

(No Model.)

4 Sheets—Sheet 2

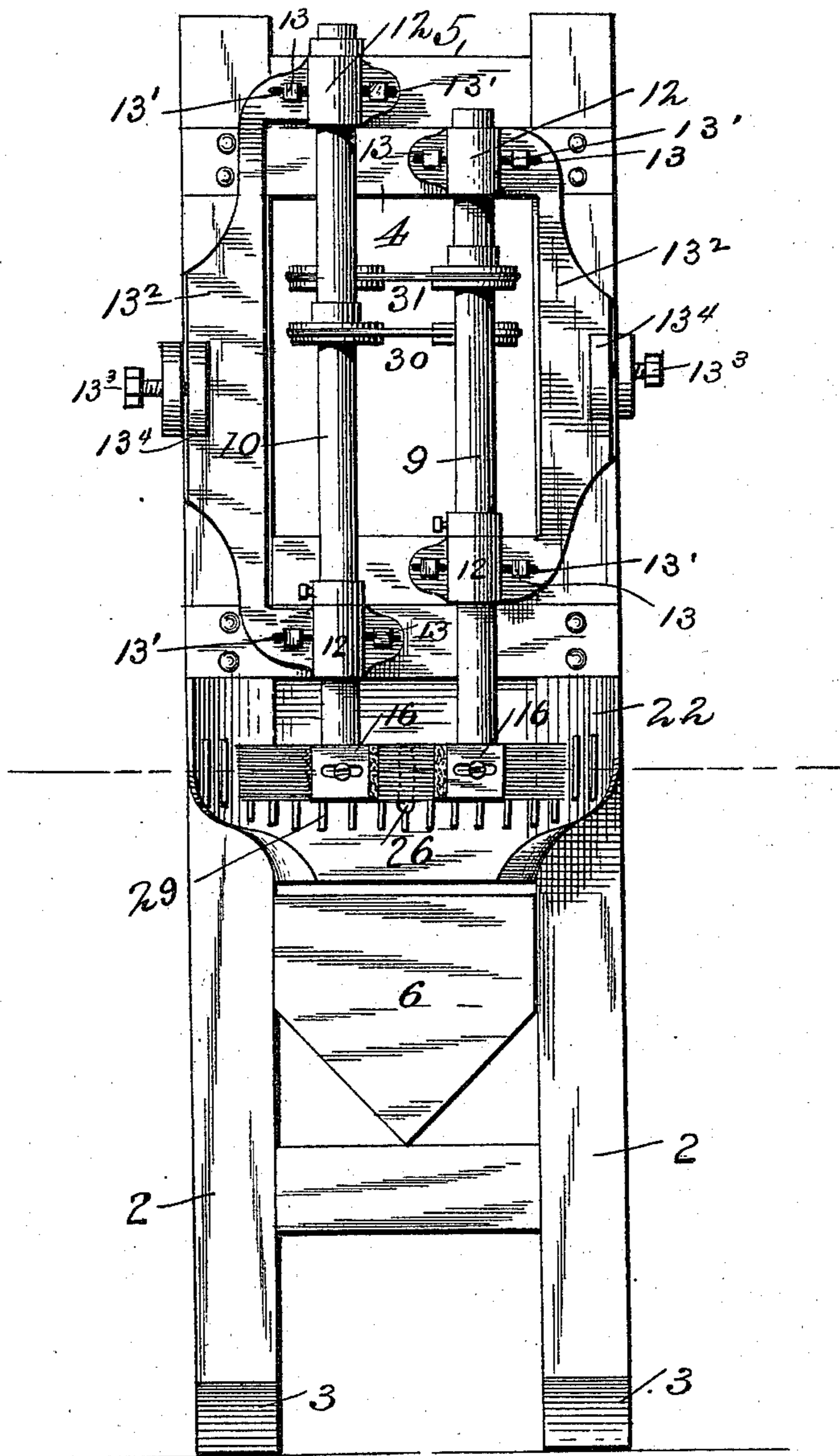
W. F. BRENIZER.

MACHINE FOR PAINTING OR VARNISHING SURFACES.

No. 572,861.

Patented Dec. 8, 1896.

Fig. 2.



Witnesses:
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(No Model.)

4 Sheets—Sheet 3.

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Fig. 3.

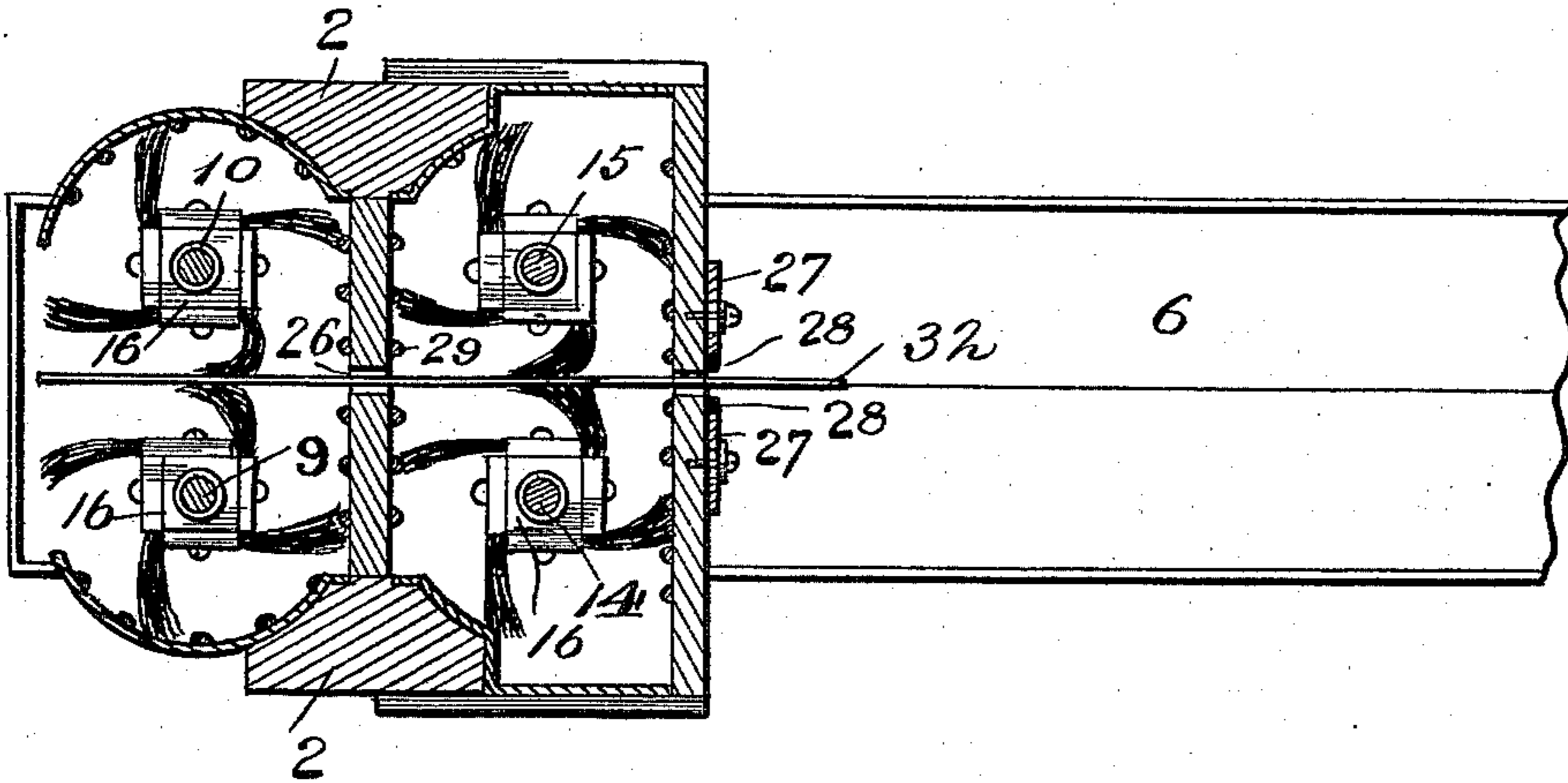


Fig. 5.

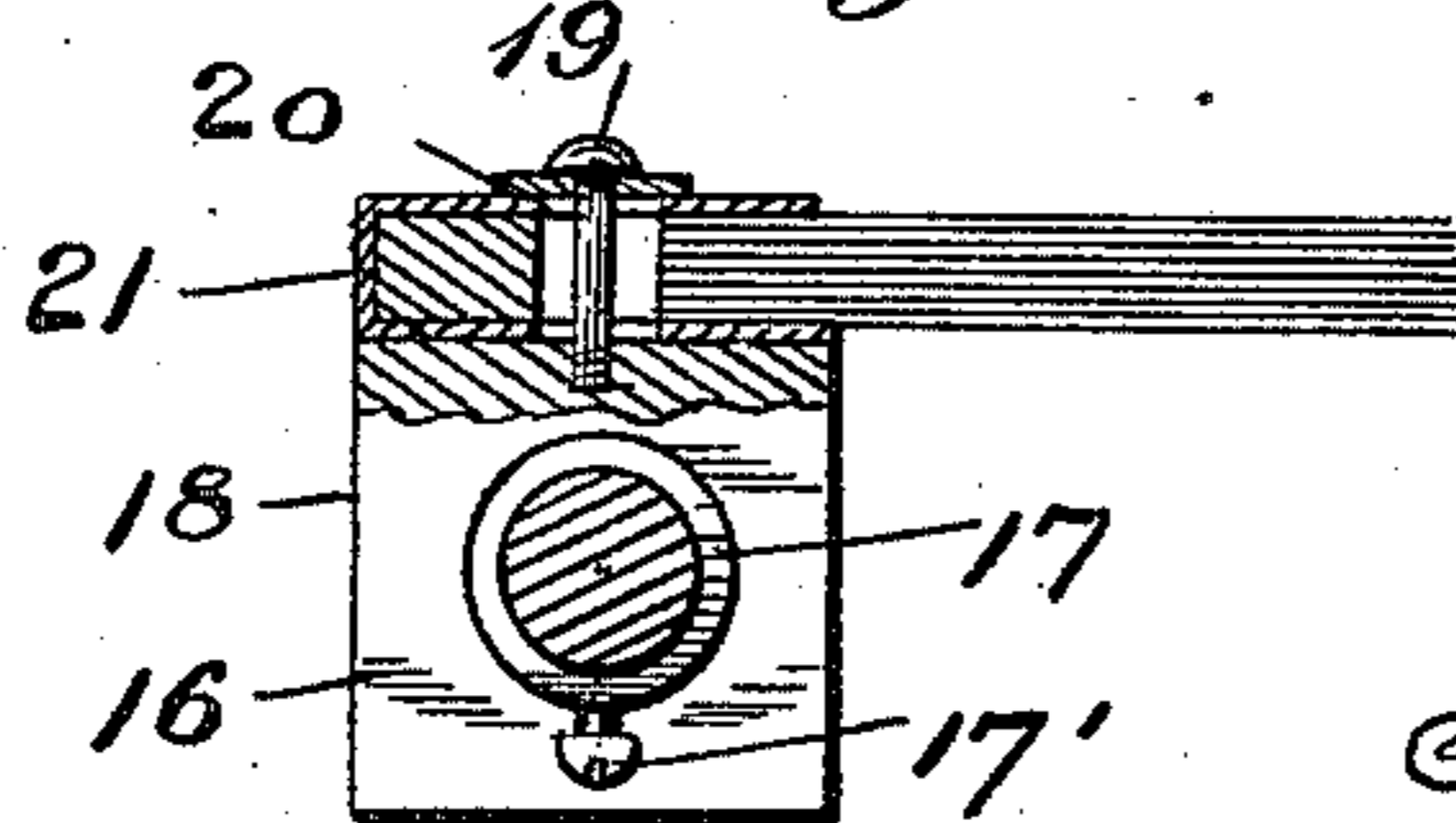


Fig. 6.

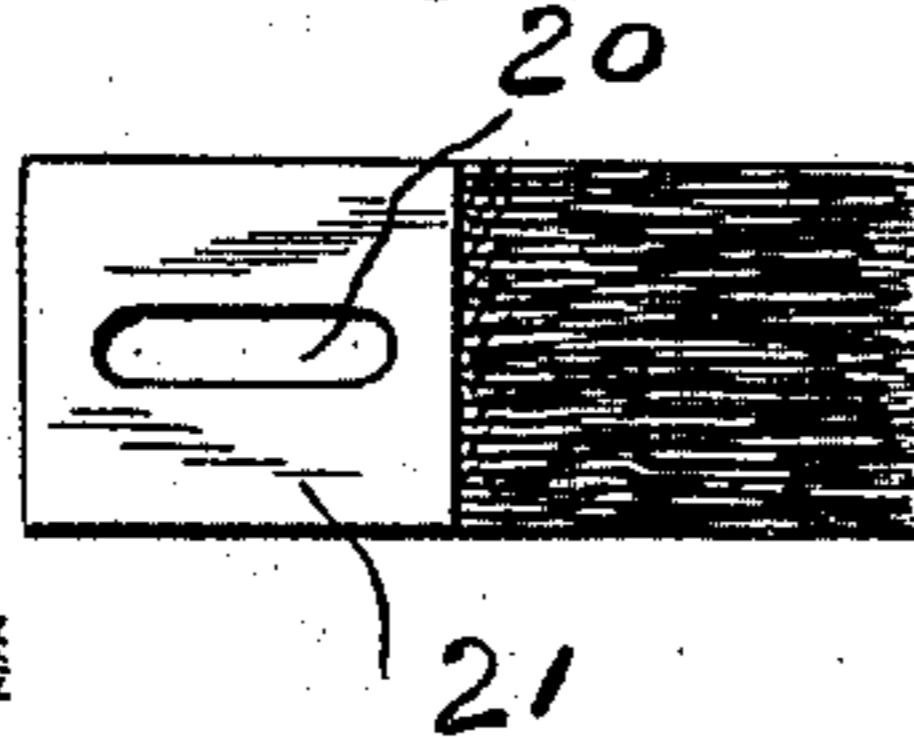
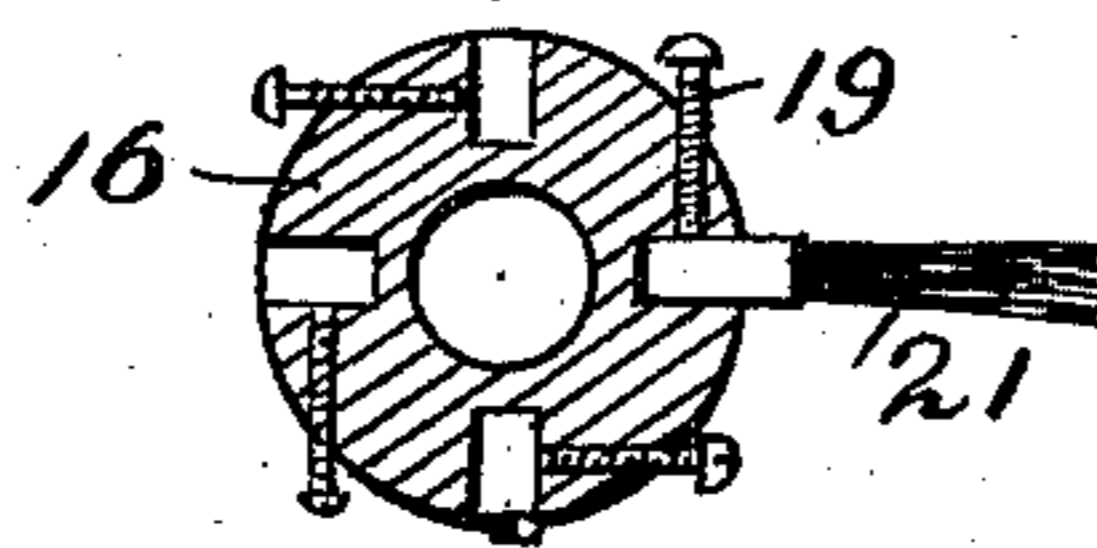


Fig. 7.



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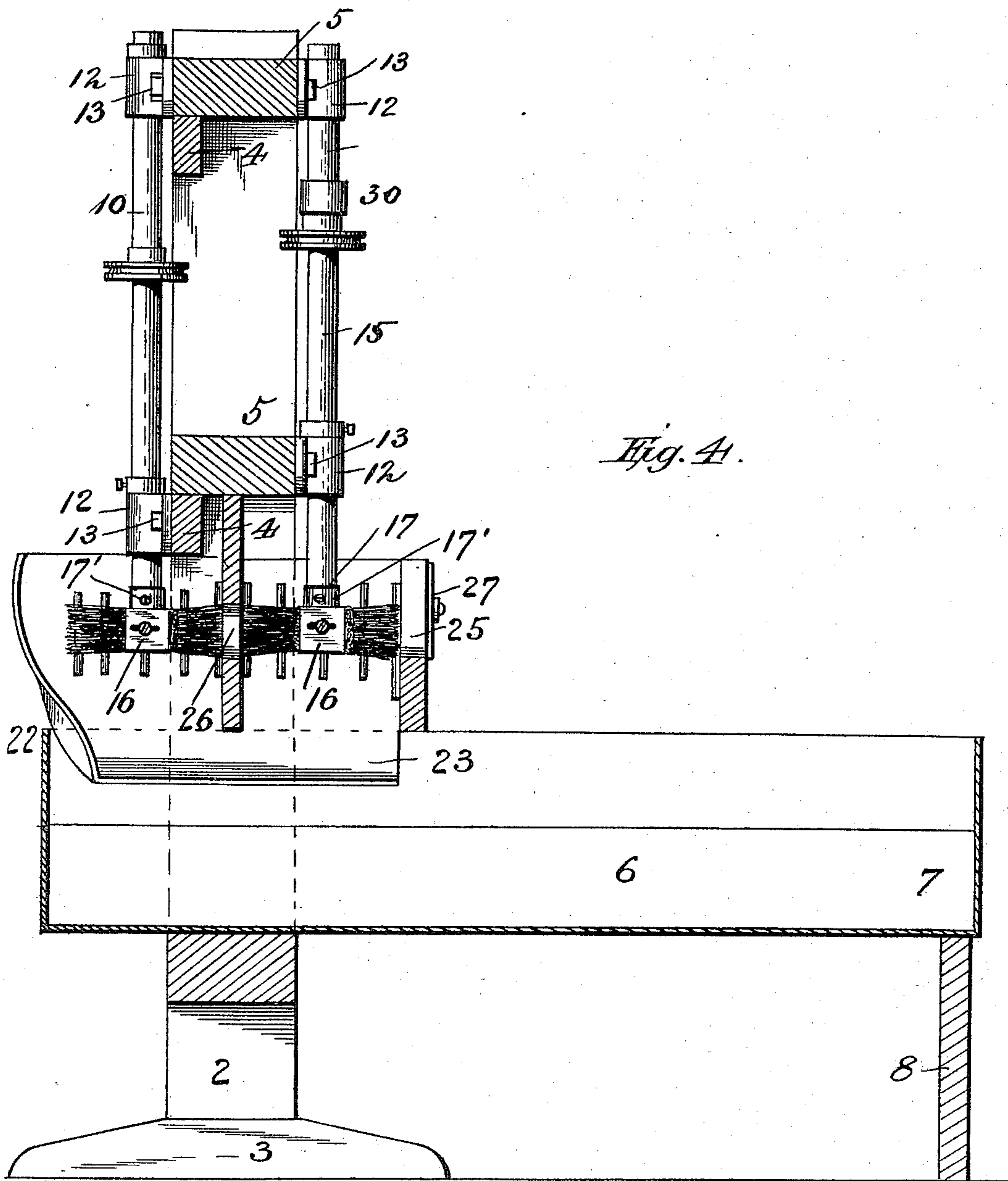
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UNITED STATES PATENT OFFICE.

WARREN FRAZER BRENIZER, OF WASHINGTON, DISTRICT OF COLUMBIA,
ASSIGNOR TO THE WASHINGTON VENETIAN BLIND COMPANY, OF SAME
PLACE.

MACHINE FOR PAINTING OR VARNISHING SURFACES.

SPECIFICATION forming part of Letters Patent No. 572,861, dated December 8, 1896.

Application filed April 7, 1896. Serial No. 586,560. (No model.)

To all whom it may concern:

Be it known that I, WARREN FRAZER BRENIZER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Painting-Machines; and I do 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 relation to machines for painting or varnishing surfaces automatically, and more particularly to that class used for painting or varnishing the slats of Venetian or other blinds; and the object is to produce a machine that will paint or varnish the slats automatically and give them a finish, so that all that is necessary is to let the finished slat dry and it is ready for use; and to these ends the novelty consists in the construction, combination, and arrangement of the several parts of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same letters of reference indicate like parts of the invention.

Figure 1 is a perspective view of my improved painting and varnishing machine as it appears set up and ready for use. Fig. 2 is a rear view of the same, taken on a vertical section back of the rear brushes. Fig. 3 is a horizontal section on the line *x x* of Fig. 2. Fig. 4 is a vertical section taken on a central longitudinal line. Fig. 5 is a detail of one of the revolving-brush heads removed from the machine. Fig. 6 is a plan view of one of the brushes removed from the head. Fig. 7 is a modification of the form of the head.

2 2 are the uprights, provided with suitable feet 3, by means of which the machine may be bolted or otherwise secured to the floor, and these uprights are connected near their upper ends with cross-braces 4 4 and 5 5, secured in recesses in said uprights, and a V-shaped tank 6, open on top, is secured between the uprights, its rear end 7 slightly inclining downward to the front end, when it is supported by legs 8, secured to the floor.

9 10 are two vertical shafts journaled in

boxes 12 12, secured to and horizontally adjustable on the front ends of the uprights 2 2 by means of the bolts 13 13, working in the slots 13' in said boxes 12, and each pair of boxes is provided with a central connecting integral web 13², the central portion of which is provided with an integral lug 13⁴, which rests against a set-screw 13³, secured in a bracket 13⁵, by means of which the distance between the said shafts 9 10 may be accurately adjusted with reference to each other, so that material of different thicknesses may be treated, and these boxes 12 are likewise adjustable individually to correspond to the wear of the journals on their respective shafts. Two similarly-adjustable shafts 14 15 are secured to the rear ends of the uprights by means of similar bolts 13 13 in adjustable boxes 12 12, similar to those described for shafts 9 and 10.

A brush-head 16 is formed with a collar 17, provided annularly with a central vertical hole in said head, and said collar is secured to and vertically adjustable upon the shafts 9 10 and 14 15 by means of a set-screw 17', one head to each shaft. Each polygonal side 18 of the head 16 is provided with a set-screw 19, which passes through a slot 20 in the brush 21, by means of which each brush can be removably secured to the side of the head, and the slot 20 allows of an adjustment by which the end of each brush can describe a larger or smaller circle when the shafts are rotated.

22 is a funnel-shaped hood which forms an extension of the rear end of the paint-tank 6, and 23 represents a casing, open on top and bottom, located immediately over and communicating with said tank. Its front end 24 is provided with a vertical recess 25 and it has a similar recess 26 in its rear end, these vertical recesses being in the same horizontal plane as the two sets of revolving brushes on the ends of the vertical shafts between which the article to be painted or varnished is passed. The casing on each side of the front recess 25 is provided with laterally-adjustable strips 27 27, secured to the sides of the recesses by screws, and their contiguous ends are provided with strips of rubber

or felt 28, which serve to brush off or remove any dust or foreign matter adhering to the surface of the article to be coated.

A series of vertical ribs 29 are secured to the inside of the hood 22 and casing 23, and the brushes in revolving strike the extreme outer ends of these ribs and remove the paint or varnish therefrom, and it is conducted by gravity back to the tank 6.

Any suitable power is applied to the shaft 14, on which is a pulley 30¹, connected by a cross-belt 30 to a pulley 30² on the shaft 10, and a second pulley (not shown) on the shaft 14 is connected by a belt 30³ to a pulley 30⁴ on the shaft 9, and a pulley 30⁵ on this shaft is connected by a cross-belt 30⁶ to a pulley 30⁷ on the shaft 15.

I will now describe the operation of the machine when it is used for varnishing and finishing blind-slats for Venetian blinds. The tank 6 is about half filled with varnish, and the slat 32 is then dipped vertically in the varnish in said tank, completely submerging it. Its forward end is then inserted in the vertical recess between the strips 27 27 and passed between the brushes on the shafts 14 and 15. Thence it passes through the recess 26 and finally between the brushes on the shafts 9 10, which give it the finishing touches, and it is then laid away to dry.

The brushes on the shafts 14 15 evenly and regularly distribute the varnish over the entire surface of the slat and take off all surplus, which is immediately removed from said brushes by their ends striking against the ribs before mentioned. It will thus be seen that the slats can be passed through the machine and come out completely varnished and finished. The rapid rotating of the brushes on the shafts 9 and 10 serves to give a high polish to the slat, and it will be noticed that the action of the brush on the head is exactly the same as the action employed when varnished by hand, except that the high speed of the brushes gives a finish that it is impossible to attain by hand, except it is done at great expense.

While I have now described my invention as applied to slats for Venetian and other blinds, it will readily be understood that other

similar surfaces and objects may be treated, and instead of varnish any kind of stain or paint or suitable liquid may be employed to give the desired effect and finish to the article so finished, and when desired the articles may be painted or stained in one machine and then varnished in another.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination with the frame, the vertical shafts 14 and 15 journaled therein and provided with brushes at their lower ends and means to rotate said shafts in opposite directions, of the casing 23 encompassing said brushes and provided with the vertical ribs 29, substantially as and for the purpose set forth.

2. The combination with the shafts, journaled in adjustable boxes secured to the framework and provided with vertically-adjustable brush-heads, having radially-adjustable brushes secured thereto and provided with a collar and set-screw, for vertical adjustment on said shafts, of the hood or casing, the walls of which partially encircle said brushes and are provided with vertical ribs, adapted to engage the brushes and remove the surplus material from the same, substantially as and for the purpose specified.

3. The combination with the frame, provided with the tank 6, having the open hood 22, and casing 23, of laterally-adjustable shafts 9, 10 and 14, 15, provided with the vertically-adjustable brush-heads 16, carrying the radially-adjustable brushes 21, substantially as and for the purpose specified.

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

WARREN FRAZER BRENIZER.

Witnesses:

SAML. A. DRURY,

A. B. SUIT.