

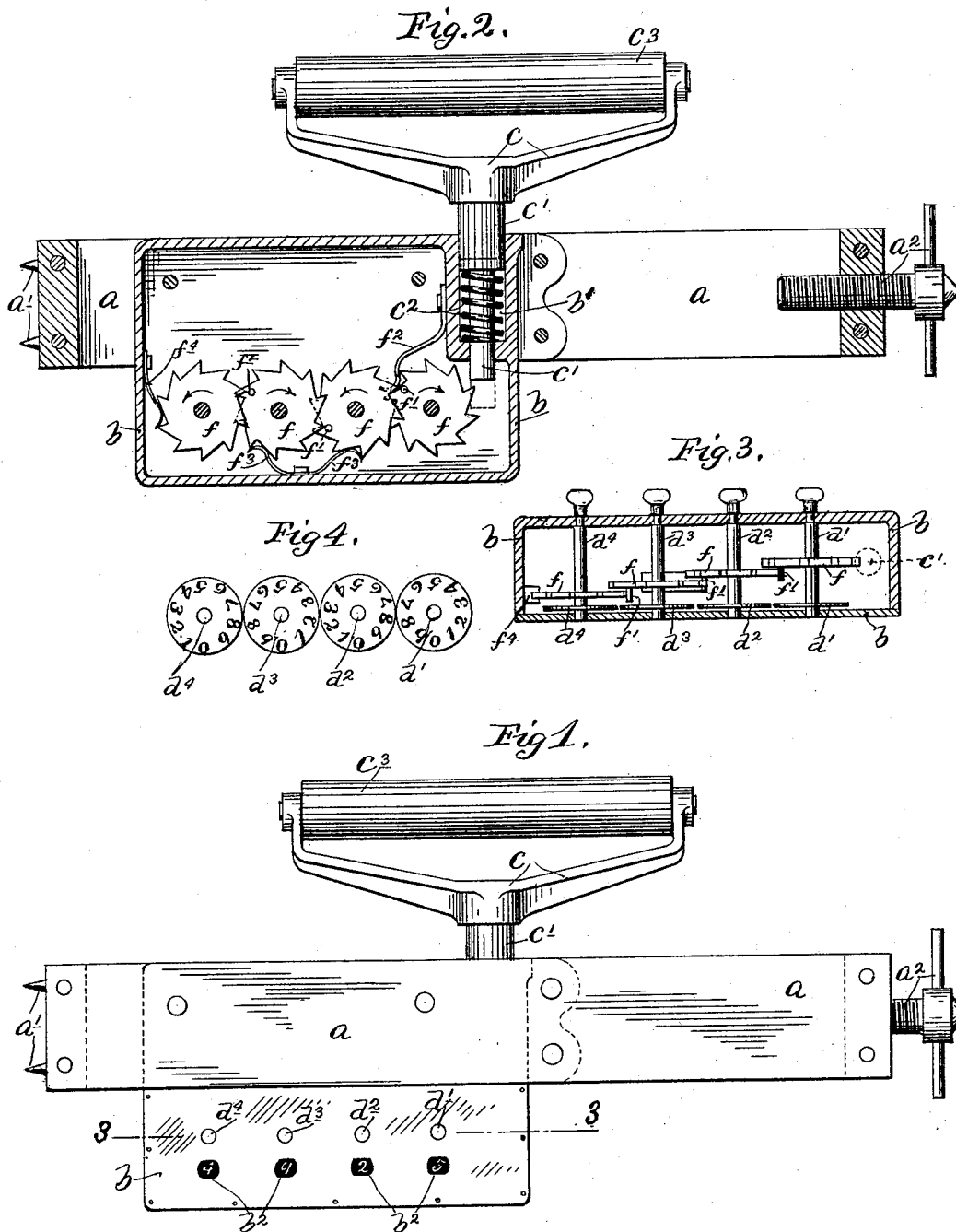
(No Model.)

2 Sheets—Sheet 1.

A. G. FLOURNOY.
LUMBER COUNTER.

No. 550,495.

Patented Nov. 26, 1895.



Witnesses.
A. B. Opsahl
Paul Merchant,

Inventor.
Albert G. Flournoy
By his Attorney,
Jas. F. Williamson

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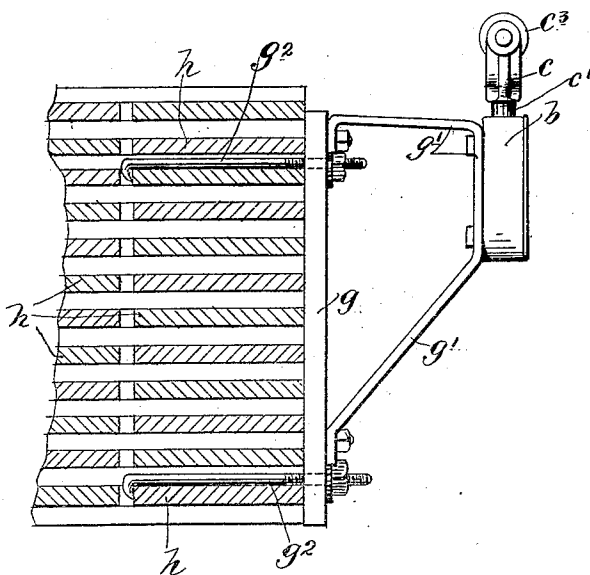
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Fig. 5.



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UNITED STATES PATENT OFFICE.

ALBERT G. FLOURNOY, OF MINNEAPOLIS, MINNESOTA.

LUMBER-COUNTER.

SPECIFICATION forming part of Letters Patent No. 550,495, dated November 26, 1895.

Application filed November 19, 1894. Serial No. 529,224. (No model.)

To all whom it may concern:

Be it known that I, ALBERT G. FLOURNOY, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Lumber-Counters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a convenient device for counting and registering the number of pieces of lumber placed in a car or other receptacle or onto a pile, and thereby denoting the quantity of lumber in the load or in the pile from the known dimension of the pieces counted.

To this end my invention consists in the device hereinafter fully described, and defined in the claims.

The accompanying drawings illustrate my invention, therein the same letters referring to the same or like parts.

Figure 1 is a front elevation of my device as designed for use in counting lumber in loading a car. Fig. 2 is a longitudinal vertical section of the same with some parts shown in elevation. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Fig. 4 is a face elevation of the counter-dials detached; and Fig. 5 is a view, partly in end elevation and partly in section, showing the device as mounted for use in counting lumber as the lumber is piled.

Referring to Figs. 1 and 2, the part *a* is a block with brads *a'* at its left end and a brad-ended hand-screw *a²* at the other, which parts make up a support adapted to be engaged with the posts of a car-window or other opening and to be rigidly secured thereto under the clamping action available from the hand-screw *a²*. On the said supporting-block *a* is bolted or otherwise secured a register-case *b*, provided with a socket or seat *b'*, for the pintle or shaft portion of a spring-seated bracket or body *c c'*, which is shown as consisting of a roller *c³*, carrying yoke *c*, having a downwardly-extended and shouldered stem or pintle *c'*, the upper portion of which stem fits snugly in the socket or seat *b'*, and the lower or reduced portion of which stem works through

the lower end wall of said socket *b'*. A spring *c²* encircles the reduced part of the bracket-stem *c'* within the socket or seat *b'*, and, reacting against the lower end of the said socket and the shoulder of the said stem, normally holds the bracket or spring-seated body *c c'* in its uppermost position. In the yoke part *c* of the said bracket is journaled a roller *c³*. In virtue of the construction above described it is obvious that the said bracket and roller will have a swiveling action or freely turn on their support and that they will yield against the spring *c²* under weight sufficient to overcome the tension of the spring applied to the said roller. Hence the said bracket and roller form a spring-seated swiveling-fulcrum and antifriction device, on which the pieces of lumber may be tilted or swung and be rolled thereover into position for delivery to the car or other receptacle wherein it is desired to dispose of the same; and it is of course obvious, supposing the spring *b'* to be of the proper tension, that whenever a piece of lumber is on the roller *c³* the weight thereof will force the roller and bracket downward against the resistance of the said spring and the spring will subsequently restore the bracket and roller to their uppermost or normal position after the piece of lumber has passed off from the roller. This motion of the bracket and roller is made use of to operate a register or counting device. As shown, this register comprises four counters *d' d² d³ d⁴*, located within the case *b*, the shaft portions of which are journaled in the front and rear plates of the case, and the dials of which are graduated according to the decimal scale, the reading of which may be made through peep-holes *b²* in the front plate of the case *b*. The dials are rigid on their shafts, and the said shafts are each provided with a wheel *f*, having ten teeth. The said wheels *f* are in staggered relation to each other, and all, except the one occupying the highest position in the decimal scale, are provided with lateral pins *f'*, which engage with the teeth of the next adjacent wheel higher in the scale. The said wheels are held wherever set by the spring-pawls *f², f³, and f⁴*. The units member of the ratchet-wheels *f* is in position to be acted upon by the lower end of the bracket-stem *c'*. The teeth of the said wheel are so

cut and the wheel and the bracket-stem so related in position that the downstroke of the bracket in its action on a tooth of the wheel will move the same forward something less than one step, but sufficient to pass the bearing-point of the spring-pawl f^2 onto another tooth of said wheel; and hence when the bracket-stem c' moves back upward the tension of the spring-pawl f^2 will be sufficient to complete the one step of movement of the wheel. In this way at every complete down-and-back stroke of the bracket and roller the units-counter d' will be moved by its wheel f one step. When any wheel completes its turn, it will of course on the tenth step of its movement impart one step of movement to the counter of the next higher order in the scale. Hence it is obvious that if the counters were all at the zero-mark at the start the register will register the exact number of pieces passed over the roller or bracket and that the total may be read through the peep-holes b^2 in the face-plate of the register-case. The counter-shafts project through the case at one end, and their projecting ends are adapted to be used as finger-pieces for resetting the counters in their normal position, which may be readily done whenever so desired by beginning with the counter representing units and turning the others in their order of succession forward to zero.

In the modification shown in Fig. 3 all the parts are the same, with the exception of the support for the register-case and the spring-seated bracket and roller, which support is modified, as required, for adapting the device to use in piling lumber. In this modification the support comprises a back board g , having attached to its face angular projecting irons g' , to which the register-case is bolted, and the back board g is provided with hook-ended draw-bolts g^2 , adapted to engage with the edges of some of the pieces of lumber h already in the pile for holding the support g g' and the register carried thereby in their proper working position. The projecting angular irons g' throw the indicator far enough out from the back board g and the pile of lumber to afford the necessary clearance for the swiveling action of the bracket and roller. With this form of the device, when used for piling lumber, it is necessary to count the

first few tiers of lumber before applying the automatic device; but as these lower tiers are easily counted by the workmen it is an easy matter to add the same to the registration of the register and thereby obtain the total number of pieces in the pile.

Whether in the form shown in Figs. 1 to 4, inclusive, or in the form shown in Fig. 5 it is obvious from the foregoing statements that the total number of pieces will either be denoted or be readily available. Hence, having thus an accurate count of the total number of pieces in the car, pile, or other receptacle, the total quantity of lumber is at once available by a simple calculation where the lumber runs to uniform dimension. In saw-mill-yards, wholesale lumber-yards, and in wholesale shipments of lumber uniformity of dimension is preserved, as a rule, in each pile and in each car. Hence this automatic device is capable of very wide application and is a great convenience in handling lumber. Hitherto it has been the custom to rely upon the workmen to count the quantity of lumber, either by scaling or counting the pieces handled. Under this old plan error was almost unavoidable, the counts always requiring verification, involving the loss of valuable time and materially increasing the cost of handling the lumber.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A lumber counter, comprising a spring seated and swiveled bracket provided with a roller over which the pieces of lumber are passed and a register or counting device operated thereby, substantially as and for the purpose set forth.

2. The combination with a suitable support securable in a relatively fixed position with respect to the car, load, or pile, of a bracket spring seated and swiveled in said support, a roller journaled in said bracket and a register or counting device operated thereby, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT G. FLOURNOY.

Witnesses:

H. W. ALLEN,

L. F. DYRENFORTH.