

No. 697,565.

Patented Apr. 15, 1902.

E. E. THOMAS.
GUARD FOR GANG EDGERS.

(Application filed Oct. 12, 1901.)

(No Model.)

3 Sheets—Sheet 1.

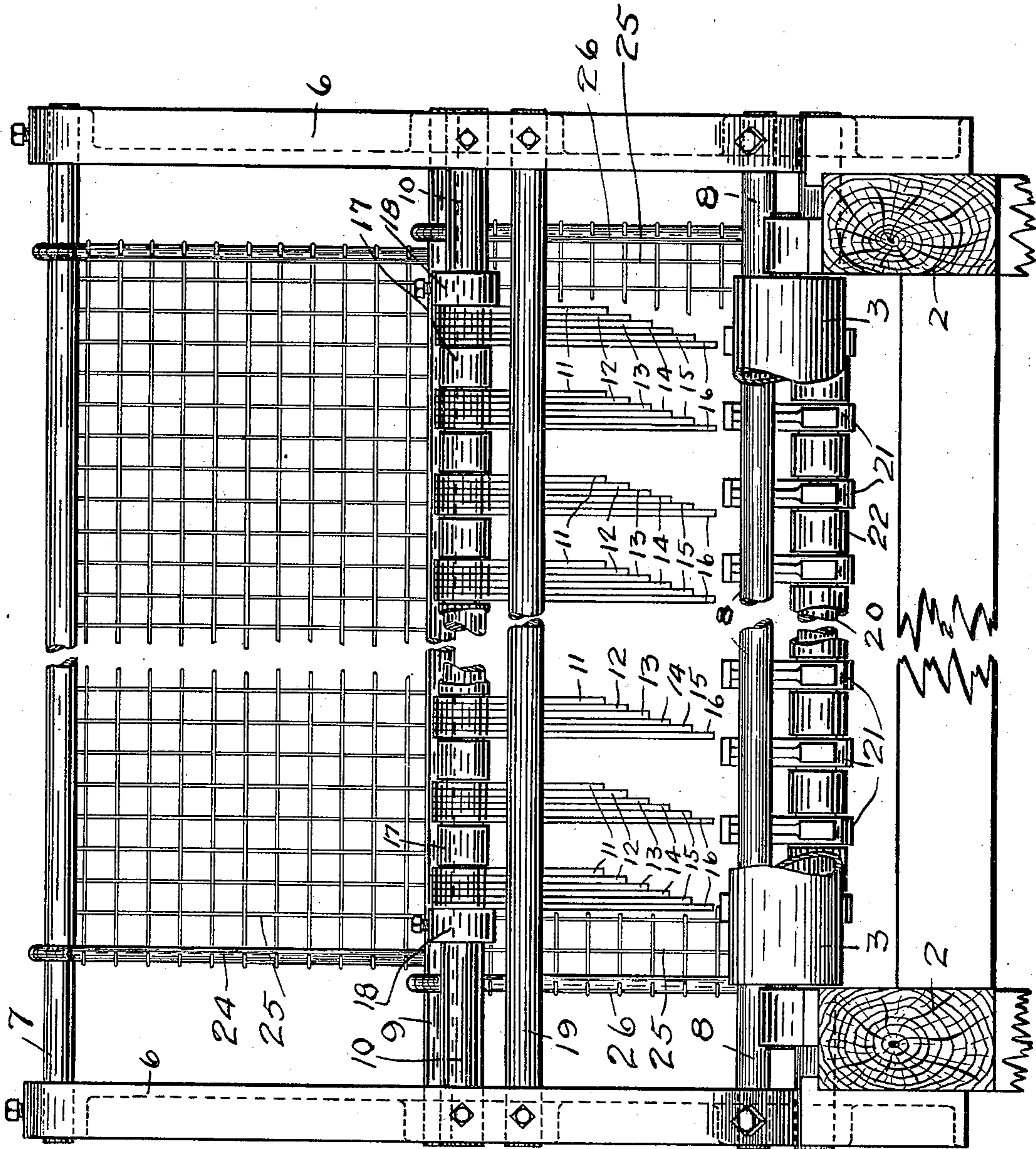


FIG. 1.

Witnesses:
E. G. Stande
M. R. Norman

Inventor
EDWIN E. THOMAS
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His Attorneys.

No. 697,565.

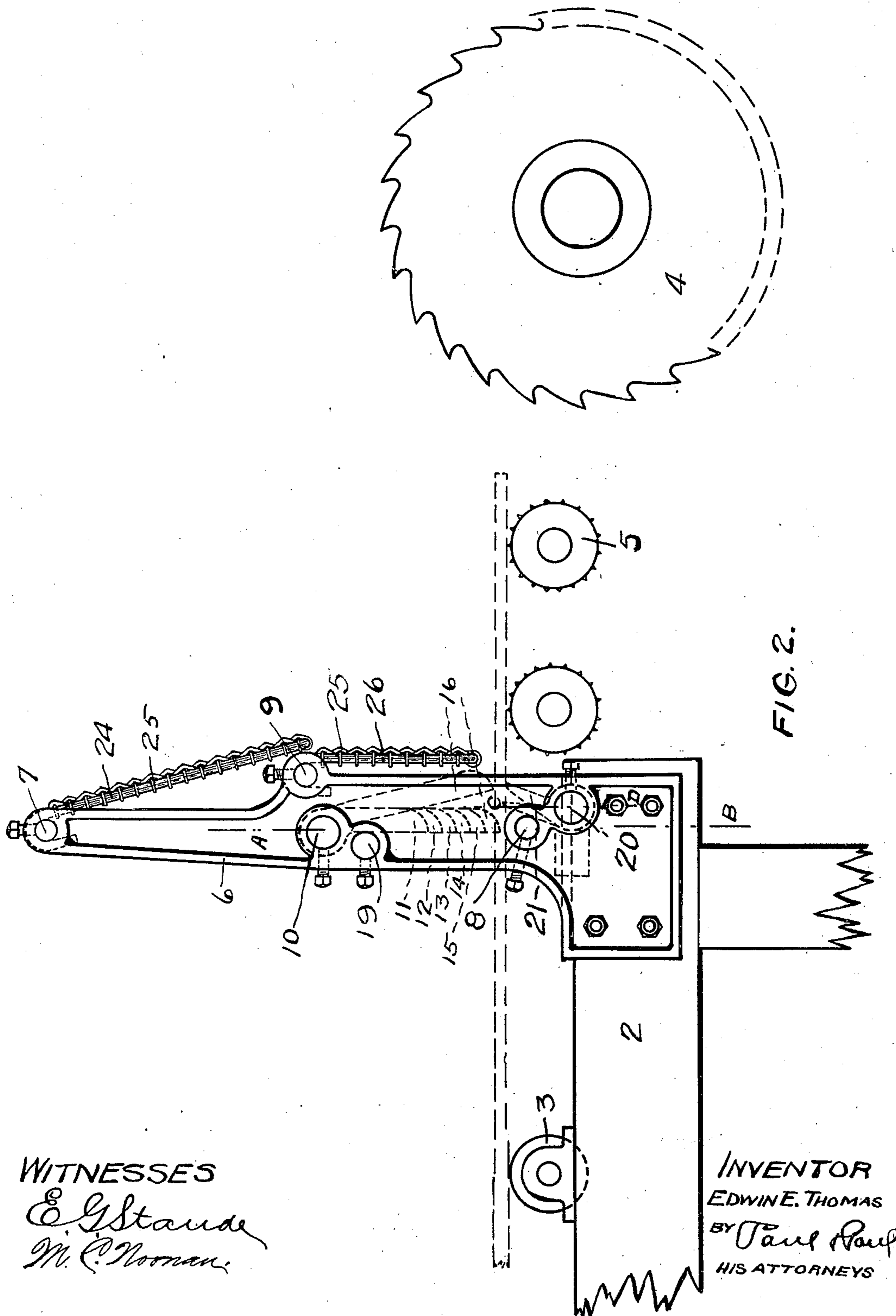
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3 Sheets—Sheet 2.



WITNESSES

E. G. Stander
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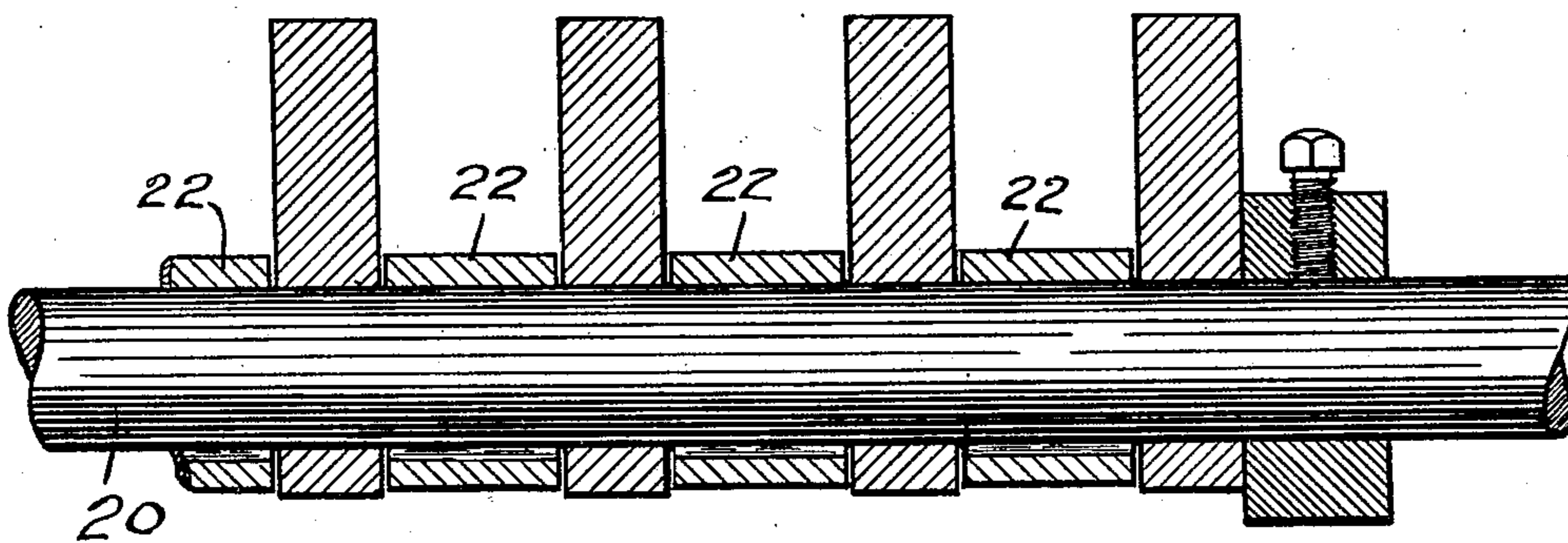
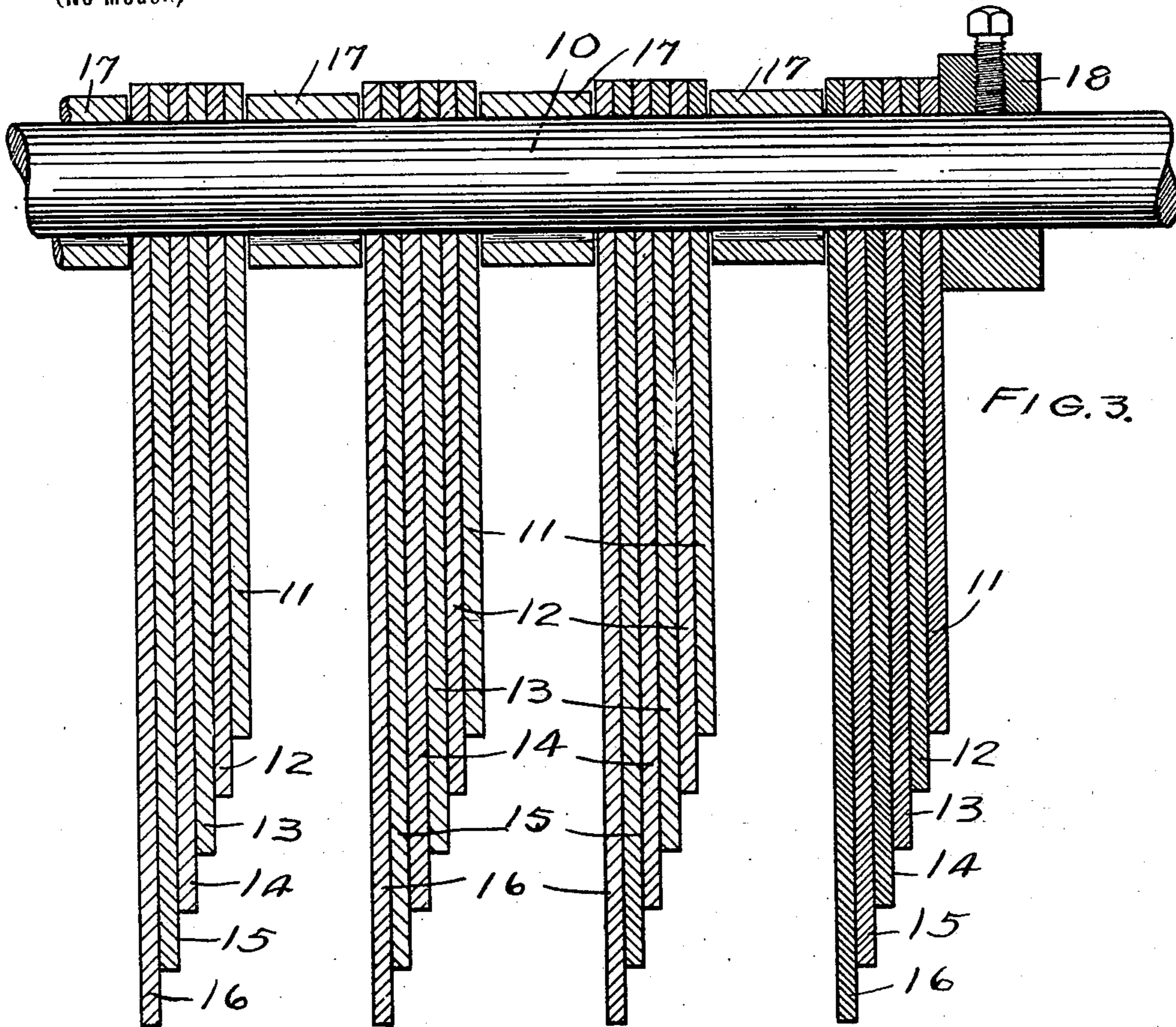


FIG. 4.

Witnesses.
E. E. Thomas
M. C. Noonan.

Inventor.
EDWIN E. THOMAS.

By Paul Paul
His Attorneys.

UNITED STATES PATENT OFFICE.

EDWIN E. THOMAS, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO UNION IRON WORKS, OF MINNEAPOLIS, MINNESOTA, A CORPORATION OF MINNESOTA.

GUARD FOR GANG-EDGERS.

SPECIFICATION forming part of Letters Patent No. 697,565, dated April 15, 1902.

Application filed October 12, 1901. Serial No. 78,410. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. THOMAS, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Guards for Gang-Edgers, of which the following is a specification.

My invention relates to sawmill machinery.

In the operation of a gang-edger it frequently happens that a board, plank, or other piece of lumber on account of not entering properly between the saws or for various other reasons will rise up between the saws until it reaches the teeth at the top thereof, when it will be driven backward with terrific force over the feed-table, to the great danger to the life and limb of the operator.

The object, therefore, of my invention is to provide means for firmly holding the lumber while it is passing through the edger, to the end that all backward movement or rising of the same will be prevented.

A further object is to provide means for arresting the flight of bark, edgings, slivers, and fine refuse material that may be hurled backward by the saws.

The invention consists generally in providing a series of pawls arranged in groups above the feed-rolls of the gang-edger, each group being composed of two or more pawls of different length.

Further, the invention consists in providing pawls below the level of the feed-rolls, which engage the under side of the lumber and cooperate with the pawls above the rolls to prevent the backward movement of the lumber as it passes through the edger.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is an end view of a gang-edger feed table and rolls with my invention applied thereto. Fig. 2 is a side elevation of the same, one of the saws being shown to indicate the position of the edger. Fig. 3 is a section on the line *a b* of Fig. 2. Fig. 4 is a section on the line *c d* of Fig. 2.

In the drawings, 2 represents the gang-edger feed-table, whereon idle rolls 3 are

mounted. 4 represents one of the gang-edger saws, between which and said table are toothed live-rolls 5. Secured to the sides of the feed-table near said live-rolls are standards 6, that are connected near their upper ends and near said feed-table and at a point intermediate thereto by rods 7, 8, and 9, which are held in position by set-screws or other suitable means. Near the rod 9, connecting said standards, I provide a rod 10, whereon I pivot a series of pawls 11, 12, 13, 14, 15, and 16. These pawls are arranged in groups, and each group is composed of a series of pawls of different length, those of each group being of the same length as the corresponding pawls of all the other groups. In their normal position these pawls hang vertically to engage the upper side of the lumber as it passes over the rolls toward the gang-edger saws. I have shown six pawls of different length in each group, the longest one being adapted to engage boards of an inch or a fraction thereof in thickness and the other pawls being adapted to engage lumber of varying thickness, from an inch board up to three, four, or five inch plank.

I prefer to provide a series of thimbles 17 on the rods 10 between the groups of pawls and collars 18, between which the groups are arranged. These collars may be slipped along the rod to change the position of the groups, if desired. I have shown in dotted lines in Fig. 2 the normal position of a group of pawls and also the position assumed by a pawl when engaged by the piece of lumber for which that particular pawl is appropriate. As shown in said figure, a comparatively thin piece of lumber is passing over the rolls and engages the lower end of the longest pawl, swinging it out of its perpendicular position toward the saws. The board does not, however, move the pawl far enough to cause it to swing up in case the board should be driven back by the saws; but should such backward movement occur the pawl will be in proper position to resist backward movement of the lumber and cause it to be wedged between the pawl and the rolls. I have shown seven groups of these pawls arranged upon the rod 10; but obviously a greater or

less number may be employed, according to the width of the feed-table and the number of saws in the edger. The corresponding pawls of the different groups are of the same length, and consequently will be actuated simultaneously by the feeding of the lumber to bear upon the entire width of the board or plank and hold it firmly on the rolls. When a thicker piece of lumber is placed on the feed-table, the pawls that are appropriate for the thinner stock will be swung forward out of the way and the particular set of pawls appropriate for that thickness of lumber will automatically adjust itself to prevent any backward tendency. The pawls will thus automatically adjust themselves to the varying thickness of the lumber that is fed to the edger, there being a set of pawls provided for each thickness. Near the rod 10 I provide a rod 19, connecting said standards and acting as a stop to prevent backward movement of the groups of pawls.

Below the level of the feed-rolls I prefer to provide a rod or shaft 20, whereon a series of pawls 21 are arranged, separated by thimbles 22. These pawls are prevented from swinging backward by a stop-rod 8, against which they are normally held by counterweights 21', (see Figs. 1 and 2,) and their points normally project a little above the top of the feed-rolls, so that as the lumber passes over the rolls it will engage said pawls and swing them forward to the position indicated by dotted lines in Fig. 2. These pawls will of course be actuated by lumber of any thickness that may pass over the rolls, and when in their forward position will engage the under side of the lumber the full width of the same and cooperate with the set of pawls above to hold the lumber firmly. The pawls 21, as well as those above the level of the feed-rolls, will be moved to their proper position by the lumber to lock it against backward movement, and after the lumber passes from between the pawls they will be returned by the counterweights 21' to their normal position.

To prevent bark, edgings, and fine refuse material from flying back from the saws over the feed-table, I prefer to pivot a U-shaped frame 24 on the rod 7 and fill in the space within said frame by a wire-netting 25 of coarse mesh, and on the rod 9 I prefer to mount a frame 26 in a similar manner and provide it with a corresponding coarse netting. The frame 26 depends beside the groups of pawls and may be swung out toward the saws when lumber of several inches in thickness is passing over the rolls. The frames 24 and 26 normally hang, however, in a substantially vertical position and will effectually protect the operator from injury by flying refuse material.

I claim as my invention—

1. The combination, with the feed-rolls, of swinging pawls arranged in groups above the same, each group being composed of two or more pawls of different length, the pawls of

each group being substantially the same length as the corresponding pawls of the other groups and those of the same length in the different groups being adapted to engage the upper surface of the lumber of the thickness for which they are appropriate and prevent backward movement of the same.

2. The combination, with a gang-edger and its feed-rolls, of swinging pawls provided above and below the level of said rolls and adapted to engage respectively the upper and lower surfaces of the lumber and prevent backward movement of the same while it is passing through the edger.

3. The combination, with a gang-edger and its feed-rolls, of swinging pawls arranged in groups above the level of the same, each group being composed of two or more pawls of different length, those of the same length in the different groups being adapted to engage the upper surface of the lumber of the thickness for which they are appropriate and prevent backward movement of the same, and swinging pawls provided below the level of said rolls and adapted to engage the under surface of the lumber.

4. The combination, with a gang-edger and its feed-rolls, of means above and below the level of said rolls between which the lumber passes and is engaged and held against backward movement.

5. The combination, with a gang-edger and its feed-rolls of oscillating means above and below the level thereof and between which the lumber passes and is locked and held against vertical and backward movement.

6. The combination, with a gang-edger feed-table and the rolls thereon, of standards provided on said table, rods connecting said standards, and a series of pawls pivotally supported between said standards, said pawls being arranged in groups and each group being composed of pawls of different length, those of the same length in the different groups being adapted to engage the upper surface of the lumber of the thickness for which they are appropriate and prevent backward movement of the same, substantially as described.

7. The combination, with a gang-edger feed-table and the feed-rolls, of standards secured on said table, rods connecting said standards, a series of pawls pivotally supported between said standards, said pawls being arranged in groups and each group being composed of pawls of different length, the corresponding pawls of the several groups being of the same length, and a series of swinging pawls provided below the level of said rolls and adapted to engage the under surface of the lumber, substantially as described.

In witness whereof I have hereunto set my hand this 8th day of October, 1901.

EDWIN E. THOMAS.

In presence of—

RICHARD PAUL,
M. C. NOONAN.