

No. 702,200.

Patented June 10, 1902.

J. GREENE.
LUMBER MEASURE.

(Application filed June 10, 1901.)

(No Model.)

Fig. I.

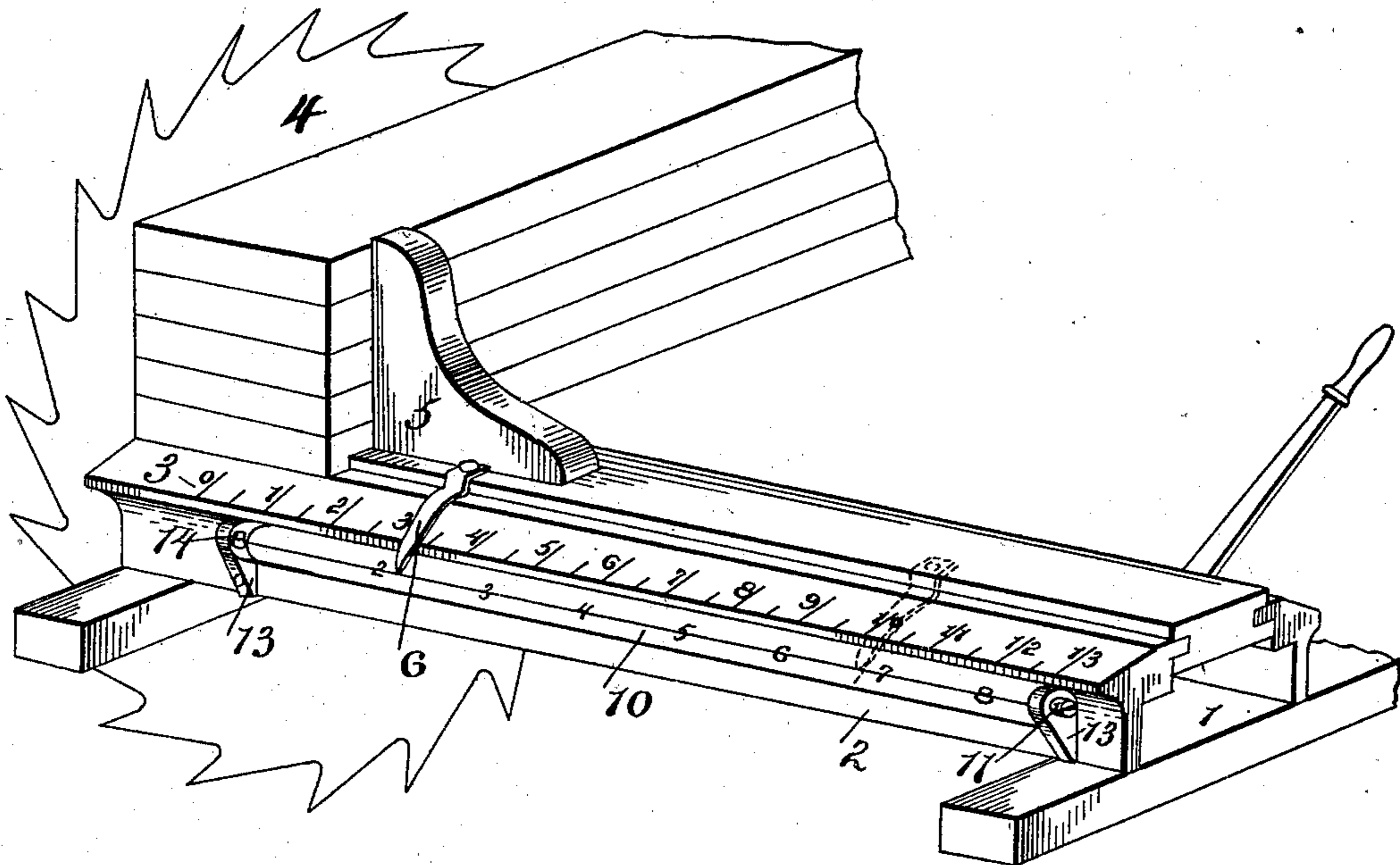


Fig. II.

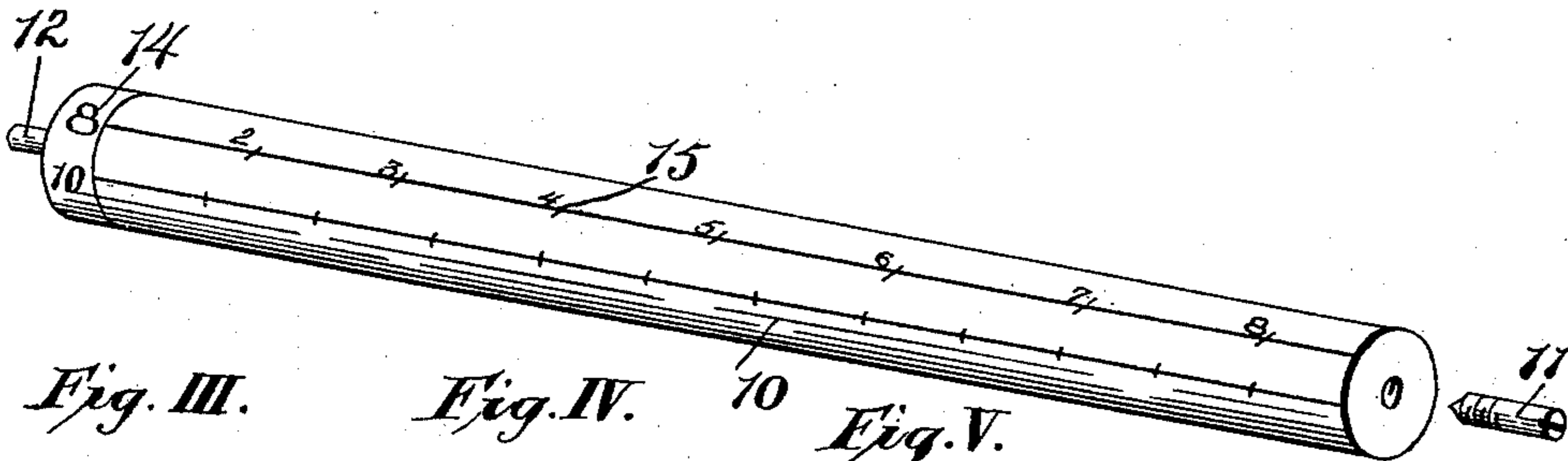


Fig. III.

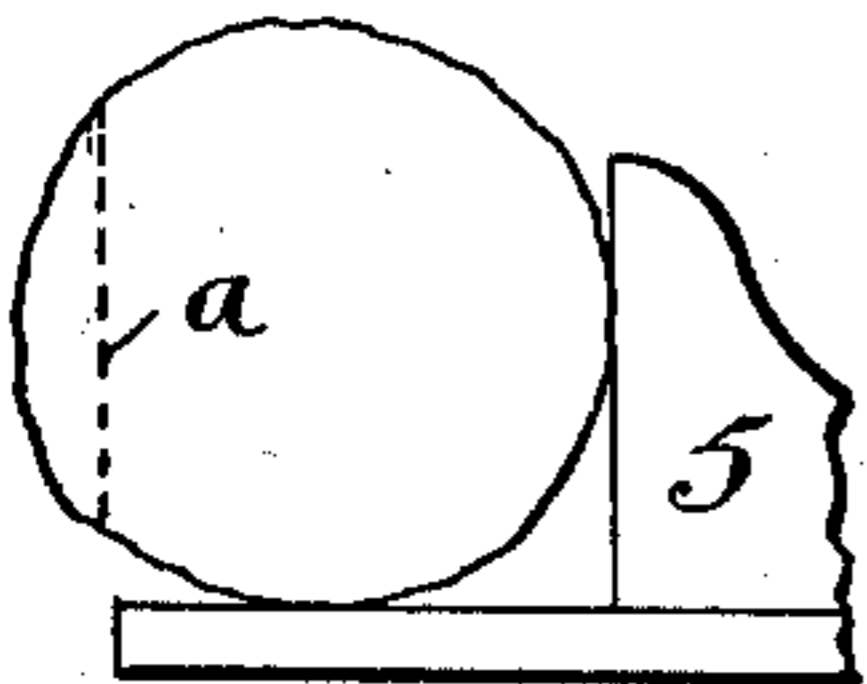


Fig. IV.

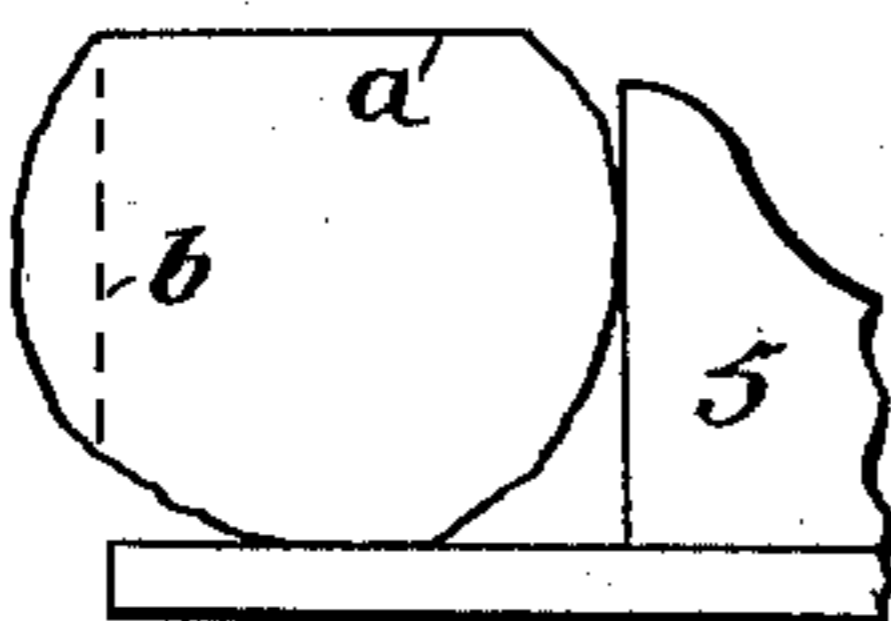


Fig. V.

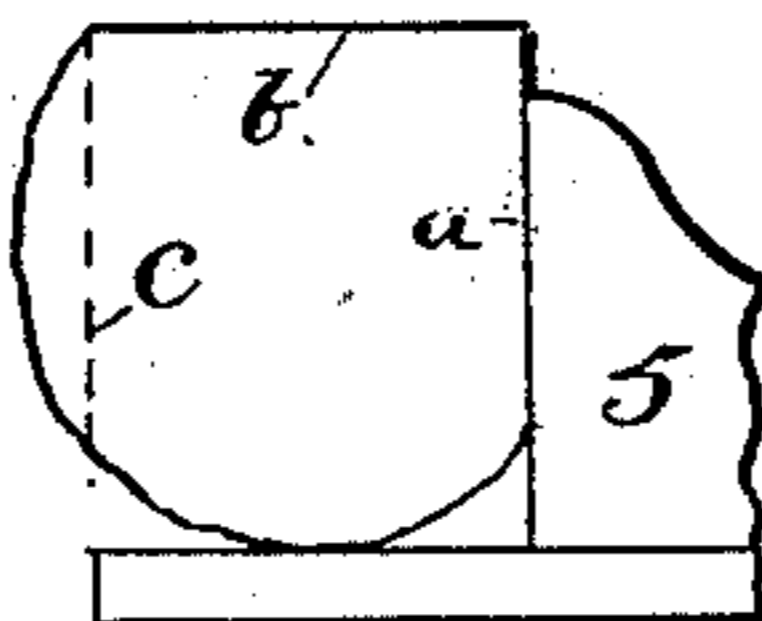
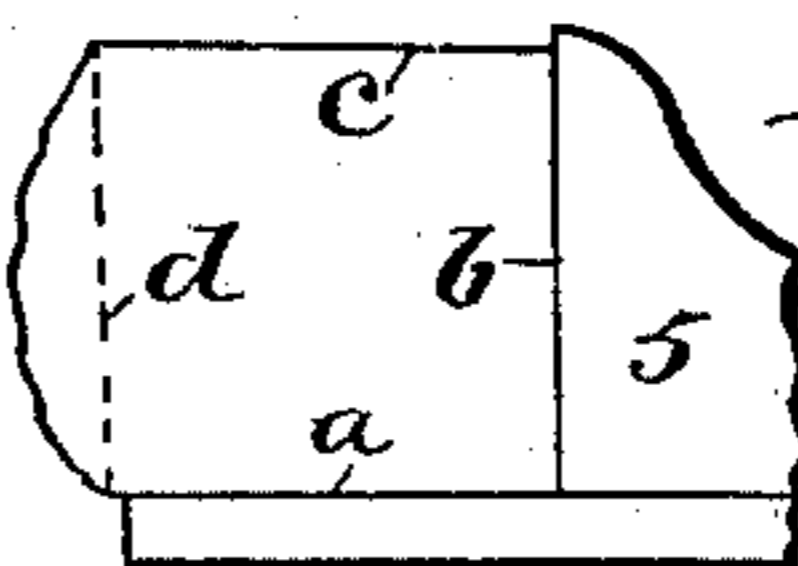


Fig. VI.



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UNITED STATES PATENT OFFICE.

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LUMBER-MEASURE.

SPECIFICATION forming part of Letters Patent No. 702,200, dated June 10, 1902.

Application filed June 10, 1901. Serial No. 63,962. (No model.)

To all whom it may concern:

Be it known that I, JOHN GREENE, a citizen of the United States, and a resident of Reese, Watauga county, State of North Carolina, have invented certain new and useful Improvements in Lumber-Measures; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to wood-sawing machines, and more especially to devices employed therein for measuring boards and lumber; and the object of the same is to provide means on the head-block of a sawmill-carriage for enabling the operator to saw boards each of which shall contain an even number of feet, thus obviating fractions in calculating by board-measure or lumber-measure. Heretofore devices very much similar in character have been used for enabling the operator to saw lumber of any given width or thickness, and hence both, and therefore enabling him to saw lumber whereof each piece should be of the desired size or contain a desired amount of lumber as governed by lumber-measure; but I am not aware that a device of this kind has heretofore been constructed wherein the sawing shall be calculated to produce pieces or boards having an exactly even number of board feet in them, for the devices above mentioned, while sawing lumber of the desired width and thickness, produced lumber which did not always measure up to an even number of feet by lumber-measure.

It is well known that by the use of the ordinary lumber-stick now employed by lumbermen and by which boards are rapidly measured as they are turned out by the mill the amount of lumber contained in each board of a given thickness is rapidly calculated and called off to a second operator, who jots it down on a memorandum, and by reason of the rapidity and also the difference in the various totals resulting from the sawing of boards of different lengths it is impossible to call off and jot down more than the even number of feet by board-measure. This results in allowing a little loss on almost every board, and the aggregate loss in a day's work is considerable.

The object of the present invention is to avoid this loss and also to permit the lumberman in slabbing or squaring his log to give the latter the proper dimension along the plane to be followed by the saw, so that each board cut from that log will contain an even number of board feet, to which end it consists in a device constructed and used substantially as hereinafter described, and as shown in the accompanying drawings, wherein—

Figure I is a perspective view of part of the sawmill-carriage, illustrating my invention in use. Fig. II is a perspective detail of the roller, showing its removable stub-shaft. Figs. III to VI are diagrammatic views showing the manner of squaring or slabbing a log by the use of my invention.

Referring to the said drawings, 1 is the carriage. 2 is the head-block thereon. 3 is the usual scale marked on this head-block in inches and fractions thereof spaced from the line occupied by the saw-blade 4.

5 is the knee, moving longitudinally in a slot or guide within the head-block, and adapted to be set by mechanism not necessary to illustrate herein, and 6 is a pointer projecting from this knee forward across the scale 3, as shown.

Coming now more particularly to the present invention, 10 is a roller having stub-shafts 11 and 12, journaled in bearings 13, carried by the head-block, so that it will stand adjacent the scale 3 and where the tip of the pointer 6 can project over the roller for a purpose to appear below. One of these stub-shafts, as 11 in Fig. II, is removable from the roller in any suitable manner, (in the drawings it is shown as a screw which can be withdrawn when desired,) and this arrangement permits another roller to be substituted when needed. This roller is ruled longitudinally with lines, and at one end of each line is marked a numeral "14," indicating the length of the log or board, while along the line is a scale adjacent whose marks are numbers "15." The latter designate the even feet of board-measure which will be produced if the knee is initially so set that the pointer 6 will stand exactly over one of these scale-marks, and, as explained below, they can be used to similarly designate the even feet of cubic or lumber

measure in the same way. In either event these numbers "15" represent the product of all dimensions which the work will finally possess.

5 In the use of the described device by a lumberman when slabbing or squaring a log the method employed is as follows, reference being had to Figs. III to VI, inclusive: In Fig. III a round log is placed upon the head-block
10 2 against the knee 5, and the dotted line *a* indicates where the saw will cut. The cut is then made and the left-hand slab removed. The log is then turned to the position shown in Fig. IV, where the dotted line *b* indicates
15 the path of the saw. The second slab is then cut off and the log turned to the position shown in Fig. V. Here by the former method the square to which the log was to be brought was determined—that is to say, the distance
20 from *a* to *c* was at this time made the same as the distance from *b* to the prospective line *d*. (See Fig. VI.) By the use of my present invention, however, the lumberman at this time instead of measuring the log sets the
25 knee so that the tip of the pointer 6 stands over an even number of feet of board-measure on the roller 10, that number being the greatest that can possibly be sawed with the distance from *a* to *c* such as will produce no
30 "seconds," or if he has use for seconds he can saw one out of the third slab and then make the adjustment just described. The log is then turned to the position shown in Fig. VI and the fourth slab sawed off on the line *d*.
35 The scale-marks designated by the numbers "15" represent such a distance of the knee from the plane of the saw as, expressed in inches and multiplied by the length of the log or board, (which is indicated by the number
40 "14" at the end of the line,) will produce an even number of square feet or board-measure. The distance of the knee back from the plane of the saw in Fig. V represents the width of the boards which will be sawed from the log when
45 turned to and finally dogged in the position shown in Fig. VI. Then, assuming that the boards are to be one inch in thickness, after every board is sawed from the log in a plane extending from *a* to *c* the set-works move the
50 knee forward just the proper distance. Thus by the use of my present invention every board sawed from this log will contain an even number of feet in board-measure.

A specific use of this device may be described as follows: The machine is set in the
55 drawings for lumber eight feet long, and hence the numeral "8" at the point 14 on the roller 10 stands exposed to view. If the knee 5 is adjusted so that the pointer 6 stands over
60 the number "10" on the scale 3, which is the old practice, and an eight-foot log is cut on the line *c*, Fig. V, and then turned, as in Fig. VI, and sawed into boards each one inch thick and ten inches wide, each board will
65 contain a little less than seven feet of lumber. If the operator uses his lumber-stick to measure these boards after they are sawed out

by the rule of discarding fractions, as above explained, he will call off "six" to the scorer, and a considerable aggregate of fractions will
70 be lost. In the illustration the pointer 6 continues down over the scale on the roller, which here corresponds with the lumber-stick. By use of the method involved in the present
75 invention, however, the knee is adjusted so that the tip of the pointer 6 stands over the number "7" on the roller 10, which is the nearest mark on said roller to the figure "10" on scale 3 and yet be within the dimensions
80 of the log, the result being that boards sawed after the log be turned, as shown in Fig. VI, will contain exactly seven feet of lumber. Upon glancing at the scale 3 it will be observed that this dimension is about ten and
85 one-half inches, and that will be the width of each board. If the board so sawed is the first one off of a log and the knee is set one inch (allowing for the kerf) at each move-
90 ment, each board sawed off that log will contain exactly seven feet of board-measure and will be ten and one-half inches wide, one inch thick, and eight feet long. The same operation can be employed with lumber of different
95 length by turning the roller so that the proper number "14" and proper scale "15" are employed with the pointer. It therefore appears that by attaching to the ordinary head-block
now in use a roller marked as above indicated and by substituting a pointer long enough to
100 reach over the usual scale 3 down onto this roller the following advantage is gained: Without destroying the possibility of using the pointer 6 and scale 3 in the ordinary manner when this pointer is used with a certain
105 scale on the roller each board sawed from a log which has first been squared while the knee was set with the pointer coacting with the roller will contain exactly an even number of feet of board-measure, and there will be practically no waste, which is due under the present
110 practice to discarding the fractions. At the same time a glance at the scale 3 will indicate the exact width of each board cut from this log or will indicate the exact dimensions to which the log must first be squared.
115

I have described my device above as adapted merely for board or surface measure; but it is obvious that the roller may be also calculated to determine even feet in cubic measure. In such case the scale-markings on the
120 roller will indicate the distance of the knee from the plane of the saw, which, multiplied by the length of the log and the thickness of the board desired, would result in even feet of cubic measure, and of course the set-works
125 should then be set to advance the logs for the final cuts into boards of the desired thickness.

The removability of the roller above described provides for the interchangeable use of rollers calculated for either board or cubic
130 measure, although the same roller may be provided with double sets of scales for the two purposes. If the rollers are made interchangeable, each roller by preference is ap-

propriated to one thickness of lumber with various lengths stamped in numbers respectively adjacent its various scales. A single roller could be employed having several lines of each length, the lines properly marked for varying thicknesses; but this arrangement would possibly require so large a roller as to be cumbrous. In any event suitable means may be employed for permitting the removability of the roller, although only one of such means is described above.

What is claimed as new is—

1. The combination with a sawmill-carriage head-block and knee; of a scale appropriated to a certain length of log and bearing indicating-marks respectively defining such distances of the knee from the plane of the saw as, multiplied by the length of log appropriated to such scale, will have as product an even whole number of feet.

2. The combination with a sawmill-carriage head-block and knee; of a shiftable gage having a series of scales each appropriated to a certain length of log and each scale bearing indicating-marks respectively defining such distances of the knee from the plane of the saw as, multiplied by the length of log appropriated to such scale, will have as product an even whole number of feet.

3. The combination with a sawmill-carriage head-block and knee, and a pointer carried by the knee; of a roller removably journaled in bearings on the head-block and having a series of scale-lines appropriated to various lengths of logs, numerals indicating such lengths and stamped respectively adjacent said lines, each scale adapted to coact with said pointer and bearing indicating-marks respectively defining such distance of the knee

from the plane of the saw as, multiplied by such numeral, will have as product an even whole number of feet.

4. The combination with a sawmill-carriage head-block and knee, and a pointer carried by the knee; of a series of interchangeable rollers removably journaled in bearings on the head-block and having a series of scale-lines appropriated to various lengths of logs, numerals indicating such lengths and stamped respectively adjacent said lines, each scale adapted to coact with said pointer and bearing indicating-marks respectively defining such distance of the knee from the plane of the saw as, multiplied by such numeral, will have as product an even whole number of feet.

5. The combination with a sawmill-carriage head-block and knee, and a pointer carried by the knee; of a series of rollers each removably journaled in bearings on the head-block and having a series of scale-lines appropriated to various lengths of logs, numerals indicating such lengths and stamped respectively adjacent said lines, each scale adapted to coact with said pointer and bearing indicating-marks respectively defining such distance of the knee from the plane of the saw as, multiplied by such numeral and by the thickness of the material appropriated to that roller, will have as product an even whole number of feet.

In testimony whereof I have hereunto subscribed my signature this the 3d day of June, A. D. 1901.

JOHN GREENE.

Witnesses:

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