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GARD'S LOG BOC

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WALNUT LOGS

AND HOW TO PREPARE THEM.

AND

HARDWOOD LUMBER

AND ITS MANUFACTURE.

—— BY ——

ANSON A. GARD,

OF S. H. GARD'S SONS,

PRODUCE EXCHANGE BUILDING,

Room 210, NEW YOR

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PREFACE.

In preparing the following pages I have aimed to answer the many and varied questions asked by hundreds of correspondents who have written in response to my advertisement: "Wanted Walnut Logs and Hardwood Lumber." Knowing that the same questions often arise in the minds of others, I take this means of reaching all who may be instructed by the answers. Having passed through all the different stages of a lumberman, from wielding the axe, in the forests of Ohio, up through the sawing of the lumber to its disposal, in this, the most exacting of markets, I can claim a practical rather than a theoretical knowledge. I trust that my experience may prove of benefit to all into whose hands this little volume may chance to fall.

ANSON A. GARD.

10 East 14th St., New York City.

PART FIRST.

WALNUT LOGS

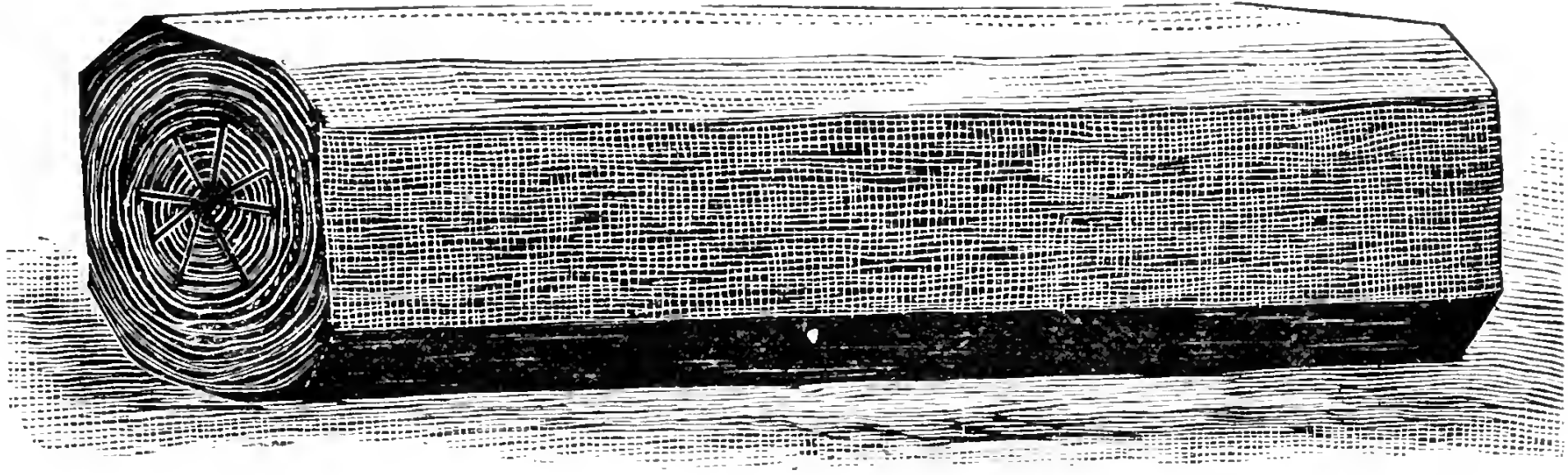
AND

HOW TO PREPARE THEM.

FEW seem to know what an export log should be, but the number who think they know includes about all who have never before gotten out logs for export. These latter think that if a log is the required length and diameter it will pass, and that they should receive the quoted high price for it, and will feel, when the returns are received, that they have not been treated squarely. They forget that rough, crook ed, knotty logs make only cull lumber, and that when any market is over-stocked with just such timber, when at the best there is no demand for it, the price at which it will sell is very low indeed.

An export log must be straight, sound, free from large limb, or rotten knots, free

This Diagram shows how a Log should look when properly hewed.



A 20 inch log should show a face of 8 inches, 23 to 28, 10 inches; larger Logs in proportion.

from heart checks or wind shakes and should not be cut shorter than 10 feet and as few under 12 feet as possible.

SAW THE TREE DOWN.

When the tree is selected to be felled, a notch should be cut in on the side toward which you wish to "throw" it, the centre of the notch should be cut in toward the heart much deeper than the sides; when this is done start your saw a little above a line with the opposite notch and cut straight through. A tree can, not only be sawed down quicker than it can be cut with the axe, but when down it is also "butted," thus saving much extra work.

HOW TO MARK OFF THE LOGS TO THE BEST ADVANTAGE.

When the tree has been felled, mark it off so that each log will be straight. This can usually be done even in crooked trees, unless the crook be a short one, in which case cut it out and use the piece for balusters. By cutting the logs 10, 12, 14 and 16 feet, the full length of the tree can be worked up to good advantage. When

it can be done, as before mentioned, make as many of the logs 12 feet long as you can, as this length is best for export logs and also the best length for lumber.

CUT THE LOG STRAIGHT ACROSS.

Often when a tree is felled it may lie on a side hill, in which case care must be taken not to cut the logs slant ways, which you are sure to do if you let the saw "run."

DON'T BE "STINGY."

Many a woodsman, in order to save an inch, loses a foot. He measures his log exactly, to the foot mark, which is all right (although a log should be an inch over) providing he can run his saw "true," but nine out of ten sawyers will run to the right or to the left, and the bottom of the log may lack just enough to lose a foot. So I say don't be stingy, when it will pay you to be a little generous.

LOGS SHOULD BE HEWN.

In some markets there is a duty on logs when they have been squared on the mill, while the same log will go duty free if hewn, besides a log looks better when properly dressed with the broad axe.

HOW TO DRESS A LOG.

Too great care cannot be taken in selecting logs for shipping, as one or two questionable ones may reduce the value of a car load more than their value, while the freight on them is just as much as for the good ones, thus you lose both logs and freight. Therefore make it a rule not to select a log about which you have the least doubt of it passing. Having selected your logs, draw them to the railroad if you ship by rail, and there hew them on four sides to show a face as per diagram taking care to use a large draw knife to smooth off the corners of the wanes, having first removed all bark therefrom.

PAINT THE ENDS.

When the logs are ready to ship, the ends should be painted with an inexpensive red paint. This not only prevents, to some extent, the logs cracking, but gives them a better appearance.

LOGS SHOULD BE MARKETED AS SOON AS HEWED.

Just as soon as you have logs ready,

load them at once ; they will then come to market looking fresh and will please the buyer far better than if they have been allowed to become weather-beaten and sun-cracked. The logs may cut out as much lumber and the lumber may be just as good, but when a load of weather-beaten logs comes to market it is surprising the difference in price they will bring. This is especially so in logs sent to foreign markets, where they are put up at auction to buyers who in the hurry and rush of a sale don't have time to carefully examine the lot, but who have to go by the looks, so that many a better lot of logs sells for less money than an inferior one well dressed and fresh looking.

HOW TO HAUL LOGS.

In a country where snow covers the ground during the long winter months no one need be told to use a sled or drag, but where snow is the exception, or where it is never seen, a wagon must be used. There are wagons and wagons. I have been in countries where a regular log wagon would have been a curiosity. Here he loggers have from time without date

hauled their logs on the high-wheeled farm wagon.

Two men are required, as the high wheel and sometimes both wheels on one side must be taken off, and the axles propped up. After much bother the log is finally loaded, and if more than one is to be taken on the load, the same process must be gone through with and when the mill yard is reached, the wheel or wheels must again be removed. No one who follows logging can afford to use such a wagon when they can get one with which one man can do twice as much work in a day and do it easy to himself. This is the low, broad tread log truck, requiring only to be driven alongside the log, "skids" run down from the tops of the wheels, the chain thrown under the log and back again to the opposite side of the wagon, then fastened to the "stretchers," the horses started, and your log is landed on the bolsters, and all in half the time required by the old tedious way. Counting the extra man and the time wasted, one could pay for a log wagon in a very short time. Another advantage is that the

tire or tread being broad, a much larger load can be hauled over soft ground, as the wheels do not "cut in" like a narrow tread.

Logs or Lumber?

"Which will pay me the better, to ship my Walnut in the log or saw it into lumber?" This question is the first one asked when the owner of Walnut timber is ready to make disposal of his wood.

The answer to the above will depend entirely on the given lot of trees. If they run large and smooth, it will pay to ship them in the log, but if there are but few large trees and many small ones, it will pay to saw them into lumber, as the large logs will enhance the value of the product more than can be realized from selling in the log, even at the higher price at which the logs would sell. There are many advantages in selling logs instead of sawing them—other things being equal. In the first place the tree can be cut down and the logs delivered in market almost as soon as it could be sawed into lumber, thus gaining all the time required for sticking

up and drying, five months at least saved, which to one of moderate means is a long while to wait.

Again, every producer of lumber will always prefer to know how much his stock will bring as it runs. When sold in the log, there is but one price, while if sawed into lumber the same log is sold at three and in some markets at four prices, and the aggregate price governed by an inspector who may never have seen a Walnut tree grow.

TELL WHAT YOU HAVE TO SELL AND WHAT YOU WANT FOR IT.

Don't write to a log buyer or lumber dealer and say, "I have some logs," or "some lumber; what will you pay for them?" or "it" as the case may be. The fact that "it is good stuff!" don't convey any notion of what it is, or what it is worth. Take for illustration of how you should write to inform a buyer tnat you have logs for sale:

Mr. A.

Dear Sir:

I have, now ready to ship, two carloads of Walnut logs,

fresh hewed and in good order. There are 26 logs in the lot and they measure as follows : (Give lengths and diameters, being careful not to measure more than they contain). I will deliver these at (give point of destination) for $— per M feet.

Yours, etc.,

J. S.

When the buyer receives this letter he knows that "J. S." has some logs: he knows how many, and what they contain ; he knows that the writer means business, for he has put a price on his stock, and the result will be that J. S. will sell, and have the money invested in more trees, before the man who says: "I've got something, what will you give me for it?" will even get a reply to his letter. This is an age when men must be definite, if they would succeed—the man who don't tell what he has to sell will be passed by the one who lets the buyer know what he has to offer and what he wants for it.

One word of advice to J.S. and others who may write what they have to offer. Don't say that you have two cars of logs, that one will run twenty-four inches and larger, for

which you will take $- per M., and one car twenty to twenty-three inches at $—, and in shipping them put some of the small ones in the higher priced car and expect to get the higher price for them, just because they were all together. This would seem unnecessary advice ; had I not had a recent case of this kind I never would have thought that it could occur.

POPLAR LOGS.

Poplar—or miscalled Whitewood—logs are now being exported from localities where the rate of freight will warrant theri shipment. The same rule for the preparation of Walnut logs will apply to Poplar. They must be evenly hewed on four sides and the wanes smoothly dressed.

I would call the attention of the hewer to one point in particular in preparing the log. Don't cut away too much of the wood, *i. e.*, don't square the log, as by some measurements there is a great loss over Scribner. A point in question. Two cars of Poplar logs, measured here by Scribner, have just been rejected in a German mar-

ket on account of being too much squared. Thus not only a loss of wood, but a sale lost.

CHERRY LOGS.

Different from Walnut, Poplar, Gum and such other rough bark woods, Cherry is shipped round. This may also be said of what few Ash logs there are exported.

WHEN TO CUT TIMBER.

When the sap is at work building up new tissues, making new leaves and twigs, the tree when felled is most apt to "check" when made into logs. For this reason valuable timbers should be cut before the middle of March, in this climate, and earlier in the far South, then in July or August, when the sap has done its work and is at rest, you may begin and continue till March again. It is well in making Walnut logs to have a bucket of glue water and broad brush, and as soon as the log is sawed off "size" the ends, which when dry tends to keep out the air and prevents checking. This "sizing" is simply made with ordinary glue dissolved in hot water and made very thin.

Much more could be said on the subject

of logs, but it would not change the one important fact that only good ones are required, and poor ones will ever prove a risk to a shipper. If you who have logs will bear this fact in mind you will find that it will pay you a large per cent. in satisfaction and the buyer will never tell you : " He has enough of your stock."

GARD'S LOG RULE.

The log rule used more generally, perhaps, than all others is the Doyle, or as better known, "Scribner by Doyle." In the following rule, which in the result is about the same as Doyle's for the larger logs, I have made the smaller to contain in the aggregate more lumber, as it is well known that a small log will cut out more than Doyle gives. In the larger logs the result, as above stated, is about the same, but much simpler in counting up a row of figures, as a glance at the rule will show. Logs are by custom always measured at the small end, and in Walnut logs the sap is either measured or not, as agreed to by the buyer and seller. There are a number of other rules in this country, but I have found the following more nearly correct than any of them.

As logs are seldom cut more than 24 feet I have made that the limit. If you should have one 30 feet long and 24 inches in diameter, you have but to take the contents of a 15 feet log, 24 inches in diameter, and double its contents. This will hold good in any other length over 24 feet

LOG TABLE—GARD'S RULE.

LOGS REDUCED TO INCH BOARD MEASURE.

L. Ft.	Dia. 8	Dia. 9	Dia. 10	Dia. 11	Dia. 12	Dia. 13	Dia. 14	Dia. 15	Dia. 16	Dia. 17	Dia. 18	Dia. 19	Dia. 20
8	10	14	20	28	33	41	51	61	73	85	100	110	130
9	11	16	23	31	37	47	57	69	82	95	110	125	145
10	12	18	25	34	41	51	63	76	91	105	120	140	160
11	13	19	27	37	46	56	70	84	100	115	135	155	175
12	14	20	29	40	50	62	76	92	109	125	145	170	190
13	15	22	32	43	54	68	83	99	118	135	160	185	210
14	16	23	34	46	57	72	90	108	127	150	170	195	225
15	17	25	36	49	62	78	96	115	136	160	185	210	240
16	18	27	38	52	65	82	102	123	145	170	195	225	255
17	19	28	41	55	69	88	108	130	155	180	210	240	270
18	21	30	43	58	74	92	113	138	164	190	220	255	290
19	22	33	46	61	78	100	121	145	173	200	235	265	305
20	23	36	48	65	82	105	127	154	182	210	245	280	320
21	24	39	50	69	96	109	133	160	191	220	255	295	335
22	25	42	53	74	90	113	139	168	200	230	270	310	350
23	26	45	56	79	94	117	146	176	209	245	280	325	370
24	27	48	60	84	100	123	152	183	218	255	295	340	385

LOG TABLE--GARD'S RULE.

LOGS REDUCED TO INCH BOARD MEASURE.

L. Ft.	Dia. 21	Dia. 22	Dia. 23	Dia. 24	Dia. 25	Dia. 26	Dia. 27	Dia. 28	Dia. 29	Dia. 30	Dia. 31	Dia. 32	Dia. 33
8	145	160	180	200	220	240	265	290	310	340	365	390	420
9	165	180	205	225	250	270	295	325	350	380	410	440	475
10	180	200	225	250	275	300	330	360	390	420	455	490	525
11	200	225	250	275	305	335	365	395	430	465	500	540	580
12	215	245	270	300	330	365	395	430	470	505	545	590	630
13	235	265	295	325	360	395	430	470	510	550	590	635	685
14	255	285	315	350	385	425	465	505	545	590	640	685	735
15	270	305	335	375	415	460	495	540	585	635	685	735	790
16	290	325	360	400	440	485	530	575	625	675	730	785	840
17	305	345	385	430	470	515	565	610	665	720	775	835	895
18	325	365	405	450	495	545	595	650	705	760	820	880	945
19	345	385	430	475	525	575	630	685	740	805	865	930	1000
20	360	405	450	500	550	605	660	720	780	845	910	980	1050
21	380	425	475	525	580	635	695	755	820	885	955	1030	1105
22	395	445	495	550	605	665	725	790	860	930	1005	1080	1155
23	415	465	520	575	635	695	755	830	900	970	1050	1125	1210
24	435	485	540	600	660	725	795	865	940	1015	1095	1175	1260

LOG TABLE—GARD'S RULE.

LOGS REDUCED TO INCH BOARD MEASURE.

L. Ft.	Dia. 34	Dia. 35	Dia. 36	Dia. 37	Dia. 38	Dia. 39	Dia. 40	Dia. 41	Dia. 42	Dia. 43	Dia. 44	Dia. 45	Dia. 46
8	450	480	510	545	580	610	650	685	720	760	800	840	880
9	505	540	575	615	650	690	730	770	810	855	900	945	990
10	560	600	640	680	725	765	810	855	900	950	1000	1050	1105
11	620	660	705	750	795	840	890	940	995	1045	1100	1255	1215
12	675	720	770	815	865	910	970	1025	1085	1140	1200	1260	1325
13	730	780	830	885	940	995	1055	1110	1175	1235	1300	1365	1425
14	785	840	895	955	1010	1070	1135	1200	1265	1330	1400	1470	1545
15	845	900	960	1020	1085	1150	1215	1285	1355	1425	1500	1575	1655
16	900	960	1025	1090	1155	1225	1295	1370	1445	1520	1600	1680	1765
17	955	1020	1090	1155	1230	1300	1375	1455	1535	1615	1700	1785	1875
18	1010	1080	1150	1225	1300	1380	1460	1540	1625	1710	1800	1890	1985
19	1070	1140	1215	1295	1370	1455	1540	1625	1715	1805	1900	1995	2095
20	1125	1200	1280	1360	1445	1530	1620	1710	1805	1900	2000	2100	2205
21	1180	1260	1345	1430	1520	1605	1700	1795	1895	1995	2100	2205	2315
22	1235	1320	1410	1495	1590	1685	1780	1880	1985	2090	2200	2310	2425
23	1295	1380	1470	1565	1660	1760	1865	1970	2075	2185	2300	2415	2535
24	1350	1440	1535	1635	1735	1840	1945	2055	2165	2280	2400	2520	2645

LCG TABLE—GARD'S RULE.

LOGS REDUCED TO INCH BOARD MEASURE.

L. Ft.	Dia. 47	Dia. 48	Dia. 49	Dia. 50	Dia. 51	Dia. 52	Dia. 53	Dia. 54	Dia. 55	Dia. 56	Dia. 57	Dia. 58	Dia. 59	Dia. 60
8	925	970	1015	1060	1105	1150	1200	1250	1300	1350	1405	1460	1510	1570
9	1040	1090	1140	1190	1245	1295	1350	1405	1465	1520	1580	1640	1700	1765
10	1155	1210	1265	1320	1380	1440	1500	1560	1625	1690	1755	1820	1890	1960
11	1270	1330	1390	1455	1520	1585	1650	1720	1790	1860	1930	2005	2080	2155
12	1385	1450	1520	1585	1655	1730	1800	1875	1950	2030	2105	2185	2270	2350
13	1500	1575	1645	1720	1795	1870	1950	2030	2115	2195	2280	2370	2460	2550
14	1620	1695	1770	1850	1935	2015	2100	2185	2275	2365	2460	2550	2645	2745
15	1735	1815	1900	1985	2070	2160	2250	2345	2440	2535	2635	2735	2835	2940
16	1850	1935	2025	2115	2210	2305	2400	2500	2600	2705	2810	2915	3025	3135
17	1965	2055	2150	2250	2345	2450	2550	2655	2765	2875	2985	3100	3215	3330
18	2080	2180	2280	2380	2485	2590	2700	2810	2925	3040	3160	3280	3405	3530
19	2195	2300	2405	2515	2625	2735	2850	2970	3090	3210	3335	3465	3590	3725
20	2310	2420	2530	2645	2760	2880	3000	3125	3250	3380	3510	3645	3780	3920
21	2425	2540	2655	2775	2900	3025	3150	3280	3415	3550	3685	3825	3970	4115
22	2540	2660	2785	2910	3035	3170	3300	3435	3575	3720	3860	4010	4160	4310
23	2660	2785	2910	3040	3175	3310	3450	3595	3740	3885	4040	4190	4350	4510
24	2775	2905	3040	3175	3315	3455	3600	3750	3900	4055	4215	4375	4535	4705

PART SECOND.

HARDWOOD LUMBER,

AND ITS MANUFACTURE.

If the manufacturer of Hardwood lumber would pay the same attention to his business as the Pine man does to his, there would be less dissatisfaction about the inspection of his lumber. If he learned the requirements of this or any other market he would know that to please, he must send his product in in good condition. There are too many sawyers of Hardwood who have merely "picked up" the "trade" the result is that many a No. 1 log, which if handled as a Pine sawyer would handle it would turn out valuable lumber, but instead it is not sawed with judgment and the result is one-half its value is gone, and even the good is not extra. To know how to properly put a "carriage" on its foundation so that it will run true; to know how

to set a saw with just enough "set" to cut smooth, even lumber; to know how to put a log on the carriage to cut as few "heart" boards as possible; to know when to "turn" a log—in short, to know how to get the best results out of logs is not in the power of him who has merely "picked up" his trade, and the sooner this is learned by the manufacturer of valuable lumber, the better for the credit side of his bank account.

The prevailing custom of paying a stated price per thousand feet for sawing is another cause of much poorly sawed lumber. The sawyer may know his business thoroughly, but to work up to his knowledge may require more extra time than he is willing to devote to "the other man's" interests, and the result is he does a good day's work in the number of feet he has sawed, but the man for whom the work was done doubly pays for it. How much better it would be for both mill owner and the man who is having the work done could they agree on a stated price per hour. It may seem a broad assertion, but I venture to say that by this

arrangement the man for whom the sawing is done—providing the logs sawed be valuable timber—will gain enough to pay for the whole day's sawbill, as by this plan the sawyer can see advantages to be taken of a log which never would have occurred to him if quantity instead of quality were taken into consideration. The mill owner who saws his own logs need not be told that care must be taken, and yet many will "butcher" their own timber as though they were not sawing money out of their own pockets every hour they run their mills. These are the men who want the lumber buyers from the large markets to pay them the same price that the careful sawyer gets for his product, and will think they have not been fairly dealt with if they are made to pay for their own mistake.

How to Saw a Walnut Log.

I have tried many ways for getting the most good lumber out of logs, and find this is best: first take off a slab, turn the slab side down upon the carriage and saw the log through past the heart until you

get a clear face if the log be a good one, then turn it over against the head blocks and saw until you have a wide clear face, which may leave a plank two, three or four inches thick, owing to the size of the log. Then take the sawed boards or plank and after running the head blocks back 24 or more inches, place the boards or planks, whichever you have sawed, so that the saw will edge them properly. To determine just where the saw will come may be done by "sighting," or better still by the man at either block using a two foot measure, which placed across the board, back to the block, will show how far out to place it (the board); treat the other edge the same way and if the heart runs straight enough not to cut away too much lumber, saw it out. A better way to edge lumber, but requiring extra machinery, is to have attached to the mill an edging saw bench. In this way the lumber can be edged as fast as the log is sawed and where a mill can be so provided the result will show that it pays well.

Of course where the logs are poor so much care is not necessary, but one thing

I have paid dearly to learn and that is, no log can be too poor to neglect to

Saw Full Thickness.

Thousands of dollars have been lost in not urging upon the sawyer the great importance of sawing full. There is a double loss in thin lumber. It drops one grade if inch, and will often be refused altogether, while, on the other hand, if a car load of lumber is plump, but really a little inferior, its thickness will often sell it, so that a manufacturer cannot urge too emphatically upon his sawyer to be liberal in thickness. A stout 1-16 for $\frac{5}{8}$ and 1 inch and a scant $\frac{1}{8}$ for inch and a quarter and inch and a half, and full $\frac{1}{8}$ for two inch; for three and four inch 3-16 is not too much; better be too thick than too thin.

Saw Even Thickness.

A careless sawyer will often allow his log to "cant "out, making one edge of the board plump while the other edge may lack just enough to spoil the board for the grade into which its quality would place it. This same result more often

occurs from the carriage not being properly set in place or again the saw may heat and "run." A good sawyer will see that everything is kept in perfect order and stop at once to adjust his mill at the first mis-cut board.

How to Stick Lumber.

Not a mill man in the country but who can tell(?) just how to properly stick lumber, and when to stick it, and yet when the lumber is marketed it shows that some of the many have made a grave mistake. especially so in the case of Poplar, and other light colored lumber. In sawing Poplar, when it is green with sap, it should be stuck up at once, as if left piled together it will "sap color" in a few hours. "Haven't time" will not answer! If you care to get the full value of your lumber, you *must* stick it up as fast as sawed. This is true of Oak,and in fact of all lumber affected by sap. Lumber manufacturers often wonder why their stock is not as bright and nice as some they have seen. If these same men continue to saw their lumber and pile it close together and

leave it until they have *time* to stick it up, then I can assure them they will spend the rest of their days wondering. This should be the order in importance with them, first how to keep the lumber bright, then next how to saw it properly.

Use Narrow Strips,

And under no circumstances may they be green, as they will most certainly color the wood wherever they touch and if left too long will rot it. If you have no dry sticks and are on a railway line, buy a car load and run them to your mill; it will be money well spent, and the first sawing you do let it be on a good supply of sticking lath, which will soon be dry enough to use.

Walnut should be piled together as soon as sawed and will receive no injury if not stuck up for some time after sawing. The sap seems to dry out faster when finally the lumber is put on sticks than if stuck right from the saw.

To Dry Lumber Fast.

If you have plenty of mill yard room pile your lumber thus: Set the piling

blocks at least a foot from the ground and with sufficient fall to let the rain run off readily when the pile is finished and covered. Begin by laying the first course with the boards say 6 inches apart if wide and the narrow ones put two together, and build the pile in this order, so that when finished the spaces started in the first course will run to the top of the pile. The openings will be so many chimneys, drying out the lumber more in one month than in three months the old way. Start the next pile at least twenty inches away and so continue covering your yard and you will be surprised how soon you can begin shipping dry lumber. One point more in the sticking of lumber in which there are sappy boards; instead of placing these boards away in the centre of the pile they should be put on the outside as far as possible, so that they will get the more air, and again, these boards should be laid with the sap side down. It may seem useless advice, but a glance into the mill yards of some of the smaller mill owners will show that they may well be told to stick each length lumber together.

No mill is complete without an "evener." It pays for itself many times over, as where each board in a car comes into market exactly even length, it is no trouble to find a buyer. The enterprising mill man is finding this out to his profit.

How to Ship Lumber.

When you have cut your logs good lengths, carefully sawed them into even lumber, and properly stuck it up and have it ready for shipping; you have then only reached that point where you will begin receiving a return for your labors. If you have done your work well, your returns will show it, as good lumber is always in demand. But if you have allowed your logs to be run to the mill with no care about square ends, and have had them sawed in a careless manner, or if after having used all precautions up to this point, to get good lumber, you fail to care for it properly after it leaves the saw, then your returns will also show it. Poor stock requires a special sale for every car, while one car of good lumber only opens the way for as many as the buyer may need.

If you ship your lumber "all rail," load it with even ends showing, so that a good impression is given when the car is opened, as many a buyer will judge the lumber by the way it is loaded, on the principle that one who will load a car in a careless manner will also manufacture the same way. Unless so ordered, a car should not contain mixed lengths, *i. e.*, 10, 12, 14 and 16 feet, all thrown in together, as so many shippers are wont to load it. If different lengths must be shipped, load each one by itself and not promiscuously. It looks better and will sell far more readily.

TELL WHAT'S IN A CAR.

Don't write to your consignee and say, "I've just shipped you a car of lumber." Tell him what you have sent as nearly as possible. Say: "I have loaded a car of [give the kind] lumber for you, containing the following." Then give number of feet, number of pieces, thickness, length, how well seasoned, and any general remarks you may think will aid the seller in describing the lumber to a customer. If the stock is at all desirable, it will be sold by the time it arrives, and can be ordered

at once direct to its destination, with no demurrage or storage charges to eat into the profits. To merely say, "I've sent you some lumber," or, worse still, not to say anything about it, the consignee really knows nothing until he sees the stock, and must find a place for it, after it arrives, requiring so much time that very often it will have to be stored, which means that you have either bought your lumber at a very low price or that you and the profits are to remain strangers.

SEND BUT ONE GRADE.

It may be some trouble to select the grades, but it will pay to do so. One car of "log run" Poplar or Walnut will require more time to sell than it will take to dispose of ten, of all one grade lumber; beside this it will cost far more money to handle it, as it must be carted to as many different places as there are grades in the car. The above will apply as well to thicknesses, as

ONLY ONE THICKNESS

should be sent in the same car. While five men may want a car of inch lumber,

it will be hard to find one who will care for a car with three or four thicknesses; especially is this true of Poplar.

DON'T SELL WHAT YOU CANNOT FURNISH.

If mill men would be held close to their contracts, the above advice would be but useless words. The men to whom this does not apply need not take it to themselves, as I only wish to talk to the mill man who will positively agree to fill a specific order at a stated time, and when he finds it inconvenient to furnish the stock, quietly drops it, as though he had not given his word to furnish it. He forgets that the other man, especially if he should be a novice, may have in turn sold the order to arrive at a stated time, and not being able to furnish it, must pay for any loss occasioned by not filling the contract. Do what you agree to do. It may cost you money the first deal, but you will be placed upon the list of "square men," and you can always drive a better bargain for it, as you can be counted upon and your trade will be sought after.

WHAT RAILROAD TO PATRONIZE.

Many of my readers are located where they can have a choice of roads over which to send their lumber to market. It is not always the one with the most agreeable agent at the point of shipment who should get the patronage. It is the road that will aim to give you full value for your money, and be willing to promptly adjust an error where one has been made, and not tire you out by a species of red tape calculated to discourage you from ever again trying to get back what it has taken from your profits. Again, choose the road that will handle your lumber in lightering as though it were of value, and not to be thrown about and split by careless handling.

All shippers should see that the agent writes across the bill of lading

"LIGHTERAGE FREE,"

as most roads now will give free lighterage where it is so written across the bill. Otherwise there is an extra charge of 3 to 4½ cents per hundred pounds.

In these papers I may have said many things which would seem to be unneces-

sary, but there is not an absurd line in all the number, as each one will fit into some particular instance. To those who already know the requirements of this and other particular markets—and all markets are each year calling for better manufactured Hardwood lumber—I do not ask to take my advice to themselves, as I have been talking to that mill man who blindly works on year after year, wondering why he don't succeed. I want him to stop wondering and do his work better—do it as his successful competitor does his. It may require more care, but his bank account will show that he has stopped working for nothing.

WEIGHT OF LUMBER.

Shippers are often at a loss to know what it will cost them to market their lumber, even after they know the rate of freight from any given point. The following will be found to be a useful table. It is not infallable as lumber differs in weight owing to the degree of dryness, but it will be found quite accurate.

EXPLANATION OF TABLE.

First will be found the name of the wood, then its weight seasoned, after which, what the freight will be at 1 cent per hundred lbs. at 5 cents per hundred and lastly, at 10 cents per hundred. With its 1c., 5c. and 10c. given, any other rate can easily be calculated. Example: What will be the freight on 1,000 feet of Poplar on 23c. rate? Since 1,000 feet weigh 2,750 lbs, it will cost two 10c. and three 1c. as per the table,—*i. e.*, at 10c. it will cost $2.75, at 1c. 27½ cts.; therefore, two 10c.

will be $5.50 and three 1c. will be 82½ cents, or $6.32½ per M. feet.

KIND.	Weight seas'n'd	1c. rate.	5c. rate.	10c. rate.
Ash	3,500	35	$1 75	$3 50
Beech	4,500	45	2 25	4 50
Birch	3,000	30	1 50	3 00
Basswood	2,250	22½	1 12½	2 25
Butternut	2,200	22	1 10	2 20
Cherry	3,500	35	1 75	3 50
Chestnut	3,000	30	1 50	3 00
Cedar	3,000	30	1 50	3 00
Cottonwood	3,000	30	1 50	3 00
Cypress	3,000	30	1 50	3 00
Dogwood	4,000	40	2 00	4 00
Ebony	7,000	70	3 50	7 00
Elm	3,000	30	1 50	3 00
Hemlock	2,000	20	1 00	2 00
Hickory	4,500	45	2 25	4 50
Holly	4,500	45	2 25	4 50
Mahogany	4,500	45	2 25	4 50
Maple	4,300	43	2 15	4 30
Oak	4,500	45	2 25	4 50
Pine, Pitch	4,000	40	2 00	4 00
Pine, White	2,750	27½	1 37½	2 75
Pine, Yellow	3,200	32	1 60	3 20
Poplar	2,750	27½	1 37½	2 75
Sycamore	4,000	40	2 00	4 00
Walnut	3,500	35	1 75	3 50

Kind.	Weight.	1c rate	5c. rate.	10c. rate.
Green Norway	4,000	40	$2.00	$4.00
Dry "	3,000	30	1.50	3.00
Green White Pine	3,500	35	1.75	3.50
Dry " "	2,750	27½	1.37½	2.75
" " " surfaced	2,300	23	1.15	2.30
White Pine flooring	2,000	20	1.00	2.00
" " pat. siding	2,000	20	1.00	2.00
" " bevel " and ⅜ in. ceiling	800	8	40	80
½ in. ceiling	900	9	45	90
⅝ " "	1,000	10	50	1.00
Dry 18 in. shingles	300	3	15	30
Green 18 in. "	400	4	20	40
Dry White Pine lath	500	5	25	50
Green " " "	750	7½	37½	75
Dry 16 in. shingles	240	2⅖	12	24
" " " "	300	3	15	30

WEIGHTS OF DOORS, SASH AND BLINDS.

DOORS.

Size.	1 3-16	1 3-8	1 3-4
4 panel, 2-6x6 6....	32 lb.	35 lb.	47 lb.
4 " 2-8x6-8....	34 "	38 "	50 "
4 " 2-10x6-10.	3⁵ "	42 "	54 "
4 " 3x7. .	38 "	48 "	60 "

Four panel, 2 ft. 6 in. x 6 ft. 6 in., 26 lb.

FOUR LIGHT WINDOWS, CHECK RAIL.

Size.	Thickness.	Glazed	Unglazed.
12 x 24	1 3 8	21½ lb.	11 lb.
12 x 28.....	"	24 "	11½ "
12 x 32.....	"	26 "	13 "
12 x 36.....	"	30 "	14 "
14 x 30.....	"	28 "	11¾ "
14 x 32.....	"	30¾ "	12¾ "
14 x 34.....	"	35 "	13½ "
14 x 36..... ..	"	33 "	15 "

EIGHT LIGHT WINDOWS.

9 x 12.	1 3 8	17 lb.	8 lb.
10 x 14.....	"	19 "	11 "
10 x 16	"	22 "	12 "
12 x 14.....	"	23 "	11 "
12 x 16.....	"	24 "	12 "
12 x 18.....	"	27 "	13 "
12 x 20	"	32 "	14 "

TWELVE LIGHT WINDOWS.

8 x 10.....	1 3 16	14 lb.	6 lb.
9 x 12..... ..	"	18 "	8 "
9 x 12	1 3-8	21 "	9 "
10 x 14.....	"	26 "	11 "
10 x 16.....	"	27 "	12 "
10 x 18	"	33 "	13 "

BLINDS, TWELVE LIGHT WINDOWS.

8 x 10.....	1 3-16	14 lb.
9 x 12.....	"	17 "
10 x 14...	"	20 "
10 x 16	"	22 "
10 x 18.....	"	24 "
10 x 20.....	"	27 "

Mouldings, 1x1 in., per 100 ft. lineal, 16 lb.

This table is from the "Timberman's Ready Reckoner," by kind permission of the author, J. E. Defcpaugh.

PART THIRD.

SQUARES.

Around every saw mill there is always a lot of odds and ends of Walnut to be found, which can be cut into squares to good profit, since they cost but the time and labor of sawing them. Small logs and large tops of trees may also be cut into squares, and if carefully sawed, will pay for the labor of collecting. To saw squares to advantage, a mill must be provided with a small saw bench with rip and cut-off saws. The latter should be arranged to swing.

Squares must be in a manner perfect, free from sap and knots, and cut true and full thickness. If, however, a small knot or a little sap appear on the corners, or where it will turn off, it will pass, but there will always be a question as to how little or how much will be allowed. Therefore, to

be sure of a sale in the one case, cut off the knot and make the square one length shorter, and in the other, cut off the sap and make it the next size smaller.

They should always be made a little longer than the length to be used, in order that the ends can be squared.

All short lengths and sizes under 4 inches should be bundled and tied with tarred twine, as the time it takes at the mill where labor is cheap is far more than made up where it costs 25 to 40 cents an hour to handle them one at a time.

NEWELS.

In cutting newels, never leave the heart in any piece, with the impression that it can be bored out and serve as well as though it had been clear. It is possible you may find a buyer, but the chances are that it will take so *long* to find him that your newels will be worthless from splitting, by the time he is found. This is true also of lumber. Never cut heavy lumber from the heart. It will split in drying.

SIZES OF SQUARES.

Some sized squares are used the same lengths in all markets, while again other sizes are peculiar to particular markets.

NEW YORK SIZES.

Chair and Lounge Stock.

1¼x1¼, 16, 18 inches, Walnut.
1½x1½, 18, 24 " "
1⅝x1⅝, 18 " "
1¾x1¾, 18 " "
2x2, 14, 18, 24 inches Walnut and Cherry.
2¼x2¼, 12, 24 " " "
2½x2½, 12, 24 " " "

BALUSTERS.

Walnut, Cherry, Ash.

1½x1½, one-fourth 28, three-fourths, 32.
1¾x1¾, " " " "
2 x2, " " " "
2¼x2¼, " " " "
2½x2½, " " " "
3 x3, " " " "

Any multiple of the above lengths will do if allowance is made for cutting off to the proper length.

TABLE LEGS.

Walnut, Cherry, Ash.

3x3, 28.

NEWELS.

Walnut, Cherry, Ash, Poplar.

4x4, 12, 14, 16 feet long.
5x5, " " " "
6x6, " " " "
7x7, " " " "
8x8, " " " "

PHILADELPHIA SIZES.

This market differs from New York in two particulars. The balusters run one-fourth 32 in. and three-fourths 36 in., and will take newel posts 4 feet long ; *i. e.*, it does not object to them that length, while New York does. Other markets use about the same as the two given, with possibly some minor differences. Of all the sizes, the balusters are the best, since the proportion used is so much greater than the other dimensions.

SIZES FOR THE ENGLISH MARKET.

The following are the prevailing sizes called for in the English markets :

2 x2x 16½ and 28.
2¼x2¼x10½, 16½ and 28.
2½x2½x16½ and 28.
3 x3 x10½ and 28.
3½x3½x26, 5 per cent.
4 x4 x26, 45 per cent.
4½x4½x26, 20 per cent.
5 x5 x26, 12 per cent.
5½x5½x26, 9 per cent.
6 x6 x26, 9 per cent.

The demand for the first three sizes is always good, the next size is fair, and for the others, I have followed each by about the per cent. of the demand for that particular size.

In sawing, bear in mind that these lengths or any multiples will be taken. The longer the square can be cut the better, and the larger the more valuable it is.

SIZES FOR THE GERMAN MARKET.

This market is a distributing point for Russia and all the surrounding countries of Germany.

The following are the prevailing sizes :

1½x1½x28 and 32.
2 x2 x28, 30, 32 and 36.
2½x2½x " " " "
3 x3 x " " " "
3½x3½x " " " "
4 x4 x " " " "
4½x4½x " " " "
5 x5 x36.

Very little demand for the first two sizes, and good demand for the 2½ and the 3. The best lengths are 30 and 32 inches.

GARD'S DECIMAL SQUARE RULE.

The following rule will be found indispensable to all mill men who cut out squares, and to yard dealers who sell them.

By means of the decimal, much time and work are saved.

EXPLANATION OF THE TABLE.

In the left hand column will be found the length in inches, or further down the length in feet, and at the top of the page you will find the size of the square, and beneath the decimal of each length. When you wish to find the contents of any number of squares you multiply this number by

the decimal opposite the length of the squares and point off as many figures as there are decimals. The amount before the decimal point will be the contents in feet.

EXAMPLE.

How many feet are there in 655 pieces 3×3×30 ? The number opposite this dimension will be found to be 1·875, *i. e.*, one foot and eight hundred and seventy-five one thousandth of a foot. Multiply first by the whole foot—655 feet, then by the decimal ·875=573,125 ; mark off the 125 and you have 573. 655 and 573, contents, 1,228 feet. If the decimal begin with a 0, as ·092, you multiply by the 92, but mark off three figures just the same.

L.	1¼ × 1¼.	L.	1⅝ × 1⅝.
In.	Dec. Ft.	In.	Dec. Ft.
12	0·13	12	0·22
13	0·141	13	0·238
14	0·151	14	0 256
15	0·162	15	0·275
16	0·173	16	0 293
17	0·185	17	0·311
18	0·195	18	0 33
19	0 206	19	0·348
20	0 215	20	0·366
21	0·227	21	0·385
22	0 238	22	0·403
23	0·249	23	0·422
24	0 26	24	0 44
25	0·271	25	0·458
26	0 282	26	0·476
27	0 292	27	0 495
28	0 303	28	0 513
29	0·314	29	0·531
30	0·325	30	0 55
31	0·336	31	0·568
32	0·347	32	0·586
33	0·358	33	0 605
34	0 369	34	0·623
35	0 379	35	0·641
36	0·39	36	0·66
Ft.		Ft.	
4	0·52	4	0·88
5	0·651	5	1 091
6	0·781	6	1·32
7	0·911	7	1·54
8	1 041	8	1·76
9	1·171	9	1·98
10	1·302	10	2·198
11	1·431	11	2·419
12	1 562	12	2·64

L.	1½ × 1½.	L.	1¾ × 1¾.
In.	Dec. Ft.	In.	Dec. Ft.
12	0·187	12	0 255
13	0·203	13	0·276
14	0·218	14	0·297
15	0·234	15	0·319
16	0·25	16	0·34
17	0·265	17	0·361
18	0·281	18	0·382
19	0·297	19	0·404
20	0·312	20	0·425
21	0·328	21	0·446
22	0·343	22	0·467
23	0·359	23	0·489
24	0·375	24	0·51
25	0·39	25	0·531
26	0·406	26	0·553
27	0·421	27	0·574
28	0 437	28	0·595
29	0·453	29	0·616
30	0·468	30	0·638
31	0·484	31	0·658
32	0·5	32	0·68
33	0·515	33	0·701
34	0·531	34	0·723
35	0·546	35	0·744
36	0·562	36	0·765
Ft.		Ft.	
4	0·75	4	1·02
5	0·937	5	1·276
6	1·125	6	1·531
7	1·312	7	1·786
8	1·5	8	2·041
9	1·687	9	2·296
10	1·875	10	2·552
11	2 062	11	2·807
12	2·25	12	3·062

L.	2 × 2.	L.	2¼ × 2¼.
In.	Dec. Ft.	In.	Dec. Ft.
12	0·333	12	0·421
13	0·361	13	0 457
14	0·388	14	0·492
15	0 416	15	0·527
16	0·444	16	0·562
17	0·472	17	0·597
18	0 5	18	0·632
19	0·527	19	0 667
20	0 555	20	0 703
21	0·583	21	0·738
22	0·611	22	0·773
23	0·638	23	0·809
24	0·666	24	0·843
25	0·694	25	0·878
26	0·722	26	0 914
27	0 75	27	0·949
28	0·777	28	0·984
29	0·805	29	1·019
30	0·833	30	1·054
31	0·861	31	1 089
32	0·888	32	1·125
33	0·916	33	1·16
34	0·944	34	1·195
35	0·972	35	1·23
36	1·	36	1·265
Ft.		Ft.	
4	1·333	4	1·687
5	1·666	5	2·109
6	2·	6	2·531
7	2·333	7	2·953
8	2·666	8	3·375
9	3·	9	3 796
10	3·333	10	4·218
11	3·666	11	4·64
12	4·	12	5·062

L.	2½ × 2½.	L.	3 × 3.
In.	Dec. Ft.	In.	Dec. Ft.
12	0·52	12	0·75
13	0·564	13	0·812
14	0·607	14	0·875
15	0·651	15	0·944
16	0·695	16	1·
17	0·739	17	1·062
18	0·781	18	1·125
19	0·824	19	1·187
20	0 868	20	1·25
21	0·911	21	1·312
22	0 954	22	1 375
23	0·998	23	1·437
24	1 041	24	1·5
25	1·085	25	1·562
26	1·128	26	1·625
27	1.171	27	1 687
28	1·215	28	1·75
29	1·258	29	1·812
30	1·302	30	1·875
31	1·352	31	1·937
32	1·388	32	2·
33	1·432	33	2·062
34	1·475	34	2·125
35	1 519	35	2·187
36	1·562	36	2·25
Ft.		Ft.	
4	2 083	4	3·
5	2·604	5	3·75
6	3·125	6	4·5
7	3 645	7	5·25
8	4·166	8	6·
9	4 687	9	6·75
10	5 208	10	7·5
11	5·729	11	8·25
12	6·25	12	9·

L.	3½ ×3½.	L.	4 × 4.
In.	Dec. Ft.	In.	Dec. Ft.
12	1·02	12	1·333
13	1 105	13	1·444
14	1·19	14	1·555
15	1·276	15	1·666
16	1·361	16	1·777
17	1·446	17	1·888
18	1·531	18	2·
19	1·616	19	2·111
20	1·701	20	2·222
21	1·786	21	2·333
22	1·871	22	2·444
23	1·956	23	2·555
24	2·041	24	2·666
25	2 126	25	2·777
26	2·211	26	2·888
27	2·296	27	3·
28	2·381	28	3·111
29	2·467	29	3·222
30	2·552	30	3·333
31	2·637	31	3·444
32	2·722	32	3·555
33	2·807	33	3·666
34	2·892	34	3·777
35	2·977	35	3·888
36	3·062	36	4·
Ft.		Ft.	
4	4·083	4	5·333
5	5·104	5	6·666
6	6·125	6	8·
7	7·145	7	9·333
8	8·166	8	10·666
9	9·187	9	12·
10	10·208	10	13·333
11	11·229	11	14·666
12	12 25	12	16·

L.	4½ × 4½.	L.	5 × 5.
In.	Dec. Ft.	In.	Dec. Ft.
12	1·687	12	2·083
13	1·828	13	2·256
14	1·968	14	2·43
15	2·109	15	2·604
16	2·25	16	2·777
17	2·39	17	2·951
18	2·531	18	3·121
19	2·671	19	3·298
20	2·812	20	3·472
21	2 953	21	3·645
22	3·093	22	3·819
23	3·234	23	3·993
24	3·375	24	4·166
25	3·515	25	4·34
26	3·656	26	4·514
27	3·796	27	4·687
28	3 937	28	4·861
29	4·078	29	5·034
30	4·218	30	5·208
31	4·359	31	5·381
32	4·5	32	5·555
33	4·64	33	5·729
34	4·781	34	5·902
35	4·927	35	6·076
36	5·062	36	6·25
Ft.		Ft.	
4	6·75	4	8·333
5	8·437	5	10·416
6	10·125	6	12·5
7	11·812	7	14·583
8	13·5	8	16·666
9	15·187	9	18·75
10	16·875	10	20·833
11	18·562	11	22·916
12	20·25	12	25·

L.	5½ ×5½.	L.	6 × 6.
In.	Dec. Ft.	In.	Dec. Ft.
12	2·52	12	3·
13	2·73	13	3·25
14	2·94	14	3·5
15	3 151	15	3·75
16	3·361	16	4·
17	3·571	17	4·25
18	3 781	18	4·5
19	3·991	19	4·75
20	4·201	20	5·
21	4·411	21	5·25
22	4·621	22	5·5
23	4·831	23	5·75
24	5·041	24	6·
25	5·251	25	6·25
26	5·461	26	6·5
27	5·671	27	6·75
28	5·881	28	7·
29	6·092	29	7·25
30	6·302	30	7·5
31	6·512	31	7·75
32	6·722	32	8·
33	6·932	33	8·25
34	7·142	34	8·50
35	7·352	35	8·75
36	7·562	36	9·
Ft.		Ft.	
4	10·083	4	12·
5	12·604	5	15·
6	15·125	6	18·
7	17·645	7	21·
8	20·166	8	24·
9	22·687	9	27·
10	25 208	10	30·
11	27·729	11	33·
12	30·25	12	36·

PART FOURTH.

MISCELLANEOUS.

POINTS IN EXPORTING LOGS AND LUMBER.

The exporter who makes money is not the man who sends his stock haphazard to some market, not knowing the condition of that market. Even at the best, the risk is always great, for while any particular port may be reported good, there may be on the way to that very port enough to overstock it and bring down the prices to a point below what it has cost you to land your stock. In exporting, like in many other things, it is the new shipper who breaks the market. He hears that in a certain foreign port logs and lumber are scarce and that the price obtained at a late sale was very high indeed. He at once concludes to try a shipment, which he does; and if he is

very new, he will put no limit on his stock, which gets into the aforesaid port along with consignments of a hundred other new shippers, and his stock is sold "at the best price you can get," which is often so low that the indvidual in question has no desire to try again. While it is always the better plan to sell at home, if a fair price is obtainable, yet, if you prefer to try a shipment, be careful to have as your commission dealers in the market to which you wish to consign your stock a reliable firm who will look after your as well as their own interests. Above all else, put a limit on your goods. State the very least you must get for them, and then, if they don't sell, you will at least have the satisfaction of knowing that you were not the means of a criterion for low prices. If each shipper would do this, would hold his stock rather than sacrifice it, in order to make a sale, the market would soon take stock at a paying figure. Again, beware of the man or firm who will, by false high prices, induce you to consign your stock, as no matter how good your logs or lumber are, they are never up to that standard on

which the false report was based. Again, don't be misled by reported high prices. Be careful to first know how much of them must come off for expenses, for although "free trade" waves on most of the flags over those harbors, yet, by the time you foot up the "account of sales," you will think there is as much protection to the square foot as can be found at home.

I cannot but again insist on your sending nothing but good stock, for, at best, the accumulations of years has kept the foreign markets over supplied with what they don't want, and when you send any more they are not going to pay you a premium for your labors. Hence, if you have stock to give away, make the donation nearer home and save freight.

CHARCOAL.

The pernicious custom of burning charcoal in the old way, wherein everything of value is burned out of the wood, should be done away with. We would set that man down as a very foolish one indeed who would burn a cord of wood, not for its heat, but for the ashes he might get from

it. And yet this is about what our old-fashioned charcoal burners do. They burn valuable wood and receive back but very little more than the cost of production, not counting their wood as worth anything. By a new process, all the valuable products of the wood are saved to the burner.

A large iron retort is filled with wood and heated from beneath, to 500 or 600 degrees. The liquid parts are given off in a vapor which, in turn, is conducted through an iron worm in the ordinary way of distillation. By experiment, ten cords of hard Pine yielded 180 bushels of charcoal, 16 barrels of creosote oil, 11 barrels of acid,and a few gallons of naphtha and bitumen. The acid or wood vinegar alone paid all the expenses of the experiment.

TIMBER LANDS.

No doubt this little volume will fall into the hands of many owners of timber lands, and a word of advice may not fall amiss to them, especially should they have these lands for sale.

As I have said in another part of the book, "Tell what you have to offer," and

tell it in a way that your correspondent may know what you have. Do not say that you have a nice body of timber land located in this or that portion of Uncle Samuel's farm, but write to him something definite. Suppose, for instance, I have 500 acres of land located in a hardwood country, and I wish to dispose of it, and have found a possible purchaser, who writes to know what is on the land. I want to convey a description so plain that he will at once form a picture of the tract and sit down and calculate its value to him. I would write something like the following :

MR. A———

Dear Sir : I have a tract of 500 acres of hardwood timber land, located in Hoop-pole Township, Posey County, Ind. The soil is black, the land rolling, and excellent for corn when cleared. It lies — miles from —— railroad, with good road to haul over. It contains Walnut, Poplar, Ash, and Oak. I counted the Walnut, and find there are 175 trees that measure over 80 in. in circumference—measured with tape line, head high. These trees will ave-

rage four 12 foot logs. There are 300 Ash trees which measure 75 inches and over, and will run four logs to the tree. The Oak is mostly white, and will run 50 trees to the acre. It will measure 100 inches and upward, is tall and very straight. The Poplar—3,000 trees—is large, very little of it will run less than 120 inches in circumference, and will average five logs per tree. There are other varieties of timber, but of not much value.

The rate of freight to New York is — cents per hundred. You can get good lumbermen here at — per day, and two-horse teams at — per day.

For this land I want $— per acre, — cash, balance in — and — years, or as the timber is cut off. If this is satisfactory, will be pleased to show you the land.

Respectfully yours, J. S.

I have said "circumference" instead of diameter. The fault with the average man is to take the measurement of a tree with the tape line, then divide by three, thinking to thus find the diameter. It is a mistake, as there never was a tree the third of whose circumference would indicate the

diameter of the first log. The heavy bark must be taken into consideration.

When Mr. A. reads this, or what you write, he can at once determine whether he wants to continue the negotiations. He has something definite before him. Never exaggerate what your land contains, with the hope of making a sale. It puts your correspondent to an expense of time and money, and nothing is accomplished. The above letter is a mild form of one the writer once received. It took two days and $25 to find out the difference between the description and the tract itself, which, by the way, proved to be a piece of swamp land with a few "scrub" Oaks.

The writer of the letter we have not had the pleasure of meeting since, and in consequence he is still living, but too mean to return the $25.

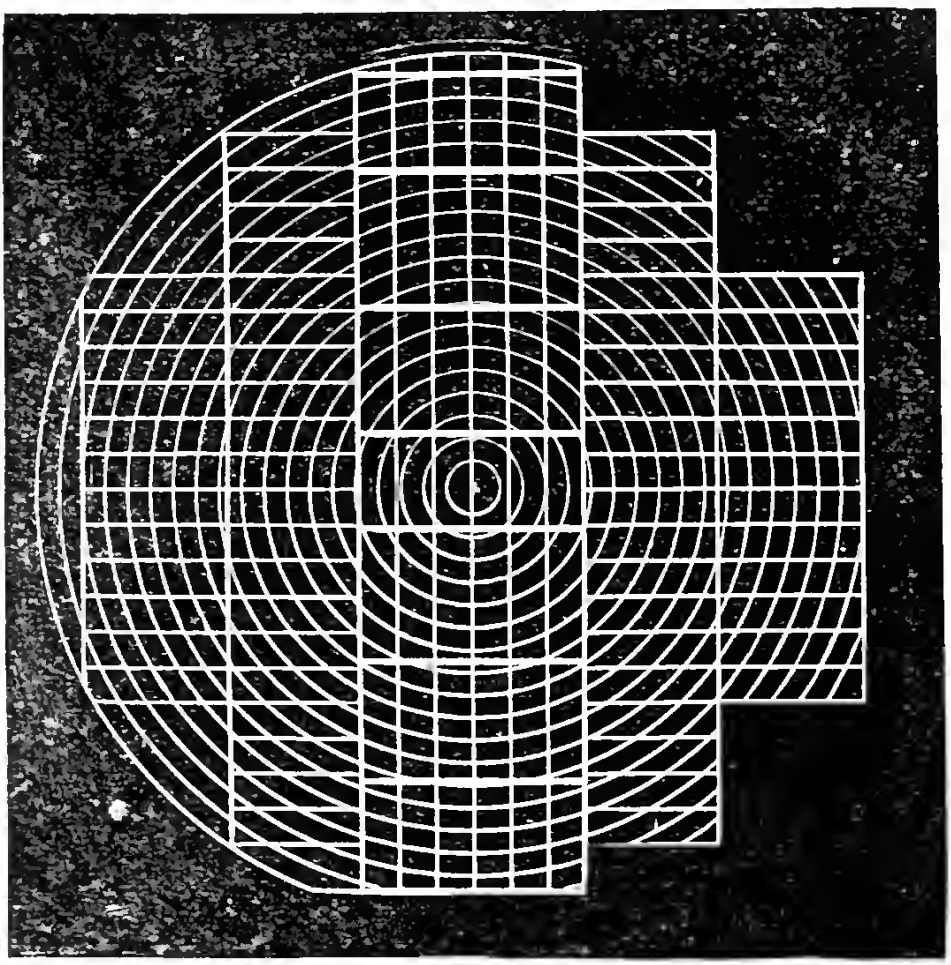
POPLAR.

This valuable wood has had a hard struggle to establish itself, but now that its worth has been proved, as a fine inside trim and for inside doors, not to mention its value as a furniture wood and many other uses, it will be well to see that it takes

its position up alongside of other lumber which, though no better, now sells much higher. If the manufacturers of Poplar will prepare it as they should, and take proper care of it, and send it in to market bright and nice, it will not be long until the prices will advance, as even now they are advancing. I saw a house, a few days ago, finished throughout with Poplar, or, as it is incorrectly called here, Whitewood. I had to examine very closely before I could tell it from a Cherry finish, so nearly did it resemble that wood when stained. The owner of the house has long used Poplar for doors. He claims that he prefers it to Pine, as when properly kiln dried it will hold to place fully as well as Pine, and unlike the dead, dull look of Pine, it has a bright, cheery appearance. Poplar has a great future and the wise owner of this wood will see that it will bring its value, or he will leave it stand a few years longer, as the price cannot long remain where it is.

HOW TO RIFT-SAW FLOORING.

"Why don't you treat on rift-sawing flooring?" asked a Pine dealer just as I was ready to write "The End." Not wishing to give some one else's theory, I went at once to a mill, and after much ex-



perimenting, I hit upon a plan, and was happily surprised, when it had been practically tested, to find that nearly every board in the log sawed showed a fine grain.

The plan is so simple and so easily followed that no one need say that it takes too long and is too much trouble to rift saw flooring! It can be done as fast as the old way.

Take, for example, a 22 inch log, slab enough to give a face to set on the head blocks solidly. If you wish to cut 3½ in. flooring, you take off a slab, then cut two 3½ in. flitches, which brings you to within about two inches of the heart. As the grain is now a perfect quarter, you can saw out four one inch boards. The other half of the log can be sawed into two 3½ inch flitches as before. These cants or flitches are next placed upon the carriage and ripped into flooring thickness. The four center boards being already rift grain, can be sawed into the required width. If you have gang saws, these cants are readily run through. There is no occasion for first squaring the log, as the flitches can be handled quite as readily as though squared. Larger or smaller logs can be sawed in the same proportion as my example. It will be found that more comb grain or rift lumber can be sawed from a log in this way than by any other, and in half the time. Try it.

A VALUABLE TALLY BOOK.

One of the most complete tally books I have ever seen is the one published by A. A. BROWN, editor of the *Lumber Worker*, 62 Longworth st., Cincinnati, Ohio. It contains everything, from a *great multiplication table*, by which you can count up the tally of a car load of lumber in a very few minutes, down through all the necessary things to keep as record. *No yard dealer*, *wholesale operator* or *commission man* can afford not to send MR. BROWN fifty cents for a copy.

INDEX.

PART THIRD.

PART FOURTH.

Miscellaneous.

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AND

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