

No. 890,806.

PATENTED JUNE 16, 1908.

S. T. SMITH, JR.
STENCILING MACHINE.
APPLICATION FILED DEC. 5, 1907.

3 SHEETS—SHEET 1.

Fig. 1.

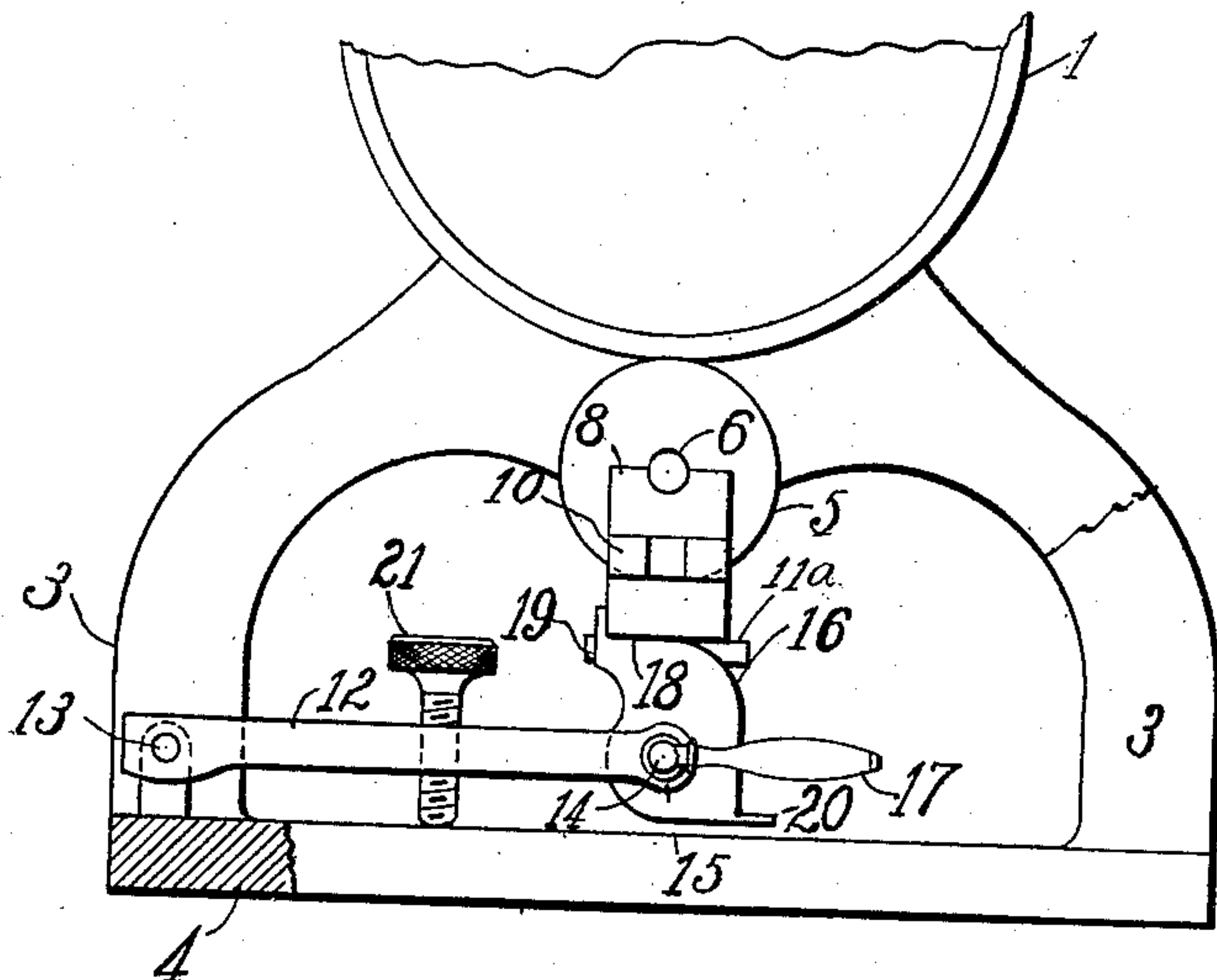


Fig. 2.

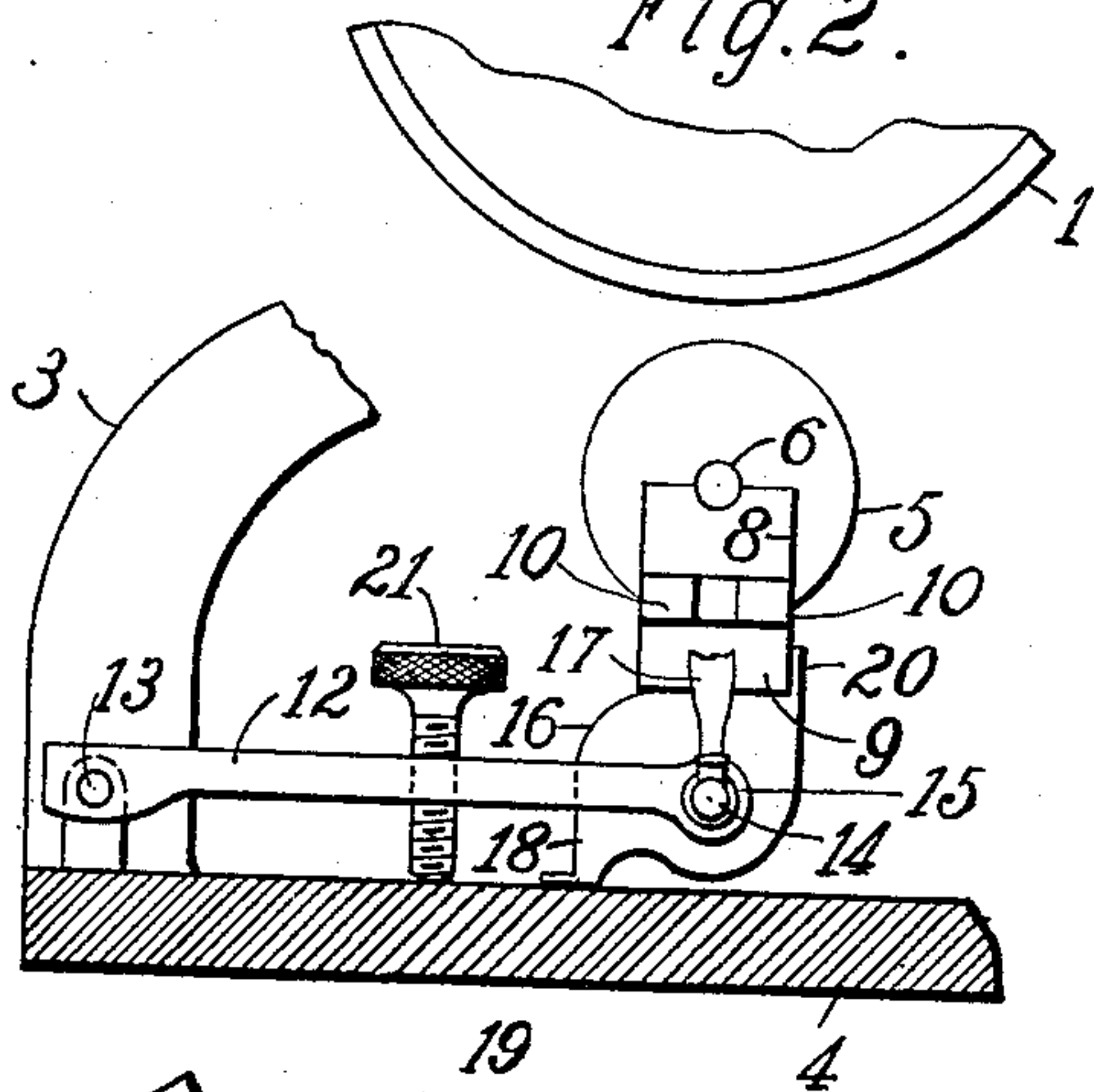


Fig. 4.

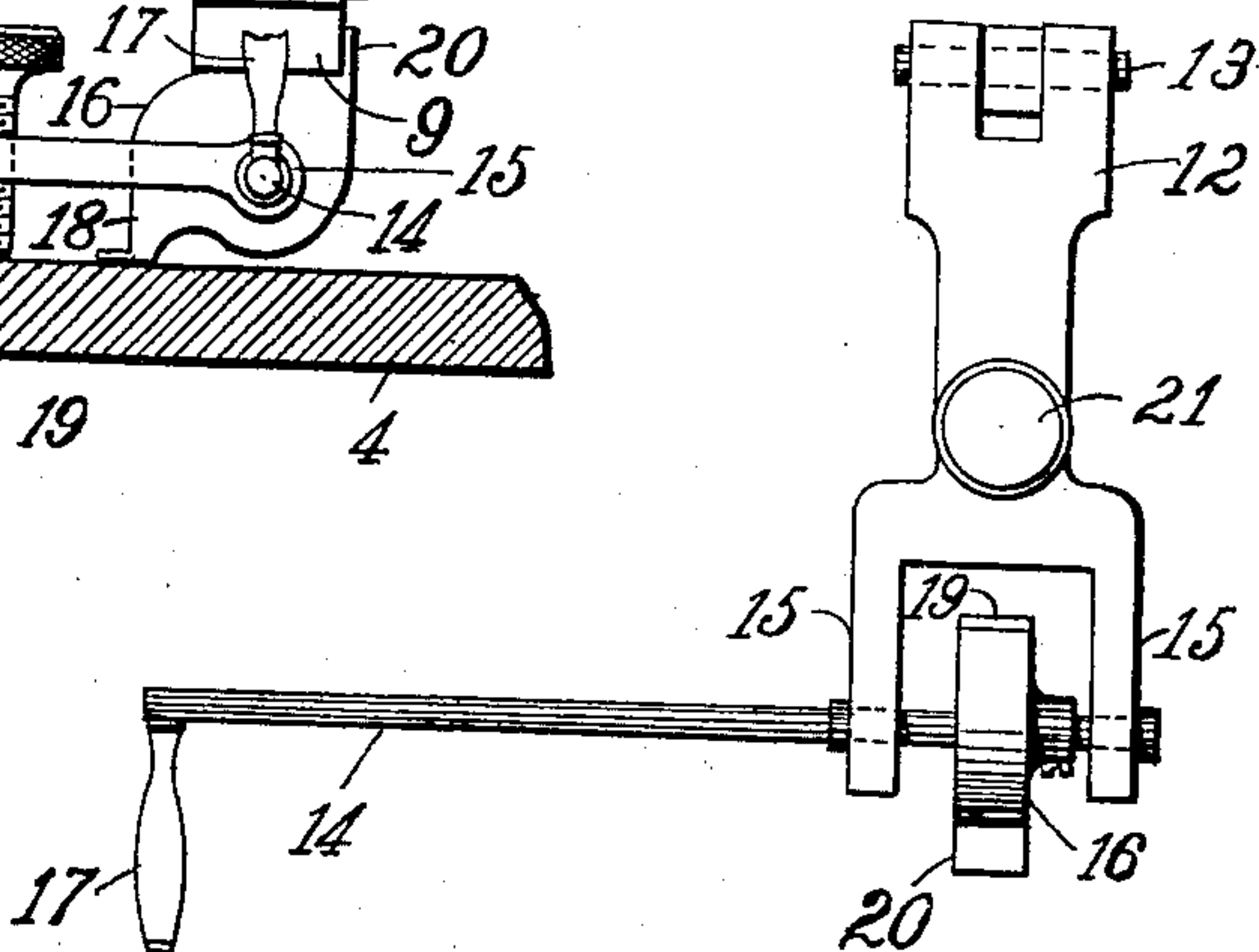
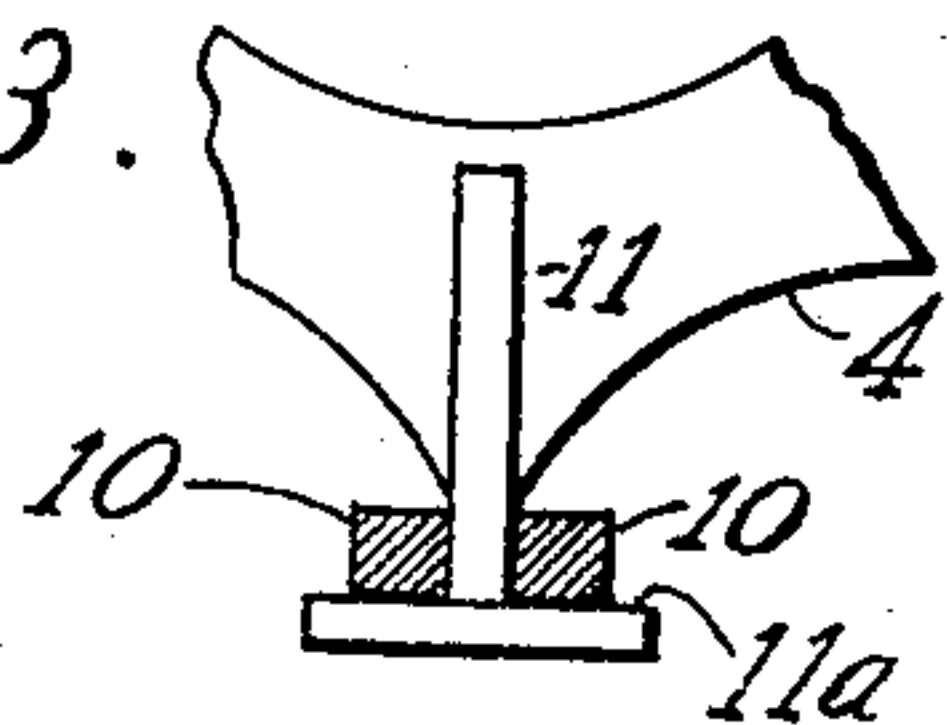


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 5.

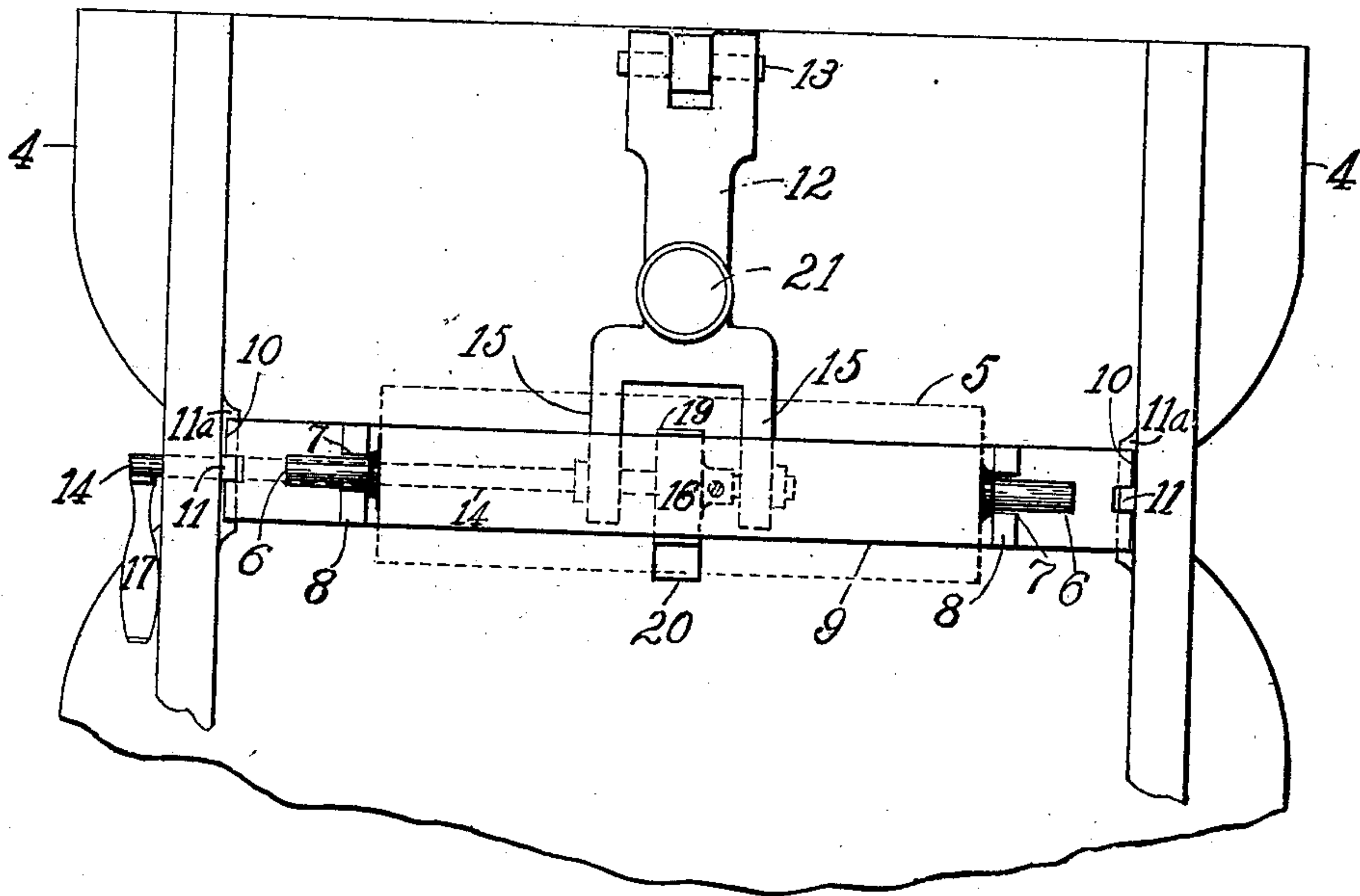
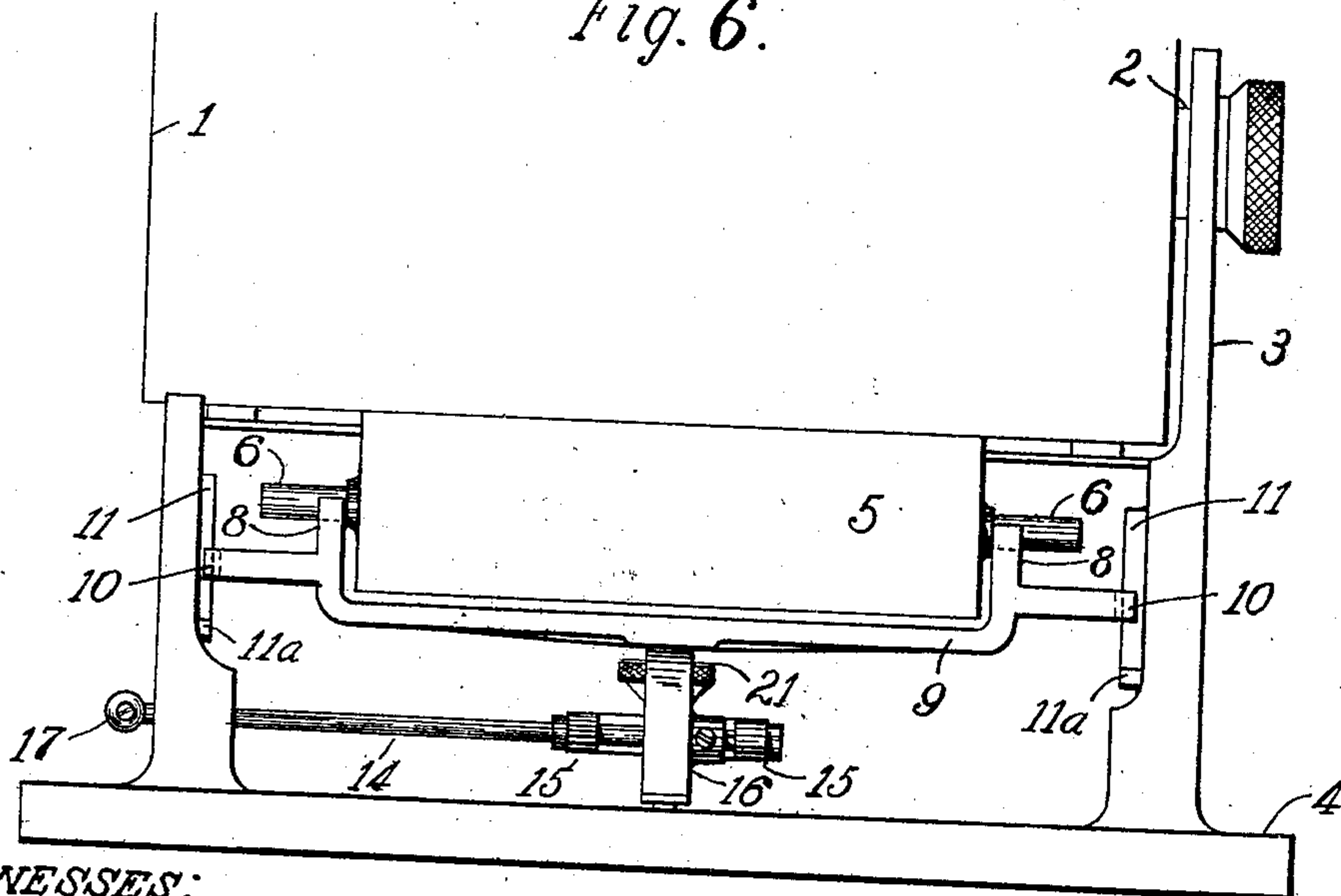


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 7.

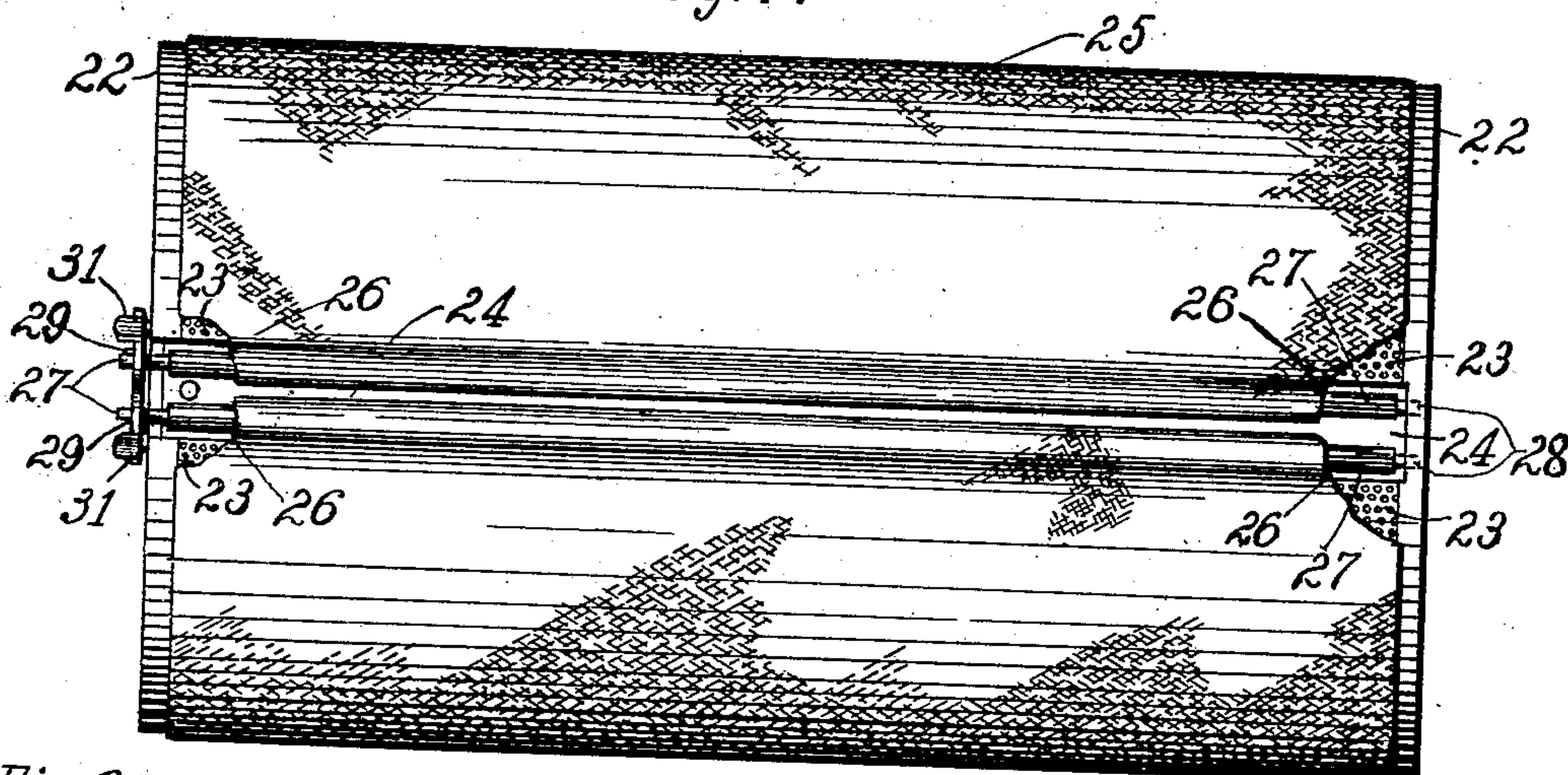


Fig. 8.

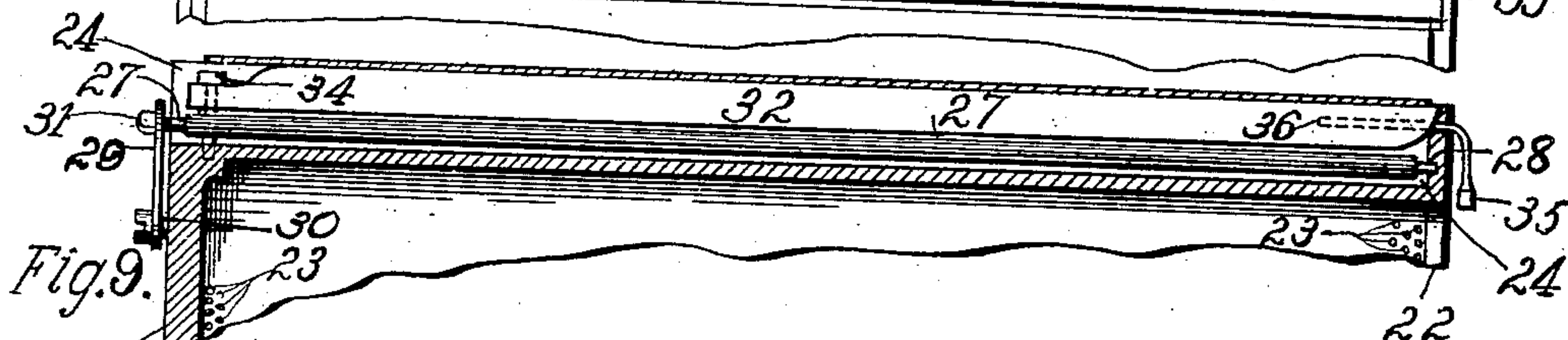
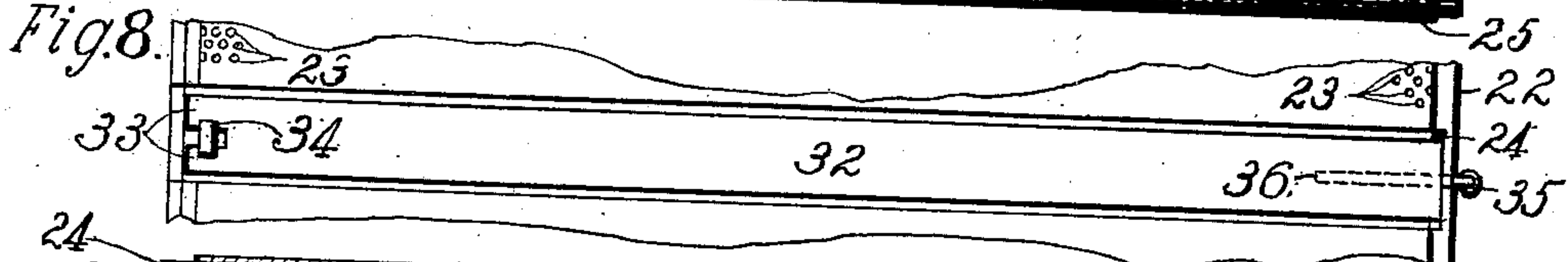


Fig. 9.

Fig. 10.

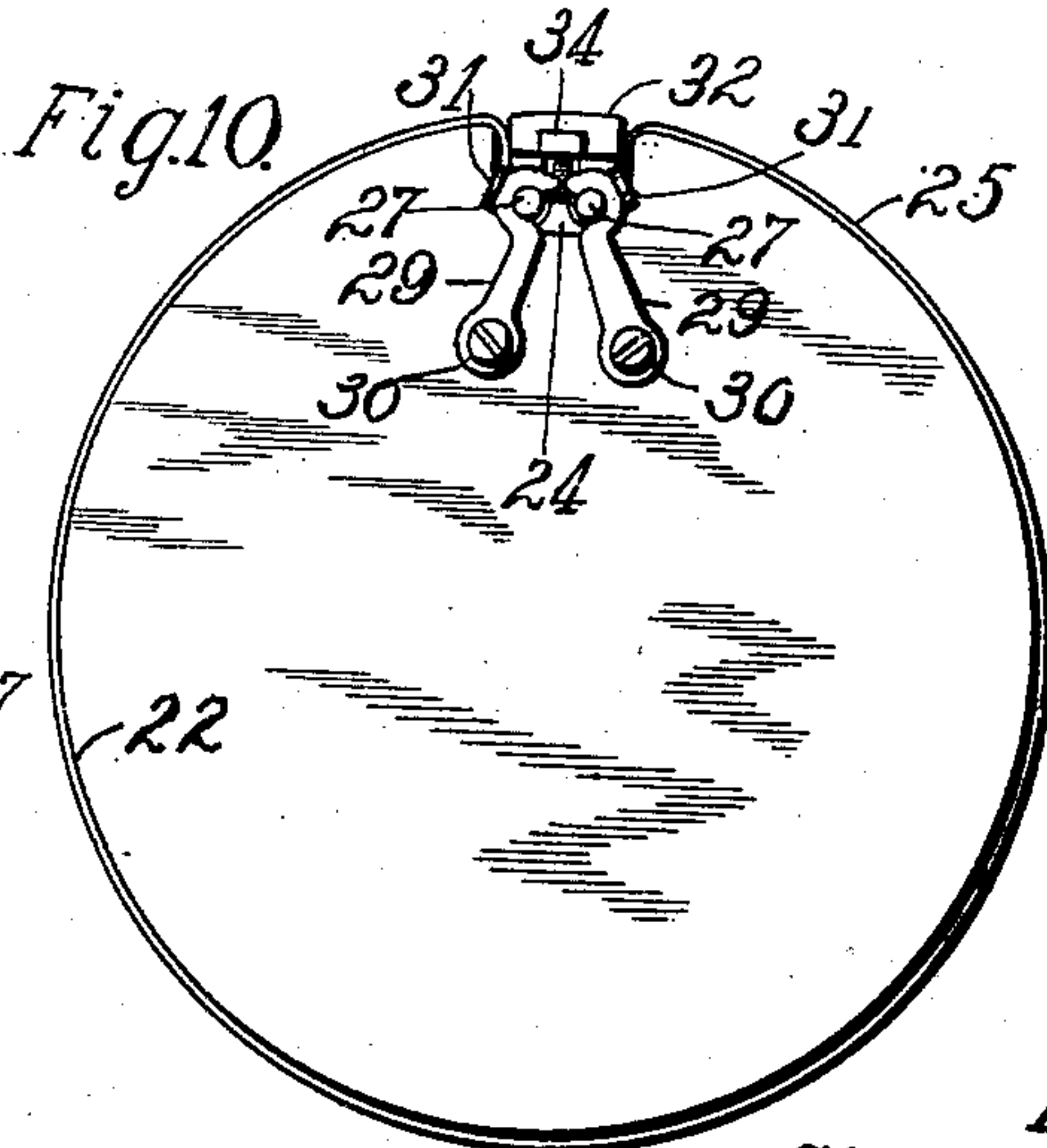


Fig. 12.

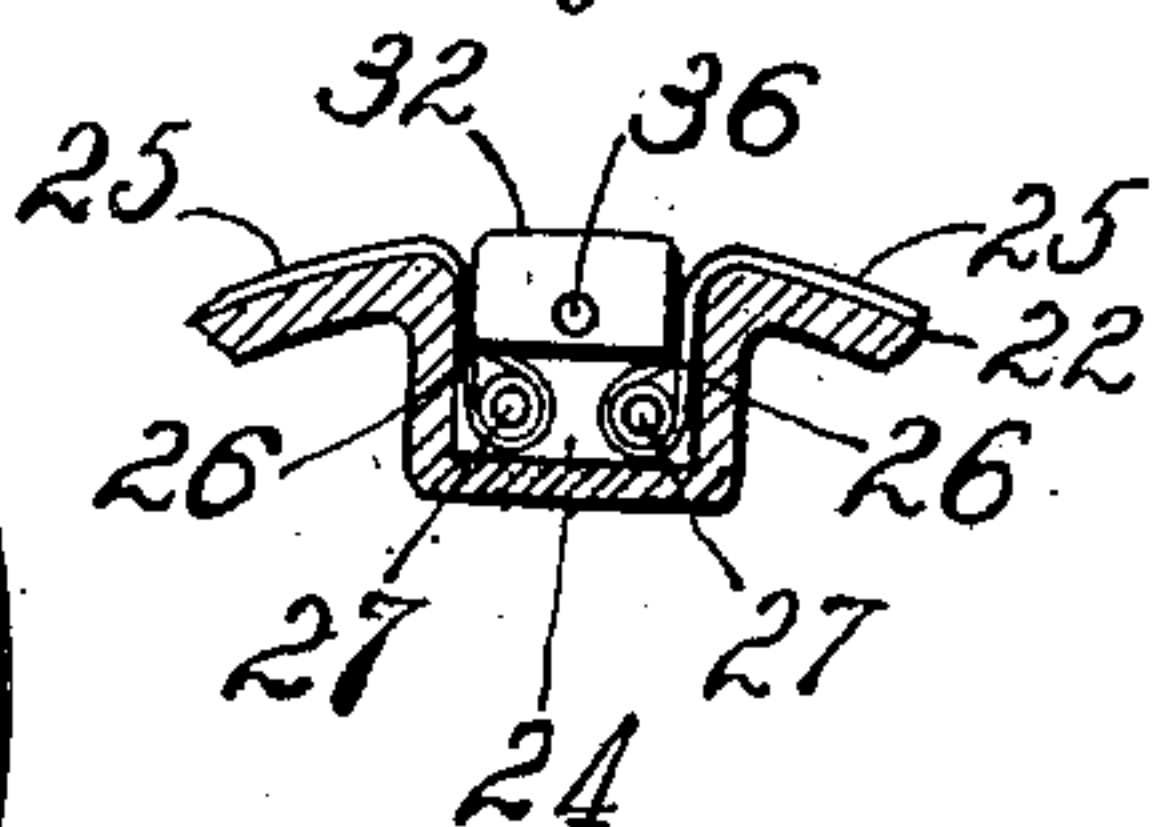
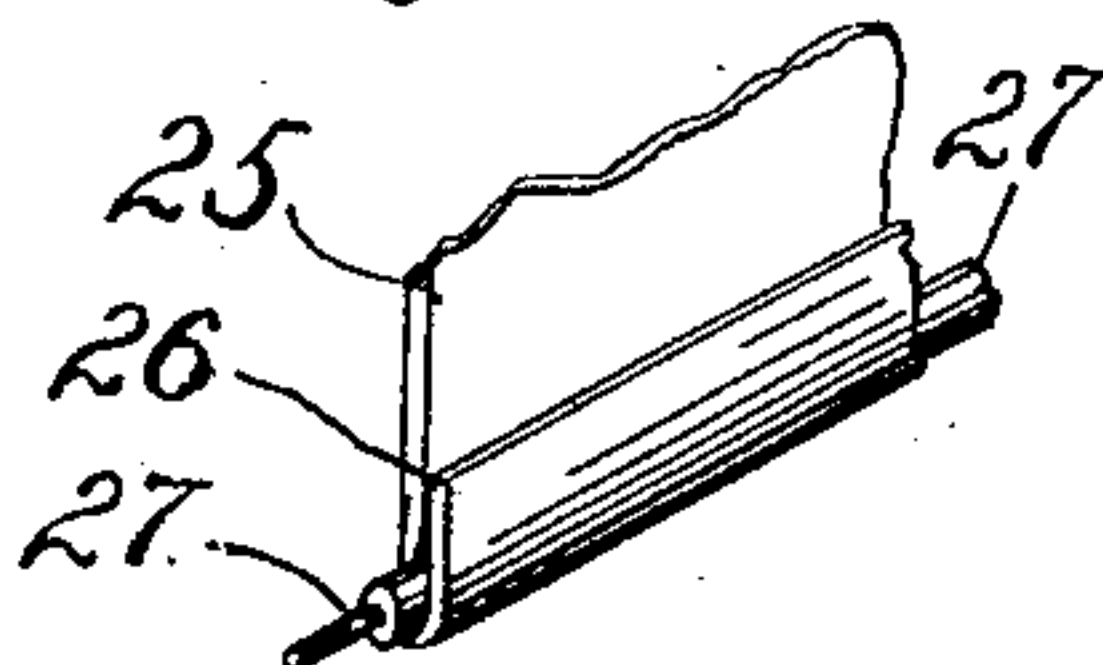


Fig. 11.



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UNITED STATES PATENT OFFICE.

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STENCILING-MACHINE.

No. 890,806.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed December 5, 1907. Serial No. 405,137.

To all whom it may concern:

Be it known that I, STEPHEN T. SMITH, JR., a citizen of the United States, residing in Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Stenciling-Machines, of which the following is a specification.

This invention relates to the class of stenciling machines in which stencils are made upon waxed sheets, and the sheets to be stenciled are run between a pressure roll and a cylinder to cause ink to be pressed through the stencil upon the sheets.

One of the objects of the invention is to provide simplified, inexpensive, easily operated means for regulating the pressure of the roll against the cylinder and for releasing the roll without disturbing such adjustment. In carrying out this feature of the invention, I preferably pivot a lever upon the frame of the machine, and upon its free end mount a cam which is adapted to press the roll against the cylinder, and which may be turned to release the roll. The lever affords a support for the cam, such support being adjustable; a screw being threaded through the lever between its ends to bear upon the framing of the machine. When the cam is set to press the roll against the cylinder, the screw may be turned to raise or lower the lever and cam, thereby to secure the desired pressure. The cam may be turned at any time to release the roll without disturbing such adjustment.

Another object of the invention is to provide a simplified, inexpensive and effective means for releasably securing the ends of the usual ink pad upon the perforated stencil cylinder. For accomplishing this object, I form a loop at each end of the pad, and pass rods through the loops, one end of each rod engaging with a socket in a head of the drum, and the other ends of the rods being secured in place by means of latches pivoted to the opposite head of the drum. The loop ends of the pad and the rods lie in a channel running the length of the drum and below the printing surface thereof. The stencil sheet is secured to the drum in a manner usual in the well known Underwood revolving duplicator, by means of a bar fitting in the channel and clamping the end of the stencil sheet between the side walls of the channel and the edges of said bar.

In the accompanying drawings, Figure 1

is an end elevation of a stenciling machine provided with my improvements, showing the pressure roll bearing against the stencil cylinder. Fig. 2 is a fragmentary view like Fig. 1, but showing the roll released from the cylinder. Fig. 3 is a sectional elevation taken at one side of the frame to illustrate the manner of guiding the bar that carries the pressure roll. Fig. 4 is a plan of the devices that control the pressure roll. Fig. 5 is a plan of the machine omitting the cylinder. Fig. 6 is an elevation showing the roll pressing against the cylinder. Fig. 7 is a plan of the cylinder. Fig. 8 is a fragmentary sectional view, showing the pad-securing rods and stencil-clamping bar in position. Fig. 9 is a sectional elevation of the clamping devices. Fig. 10 is an end view looking at the left of Fig. 1. Fig. 11 is a fragmentary perspective view showing a looped end of the pad with a rod therein. Fig. 12 is a fragmentary sectional view taken transversely of the channel and showing the rods with the looped ends of the pad and stencil-clamping bar in place in the channel.

The stencil cylinder 1 is journaled upon a bar 2 supported in a standard 3 rising from a base 4. A soft rubber pressure roll 5 beneath the cylinder is provided with an axle 6 which rests in open bearings 7 formed in arms 8 rising from a bar 9, which extends from side to side of the machine, and is formed at its ends with open guides 10 to slide up and down on guiding ribs 11 formed on the framework.

The means to control the pressure roll comprises a lever 12 fulcrumed at 13 upon the framework and carrying at its end a rock shaft 14, the latter journaled in forks 15 formed upon the lever. Between said forks, the rock shaft carries a cam 16 to bear up against the middle of the bar 9 to press the roll up evenly against the cylinder, that is, so that the pressure shall be uniform along the cylinder. A handle 17 provided on the rock shaft 14 at the side of the machine, Fig. 5, is convenient for turning the cam 16 from the roll-pressing position at Fig. 1 to the roll-releasing position at Fig. 2. A flat or dwell portion 18 on the cam serves to lock or detain the bar 9 and roll in operative position, Fig. 1, so that the roll cannot be released without the application of an upward pressure on the handle 17, and hence accidental release of the roll is avoided. Stops

19, 20 limit the throw of the cam in both directions. When released, the roll bar 9 is supported on rests 11^a.

A thumb screw 21 is threaded through the lever 12 between the ends of the latter to bear down upon the base 4 of the machine, thereby to form an adjustable support for the cam 16. It will be seen at Fig. 1 that by turning the screw in one direction or the other, the lever will be raised or lowered slightly to increase or diminish the pressure of the roll 5 against the cylinder 1, so that fine regulation of the pressure, which is important in this art, is readily secured; and at any time, the handle 17 may be turned to release the cylinder, without disturbing the adjustment of the screw 21.

The cylinder comprises a pair of heads 22, connected by means of a sheet of foraminous material 23. A depression or channel 24 extends the length of the drum. Passing around the drum is an ink pad 25 of some suitable material, each end of which is looped, as at 26. Rods 27 engage in each loop 26, one end of the rods releasably engaging in sockets or recesses 28 in one head of the drum, and the other ends of the rods releasably secured by means of latches or hooks 29, pivoted at 30 to a head of the drum. Finger-pieces 31 upon the latches readily throw them into and out of engagement with the rods.

In the channel 24 is a bar 32 for securing the stencil (not shown) upon the drum over the inking pad, the top surface of the bar lying substantially flush with the periphery of the cylinder or drum. One end of the bar 32 is forked, as at 33, and engages under the head of a screw 34, the other end resting upon the end wall of the channel, being secured by means of a pin 35 passing through the drum-head and fitting in a socket 36 in the end of said bar.

To apply the pad to the drum, one of the rods is passed through a loop of the pad, and one end inserted into a socket 28. The rod with the said looped end is then pressed down into the channel 24, and the other end of the rod releasably secured by latch 29. The drum is then given nearly a complete revolution, and the pad pulled taut around the same. To secure the other end of the pad, the other rod 27 is passed through the other loop 25 of the pad, the end thereof inserted into the other socket 28, and the rod with the looped end drawn down over the side wall of and into the channel 24 and secured therein by means of the other latch 30. By drawing the pad over the side walls and into the channel 24, it is made taut around the drum. The latches are pivoted to the head of the drum eccentrically to the hooked portions thereof, so that the hooked portions act as cams to pull the rods down into the channel when locking the rods in place.

To remove the pad the operator releases one of the rods by placing the finger under the finger-piece and throwing the latch out of engagement with the said rod. The rod is then given a slight sidewise pull to disengage the same from the socket. A rotating movement is then given to the drum and the pad drawn from the same. The operation is repeated in releasing the other end of the pad, and the looped ends allowed to slide off the rod; the complete operation of removing the pad being accomplished without the operator soiling the hands.

Variations may be resorted to within the scope of the invention, and portions of my improvements may be used without others.

Having thus described my invention, I claim:

1. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of an adjustable support mounted upon the framework, a cam pivoted to the adjustable support, means for enabling said cam to press the roll against the cylinder, a handle connected to the cam to release the roll, and means for effecting fine adjustments of said support to vary the pressure of the roll against the cylinder.

2. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a movable support mounted upon the framework, a device pivoted upon said support to press the roll against the cylinder, means to move said pivoted device to a position to release the roll, and adjustable means for setting said support up or down to increase or diminish the pressure of the roll against the cylinder.

3. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a bar extending along the roll and connected thereto, a lever fulcrumed upon the framework, a rest for said lever, a cam pivoted upon the lever to engage said bar and press the roll against the cylinder, and a handle mounted upon said lever and connected to said cam to turn the same to release the roll; said lever rest adjustable to effect fine variations in the pressure of the roll against the cylinder.

4. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a movable support mounted upon the framework, a single interponent between said support and said roll said interponent pivoted upon said support, a handle connected to said interponent to move the latter to cause the roll to press against the cylinder, means being provided to lock the interponent in roll-pressing position, and means for adjusting

said support to increase or diminish the pressure of the roll against the cylinder.

5. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a bar extending along the roll and connected thereto, a single movable support mounted upon the framework, an interponent extending from said support to the middle of said bar to press the same towards the cylinder, a handle extending from said interponent to the side of the machine, and a screw for adjusting said support to increase or diminish the pressure of the roll against the cylinder.

6. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a bar extending along the roll and connected thereto, a single support mounted upon the framework, an interponent extending from said support to the middle of said bar to press the same towards the cylinder, a rock shaft mounted on said support and extending from said interponent to the side of the machine and carrying a handle, and a screw for adjusting said support to increase or diminish the pressure of the roll against the cylinder.

7. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a bar extending along the roll and connected thereto, a support mounted upon the framework, a rock shaft journaled in said support, a handle connected to said rock shaft, a cam mounted upon said rock shaft to engage said bar at the middle thereof and press it towards the cylinder, said cam formed with a rest to lock it in roll-pressing position, and means to adjust said support to regulate the pressure of the roll against the cylinder.

8. In a stenciling machine, the combination with a framework, a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a bar extending along the roll and connected thereto, a lever pivoted upon the framework, a rock shaft journaled in said lever and extending to the side of the machine and there provided with a handle, a cam upon said rock shaft and engaging the middle of said bar to press the latter towards the cylinder, and a screw to swing said lever to regulate the pressure of the roll against the cylinder.

9. In a stenciling machine, the combination with a framework, a stencil cylinder and a resilient roll to press the sheets against the cylinder, of a bar extending along the roll

and connected thereto, a rock shaft having at one end a handle at the side of the machine, a cam upon said rock shaft to press the roll against the cylinder, a stop for limiting the movement of the rock shaft, and means distinct from said cam for effecting fine regulation of the pressure of the roll against the cylinder.

10. In a stenciling machine, the combination with a drum, of an ink pad the ends of which are looped, and means for securing the pad to the drum, comprising a releasable rod passed through each of said loops, one end of the rods engaging in one head of the drum and the other ends releasably secured by means of latches pivoted to the other head of the drum.

11. In a stenciling machine having a drum, the combination of an ink pad extending around the drum and having looped ends, and a pair of rods one engaging in each of said loops, one end of each rod removably engaging in a socket in the head of the drum, and the other end of the rod secured by means of a hook pivoted to the other head of the drum.

12. In a stenciling machine, the combination with a drum having a channel, of a pad having looped ends and extending around said drum, rods passing through the looped ends of the pad, one end of each rod engaging with a socket in the drum head, and the other ends of the rods secured by means of latches.

13. In a stenciling machine, the combination with a drum having a channel, of a pad having looped ends and extending around said drum, rods passing through the looped ends of the pad, one end of each rod engaging with a socket in the drum head and the other ends of the rods secured by means of latches pivoted to the other head of the drum; said rods and looped portions lying in said channel below the periphery of the drum.

14. In a stenciling machine, the combination with a stencil cylinder and a resilient roll to press the sheets against the cylinder, of an arm movably mounted upon the framework, a roll carrier, a single interponent engaging said arm and said carrier, the arm and interponent being arranged at the middle of said carrier, means for causing said interponent to press the roll against the cylinder, and means for effecting fine adjustment of said arm to vary the pressure of the roll against the cylinder.

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Witnesses:

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