/9	3/2½
36 10 0	2/7	3/3	3/11½	—	—	—
37 0 0	2/7½	3/3½	4/-	2/4	2/10	3/3½
37 10 0	2/8	3/4	4/1	—	—	—
38 0 0	2/8½	3/4½	4/1½	2/4½	2/11	3/4½
38 10 0	2/9	3/5	4/2	—	—	—
39 0 0	2/9½	3/5½	4/3	2/5	3/-	3/5½
39 10 0	2/10	3/6	4/3½	—	—	—
40 0 0	2/10	3/6½	4/4	2/6	3/1	3/7

Black Sheets.

The uniform "Blued" finish and general excellence of quality of

LYSAGHT'S

C.R.C.A. Patent Flattened

"SOUTHERN CROSS"

BLACK SHEETS

Makes them particularly suitable for general manufacturing purposes and for work of a special nature.

For less important work, and when price is the primary consideration, we recommend

LYSAGHT'S

"SUNSTAR" Brand

These Sheets are C.R.C.A. true to gauge and dead flat.

Both the above qualities are rolled in 10 to 30 gauge, in lengths up to 12 feet, and in widths up to 56 inches, and are stocked in sizes—6 ft. x 24 in., 30 in. x 36 in. wide, in 10 to 28 gauge.

Iron—Black Sheet.

Weight and Thickness.

Gauge	Lbs. per square foot	Thick-ness inches	Thick-ness mm	Gauge	Lbs. per square foot	Thick-ness inches	Thick-ness 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 6ft. long 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 Sheets.

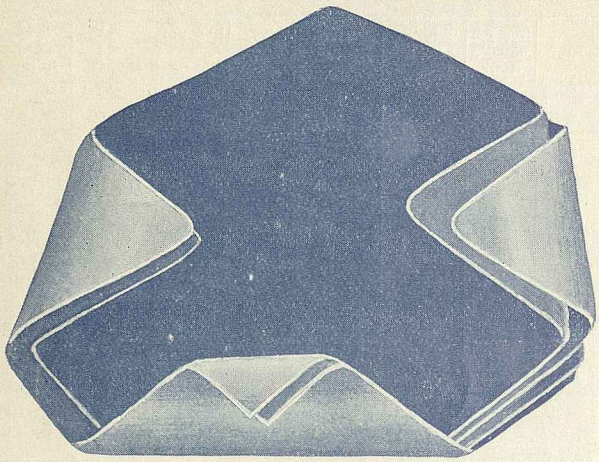


Illustration showing the working quality of our Sheets.

Descriptive List of Qualities in most General Use.

Quality.

No. A1.—"**Queen's Head.**"—A high-grade quality of C.R.C.A. Sheets, extensively used for special work.

No. 1.—"**Southern Cross.**"—An excellent quality of C.R.C.A. Mild Steel Sheets, suitable for ail ordinary working-up purposes, well and favourably known by sheet-metal workers throughout the Commonwealth.

NOTE.—"Southern Cross" Black Sheets are suitable for corrugating, and when protected by painting are found to be very durable. Rolled in lengths 5 to 10 feet.

No. 1a.—"**Sunstar.**"—A good C.R.C.A. Sheet, dead flat and specially manufactured for those purposes where price prevents our higher grade sheets being used.

DESCRIPTIVE LIST OF QUALITIES.—Continued.

Quality.

No. 3.—Deep Stamping Best Pickled C.R.C.A.—Suitable for severe stamping or spinning.

No. 4.—Best Bright Polished Steel Sheets.—This quality has a smooth, polished, bright surface. The sheets are flattened and resheared true and square.

No. 9.—Railway Waggon Body Sheets.—These are supplied very largely for making covered railway goods waggons. The sheets are finished dead flat, and resheared exact to required dimensions.

No. 11.—Superior Charcoal Finish Panel Plates for Railway Carriages, etc. (see page 74).

No. 13.—Copper Soft Steel Sheets C.R.C.A.—This is an extra soft quality, specially prepared for beating and stamping. It is very suitable for blocking for ships' ventilators or any similar purpose.

No. 14.—Enamelling Quality.—Special pickled steel sheets for vitreous enamelling.

No. 21a.—Best Bright Tinning Finish.—For making large tinned sheets, special articles and hollow-ware that require tinning after manufacture.

No. 25.—Special Motor Body Sheets, of superior finish, with smooth, clean surface, semi-bright, and with good working-up capability. Used by leading motor body builders on the Continent, Great Britain and Australia.

ELECTRICAL SHEETS.—The manufacture of these sheets is carried out on the most highly developed lines. The Department is equipped with all necessary apparatus for the production of the best qualities, and for carrying out tests. **All sheets are supplied to definite guarantees as to Watts' Loss.**

"Stalloy" High Resistance Transformer Sheets and **"Lohy's" Special Dynamo Sheets** can be supplied to special order.

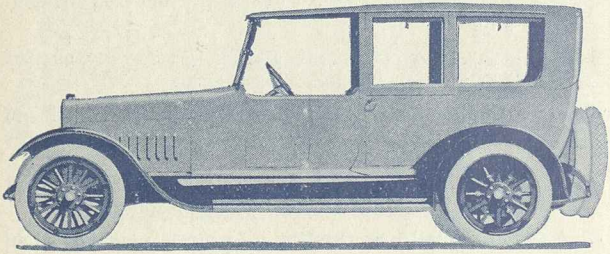
All the above qualities are obtainable in all gauges from 3/16 to 30-g and in widths up to 56 inches.

LYSAGHT'S MOTOR BODY SHEETS

SILVER BRIGHT FINISH.

Used exclusively by

Leading Continental & Australian Body Builders



Factory Costs show that the extra price of these Sheets is recouped by the economy effected in "WORKING-UP" and "FILLING"

Stocked in 20 and 22 gauge, 6, 7, and 8 feet long

24, 30, and 36 inches wide

OTHER GAUGES & SIZES ROLLED TO ORDER

Bar Iron—Flat.

Approximate Weight per Lineal Foot.

In.	1/4 Lb.	5/16 Lb.	3/8 Lb.	7/16 Lb.	1/2 Lb.	5/8 Lb.	3/4 Lb.	7/8 Lb.	1 Lb.
1	.83	1.04	1.25	1.45	1.66	2.08	2.50	2.91	3.33
1 1/8	.94	1.17	1.40	1.64	1.87	2.34	2.81	3.28	3.75
1 1/4	1.04	1.30	1.56	1.82	2.08	2.60	3.12	3.64	4.16
1 3/8	1.14	1.43	1.71	2.	2.29	2.86	3.43	4.01	4.58
1 1/2	1.25	1.56	1.87	2.18	2.50	3.12	3.75	4.37	5.
1 5/8	1.35	1.69	2.03	2.36	2.70	3.38	4.06	4.73	5.41
1 3/4	1.45	1.82	2.18	2.55	2.91	3.64	4.37	5.10	5.83
1 7/8	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
2 1/8	1.77	2.21	2.65	3.09	3.54	4.42	5.31	6.19	7.08
2 1/4	1.87	2.34	2.81	3.28	3.75	4.68	5.62	6.56	7.50
2 3/8	1.97	2.47	2.96	3.46	3.95	4.94	5.93	6.92	7.91
2 1/2	2.08	2.60	3.12	3.64	4.16	5.20	6.25	7.29	8.33
2 5/8	2.18	2.73	3.28	3.82	4.37	5.46	6.56	7.65	8.75
2 3/4	2.29	2.86	3.43	4.01	4.58	5.72	6.87	8.02	9.16
2 7/8	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.
3 1/4	2.70	3.38	4.06	4.73	5.41	6.77	8.12	9.47	10.83
3 1/2	2.91	3.64	4.37	5.10	5.83	7.29	8.75	10.20	11.66
3 3/4	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
4 1/4	3.54	4.42	5.31	6.19	7.08	8.85	10.62	12.39	14.16
4 1/2	3.75	4.68	5.62	6.56	7.50	9.37	11.25	13.12	15.
4 3/4	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
5 1/4	4.37	5.46	6.56	7.65	8.75	10.93	13.12	15.31	17.50
5 1/2	4.58	5.72	6.87	8.02	9.16	11.45	13.75	16.04	18.33
5 3/4	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 & Square Iron & 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
1/4	0.164	0.208	0.157	0.213
5/16	0.256	0.326	0.261	0.332
3/8	0.368	0.469	0.376	0.478
7/16	0.501	0.638	0.511	0.651
1/2	0.654	0.833	0.668	0.849
9/16	0.828	1.062	0.845	1.076
5/8	1.023	1.302	1.043	1.328
11/16	1.237	1.576	1.262	1.607
3/4	1.473	1.875	1.502	1.912
13/16	1.728	2.201	1.763	2.245
7/8	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
1 1/8	3.313	4.219	3.380	4.303
1 1/4	4.091	5.208	4.172	5 312
1 3/8	4.950	6.302	5.049	6.428
1 1/2	5.890	7.500	6.008	7.750
1 5/8	6.913	8.802	7.051	8.978
1 3/4	8.018	10.208	8.178	10.412
1 7/8	9.204	11.719	9.388	11.953
2	10.472	13.333	10.681	13.600
2 1/8	11.82	15.05	12.06	15.35
2 1/4	13.25	16.87	13.52	17.21
2 3/8	14.77	18.80	15.06	19.18
2 1/2	16.36	20.83	16.69	21.25
2 5/8	18.04	22.97	18.40	23.43
2 3/4	19.80	25.21	20.19	25.71
2 7/8	21.64	27.55	22.07	28.10
3	23.56	30.00	24 03	30.60
3 1/4	27.65	35.21	28.21	35.91
3 1/2	32.07	40.83	32,71	41.65
3 3/4	36.82	46.87	37.55	47.81
4	41.89	53.33	42.73	54.40
4 1/4	47.29	60.21	48.23	61.41
4 1/2	53.01	67.50	54.07	68.85
4 3/4	59.07	75.21	60.25	76.71
5	65.45	83.33	66.76	85.00
5 1/2	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 B=Width of Flange C=Thickness of Web 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	3.5	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	9.9	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	6.137	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

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 ,,

ZINC SHEETS.

Gauge No.	Approximate 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		427	—	—	—	—	41
2	3¼	.006	2 10	294	—	—	—	—	38
3	3¾	.007	3 13	—	4 15	227	—	—	37
4	4¾	.008	—	—	6 4	180	—	—	34
5	5¾	.010	—	—	7 9	148	—	—	31
6	6¾	.011	—	142	8 14	126	10 2	111	30
7	7¾	.013	7 14	124	10 3	110	11 10	96	29
8	9	.015	9 1	107	11 13	95	13 8	83	28
9	10	.017	10 8	96	13 2	85	15 0	75	27
10	11½	.019	11 11	83	15 2	74	17 4	65	25
11	13	.021	13 7	74	17 1	66	19 8	57	24
12	15	.025	15 3	64	19 11	57	22 8	50	23
13	17	.028	17 8	—	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

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.

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.	
	in.		lb.	mm.	in.
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
IC	20 x 10	225	154	0.313	0.0123
IX	,,	,,	194	0.394	0.0155
IC	14 x 18¾	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 Tin Plates 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	25·9	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				

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.

EXPANSION OF METAL.

A comparison between the common metals at 32 degrees Fahr. and 212 degrees 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.

Fusing Temperature of Metals.

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

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 ,,	

Weight per Lineal Foot of Seamless Drawn Copper Tubes.

Imp. St'd Gauge.	Thickness of Copper.							
	6	8	10	12	14	16	18	20
Inches	0.192	0.160	0.128	0.104	0.080	0.064	0.048	0.036
Inside Diam. Inches	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
2¾	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.

Composition Pipe

(INSIDE DIAMETER).

Inch	lbs.	oz.		Inch	lbs.	oz.	
$\frac{1}{4}$	0	13	per yard	$\frac{5}{8}$	3	4	per yard
$\frac{5}{16}$	1	0	,,	$\frac{3}{4}$	4	4	,,
$\frac{3}{8}$	1	5	,,	$\frac{7}{8}$	4	12	,,
$\frac{7}{16}$	1	10	,,	1	5	8	,,
$\frac{1}{2}$	2	2	,,				

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

$\frac{5}{8}$ inch	$\frac{3}{4}$ inch	$\frac{7}{8}$ inch	1 inch
40 yards	30 yards	25 yards	20 yards

Pipes—Cast Iron (Water)

Spigot and Faucet

NINE FEET LENGTHS

Diam.	Cwts.	Qrs.	Lbs.	Diam.	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.
$\frac{1}{2}$	0	3	0	$1\frac{1}{2}$	2	3	2
$\frac{3}{4}$	1	0	5	2	4	0	6
1	1	1	22	3	6	0	8
$1\frac{1}{4}$	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	1000	14

ACETYLENE PIPE SERVICE.

Number of half-foot Burners or equivalent 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 should note that every sheet of LYSAGHT'S "ORB" IRON has the Trade Mark stencilled thereon in blue, and is guaranteed. Beware of Imitations.

Lead Pipe—Water and Gas.

Inside Dia.	Strength.	Weight per Yard.	Average Length.
Inch		Lbs.	Yards.
$\frac{3}{8}$	Thin	$3\frac{1}{2}$	35
,,	Middle	4	32
,,	Strong	$4\frac{1}{2}$	28
,,	Strong	5	24 or 48
,,	Strong	$5\frac{1}{2}$	22 or 44
$\frac{1}{2}$	Thin	3	39
,,	Thin	$3\frac{1}{2}$	35
,,	Middle	4	32
,,	Strong	$4\frac{1}{2}$	28
,,	Strong	5	48
,,	Strong	6	38
,,	Strong	7	33
,,	Strong	8	29
$\frac{5}{8}$	Thin	$4\frac{1}{2}$	28
,,	Middle	5	24 or 48
,,	Strong	6	38
,,	Strong	7	33
,,	Strong	8	29
$\frac{3}{4}$	Thin	5	24
,,	Thin	6	20
,,	Middle	7	25
,,	Strong	8	22
,,	Strong	$8\frac{1}{2}$	20
,,	Strong	9	19
,,	Strong	10	17
,,	Strong	11	16
,,	Strong	12	14
1	Thin	7	25
,,	Thin	8	22
,,	Middle	9	19
,,	Middle	$9\frac{1}{2}$	18
,,	Strong	10	17
,,	Strong	11	16
,,	Strong	12	14
,,	Strong	14	12
,,	Strong	15	11

Inside Dia.	Strength	Weight per Yard.	Average Length.
Inch.		Lbs.	Yards.
$1\frac{1}{4}$	Thin	10	17
,,	Thin	11	16
,,	Middle	12	14
,,	Middle	$12\frac{1}{2}$	13
,,	Strong	14	12
,,	Strong	16	11
$1\frac{1}{2}$	Thin	12	14
,,	Thin	14	12
,,	Middle	$15\frac{1}{2}$	11
,,	Strong	$17\frac{1}{2}$	9
,,	Strong	21	8
$1\frac{3}{4}$	Thin	15	11
,,	Middle	17	10
,,	Strong	19	9
2	Thin	19	9
,,	Middle	23	7
,,	Strong	26	7
,,	Thin	19	12-foot Lengths
,,	Middle	23	
,,	Strong	26	
,,	Strong	30	
$2\frac{1}{2}$	Thin	26	
,,	Thin	27	
,,	Middle	30	
,,	Strong	33	
3	Thin	36	
,,	Middle	42	
,,	Strong	44	
$3\frac{1}{2}$	Thin	45	
,,	Middle	49	
,,	Strong	52	
4	Thin	48	
,,	Middle	57	
,,	Strong	61	
5	Thin	73	
,,	Strong	84	
6		68	

Trade Price List of Gas, Water, and Steam Tubes

TUBES (Current at January 1st, 1923).

Internal Diam. in inches.	⅛ & ¼	⅜	½	¾	1	1¼	1½	1¾	2	2¼	2½	3	3½	4	4½	5	6
Tubes 2ft long & over per ft	-/4	-/4¼	-/5½	-/6¾	-/9¼	1/1	1/4½	1/8	1/10	2/6	2/10	3/3	4/-	4/5	5/6	6/-	7/6
Pieces 12 to 23½ in. long (each)	-/10	-/11	1/1	1/5	1/11	2/8	3/4	4/6	4/9	6/9	8/-	10/6	13/6	15/6	21/-	24/-	32/6
Pieces 4 to 11½ in. long (each)	-/7	-/8	-/9	-/11	1/3	1/8	2/2	2/10	3/-	4/3	5/3	6/9	9/3	10/9	15/6	18/-	25/3
Long Screws, 12 to 23½ in. long (each)	-/11	1/-	1/3	1/7	2/2	2/10	3/9	5/-	5/3	7/6	9/-	12/-	15/6	17/-	23/-	26/6	35/6
Long Screws, 3 to 11½ in. long (each)	-/8	-/9	-/10	1/1	1/5	1/11	2/6	3/3	3/6	5/-	6/6	8/6	11/6	13/-	17/-	20/-	28/-
Barrel nipples (each) ..	-/5	-/5	-/6	-/7	-/9	1/-	1/4	1/8	1/9	2/6	3/-	4/-	6/-	7/-	10/-	12/6	20/-
Bends (each)	-/8	-/9	-/11	1/2	1/7½	2/7½	3/2	4/2	5/2	8/6	12/-	18/-	25/-	32/6	80/-	105/-	150/-
Springs, not socketed (each)	-/5	-/6	-/7	-/9	1/1½	1/11½	2/3½	3/1	3/11	6/9	9/6	14/6	20/-	26/6	70/-	93/-	132/-

Trade Price List of Water and Steam Fittings

FITTINGS. (Current at January 1st, 1923).

Internal Diam. in inches.	⅛ & ¼	⅜	½	¾	1	1¼	1½	1¾	2	2¼	2½	3	3½	4	4½	5	6
Pipe Union .. .. each	2/-	2/6	3/-	4/-	5/6	6/9	8/-	9/-	10/-	15/-	17/6	22/6	27/6	35/-	48/-	66/-	105/
Elbows, square .. ,,	-/10	-/11	1/1	1/3	1/6	2/2	2/7	3/4	4/3	6/9	9/6	14/-	22/-	28/-	75/-	95/-	150/
Elbows, round .. ,,	-/11	1/-	1/2	1/5	1/8	2/4	2/10	3/9	4/8	7/3	10/6	16/-	24/-	30/-	75/-	95/-	150/
Tees .. .. ,,	1/-	1/1	1/3	1/7	1/10	2/6	3/1	4/2	5/1	7/9	11/6	18/-	26/-	32/-	78/-	98/-	155/
Crosses .. .. .. ,,	2/2	2/4	2/9	3/3	4/1	5/6	6/7	8/6	10/6	17/-	22/-	40/-	56/-	66/8	175/	220/	350/
Sockets, plain . ,,	-/3	-/3	-/4	-/5	-/6	-/8	/10½	1/1	1/3	1/9	2/6	3/6	5/-	6/-	10/-	12/-	18/-
Sockets, diminished ,,	-/4	-/5	-/6	-/7	-/9	1/-	1/4	1/9	2/-	4/-	5/-	7/-	9/-	11/-	25/-	35/-	55/-
Flanges .. .. .. ,,	-/9	-/10	1/-	1/2	1/4	1/9	2/-	2/3	2/9	4/-	5/-	8/6	10/-	11/6	16/-	18/-	27/-
Caps .. . . ,,	-/3½	-/3½	-/5	-/6	-/8	1/-	1/3	1/7	2/-	3/-	4/4	6/-	9/9	10/6	25/	30/-	45/-
Plugs .. .. .. ,,	-/3	-/3	-/4	-/5	-/6	-/8	-/10	1/-	1/3	2/-	2/6	4/9	7/-	10/-	22/-	30/-	48/-
Backnuts .. .. ,,	-/2	-/2	-/3	-/3½	-/5	-/6	-/8	-/10	1/1	1/9	2/3	3/6	4/6	5/6	14/-	18/-	26/-
Nipples .. .. .. ,,	-/2	-/2	-/3	-/3½	-/4	-/6	-/8	-/10	1/-	1/9	2/3	3/6	4/6	5/6	14/-	18/-	26/-
Union Bends ,,	2/6	3/-	3/9	5/-	6/3	8/6	10/-	11/6	13/6	21/-	27/-	37/-	49/-	58/-	78/-	100/	160/
Main Cocks .. .. ,,	1/6	1/9	2/3	2/10	4/2	5/4	7/-	11/6	11/6	16/-	17/6	26/-	40/-	47/9	125/	125/	165/
,, with brass plugs ,,		3/4	4/-	5/4	7/6	10/-	13/-	21/-	21/-	34/-	40/-	50/-	75/-	100/	225/	225/	325/
Round way Cocks ,,		2/7½	3/-	4/1½	5/7½	7/6	9/9	13/1½	16/6	28/6	45/-	56/3	90/-	120/			
,, with brass plugs ,,		7/10½	9/-	12/4½	16/10½	22/6	29/3	39/4½	49/6	85/6	135/	168/9	270/	360/			
Cock Spanners, wrought ,,		1/1½	1/3	1/7½	2/-	2/4½	2/7½	3/-	3/3	3/7	4/6	6/9	9/-	10/6	12/-	14/3	18/-
,, Malleable cast ,,		-/9	1/-	1/3	1/6	1/9	2/3	2/7½	3/-	3/7	4/6	6/9	9/-	10/6	12/-	14/3	18/-
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	42/6					
,, ,, 3 quarts ,,				32/-	32/4	33/-	33/6	34/2	35/3	37/6	40/6	47/6	55/6	61/6			
,, ,, 4 quarts ,,				38/-	38/4	39/-	39/6	40/2	41/3	43/6	46/6	53/6	61/6	67/6			

SOMETHING ABOUT TANKS.

CIRCULAR CORRUGATED IRON.

REPUTED CAPACITY.

Diam.		Height of Tank.			
		4 ft.	5 ft.	6 ft.	8 ft.
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 1¼lb.
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 ⅘ 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 necessary 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 of which, in a pure dry atmosphere remote from the sea, are almost unlimited.

In tropical countries and other localities in which the water possesses mineral 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.

What Good Galvanizing Means

As the strength of a chain is that of its weakest link, so the life of a **galvanized sheet** depends upon the uniformity of its **zinc coating;** the smallest ungalvanized spot weakens the life of the whole sheet.

So far as durability is concerned, the base of the galvanized sheet is immaterial. **Pure Iron, Charcoal Iron** or **Steel** will all perish quickly when the coating is destroyed.

Lysaght's Orb & Queen's Head Brands are by common consent the **most perfect** and **heavily coated sheets manufactured,** and will therefore outlast any other make.

Useful Information for Plumbers and Tankmakers.

GALVANIZED IRON REQUIRED FOR THE MANUFACTURE OF CIRCULAR CORRUGATED IRON TANKS OF VARIOUS CAPACITIES.

Capa'ty of Tank. Gals.	Height ft.	Diam. ft. in.	Iron Required.
200	4	3 3	2 sheets 10ft. x 24G. Galv. Corrugated Iron, curve each to a full circle. 1 sheet each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,
400	6	3 9	6 sheets 6ft. x 24G. Galv. Corrugated Iron, curve each to half circle. 1 sheet each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,
500	4	5 0	4 sheets 8ft. x 24G. Galv. Corrugated Iron, curve each to half circle. 2 sheets each 72in. x 30in. x 24G. P.G. Iron 72in. x 30in. x 26G. ,,
600	6	4 4	6 sheets 7ft. x 24G. Galv. Corrugated Iron, curve each to half circle. 2 sheets each 72in. x 24in. x 26G. P.G. Iron 72in. x 24in. x 24G. ,,
800	6	5 3	3 sheets each 8ft. & 9ft. x 24G. Galv. C. Iron, curve 1/8 & 1/9 to circle. 1 sheet each 72in. x 30in. x 24G. P.G. Iron 72in. x 36in, x 24G. ,, 72in. x 30in. x 26G. ,, 72in. x 36in. x 26G. ,,
1000	6	6 0	3 sheets each 9ft. & 10ft. x 24G. Galv. C. Iron, curve 1/9 & 1/10 to circle. 2 sheets each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,
1000	8	5 0	8 sheets 8ft. x 24G. Galv. Corrugated Iron, curve each to half circle. 2 sheets each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,
1200	6	6 3	6 sheets 10ft. x 24G. Galv. Corrugated Iron, curve each to 1/3 circle. 2 sheets each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,
2000	6	8 3	9 sheets 9ft. x 24G. Galv. Corrugated Iron curve each to 1/3 circle. 5 sheets each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,
2500	6	9 3	9 sheets 10ft. x 24G. Galv. Corrugated Iron, curve three to circle. 5 sheets each 72in. x 36in. x 24G. P.G. Iron 72in. x 36in. x 26G. ,,

Useful Information for Plumbers and Tankmakers.—*continued.*

GALVANIZED IRON REQUIRED FOR THE MANUFACTURE OF CIRCULAR CORRUGATED IRON TANKS OF VARIOUS CAPACITIES.

Capa'ty of Tank Gals.	Height ft.	Diam. ft.	Diam. in.	Iron Required
3,000	6	10	0	6 sheets each 8ft., 9ft. x 24 gauge Corr. Iron. Curve ¼ circle. 2/8 ft., 2/9 ft. to 1 circle. 7 sheets 36in. x 24 gauge, 7 sheets 36in. x 26 gauge Plain Galvd. Iron.
4,000	6	11	6	6 sheets each 9ft., 10ft. x 24 gauge Corr. Iron. Curve ¼ circle. 2/9 ft., 2/10 ft. to 1 circle. 8 sheets 36in. x 24 gauge, 8 sheets 36in. x 26 gauge Plain Galvd. Iron.
5,000	6	13	0	12 sheets 9ft., 3 sheets 8ft. x 24 gauge Corr. Iron. Curve ¼ circle. 2/9 ft., 2/8 ft. to 1 circle. 10 sheets 36in. x 22 gauge, 10 sheets 36in. x 26 gauge Galvd. Plain Iron.
6,000	6	14	4	9 sheets 10ft., 6 sheets 9ft. x 24 gauge Corr. Iron. Curve ¼ circle. 3/10 ft., 2/9 ft. to 1 circle. 15 sheets 36in. x 22 gauge, 36in. x 26 gauge Plain Galvd. Iron.
8,000	6	16	6	12 sheets 9ft., 6 sheets 10ft. x 24 gauge Corr. Iron. Curve ⅛ circle. 4/9 ft., 2/10 ft. to 1 circle. 18 sheets 36in. x 22 gauge, 18 sheets 36in. x 26 gauge Plain Galvd. Iron.
10,000	6	18	0	18 sheets 10ft. x 24 gauge Corr. Iron. Curve ⅛ circle. 6/10 ft. to 1 circle. 20 sheets 36in. x 22 gauge Plain Galvd. Iron.
15,000	6	22	6	12 sheets 9ft., 12 sheets 10ft. x 24 gauge Corr. Iron. Curve ⅛ circle. 4/9 ft., 4/10 ft. to 1 circle. 32 sheets 36in. x 22 gauge Plain Galvd. Iron.
20,000	6	25	6	12 sheets 9ft., 15 sheets 10ft. x 24 gauge Corr. Iron. Curve 1/9 circle. 4/9 ft., 5/10 ft. to 1 circle. 45 sheets 36in. x 22 gauge Plain Galvd. Iron.
30,000	6	32	6	33 sheets 10ft. x 24 gauge Corr. Iron. Curve 1/11 circle. 11/10 ft. to 1 circle. 66 sheets 36in. x 22 gauge Plain Galvd. Iron.

Iron, Copper and 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

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
4¼	1⅜	17½	16	12½	57	85	26	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	14½	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	2¼	1	1	0
¾	0	0	18	1½	0	2	10	2½	1	1	22
1	0	1	0	1¾	0	2	21	2¾	1	2	20
1⅛	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								

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% less than Steel.

Galvanized Barb Wire Fencing.

Approximate Weight.

Points	Marks	Gauge	100 Yards	1 Mile	Length of 112 lbs. in Yards.
4	IOWA	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

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

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 1¼ 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 1⅓ 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.

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	1 16 3	2 12 6	3 8 0	4 3 0	4 19 6	5 16 1	6 12 8	8 5 10	9 19 0	22	½ inch
,,	20	2 4 0	3 3 3	4 2 0	5 0 0	6 0 0	7 0 0	8 0 0	10 0 0	12 0 0	20	,,
,,	19	2 18 9	4 4 0	5 9 6	6 13 6	8 0 0	9 6 8	10 13 4	13 6 8	16 0 0	19	,,
¾ inch	22	1 1 3	1 10 3	1 18 6	2 7 0	2 15 0	3 4 2	3 13 4	4 11 8	5 10 0	22	¾ inch
,,	20	1 6 3	1 17 6	2 7 9	2 18 6	3 8 3	3 19 8	4 11 0	5 13 9	6 16 6	20	,,
,,	19	1 12 3	2 6 0	2 18 9	3 11 6	4 3 9	4 17 9	5 11 8	6 19 7	8 7 6	19	,,
,,	18	2 2 3	3 0 6	3 17 0	4 14 0	5 10 0	6 8 4	7 6 8	9 3 4	11 0 0	18	,,
1 inch	20	0 19 9	1 8 3	1 16 0	2 3 9	2 11 3	2 19 10	3 8 4			20	1 inch
,,	19	1 2 0	1 11 9	2 0 3	2 9 3	2 17 6	3 7 1	3 16 8			19	,,
,,	18	1 7 0	1 18 9	2 9 0	3 0 0	3 10 0	4 1 8	4 13 4			18	,,
,,	17	1 16 0	2 11 9	3 5 9	4 0 0	4 13 9	5 9 5	6 5 0			17	,,
1¼ inch	19	0 18 6	1 6 6	1 13 9	2 0 9	2 7 0	2 14 10	3 2 8	3 18 4	4 14 0	19	1¼ inch
,,	18	1 2 0	1 11 9	2 0 6	2 8 9	2 16 3	3 5 8	3 15 0	4 13 9	5 12 6	18	,,
,,	17	1 8 6	2 1 0	2 12 0	3 2 9	3 12 6	4 4 7	4 16 8	6 0 10	7 5 0	17	,,
,,	16	1 18 3	2 15 0	3 10 0	4 4 6	4 17 6	5 13 9	6 10 0	8 2 6	9 15 0	16	,,
1½ inch	19	0 15 6	1 2 3	1 8 6	1 14 3	1 19 6	2 6 1	2 12 8	3 5 10	3 19 0	19	1½ inch
,,	18	0 18 9	1 6 9	1 14 0	2 1 3	2 7 6	2 15 5	3 3 4	3 19 2	4 15 0	18	,,
,,	17	1 3 6	1 13 9	2 3 0	2 12 0	3 0 0	3 10 0	4 0 0	5 0 0	6 0 0	17	,,
,,	16	1 12 0	2 5 9	2 18 6	3 10 3	4 1 3	4 14 10	5 8 4	6 15 5	8 2 6	16	,,
1⅝ inch	19	0 14 0	1 0 0	1 5 3	1 10 6	1 15 3	2 1 2	2 7 0	2 18 9	3 10 6	19	1⅝ inch
,,	18	0 16 3	1 3 6	1 9 6	1 15 9	2 1 3	2 8 2	2 15 0	3 8 9	4 2 6	18	,,
,,	17	1 1 0	1 10 6	1 18 6	2 6 6	2 13 9	3 2 9	3 11 8	4 9 7	5 7 6	17	,,
,,	16	1 8 0	2 0 6	2 11 0	3 1 9	3 11 3	4 3 2	4 15 0	5 18 9	7 2 6	16	,,
2 inch	19	0 12 0	0 17 3	1 2 0	1 6 3	1 10 0	1 15 0	2 0 0	2 10 0	3 0 0	19	2 inch
,,	18	0 14 0	1 0 3	1 5 9	1 10 9	1 15 0	2 0 10	2 6 8	2 18 4	3 10 0	18	,,
,,	17	0 18 3	1 6 0	1 13 3	1 19 6	2 5 0	2 12 6	3 0 0	3 15 0	4 10 0	17	,,
,,	16	1 3 9	1 13 9	2 3 3	2 11 6	2 18 9	3 8 7	3 18 4	4 17 11	5 17 6	16	,,
,,	15	1 10 6	2 4 0	2 16 0	3 6 9	3 16 3	4 9 0	5 1 8	6 7 1	7 12 6	15	,,
2½ inch	19	0 11 0	0 15 9	1 0 0	1 3 9	1 7 0	1 11 6	1 16 0	2 5 0	2 14 0	19	2½ inch
,,	18	0 12 6	0 18 0	1 3 0	1 7 6	1 11 3	1 16 6	2 1 8	2 12 1	3 2 6	18	,,
,,	17	0 15 6	1 2 3	1 8 6	1 14 0	1 18 9	2 5 3	2 11 8	3 4 7	3 17 6	17	,,
,,	16	1 0 6	1 9 6	1 17 9	2 5 0	2 11 3	2 19 10	3 8 4	4 5 5	5 2 6	16	,,
,,	15	1 4 0	1 14 6	2 4 0	2 12 6	3 0 0	3 10 0	4 0 0	5 0 0	6 0 0	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 8 9	0 12 6	0 15 9	0 19 0	1 1 9	1 5 5	1 9 0	1 16 3	2 3 6	19	3 inch
,,	18	0 10 3	0 14 9	0 18 9	1 2 6	1 5 6	1 9 9	1 14 0	2 2 6	2 11 0	18	,,
,,	17	0 14 6	0 19 0	1 4 3	1 9 0	1 13 0	1 18 6	2 4 0	2 15 0	3 6 0	17	,,
,,	16	0 17 6	1 3 9	1 10 3	1 16 3	2 1 3	2 8 2	2 15 0	3 8 9	4 2 6	16	,,
,,	15	1 0 6	1 8 3	1 16 0	2 2 9	2 8 9	2 16 11	3 5 0	4 1 3	4 17 6	15	,,
,,	14		1 14 3	2 3 6	2 12 0	2 19 3	3 9 2	3 19 0	4 18 9	5 18 6	14	,,
4 inch	18	0 8 9	0 12 6	0 15 10	0 19 0	1 1 8	1 5 2	1 8 9	1 16 0	2 3 4	18	4 inch
,,	17	0 15 0	0 16 0	1 0 6	1 4 0	1 7 6	1 12 1	1 16 8	2 5 10	2 15 0	17	,,
,,	16	0 17 0	0 19 6	1 4 6	1 8 6	1 13 0	1 18 6	2 4 0	2 15 0	3 6 0	16	,,
,,	15		1 4 6	1 11 0	1 16 6	2 2 0	2 9 0	2 16 0	3 10 0	4 4 0	15	,,
,,	14		1 8 0	1 16 0	2 2 0	2 8 6	2 16 7	3 4 8	4 0 10	4 17 0	14	,,

For Prices of Intermediate Widths, see Note below.

SHEEP NETTING, WITH 3-PLY STRAND WIRE SELVAGES.

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

3 and 4 inch only Centre Strands—17, 16 gauges, 4/3; 15 gauge, 4/6; 14 and 13 gauges, 5/-; 12 gauge, 6/3 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 48 inch and 60 inch, 56 inches would be charged as 60 inches. This applies to both Ordinary and Sheep Netting.

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
$\frac{1}{2}$	7/0	.500	12.70		13	.092	2.33
	6/0	.461	11.78		14	.280	2.03
	5/0	.432	10.97		15	.072	1.83
	4/0	.400	10.16	$\frac{1}{16}$	16	.064	1.62
$\frac{3}{8}$	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
$\frac{1}{4}$	3	.252	6.40	$\frac{1}{32}$	22	.028	.711
	4	.232	5.89		23	.024	.610
	5	.212	5.38		24	.022	.559
$\frac{3}{16}$	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	$\frac{1}{64}$	28	.0148	.376
$\frac{1}{8}$	10	.128	3.25		29	.0136	.345
	11	.116	2.94		30	.0124	.315
$\frac{1}{10}$	12	.104	2.64				

Birmingham Wire Gauge.

Comparative Sizes.

No.	1	4	7	11	16	22	gauges equal
	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{32}$	of an inch.

American or U.S.A. Standard Wire Gauge.

No.	Diam. in.	No.	Diam. in.	No.	Diam. in.	No.	Diam. in.
0000	.46	8	.1285	19	.0359	30	.0100
000	.4096	9	.1144	20	.0320	31	.0089
00	.3648	10	.1019	21	.0285	32	.0079
0	.3249	11	.0907	22	.0253	33	.0071
1	.2893	12	.0808	23	.0226	34	.0063
2	.2576	13	.0720	24	.0201	35	.0056
3	.2294	14	.0641	25	.0179	36	.005
4	.2043	15	.0571	26	.0159	37	.0044
5	.1819	16	.0508	27	.0142	38	.0040
6	.1620	17	.0452	28	.0126	39	.0035
7	.1443	18	.0403	29	.0112	40	.0031

United States Standard Gauge for Sheet and Plate Iron and Steel.

No.	Decimals of an in.	No.	Decimals of an in.	No.	Decimals of an in.	No.	Decimals of an in.
7/0	.5	6	.2031	17	.0562	28	.0156
6/0	.4687	7	.1875	18	.05	29	.0141
5/0	.4375	8	.1719	19	.0437	30	.0125
4/0	.4062	9	.1562	20	.0375	31	.0109
3/0	.375	10	.1406	21	.0344	32	.0101
2/0	.3437	11	.125	22	.0312	33	.0094
0	.3125	12	.1094	23	.0281	34	.0086
1	.2812	13	.0937	24	.025	35	.0078
2	.2656	14	.0781	25	.0219	36	.0070
3	.25	15	.0703	26	.0187	37	.0066
4	.2344	16	.0625	27	.0172	38	.0063
5	.2187						

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	9.10	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
6	28.10	21.90	15.60	12.50	10.90	9.30

(Galvanized Hoops slightly exceed these weights).

To Fix Selling Price of Goods.

Useful Information for Small Traders and others whose business does not justify the installation of a Special Costing System.

The Costing of goods upon a scientific basis is highly necessary in any business, large or small, and many instances have been known of business failure through lack of knowledge upon this vital point.

In fixing price to be charged for the goods sold, the first step to be taken is to ascertain the overhead expenses (i.e., rent, rates and taxes, wages, salaries and all expenses, except the cost of the goods), and when this amount has been ascertained see what percentage it bears to the annual turnover, then add to this the amount of nett profit desired to be made and the combined total is the gross profit on sales that should be secured.

Take, for instance, the case of a Country Storekeeper who has a capital of £6,000 invested in a business, with a turnover of £30,000 per annum. If, for instance, he desires to make 20 per cent. on his capital, say £1,200 per annum, and has overhead expenses amounting to £3,000 per annum, he requires to make a gross profit of £4,200 per annum upon a turnover of £30,000 to provide all his expenses and to give the desired return upon his capital.

The proportion that £4,200 bears to turnover £30,000 is exactly 14 per cent., which is the required amount of gross profit to be made on sales.

The amount, however, to be added to the cost price of the goods is **not 14 per cent., but 16⅔ per cent.**, i.e., for example:—

Adding 14 per cent.				**Adding 16⅔ per cent.**			
Cost price	£100	0	0	Cost price	£100	0	0
Add 14 per cent.	14	0	0	Add 16⅔ per cent.	16	6	8
Selling price ..	£114	0	0	Selling price ..	£116	6	8
Deduct cost ..	100	0	0	Deduct cost ..	100	0	0
Gross profit ..	£14	0	0	Gross profit ..	£16	6	8

£14 profit on selling price £114 gives gross profit 12.29 per cent., but £16/6/8 profit on selling price £116/6/8 gives gross profit 14.01 per cent.

The 14 per cent. gross profit is merely given as an illustration of the working of the system, the actual amount required to be added is, of course, a matter for each individual trader to determine, and would be dependent upon the following considerations:—

(1) Volume of Annual Turnover.

(2) Cash or "Credit" Sales.

(3) Nature of business, where located, whether a luxury trade on which good profits might be expected or whether dealing with the supply of necessary commodities on which the profits would naturally be upon a much smaller scale.

(4) Local competition.

(5) The existence of any price fixing regulations or price maintenance conditions of sale on the part of manufacturers of proprietary lines, etc.

The following table will show the amount to be added to the cost price of goods to secure the percentage of gross profit required, viz:—

Gross Profit Required.	Add to Cost Price.	Selling Price of Goods costing £1.
		£ s. d.
5 per cent.	5 1/3 per cent.	1 1 1
7 1/2 "	8 1/4 "	1 1 8
10 "	11 1/4 "	1 2 3
12 1/2 "	14 1/2 "	1 2 11
14 "	16 1/2 "	1 3 3
15 "	17 3/4 "	1 3 7
16 "	19 1/4 "	1 3 10
17 1/2 "	21 1/4 "	1 4 3
18 "	22 "	1 4 5
19 "	23 1/2 "	1 4 8
20 "	25 "	1 5 0
21 "	26 3/4 "	1 5 4
22 1/2 "	29 "	1 5 10
25 "	33 1/3 "	1 6 8
27 1/2 "	38 "	1 7 7
30 "	43 "	1 8 7
32 1/2 "	48 1/4 "	1 9 8
33 1/3 "	50 "	1 10 0
35 "	54 "	1 10 10
37 1/2 "	60 "	1 12 0
40 "	66 2/3 "	1 13 4
45 "	82 "	1 16 5
50 "	100 "	2 0 0

SOMETHING ABOUT WALLPAPERS

EFFECT OF COLOUR ON LIGHT.

The question is often asked "What is the best colour for Wallpapers 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.

Measurem't 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

Covering Capacity and Weight of Rosehill Tiles.

131 Tiles cover 100 super feet of roof.

100 super feet of Tiling weigh 780 lbs.

90 lineal feet of 2 in. x 1 in. battens to one square of roofing.

Half-pound of 20g. copper wire 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.

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. 1½-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. 2¼-inch, 2lbs. 2½-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.

DRILLING GLASS.—Dr. Ryan, chemist, of the Polytechnic Institution, says:—"If a solution of camphor in turpentine be applied to the usual cutting instruments, to moisten, instead of emery or sulphate of copper, glass may be cut and bored just as easily as metals or other substances."

Useful Information.

Approximate Number of Nails per lb.

Size.	Nails per lb.	Size.	Nails per lb.	Size.	Nails per lb.
1 in. x 16G	1080	2 in. x 11G	158	3 in. x 9G	67
1 x 15G	840	2 x 10G	120	3 x 8G	60
1 x 14G	723	2 x 9G	100	3 x 7G	48
1½ x 14G	460	2½ x 13G	200	3 x 6G	39
1½ x 13G	340	2½ x 12G	150	3½ x 8G	44
1½ x 12G	240	2½ x 11G	130	3½ x 7G	40
1½ x 11G	206	2½ x 10G	100	4 x 7G	35
2 x 14G	280	2½ x 9G	80	4 x 6G	30
2 x 13G	230	2½ x 8G	65	5 x 5G	21
2 x 12G	190	3 x 10G	81	6 x 4G	13

1 Gross 1¾in. Galvd. Screws = 2½lbs.
1 „ Lead Washers = 3lbs.

The Price per cwt. at a given price per lb.

Price per lb. in pence.	Price per cwt.	Price per lb. in pence.	Price per cwt.	Price per lb. in pence.	Price per cwt.	Price per lb. in pence.	Price per cwt.
¼	2/4	3¼	30/4	6¼	58/4	9¼	86/4
½	4/8	3½	32/8	6½	60/8	9½	88/8
¾	7/-	3¾	35/-	6¾	63/-	9¾	91/-
1	9/4	4	37/4	7	65/4	10	93/4
1¼	11/8	4¼	39/8	7¼	67/8	10¼	95/8
1½	14/-	4½	42/-	7½	70/-	10½	98/-
1¾	16/4	4¾	44/4	7¾	72/4	10¾	100/4
2	18/8	5	46/8	8	74/8	11	102/8
2¼	21/-	5¼	49/-	8¼	77/-	11¼	105/-
2½	23/4	5½	51/4	8½	78/4	11½	107/4
2¾	25/8	5¾	53/8	8¾	81/8	11¾	109/8
3	28/-	6	56/-	9	84/-	1/-	112/-

For every ¼d. per lb. increase add 2/4 per cwt.

WIRE.

Number of Feet per lb. of Weight.

Gauge.	Number of Feet per lb. Weight.	Gauge.	Number of Feet per lb. Weight.	Gauge.	Number of Feet per lb. Weight.
3	6 feet	9	16 feet	15	70 feet
4	7 „	10	20 „	16	102 „
5	8 „	11	28 „	17	121 „
6	9 „	12	33 „	18	150 „
7	11½ „	13	42 „	19	194 „
8	13 „	14	54 „	20	245 „

Useful Information.

Table Showing Sustaining Degree of Best Mining Chain.

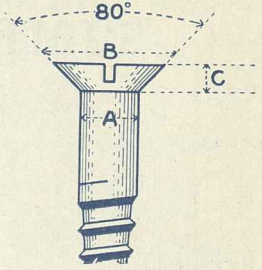
Size.	Weight per Fathom	Length in Cask.	Sustaining Degree T. c. q. lbs.
1/4	6½ lbs.	641 feet	0 18 0 0
5/16	7½ „	463 „	1 7 0 0
3/8	9 „	343 „	1 19 0 0
7/16	11 „	250 „	2 14 0 0
1/2	15 „	197 „	3 12 0 0
9/16	20 „	162 „	4 10 0 0
5/8	24 „	133 „	5 11 0 0
3/4	35 „	93 „	8 2 0 0
7/8	46 „	71 „	10 19 0 0
1	60 „	55 „	14 8 0 0

Table Showing Working Load and Tensile Strain of Best Mill Proof Chain.

Size.	Working Load. T. c q. lbs.	Weight per Fathom.	Admiralty Tensile Strain. T. c. q. lbs.
1/8	0 2 2 0	2½ lbs.	0 5 0 0
5/32	0 3 0 0	3 „	0 6 0 0
3/16	0 4 0 7	3½ „	0 8 0 14
1/4	0 7 2 0	5¼ „	0 15 0 0
5/16	0 11 1 0	7 „	1 2 2 0
3/8	0 16 1 0	10 „	1 12 2 0
7/16	1 2 2 0	13 „	2 5 0 0
1/2	1 10 0 0	17 „	3 0 0 0
9/16	1 17 2 0	21 „	3 15 0 0
5/8	2 6 1 0	26 „	4 12 2 0
11/16	2 16 1 0	31 „	5 12 0 0
3/4	3 7 2 0	37 „	6 15 0 0
7/8	4 11 1 0	50 „	9 2 0 0
1	6 0 0 0	64 „	12 0 0 0

STANDARD WOOD SCREWS.

A Useful Table.



No. of Screw Gauge:	Diameter Dec.	"A" Inches Approx. Fraction.	"B" Inches Approx. Fraction.	"C" Inches Approx. Fraction.	SLOT. Width.	SLOT. Depth.
0	.05784	1/16	7/64	1/32	1/64	1/64
1	.07100	5/64	9/64	3/64	1/64	1/32
2	.08416	5/64	11/64	3/64	1/64	1/32
3	.09732	3/32	3/16	3/64	1/64	1/32
4	.11048	7/64	7/32	1/16	1/32	1/32
5	.12364	1/8	15/64	1/16	1/32	1/32
6	.13680	9/64	17/64	5/64	1/32	3/64
7	.14996	5/32	19/64	5/64	1/32	3/64
8	.16312	5/32	21/64	3/32	3/64	3/64
9	.17628	11/64	23/64	3/32	3/64	3/64
10	.18944	3/16	3/8	7/64	3/64	1/16
11	.20260	13/64	13/32	7/64	3/64	1/16
12	.21576	7/32	7/16	1/8	3/64	1/16
13	.22892	15/64	29/64	1/8	1/16	1/16
14	.24208	1/4	31/64	9/64	1/16	1/16
15	.25524	1/4	33/64	9/64	1/16	1/16
16	.26840	17/64	17/32	5/32	1/16	5/64
17	.28156	9/32	9/16	5/32	1/16	5/64
18	.29472	19/64	19/32	11/64	5/64	5/64
19	.30788	5/16	39/64	11/64	5/64	5/64
20	.32104	21/64	41/64	11/64	5/64	5/64
21	.33420	21/64	43/64	3/16	5/64	3/32
22	.34736	11/32	11/16	3/16	3/32	3/32
23	.36052	23/64	23/32	13/64	3/32	3/32
24	.37368	3/8	3/4	13/64	3/32	3/32

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	,,	400
Cedar	,,	,,	,,	600
Clear Pine	,,	,,	,,	600
Doors 6ft. 8in. x 2ft. 8in. x 1½in.			No. to ton	900
Doors 6ft. 8in. x 2ft. 8in. x 1¼in.			,,	55
Doors 6ft. 6in. x 2ft. 6in. x 1½in.			,,	70
Doors 6ft. 6in. x 2ft. 6in. x 1¼in.			,,	58
			,,	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.

Commonwealth Postal Rates

Letters, including United Kingdom, Oversea Dominions, British Colonies, and Protectorates, 2d. half oz. Foreign, 4d. 1st oz., 2d. each additional oz.

Letter Cards, single, 2d. each; reply 2d. each half.

Post Cards, single, 1½d.; reply 1½d. each half.

Printed Papers, other than newspapers, as prescribed, 1d. per 2 oz., or part of 2 oz. up to 5lbs.

Catalogues (wholly set up and printed in Australia), 4 oz. or part of 4 oz., 1½d.; every additional 4 oz., 1½d. where percentage of printed matter added, 1d. first 4 oz.

Books, printed outside Australia, 1d. per 4 oz., or part of 4 oz.

Books, printed in Australia, 1d. 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, 1d. U.S.A. only, 4 oz. 1½d., or fraction thereof. American Dep., 2 oz. 1½d., or fraction thereof. All other Foreign Countries, 2 oz. 1½d., or fraction thereof.

Newspapers printed or published outside the Commonwealth, when posted in the Commonwealth, 1d per 4 oz., or part thereof, each newspaper.

United Kingdom: Not exceeding 8 oz., 1½d. each newspaper; exceeding 8 oz., but not exceeding 10 oz., 3d., every additional 2 oz. or fraction thereof, ½d. All Sea Route up to 16 oz., 1½d. (one paper only to be enclosed in same wrapper). News under 2 ozs. not subject to War tax.

All other places: Printed paper rates apply, 2 oz. 1½d., or fraction thereof.

(a) **Magazines,** reviews, serials, and other similar publications printed and published in Australia, in numbers at intervals not exceeding three months, 1d. 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, 1d. per 4oz., or part of 4 oz.

Commercial Papers, patterns, samples, and merchandise, as prescribed, 1½d. per 2 oz., or part of 2 oz.

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

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

REGISTRATION FEE. Letters, 3d.

Late Fee on Unregistered articles, 1d.

Late Fee on Registered articles, 2d.

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

POSTAL NOTES.

Payable throughout the Commonwealth, 6d., 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, 9d. Each additional word, 1d.

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

Inter-State—16 words, 1/4. Each additional word, 1d.

New Caledonia—Per word, 9d. (Noumea).

New Zealand—Per word, 4½d.

Norfolk Island—Per word, 3d.

United Kingdom—Per word, 3/-. Deferred 1/6, Week-end 9d., subject to a minimum charge of 15/-.

Suva, Fiji—Per word, 8d.

Cape Colony—Per word, 2/3.

New York—Per word, 2/8.

WIRELESS.

Messages can be transmitted to vessel within a coastal radius of 4 miles at 6d. to 11d. per word.

BRITISH WEIGHTS AND MEASURES

AVOIRDUPOIS WEIGHT.

27.344	Grains	equal	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—*continued.*

MEASURE OF CAPACITY.

4	Gills	equal 1	Pint	4	Pecks	equal 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,	equal 1	Chain
22	Yards, or		
100	Links		
40	Rods	,, 1	Furlong
8	Furlongs	,, 1	Mile
80	Chains,		
320	Rods, or		
1760	Yards		

MEASURE OF SURFACE.

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

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

A square whose side is 69½ Yards is approximately 1 Acre.

GEOGRAPHICAL AND NAUTICAL MEASURE.

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

MEASURE OF SOLIDITY.

1,728	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—*continued.*

MEASURE OF TIME.

60 Seconds	equal 1 Minute	7 Days	equal 1 Week
60 Minutes	,, 1 Hour	28 Days	,, 1 Lunar Month
24 Hours	,, 1 Day		
(23h. 56m. 4s. equal 1 Sidereal Day)			
28, 29, 30, or 31 days		equal	1 Calendar Month
12 Calendar Months 52 Weeks		,,	1 Year
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 1,000 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.

British Equivalents of Foreign Weights and Measures

For the purpose of easy and rapid calculations the following may be regarded as the approximate equivalents.

LINEAL MEASURE.

1 Millimetre	=	1/25 of an Inch
2½ Centimetres	=	1 Inch
1 Metre	=	39⅜ Inches (3ft. 3⅜in.)
1 Kilometre	=	5 Furlongs
1⅝ „	=	1 Mile

AVOIRDUPOIS MEASURE.

1 Kilogramme	=	2½ lbs.
1000 „	=	1 ton

SQUARE MEASURE.

6½ sq. Centimetres	=	1 sq. inch
1 sq. Metre	=	10¾ sq. feet.

British and Foreign Currency.

Equivalent of £1 sterling (English).

Subject to Daily Fluctuation.

	pre-War Value at 1/6/1914.	Exchange Value at 5/4/1923.
French Francs	25.18	71.40
Belgian Francs	25.34	48.20
Swiss Francs	25.20	21.70
Italian Lire	25.27	93.50
Russian Roubles	9.57	No Ex. Value
U.S.A. Dollars	4.88	4.66
German Marks	20.46	100,000
Dutch Florin	12.13	11.76
Austrian Kroner	24.13	No Ex. Value
Swedish Kroner	18.24	17.57
Danish Kroner	18.24	24.51
Norwegian Kroner	18.24	25.90
Spanish Pesetas	26.47	28.25
Indian Rupees	15.05	15.0125

Distance by Rail between State Capital Cities.

	Miles.	Approximate Time of Journey. Hrs.	Mins.
Adelaide to Perth	1684	64	11
„ „ Melbourne	482	16	59
„ „ Sydney	1072	34	25
„ „ Brisbane	1792	61	55
Brisbane „ Sydney	720	26	58
„ „ Melbourne	1309	44	0
„ „ Perth	3476	126	6
Melb'ne „ Sydney	582	17	26
„ „ Perth	2167	82	6
Sydney „ Perth	2756	99	8

From Commonwealth Year Book, Page 45.

Areas of States and Territories

	Date of Creation.	Area.
New South Wales ..	1786	309,432 Sq. Miles
Victoria	1851	87,884 „
Queensland	1859	670,500 „
South Australia ..	1834	380,070 „
Western Australia ..	1829	975,920 „
Tasmania	1825	26,215 „
Northern Territory ..	1863	523,620 „
Fed'l Capital Territory	1911	940 „
Total Area of Commonwealth		2,974,581 Sq. Miles

From Commonwealth Year Book, Pages 538 and 534.

STATE GOVERNMENT RAILWAYS
Mileage and Cost to 30/6/21.

	Mileage Open for Traffic.	Total Cost of Construction and Equipment.
New South Wales ..	5,043 Miles	£83,304,194
Victoria	4,267 „	59,798,696
Queensland	5,752 „	41,368,640
South Australia ..	2,333 „	19,270,704
Western Australia ..	3,538 „	18,169,980
Tasmania	630 „	5,383,192
	21,563 Miles	£226,295,406

Page 539.

Mileage Under Different Gauges.

5′ 3″	5,356 Miles
4′ 8½″	6,297 „
3′ 6″	13,255 „
3′	15 „
2′ 6″	150 „
2′ 3″	4 „
2′	1,096 „
1′ 8″	28 „
	26,201 Miles

Page 541.

FEDERAL GOVERNMENT RAILWAYS at 30/6/21.

Open for Traffic.

	Miles.
Darwin to Katherine (Northern Territory)	199
Pt. Augusta to Oodnadatta (South Australia)	478
Canberra to Queanbeyan (Federal Territory)	5
Transcontinental (Pt. Augusta to Kalgoorlie)	1,051
Miles,	1,733

Commonwealth Population
June, 1922

(Approximate Figures only).

State.	Males.	Females.	Total.
New South Wales ...	1,093,927	1,053,728	2,147,655
Victoria	776,011	794,629	1,570,640
Queensland	414,488	370,961	785,449
South Australia ...	253,463	251,606	505,069
Western Australia ...	180,703	158,798	339,501
Tasmania	107,593	105,807	213,400
Total for Commonwealth	2,826,185	2,735,529	5,561,714

Commonwealth Vital Statistics
1921

BIRTHS ...	Number	136,198	
	Rate	24.95	per 1000
MARRIAGES	Number	46.869	
	Rate	8.59	per 1000
DEATHS ...	Number	45,076	
	Rate	9.91	per 1000

AVERAGE DISTRICT RAINFALL THROUGHOUT AUSTRALIA.

(100 points = 1 inch)

WESTERN AUSTRALIA.

DISTRICT	Normal fall in points.	DISTRICT	Normal fall in points.
North Kimberley ..	2704	N. Coastal \ South-	1831
East Kimberley ..	2570	S. Coastal / West	3627
West Kimberley ..	2326	Central	1761
De Grey	1359	Eucla	1435
Fortescue	944	South-East	996
West Gascoyne ...	912	North-East	1023
East Gascoyne ...	939	Perth	3335

NORTHERN TERRITORY.

Northern Rivers ..	4442	Northern Plateau .	1238
Port Darwin	6156		

SOUTH AUSTRALIA

North-West Interior	845	Central West	1707
Far North Interior	718	Central East	2377
Western	1317	Murray Valley	1308
Upper North	1330	South-East—Upper	1661
North-East	848	South-East—Lower	2551
Lower North	1753	Adelaide	2032

QUEENSLAND.

Peninsula North ..	5780	Upper Western ..	1546
Peninsula South ..	3940	Lower Western ..	1346
Carpentaria—Lower	2761	Port Curtis	3699
Carpentaria—Upper	2626	Moreton	4969
Barron	6371	Brisbane	4836
Herbert	7701	East Darling Downs	2835
East Central Coast	4195	West Darling Downs	2482
West Central Coast	2433	Maranoa	2370
Central Highlands	2519	Warrego	1795
Central Lowlands .	1974	Far South-West ..	1402

NEW SOUTH WALES.

DISTRICT	Normal fall in points
Trans-Darling North	916
Trans-Darling Sth.	1018
Cis-Darling North	1384
Cis-Darling South	1254
Upper Bogan	1764
Lower Macquarie	1794
West Gwydir	2020
East Gwydir	2356
Nandewars	2846
Liverpool Plains	2709
West New England	3133
East New England	3754
Clarence	5373
Orara	5177
Manning	4909
Hunter	3529
Cudgegong	2632
Central Plateau	3475
Warrumbungles Highlands	2750
Warrumbungles Lowlands	2202
Sydney	4812
Nepean	3187
Illawarra	3989
South Coast	3590
Upper Murrumbidgee	2531
Snowy Mountains	4060
Jugiong	3031
Tumut	2169
East Riverina	1790
West Riverina	1379

VICTORIA.

Malee North	1275
Malee South	1385
Wimmera North	1626
Wimmera South	1986
Lower North	1697
Melbourne	2543
Upper North	1996
Lower North-East	2866
Upper North-East	4329
East Gippsland	3021
West Gippsland	3415
East Central	3392
West Central	2536
North Central	2615
Volcanic Plains	2381
West Coast	2953

TASMANIA.

Northern	4115
East Coast	3226
Midland	2163
South-Eastern	2798
Derwent	2551
Central Plateau	3154
West Coast—	
Mountain Region	8512
King Island	3717
Flinders Island	2769
Maria Island	2493
Hobart	2329

FERTILIZERS.

Analysis of Fertilizers for different purposes, reprinted from pamphlet issued by Australian Fertilizers Pty. Ltd.

	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, Pumpkins, 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

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**

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 septicæmia 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—Also for **Mild Asphyxiation, Electric Shock**, etc. (Supplied by the Royal Life Saving Society, N.S.W. Head Centre).—SEND FOR MEDICAL ASSISTANCE, IF POSSIBLE. Place the patient face downward, with left side of the face resting on the ground or floor. If no blanket or mat available, put a piece of paper under the face near mouth and nose. Examine the mouth for, and remove any foreign substance. Extend the arms sideways and upwards. Kneel beside and close to the thighs, place the hands just above the small of the back, little finger on lowest rib, others spread out, thumbs an inch apart parallel to one another and pointing to the head. Carry the body steadily forward until its weight is on both hands, thus compressing the patient's body towards the floor, then carry the body back again, releasing the pressure, but not removing the hands. Continue the movement fifteen times to the minute, or once every four seconds for an hour or two, or until the patient starts to breathe. Then remove any wet clothing, cover with blankets and apply warmth by rubbing the body and insides of limbs, always towards the heart. Place hot-water bottles or bricks to soles of feet, inside thighs or armpits. Watch carefully for any cessation of breathing, and if such occur proceed as before.

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, Hydrochloric Acid, Muriatic Acid (Spirits of Salt), Carbolic Acid, Oxalic Acid, etc.

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

TREATMENT—

(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.

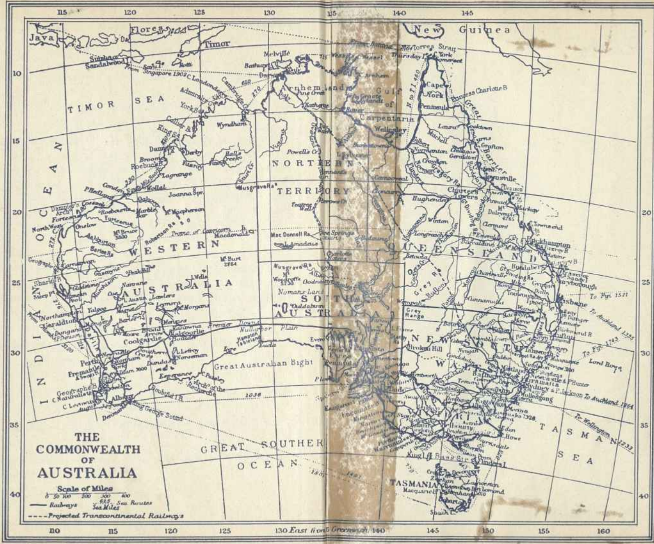
RUPTURE.—The escape of a portion of the bowel from the belly at the groin. To return it, place the patient on his back, with the knees drawn up, and apply pressure to the swelling in an upward and outward direction.

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.



THE COMMONWEALTH OF AUSTRALIA
Scale of Miles
Railways
Sea Routes
Sea Miles
Projected Transcontinental Railways
East from Greenwich
TIMOR SEA
INDIAN OCEAN
GREAT SOUTHERN OCEAN
TASMAN SEA
WESTERN AUSTRALIA
NORTHERN TERRITORY
SOUTH AUSTRALIA
QUEENSLAND
NEW SOUTH WALES
TASMANIA
New Guinea
Java
Flores
Timor
Torres Strait
Gulf of Carpentaria
Arnhem Land
Cape York Peninsula
Great Australian Bight
Nullarbor Plain
Bass Str
Perth
Fremantle
Coolgardie
Kalgoorlie
Albany
Geraldton
Broken Hill
Brisbane
Rockhampton
Townsville
Charters Towers
Hughenden
Winton
Longreach
Normanton
Cooktown
Cairns
Wyndham
Derby
Broome
Roebuck B
Lagrange
Carnarvon
Onslow
Sydney
Newcastle
Mac Donnell Ra
Lord Howe
To Fiji
To Auckland
To Wellington
Macquarie