

No. 865,124.

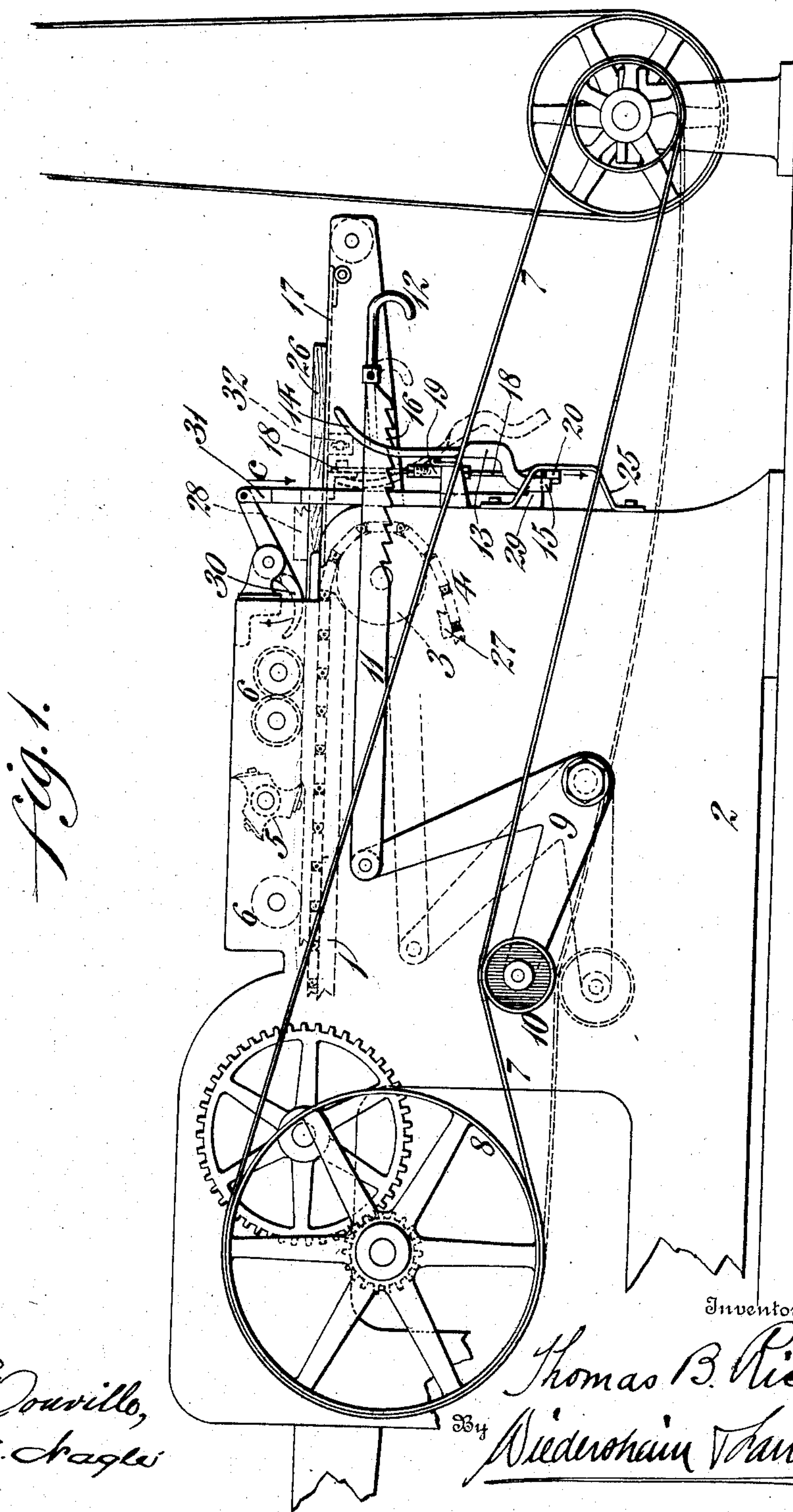
T. B. RICE, JR.

PATENTED SEPT. 3, 1907.

DEVICE FOR AUTOMATICALLY STOPPING A PLANING MACHINE.

APPLICATION FILED MAY 16, 1907.

2 SHEETS—SHEET 1.



Witnesses  
L. Douville,  
P. H. Hagler

Inventor  
Thomas B. Rice, Jr.  
Niederhain & Tautau,  
Attorneys

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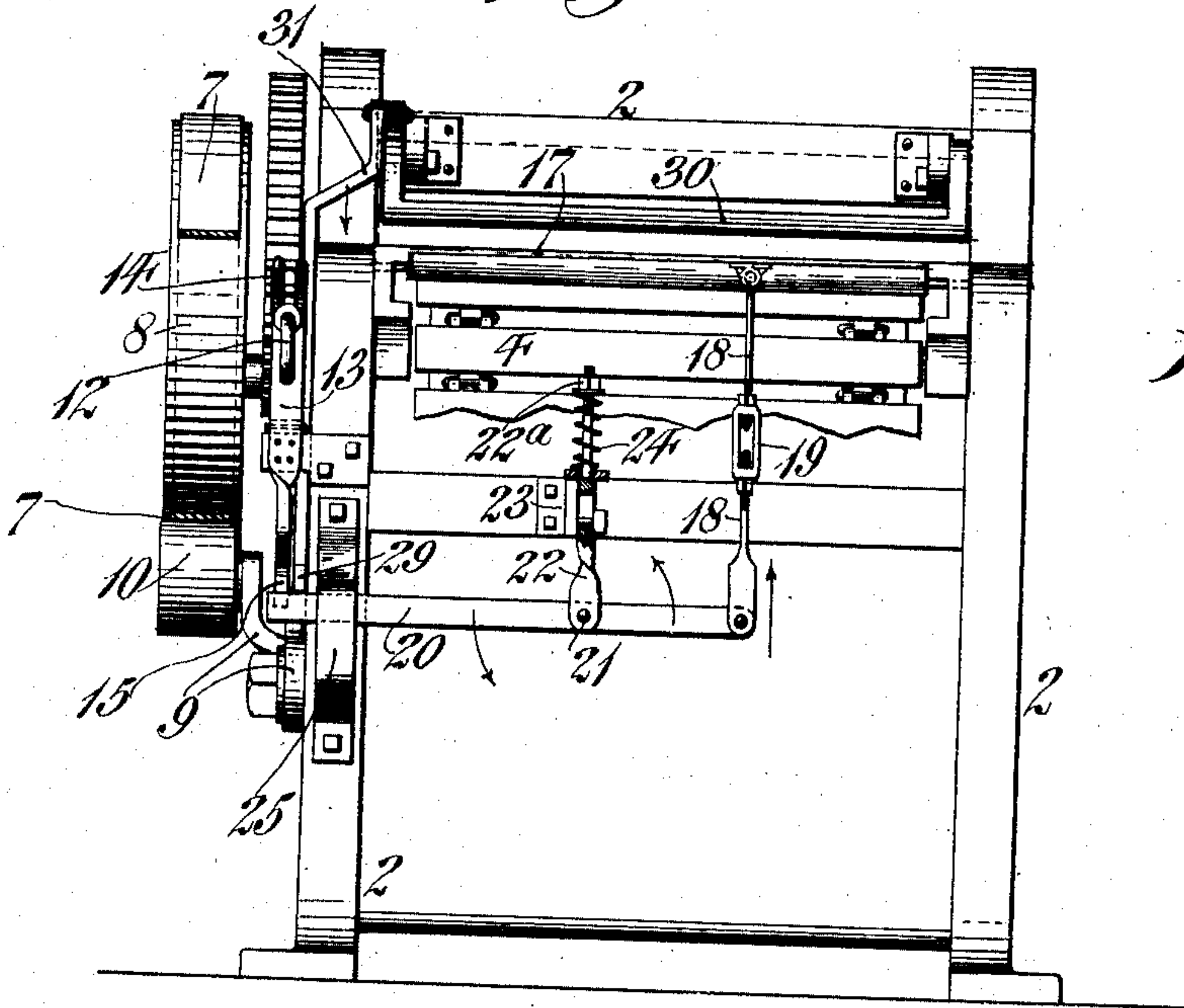
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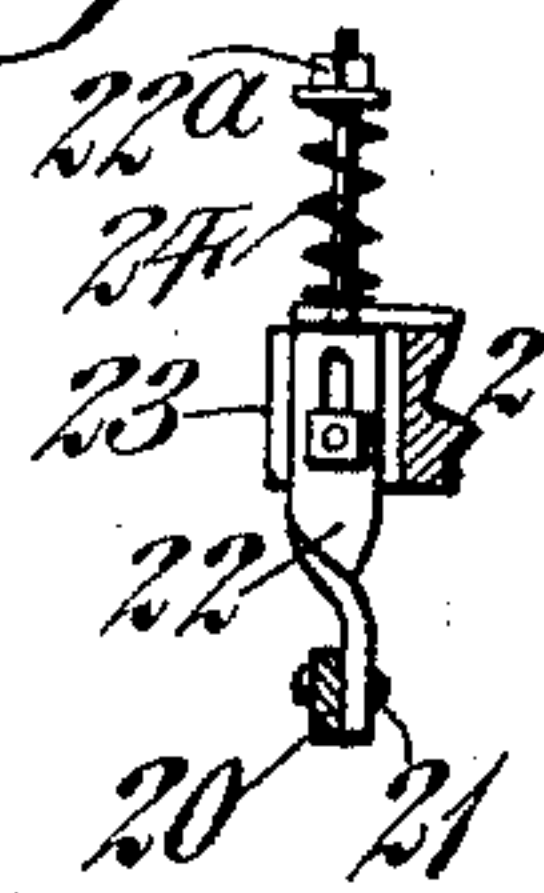
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2 SHEETS—SHEET 2.

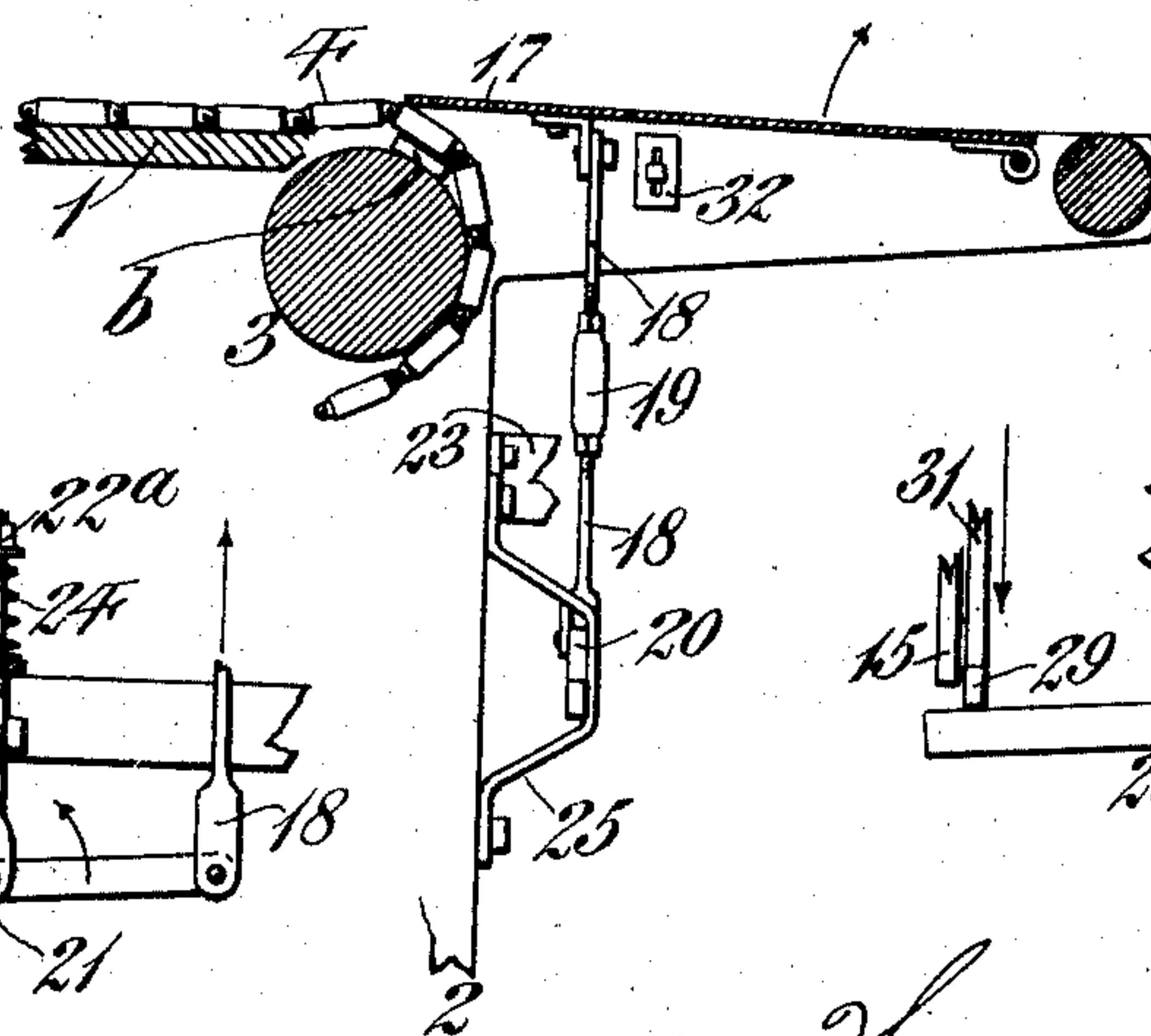
*fig. 2.*



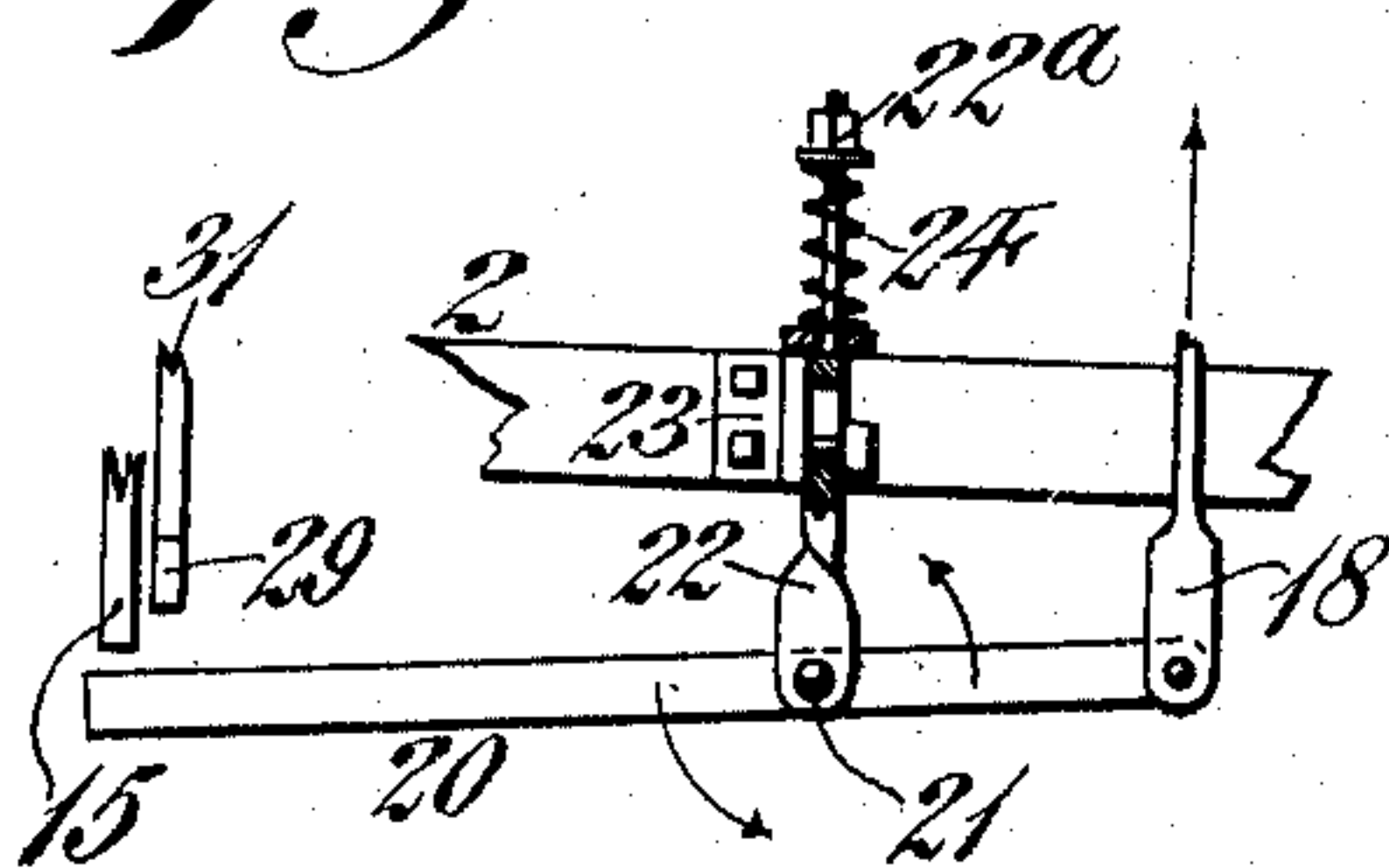
*fig. 6.*



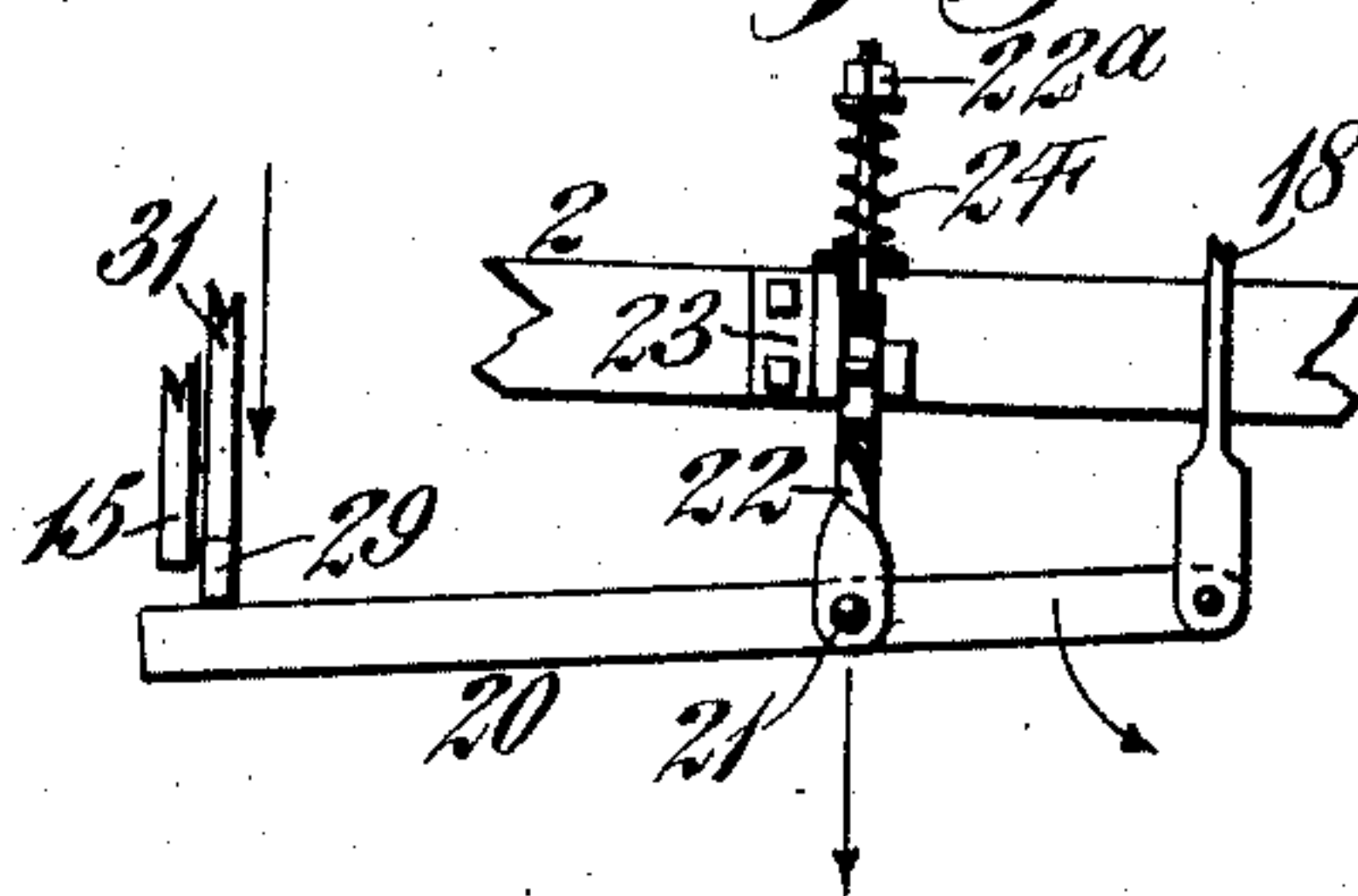
*fig. 3.*



*fig. 4.*



*fig. 5.*



Witnesses

*L. Douville,*  
*P. F. Nagle*

Inventor

*Thomas B. Rice, Jr.*  
By *Richard M. Whitcomb,*  
Attorneys



# UNITED STATES PATENT OFFICE.

THOMAS B. RICE, JR., OF PHILADELPHIA, PENNSYLVANIA.

## DEVICE FOR AUTOMATICALLY STOPPING A PLANING-MACHINE.

No. 865,124.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed May 16, 1907. Serial No. 373,990.

*To all whom it may concern:*

Be it known that I, THOMAS B. RICE, Jr., a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented  
5 a new and useful Device for Automatically Stopping a Planing-Machine and the Like, of which the following is a specification.

My invention relates to a new and useful device for automatically stopping a planing machine and the like  
10 and consists in providing means adapted to be actuated by the conveyer for the boards, should the latter not be in proper position to be presented to the knives or cutters, or the machine be in danger of wreckage from this cause.

15 It further consists of means for stopping the machine if the boards are fed improperly thereto.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a side elevation of a portion of a  
20 machine embodying my invention. Fig. 2 represents an end elevation thereof. Fig. 3 represents a sectional view of a portion of the device showing some of the parts in different position from that shown in Fig. 1. Fig. 4 represents a partial side elevation and partial  
25 sectional view of a portion of the mechanism in detached position. Fig. 5 represents a partial elevation and partial sectional view of a portion of the mechanism seen in Fig. 4. Fig. 6 represents a front elevation, partly in section, of certain of the parts seen in Fig. 2.

30 Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings. In planing machines now in use on the market it often occurs that as the boards are being planed or cut that the chips or particles cut from the wood fall upon the top side of the under portion of the bed or conveyer and as the bed continues its movement the chip is carried around and catches beneath the bed in its uppermost position, thus elevating the board or in other words causing the  
40 same to be out of its proper position when presented to the cutters, so that it is improperly cut and many times the machine is wrecked by the bed coming in contact with the cutter head. In addition, due to the carelessness or inattention of the operator two boards are  
45 some times fed to the machine too rapidly or one upon the other, in which event the same objection arises, that is to say, the boards are improperly cut, the machine is choked and if the feed belt does not slip, the machine disabled.

50 My invention is designed to overcome these defects and in the drawings I have shown a mechanism for accomplishing the desired results, but it will be evident that other instrumentalities may be employed and changes may be made in the arrangement of the  
55 parts which will come within the scope of my inven-

tion, and I do not therefore desire to be limited in every instance to the exact construction herein shown and described.

1 designates the bed of the machine suitably supported by the frame 2, in which is suitably mounted a  
60 roller or pulley 3 at a suitable point in the machine, around which passes the endless conveyer 4, it being understood of course that at another suitable point there is a similar pulley around which the conveyer  
65 also passes.

5 designates a cutter suitably mounted with respect to the conveyer and 6 designate rollers or other devices between which and the conveyer, the board passes as it is being cut.

7 designates a belt to which power is imparted in any  
70 suitable manner and which passes around a pulley 8 in order that movement will be transmitted to the various parts of the machine.

Pivotally connected with a suitable portion of the frame, or other suitable point, is a bell crank 9 having  
75 a suitable roller 10 adapted to engage with the belt 7 in order to tighten the same as desired and thus cause the same to impart movement, or not, to the operating parts of the machine.

Connected with the other arm of the bell crank 9 is  
80 a bar 11 having a suitable handle 12 for engagement by the operator, it being understood that when the parts are in the position seen in full lines, Fig. 1, the belt is properly tightened in order to impart motion to the machine.  
85

Pivotally mounted upon a suitable stationary portion of the device is a lever 13 having the fork arm 14 and the depending end 15, said lever being so situated that the bar 11 is seated in the fork arm 14 and the lower wall thereof is adapted to be engaged by the teeth  
90 16 on said bar 11 in order that the bar will be held when desired by said lever 13.

17 designates a spring plate or other suitable device which is mounted on the frame of the machine and which is so situated with respect to the conveyer 4 to  
95 almost contact therewith, as the said conveyer moves around the pulley 3. The normal position of this plate is best understood from Fig. 1.

Pivotally mounted on the plate 17 is a link 18 in which is situated the turn buckle 19 for proper adjustment of the link 18, the latter having pivotally connected at its lower end, the lever 20, which is connected with a movable fulcrum 21, which in the present instance consists of a slotted plate 22 movably mounted in a suitable guide 23 in the frame of the machine and between which frame and the nut 22<sup>a</sup> is a spring 24, said  
100 lever 20 projecting from its point of support beyond the end 15 of the lever 13, a suitable guide 25 being provided in order to prevent improper movement of the lever 20, it being noticed that the normal position of  
110



the lever is such that the depending end 15 of the forked lever 13 contacts therewith so that the same is held in position seen in Figs. 1 and 2.

The operation of the parts just described are as follows:—When the machine is in operation the pulley 3 rotates and the conveyer 4 is actuated, carrying the boards, as for example 26, forwardly to the knife 5 where they are properly planed or cut. As previously stated, should a chip or piece of wood fall from the knives upon the upper side of the lower portion of the conveyer, as for example 27, the conveyer will carry the same forwardly and it will be passed around the roller 3 until it reaches the upper portion thereof, as at *b* in Fig. 3. As this elevates the conveyer 4, it will contact with and raise the end of the spring plate 17, as best seen in Fig. 3. This carries with it the link 18 which will elevate the end of the lever 20, with which it is connected, on its movable fulcrum 21. This will lower the opposite end of the lever 20 and remove the same from its position in front of or in engagement with the depending end 15 of the forked lever 13, the lever 20 when in this position being seen in Fig. 4.

It will be understood that the teeth 16 of the bar 11 are in engagement with the forked lever 13 so that the roller 10 is held in the position seen in Figs. 1 and 2, tightening the belt upon the operating pulley. As soon, however, as the lower end 15 of the lever 13 is released the bar 11 will no longer be supported and owing to the force exerted by the belt upon the roller 10 it will be lowered into the position seen in dotted lines, carrying with it the bell crank 9 and the bar 11, rotating the forked lever 13 upon its pivot, as seen in dotted lines Fig. 1, thus the belt will run loosely and the machine will immediately be stopped, thus preventing injury to the machine. The chip or piece of wood can be removed and the machine can again be started.

It sometimes happens, unless care is exercised, that two boards will sometimes be fed to the machine or they will overlap, as seen in dotted lines at 28 in Fig. 1. In order to prevent this, I have provided a pivotally mounted plate 30, to which is connected a rod 31, the lower end 29 of said rod bearing against the lever 20. It will be understood that as one board is fed to the machine, the same can pass beneath the arm 30 without disturbing the same, but should more than one board be fed the upper one, as 28, will strike the underside of the plate 30 and rotate the same upon its pivot. This will lower the rod 31 in the direction indicated by the arrow C, Fig. 1, and depress the end of the lever 20 which is in engagement with the depending end 15 of the forked lever 13 and the latter will be released and the machine stopped as before. The end of the lever can be lowered by reason of the resilient fulcrum 21 of

said lever 20, since the same can move downwardly slightly as the rod 31 is depressed. The plate 17 normally rests upon the adjustable supports 32 carried by the frame 2.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a conveyer, a plate situated adjacent said conveyer and adapted to permit free passage of the same when said conveyer is in its normal position and to be elevated by said conveyer, belt tightening means normally held against said belt, a lever, and means actuated by the movement of said plate to release the lever and to move the said belt tightening means to slacken the belt.

2. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a conveyer suitably actuated, a plate situated adjacent said conveyer and permitting free passage thereof when said belt is in its normal position and adapted to be actuated by said conveyer if the latter is forced from its normal position, a rod connected with said plate, a lever pivotally mounted and connected with said rod, a second lever normally in contact with said pivoted lever, a tightening device for said belt, a rod connected therewith and removably attached to said second lever.

3. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a tightening device for said belt, a rod connected with said tightening device, teeth on said rod, a lever having a portion thereof engaging with said teeth, a pivoted lever normally holding said first mentioned lever in engagement with said teeth, a rod connected with said lever, a yieldable fulcrum for said lever, a plate connected with said rod, a conveyer normally passing said plate and adapted to actuate the same when raised from its normal position, whereby the machine will be stopped.

4. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a tightening device for the belt, a lever normally holding said tightening device in proper position, a pivoted lever controlling said first mentioned lever, a rod connected with said lever and a pivoted plate, a rod pivotally connected therewith and supported on said lever and allowing a board to pass freely to the machine and adapted to be actuated if a plurality of boards are fed thereto to release said lever and stop the machine.

5. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a tightening device for said belt, a lever, means for holding said lever in its normal position to normally hold said tightening device against said belt, a rod connected with said lever, a pivoted bar connected with said rod adapted to be actuated to stop the machine should a plurality of boards be fed thereto, a second rod connected with said lever, a plate connected with said second mentioned rod, and a conveyer freely passing said plate when in normal position and adapted to actuate the machine when moved from its normal position.

THOMAS B. RICE, JR.

Witnesses:

A. R. STUBB,  
E. M. SMITH.