

No. 777,831.

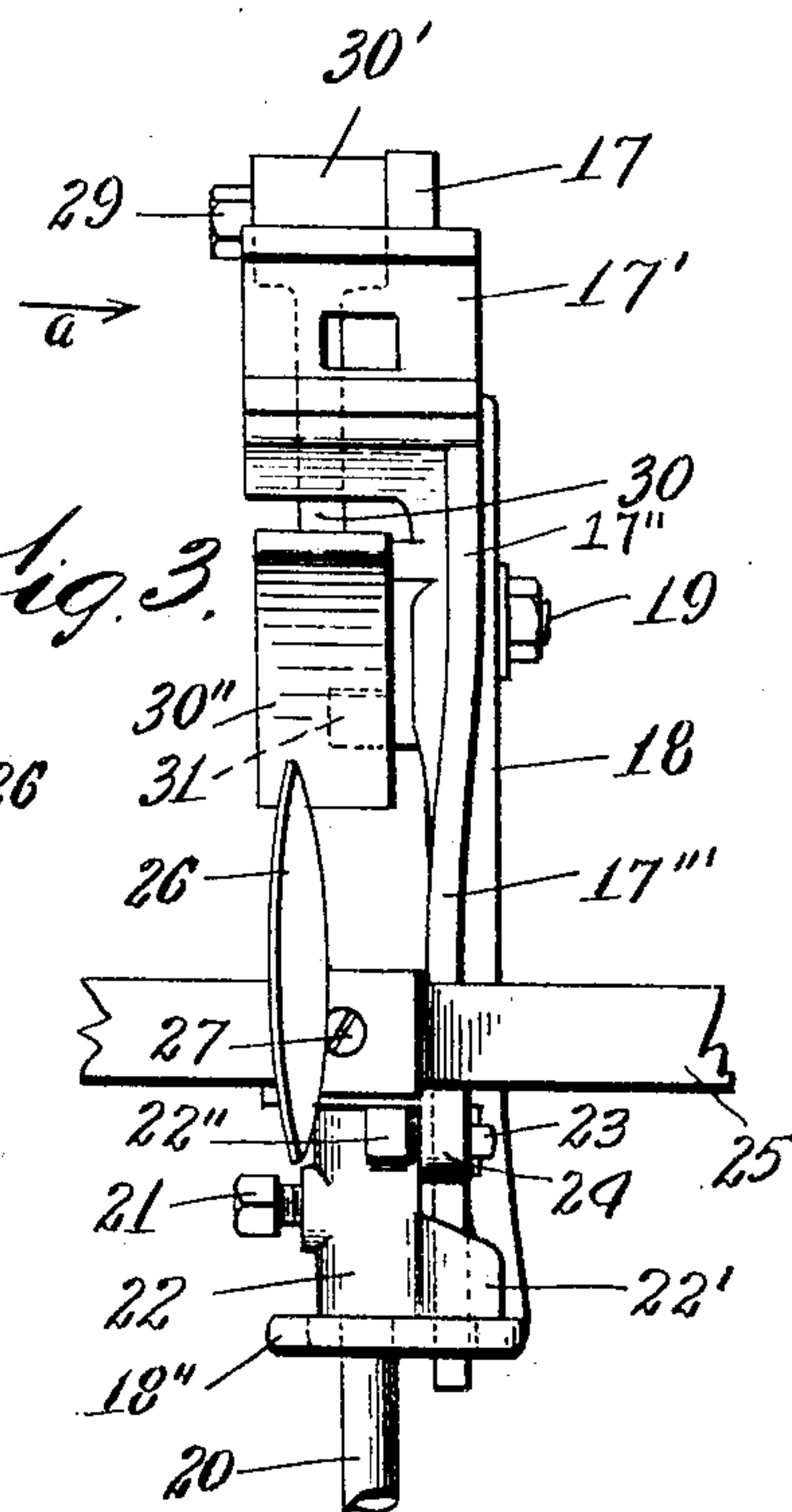
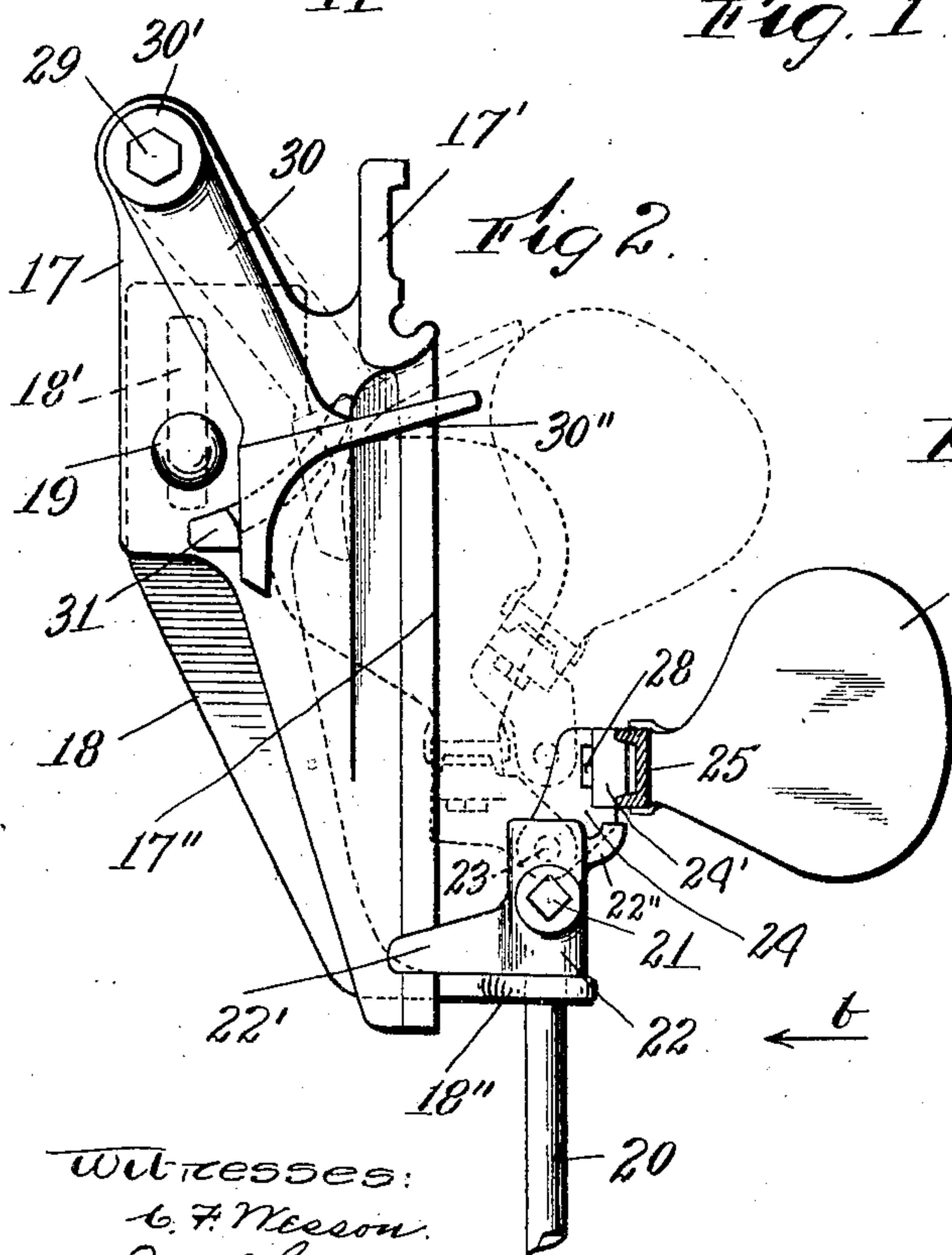
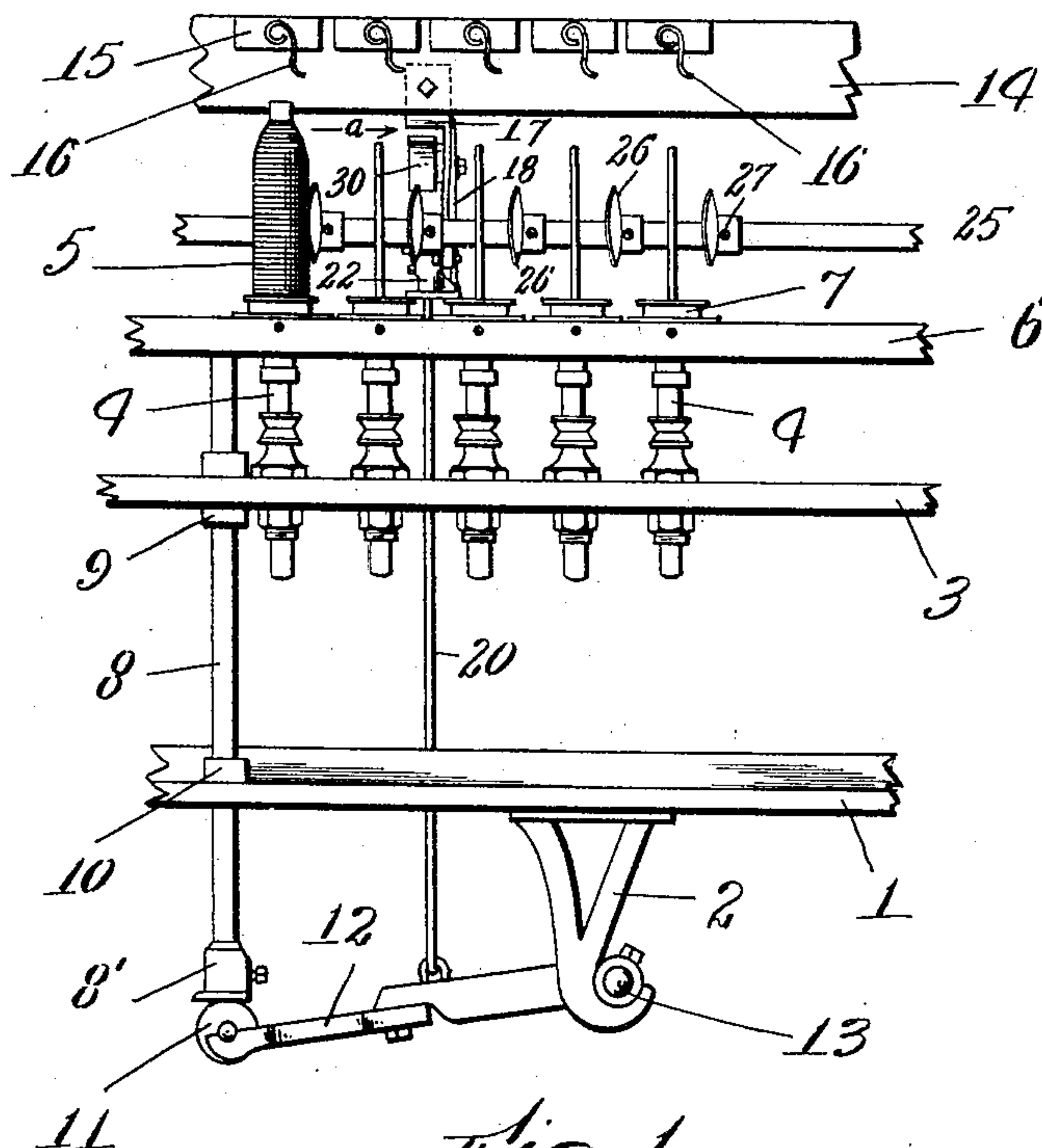
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H. G. BEEDE.

## SPINNING FRAME SEPARATOR MECHANISM.

APPLICATION FILED JULY 11, 1904.

NO MODEL.



Witnesses:  
G. F. Meeson.  
M. Heas.

Inventor:  
H. G. Beede  
By his Attorney.

John C. Dewey.



# UNITED STATES PATENT OFFICE.

HERBERT G. BEEDE, OF PAWTUCKET, RHODE ISLAND.

## SPINNING-FRAME SEPARATOR MECHANISM.

SPECIFICATION forming part of Letters Patent No. 777,831, dated December 20, 1904.

Application filed July 11, 1904. Serial No. 216,056.

*To all whom it may concern:*

Be it known that I, HERBERT G. BEEDE, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Frame Separator Mechanism, of which the following is a specification.

My invention relates to a separator mechanism for a spinning or twisting frame; and the object of my invention is to improve upon the construction of the separator mechanism as ordinarily made.

In the ordinary construction of a separator mechanism the separator-bar carrying the separator-blades has a vertical movement to raise and lower the blades and also a traverse movement to move the blades toward and away from the spindles. The traverse movement of the separator-bar begins at the lowest position of said bar and continues until said bar reaches its highest position, so that in case of a long traverse movement of the separator-bar the separator-blades thereon will strike against the thread-guide blocks at the top of the traverse of the separator-bar.

In my improvements the traverse movement of the separator-bar carrying the separator-blades is not continuous during the vertical movement of the separator-bar, but only takes place when said bar is in a position substantially intermediate its lowest and highest position. A movement in a perpendicular plane is communicated to the separator-bar and the separator-blades thereon when said bar is being raised to its highest position, so that the separator-blades will pass between the thread-guide blocks, and, further, in the ordinary construction of the separator mechanism when the separator-blades and the separator-bar are raised by the operator out of their normal operative position to give ready access to the spindles to remove or replace the bobbins or cops thereon they will remain in their raised position until lowered by the operator. The operator may neglect to lower the separator-blades and separator-bar, and the frame will operate with the blades in their inoperative position.

In my improved construction of the separator mechanism I also provide mechanism

for automatically returning the separator-blades and the separator-bar after they have been raised by the operator to their normal operative position on the starting up of the frame.

My invention consists in certain novel features of construction of my improvements, as will be hereinafter fully described.

I have only shown in the drawings a detached portion of a spinning-frame, with some parts thereon and my improvements combined therewith, sufficient to enable those skilled in the art to understand the construction and operation of the same.

Referring to the drawings, Figure 1 is a front view of a detached portion of a spinning-frame with my improvements applied thereto. Fig. 2 is, on an enlarged scale, a side view of my improvements detached looking in the direction of arrow *a*, Fig. 3; and Fig. 3 is a front edge view of the parts shown in Fig. 2 looking in the direction of arrow *b*, same figure.

In the accompanying drawings, 1 is a portion of the stationary frame of a spinning-frame, and 2 is a hanger secured to the lower side thereof.

3 is the spindle-rail supporting the spindles 4, which carry the bobbins. Only one bobbin 5 is shown.

6 is the spinning-ring rail carrying the spinning-rings 7, mounted thereon. An up-and-down motion is communicated to the spinning-ring rail 6 through the lifting-rod 8, which has a vertical movement in the bushings 9 and 10. The lower end of the rod 8 has a foot 8' thereon, which rests upon a small wheel 11, mounted in the outer end of the lifting-arm 12, in this instance made in two parts, with the inner part fast at its inner end on a rock-shaft 13, supported in the hanger 2. A rocking motion is communicated to the rock-shaft 13 in the ordinary way.

14 is the roller-beam carrying the thread-guide blocks 15, having the thread-guides 16 secured thereto in the ordinary way for guiding the thread (not shown) as it passes to the traveler (not shown) on the spinning-rings 7.

All of the above parts may be of the ordinary and well-known construction and operation.

I will now describe my improvements.



A plate 17, termed a "separator-controller," has at its upper end a side extension 17', which in this instance is permanently bolted to the roller-beam 14. The front vertical edge 17'' of the plate 17, which forms a guide to control the traverse movement of the separator-bar, is made inclined or offset out of a perpendicular plane, in this instance intermediate its upper and lower end, as shown at 17''' in Fig. 3. The upper part of the guide edge 17'' extends in a perpendicular plane and also in this instance the lower part, (see Fig. 3,) so that said parts do not communicate any traverse movement to the separator-bar, but only a movement in a perpendicular plane. A second plate 18 has in this instance a vertically-extending slot 18' in its upper end and is in this instance adjustably secured by a bolt 19 to the rear edge of the plate 17. The lower end of the plate 18 has a foot 18'' thereon, which has a slot or opening there-through to receive and guide the upper end of the rod 20, which extends through said opening. The lower end of the rod 20 is attached to the arm 12, and the up-and-down motion of said arm 12 communicates a vertical up-and-down motion to the rod 20. Upon the upper end of the rod 20 is adjustably secured by a bolt 21 a block 22, which has a side extension 22' thereon which is cut out or recessed to receive the guide edge 17'' on the plate 17. A stud 23 is secured to the block 22 and has pivotally supported thereon a bracket 24, the upper part of which has a shouldered projection 24' thereon to receive the recessed rear side of the separator-bar 25, (see Fig. 2,) which carries the separator-blades 26, which in this instance are secured to said bar 25 by screws 27, which pass through holes in said bar 25 and have nuts 28 on their inner ends.

By means of the pivoted bracket 24 the bar 25, carrying the separator-blades 26, may be moved from its normal position (shown by full lines in Fig. 2) to carry the blades 26 into their inoperative position, (shown by broken lines at the left in Fig. 2.)

A projection or lug 22'' on the block 22 acts as a stop to engage the bar-holder 24 and hold the separator-bar 25 and limit its downward movement. (See Fig. 2.)

As the rod 20 is raised and lowered the separator-bar 25 carrying the separator-blades 26, will be raised and lowered with it, and the engagement of the lug extension 22'' with the guide edge 17'' on the plate 17 will communicate a perpendicular movement and also a traverse movement to said bar 25 and the blades 26 thereon. The traverse movement takes place only when the separator-bar 25 is in its intermediate position, or between its highest and lowest positions.

From its intermediate position to its highest position the separator-bar 25 only has a movement in a perpendicular plane.

I will now describe the other parts of my improvements.

On a bolt 29, secured in this instance to the upper end of the plate 17 and extending out therefrom, is pivotally mounted the hub 30' of a lever 30, which has an extended curved free end 30''. In its normal position the lever 30 hangs down by gravity and rests against a stop 31 on the plate 17 and in the path of the separator-blade 26 when said blade is in its raised backward position, as shown by broken lines at the left in Fig. 2.

When the bar 25, carrying the blades 26, is raised in the operation of the machine, the engagement of a blade 26 with the lever 30 raises said lever, as shown by broken lines in Fig. 2, and the raising of said lever 30 moves the blade 26 and tilts it forward until of its own weight it drops into its forward position, (shown by full lines in Fig. 2,) carrying with it the separator-bar 25. The drop-lever 30 also drops into its normal position. It will thus be seen that in case the operator raises the separator-blades 26 and bar 25 for any reason and neglects to lower them they will be automatically lowered by means of the lever 30.

The advantages of my improvements will be readily appreciated by those skilled in the art. The plate 17, having the guide edge thereon, is permanently attached and is not adjustable. By making a different incline on the guide edge 17'' the traverse movement of the separator-bar 25 may be varied as desired.

It will be understood that the details of construction of my improvements may be varied, if desired, and they may be applied to a twisting-frame.

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

1. In a separator mechanism for a spinning or twisting frame, the combination with a separator-bar, separator-blades thereon, and a vertically-moving rod connected with said separator-bar, of a vertically-extending guide to communicate during the vertical movement of the separator-bar a traverse movement to said separator-bar and separator-blades, and also a movement in a perpendicular plane, substantially as shown and described.

2. In a separator mechanism for a spinning or twisting frame, the combination with a separator-bar, separator-blades thereon, and means for raising and lowering said bar, of a vertically-extending guide to communicate to said separator-bar, both a traverse movement and a movement in a perpendicular plane, during its vertical movement, substantially as shown and described.

3. In a separator mechanism for a spinning or twisting frame, the combination with the separator-bar, separator-blades thereon, a vertically-extending rod having an up-and-down



motion, and connections intermediate said rod  
and the separator-bar, of a vertically-extend-  
ing guide-plate, having an inclined guide-sur-  
face and a perpendicular guide-surface there-  
5 on, and connections intermediate said guide-  
plate and the separator-bar, to communicate  
a traverse movement and a perpendicular  
movement to the separator-bar and separator-  
blades, as said separator-bar is raised and low-  
10 ered, substantially as shown and described.

4. In a separator mechanism for spinning-  
machines, the combination with a separator-

blade adapted to be moved into its inopera-  
tive position, of a movable arm or lever ex-  
tending in the path of the separator-blade in 15  
its inoperative position, and adapted to en-  
gage said blade to move it into its operative  
position on the raising of the blade, substan-  
tially as shown and described.

HERBERT G. BEEDE.

Witnesses:

M. HAAS,

J. C. DEWEY.