

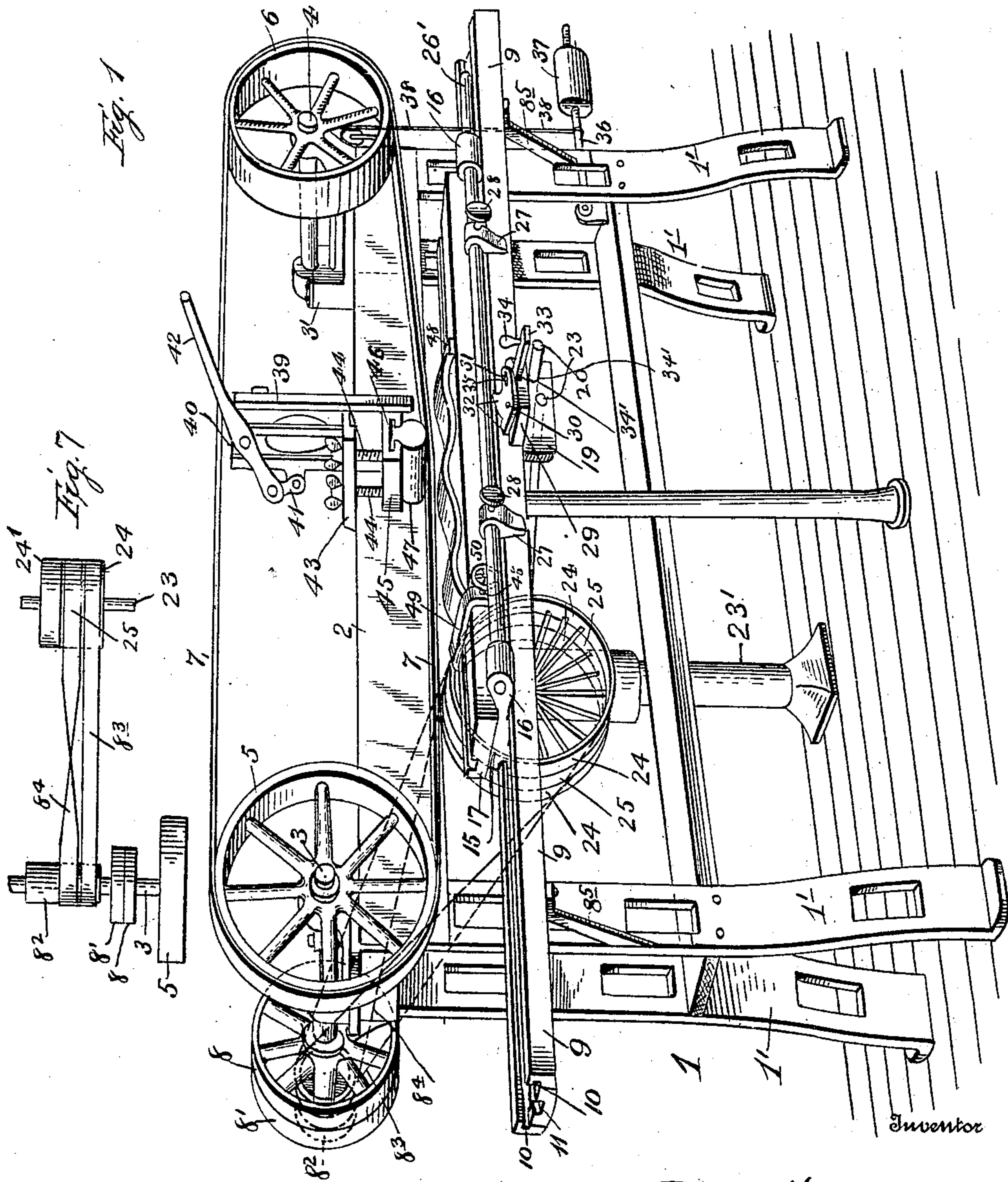
No. 880,663.

PATENTED MAR. 3, 1908.

G. HERRMANN.
SANDPAPERING MACHINE.

APPLICATION FILED JUNE 6, 1906.

3 SHEETS—SHEET 1.



Witnesses
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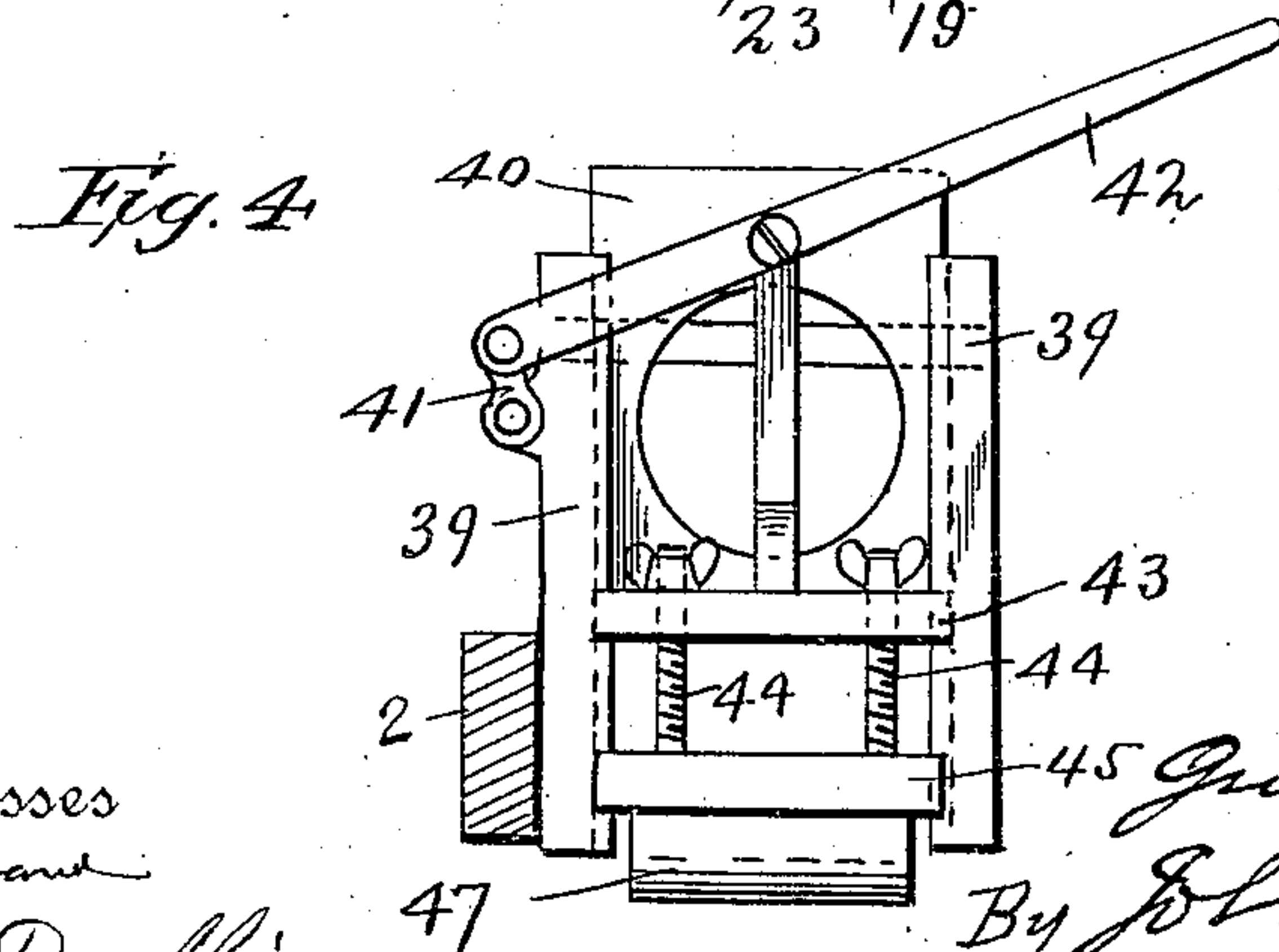
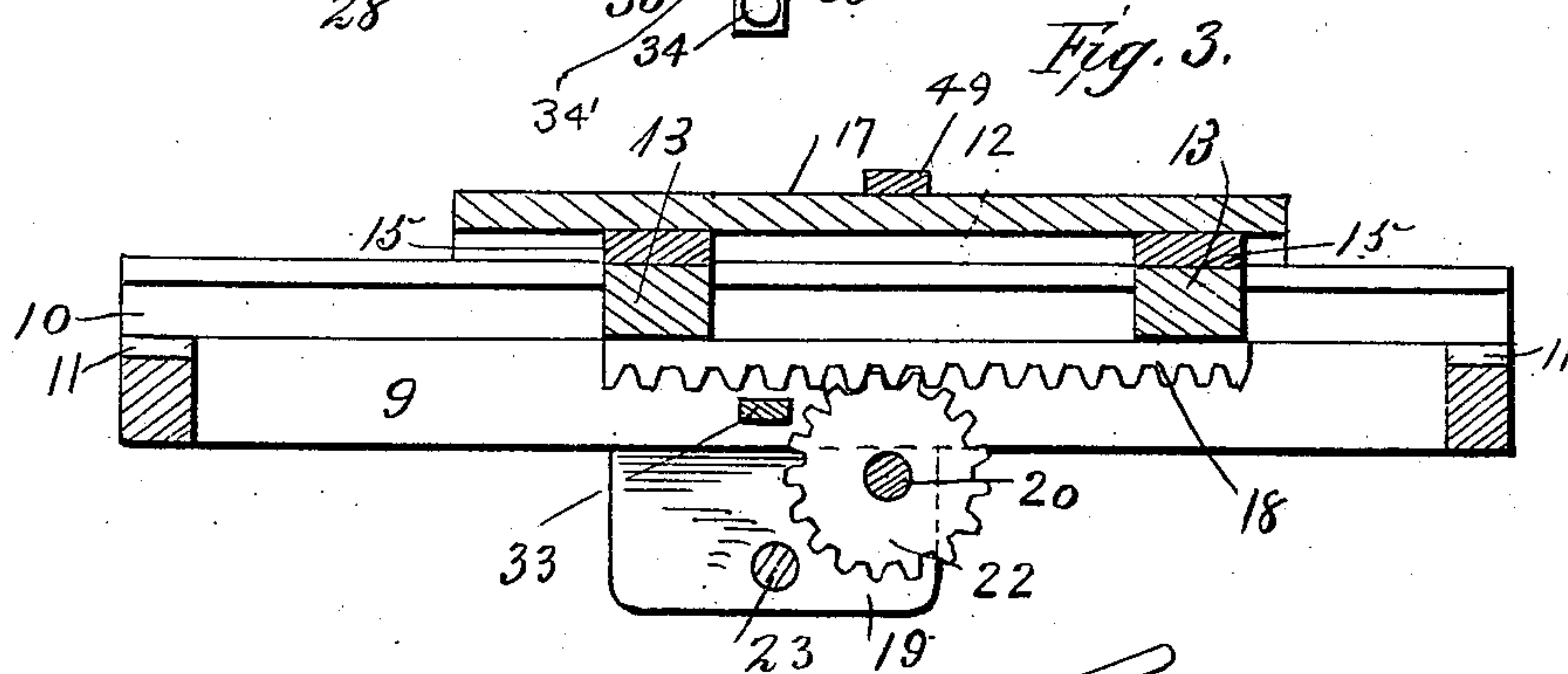
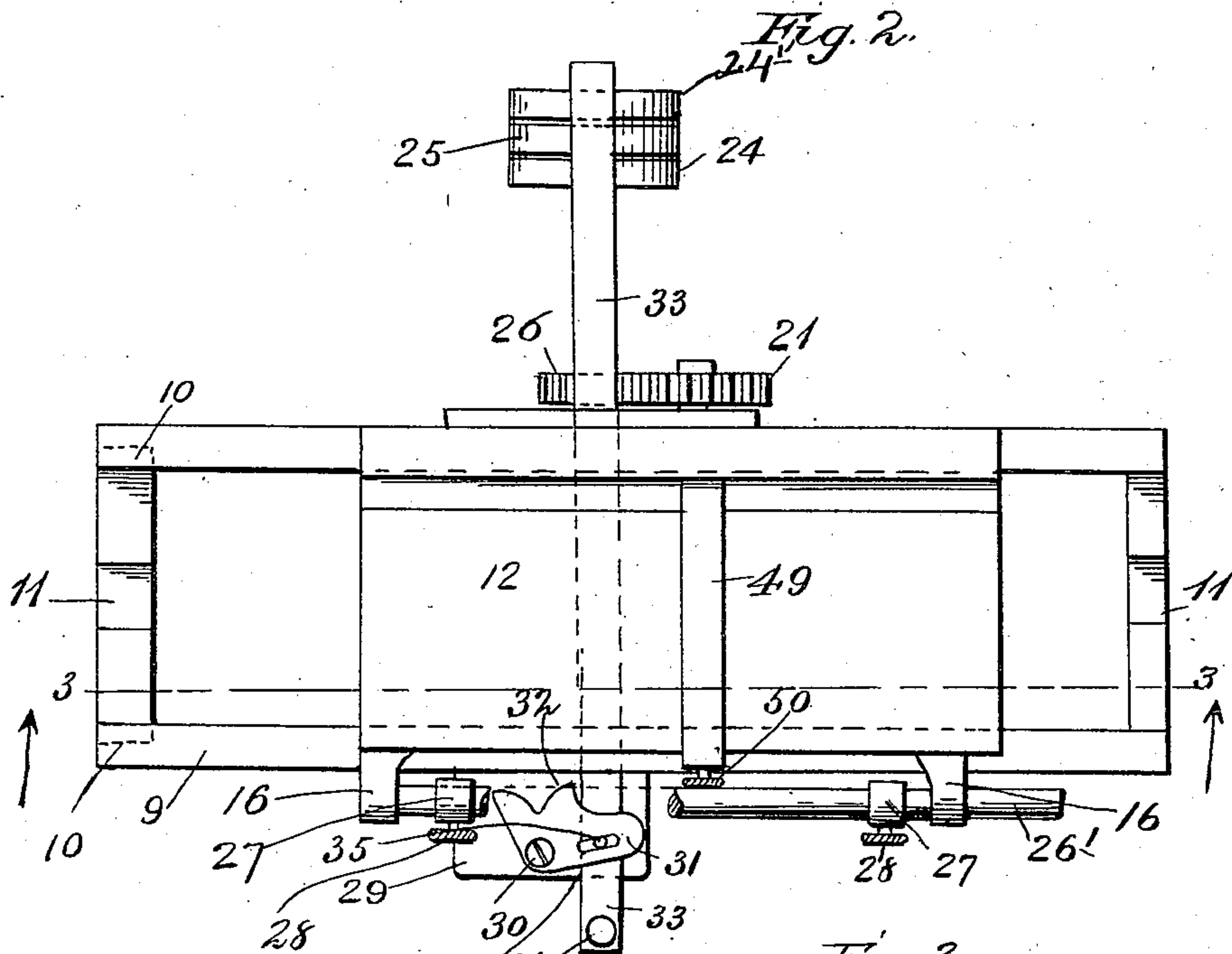
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

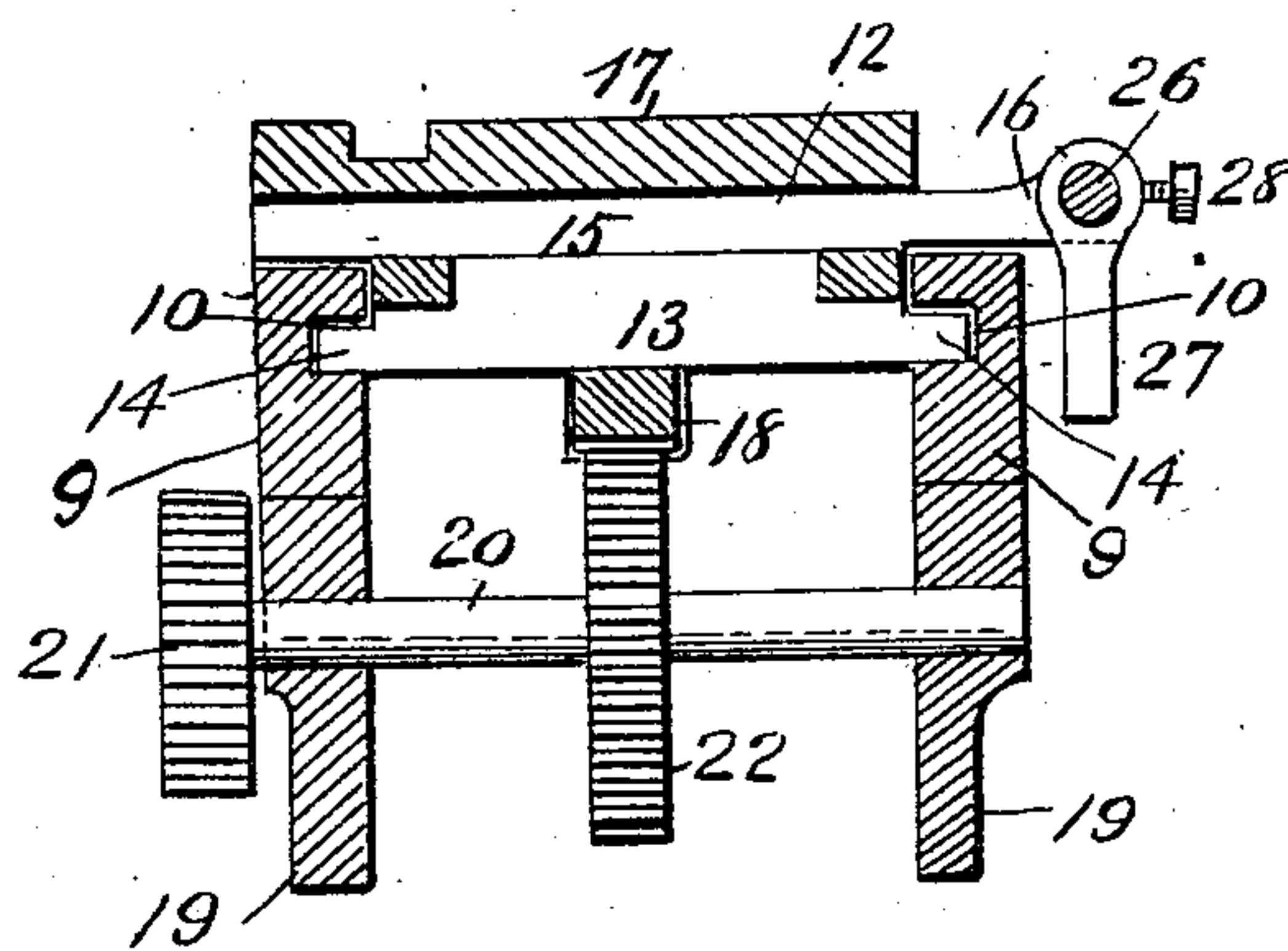
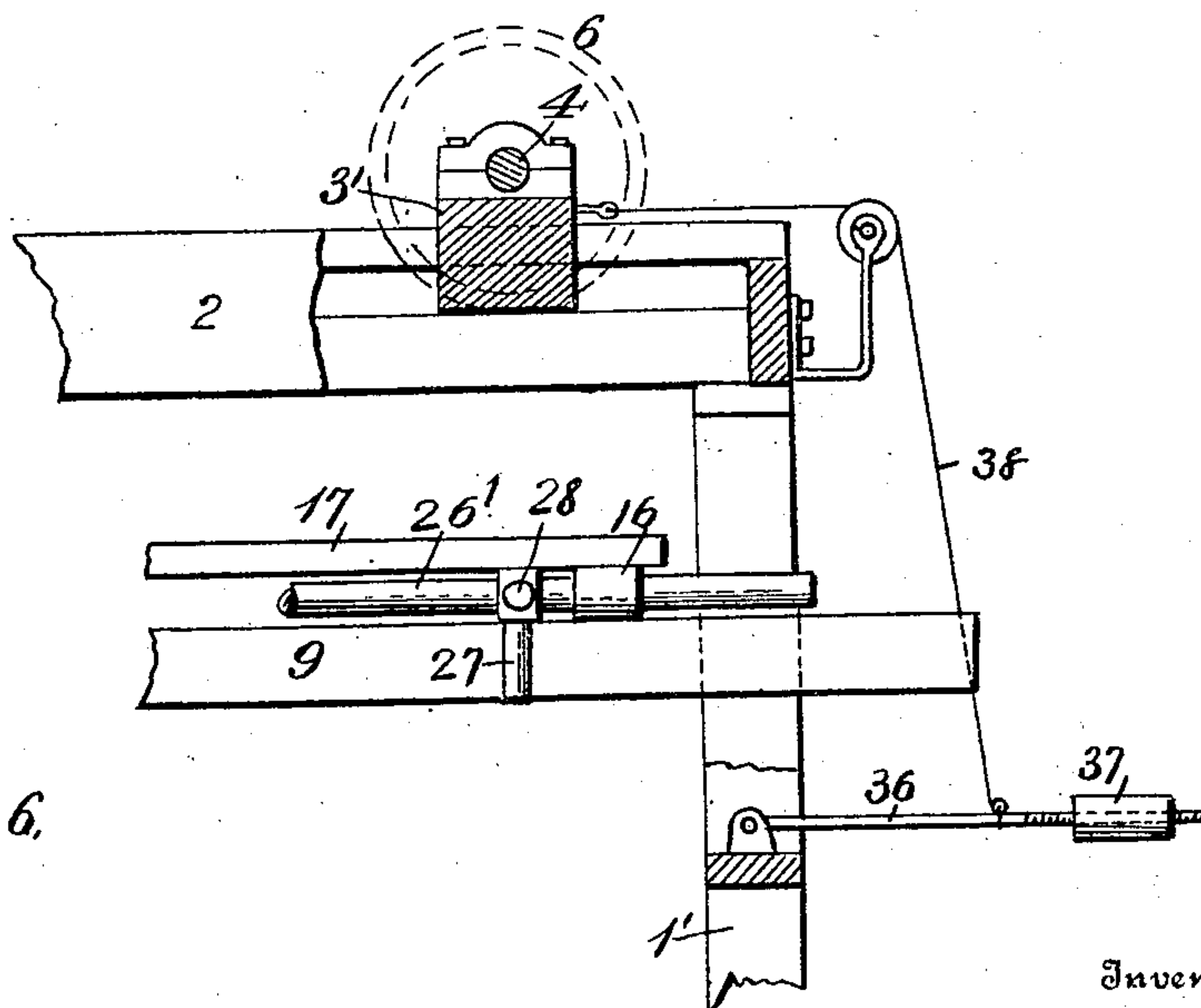


Fig. 6.



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UNITED STATES PATENT OFFICE.

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SANDPAPERING-MACHINE.

No. 880,663.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed June 6, 1906. Serial No. 320,443.

To all whom it may concern:

Be it known that I, GUSTAV HERRMANN, a citizen of the United States, residing at Fort Smith, in the county of Sebastian and State of Arkansas, have invented certain new and useful Improvements in Sandpapering-Machines, of which the following is a specification.

My invention has relation to new and useful improvements in sand papering machines, and has for its object the production of a machine of this character adapted to sand paper all surfaces in all shapes as well as straight, such as swell and serpentine drawer fronts, moldings, molded drawer fronts; straight turned work etc., said machine having an automatic traveling table and a form holder of a construction enabling the attachment thereto of any suitable form.

With these ends in view, my invention consists in the novel construction, combination and arrangement of parts as set forth in the specification and claims hereunto attached.

In the accompanying drawings, in which like parts are designated by like characters throughout the several views, Figure 1, is a perspective view of my invention when ready for operation. Fig. 2, is a top plan view of the automatic traveling table, belt shifter and means for operating same. Fig. 3, is a longitudinal sectional view, cut on the line 3, 3, of Fig. 2. Fig. 4, is a detail view in side elevation of the form holder carrying a suitable form, and the means employed for throwing the form and sand paper belt in contact with the work to be sand-papered. Fig. 5 is a cross sectional view of the automatic traveling table. Fig. 6, is a detailed view, showing the traveling carriage 3¹, for bearings. Fig. 7, is a top plan view of the shifting device.

In carrying out my invention I employ an upright frame 1, of suitable construction consisting of properly connected uprights 1¹, having a top 2, consisting of two disconnected boards attached to the sides of the upper ends of the uprights 1¹, one on each side. Journaled in suitable bearings, on the top and near one end of said frame, is an axle 3, and journaled in suitable bearings on a carriage 3¹, slidably mounted on said top 2, at the opposite end of said frame, is an axle 4. Rigidly connected to the front ends of said axles are pulleys 5 and 6, and running over said pulleys is a sand-paper belt 7, which wheels and sand-paper belt are driven by a

power wheel 8, rigidly secured near the rear end and beyond the uprights 1¹, of said frame. Immediately in the rear of said power wheel 8, and journaled on said axle 3, is a loose pulley 8¹, the same size as said power wheel 8. The pulley 8¹, is an idler, to which the power band may be shifted when I wish to stop the machine without shutting off the power. Rigidly secured at the rear of said loose pulley 8¹, on said axle 3, is a drum 8², and secured on the rear end of shaft 23, and on a line with said drum, is a loose pulley 24, a fixed pulley 25 and another loose pulley 24, and running over said drum and loose pulley 24, is a straight band 8³, and passing over said drum and fixed pulley 25, is a crossed band 8⁴. Secured at the front end of said frame 1, immediately under said pulleys 5 and 6, by suitable supports 8⁵, is a longitudinal supporting guide 9, consisting of longitudinal side pieces provided with longitudinal grooves 10, on their inner sides, and connected with suitable cross pieces provided with central recesses 11.

An automatic traveling table 12, comprises transverse plates 13, having outwardly extending extensions 14, upper transverse plates 15, terminating at their front ends in longitudinally perforated bearings 16, and a top plate 17; this device is slidably mounted on said supporting guide 9. The extensions 14, of said transverse plates, work in the longitudinal grooves 10, of said supporting guide and prevent displacement of the traveling table when my machine is in operation. A longitudinal rack bar 18, is secured to the under faces of said plates 13 (see Fig. 3), the purpose of which will be hereinafter disclosed. Secured to the under edges of the side pieces of said supporting guide 9, are suitable bearings 19, and journaled in said bearings is a transverse shaft 20, carrying a gear wheel 21, near its rear end, and a pinion 22, immediately under and in position to mesh with the teeth of said rack bar 18. A transverse shaft 23, carrying fast pulley 25, and loose pulleys 24, near its rear end, and having a pinion 26 rigidly connected near its rear end and in position to mesh with said gear wheel 21, is, also journaled in said bearings 19. The extreme end of the shaft 23, is supported by an upright 23¹. A longitudinal rod 26¹, provided with two vertical downwardly extending fingers 27, adjustably secured thereto by screws 28, or other equivalent means, is

secured at its ends in said bearings 16. Secured to the front side piece of said supporting guide 9, immediately below said longitudinal rod 26¹, is a horizontal support 29, and pivoted to the upper face of said support is a shifting block 30, provided with a slotted neck 31, and inwardly extending curved ears or fingers 32. A belt shifter 33, carrying a suitable handle 34, near its front end, works in a transverse recess 34¹, in the upper face of said horizontal support 29, and through corresponding transverse perforations in the side pieces of said supporting guide 9, said belt shifter is also provided, near its front end, with a vertical pin 35, which works in the slot of said block 30. Fulcrumed at its extreme inner end to the end of the frame 1, adjacent said pulley 6, is a lever 36, (see Figs. 1 and 6), provided at its free end with an adjustable weight 37, and connected over a pulley with said carriage 3¹, by a cord 38, or other flexible material.

Secured vertically to the outer face of the front board 2, by suitable means, is a framed guideway 39, and working vertically in said guideway is a slide 40, and secured at its inner end near the upper inner corner of said guideway by a link 41, and pivoted to one face of said slide 40, is a lever 42. Said lever 42, is pivoted to the slide 40, near its upper end, and rigidly secured to the front face and lower end of said slide is a shelf 43. Removably and adjustably secured to said shelf by thumb screws 44, is a form holder 45, provided in its lower face with longitudinal groove 46, in which is removably secured the corresponding tongue of a suitable form 47.

The operation of my device is as follows:—
 40 The material 48, to be sand papered, which in this case is a serpentine dresser front, is clamped on the top 17, of the traveling table by a clamp 49, having a clamping screw 50. Said clamp is susceptible of a longitudinal movement on the top of said traveling table and may be adjusted thereon to suit the material to be sand papered. The power belt (not shown) is then shifted from wheel 8¹, to wheel 8, whereby the power shaft 3 and the drum 8² thereon is caused to rotate. This causes, through belts 8³ or 8⁴, the rotation in one or the other direction of fast pulley 25, and shaft 23 upon which it is mounted. Through pinions 26 and 21 rotary motion is conveyed to shaft 20, upon the front end whereof is mounted pinion 22. This pinion 22 gears with the rack bar 18 on the traveling table 12, and causes the same to travel forward or backward according to which belt 8³, or 8⁴ runs on the fast pulley 25. In whichever direction the table 12 travels, one of the fingers 27 connected thereto will ultimately strike one of the ears or fingers of the shifting block 30. This effects a lateral movement of the belt shifter 33, and causes a change of the

position of the belts 8³ and 8⁴ relative to the fast pulley 25 and thereby reverses the rotation of shaft 20. This results in a change of direction of the travel of the table 12. During this operation the operator pulls down on the free end of said lever 42, which moves said slide 40, downward in its guideway 39, and forces the traveling sand-paper belt 7, down in contact with the material to be sand-papered. When the operator pulls down on the lever 42, the carriage 3¹, is caused to slide inwardly on the top 2, of the frame 1, and lift the free end of said lever 36, and the weight 37; said weight acts as a tension on the said belt, and causes the operator to maintain a certain amount of pressure on the lever 42. When the lever is released, the weight 37 causes the traveling carriage to slide back to its normal position on the top of the frame 1, and the lever 42, slide 40, form holder 45, and form 47, also resume their normal positions, which releases the sand-paper belt 7, from contact with the material sand-papered, which may then, if desirable, be removed from the top of the traveling table.

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

1. In a sand papering machine the combination of an upright frame 1, having uprights 1¹, and a top 2; a carriage 3¹, mounted on said top on one end thereof; axle 4, journaled in bearings of said carriage; pulley 6, rigidly secured on the forward end of said axle; axle 3, journaled in bearings on the other end of said frame; pulley 5, rigidly secured on the forward end of said axle; sand paper belt 7, running over said pulleys; longitudinal supporting guide 9, having longitudinal recesses 10, and a vertical recess 11, secured to the front side of said frame, immediately below said pulleys; automatic traveling table 12, comprising transverse plates 13, upper transverse plates 15, terminating at their front ends in bearings 16, and a top 17, slidably mounted on said guide; a longitudinal rack bar 18, secured to the under face of said table 12; a shaft 20, journaled transversely below said guide; a pinion 22, secured on said shaft immediately below said rack bar 18; longitudinal rod 26¹, journaled in said bearings 16; downwardly extending fingers 27, adjustably secured to said rod; horizontal support 29, secured to the front side of said guide; shifting block 30, having a slotted neck 31, and inwardly extending fingers 32; pivoted on said support below said rod 26¹; belt shifter 33, located immediately over said block 30, and adapted to work laterally through the side pieces of said guide and to shift bands 8³ and 8⁴; power wheel 8 and drum 8², rigidly secured on shaft 3, said bands 8³ and 8⁴, working around said drum, and loose pulleys 24, and rigidly

secured pulley 25, on shaft 23, with means for rotating said power wheel 8, means for pressing the sand paper belt down on the material to be sand papered, and means for drawing
5 said carriage 3¹, back to its normal position when the pressure is removed, substantially as shown and described and for the purposes set forth.

2. In combination with the frame of a
10 sand papering machine, substantially as shown and described, a frame guideway 39, secured vertically to the outerface of the front board of the top 2; a slide 40, adapted to work up and down in said guideway; a shelf 43,
15 rigidly secured to the lower end of said slide;

a form holder 45, adjustably and removably secured to said shelf; form 47, removably secured to said form holder; a lever 42, pivoted at one end to one side of said frame and pivoted near its center to said slide, said device
20 adapted to press down the sand paper belt on the material to be sand papered.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV HERRMANN.

Witnesses:

LEE ELLIOTT,
ED BOLLMAN.