(No Model.) 2 Sheets—Sheet 1.

A. K. HATTEBERG.

SANDPAPERING MACHINE.

No. 432,873. Patented July 22, 1890.

Fig. 1.

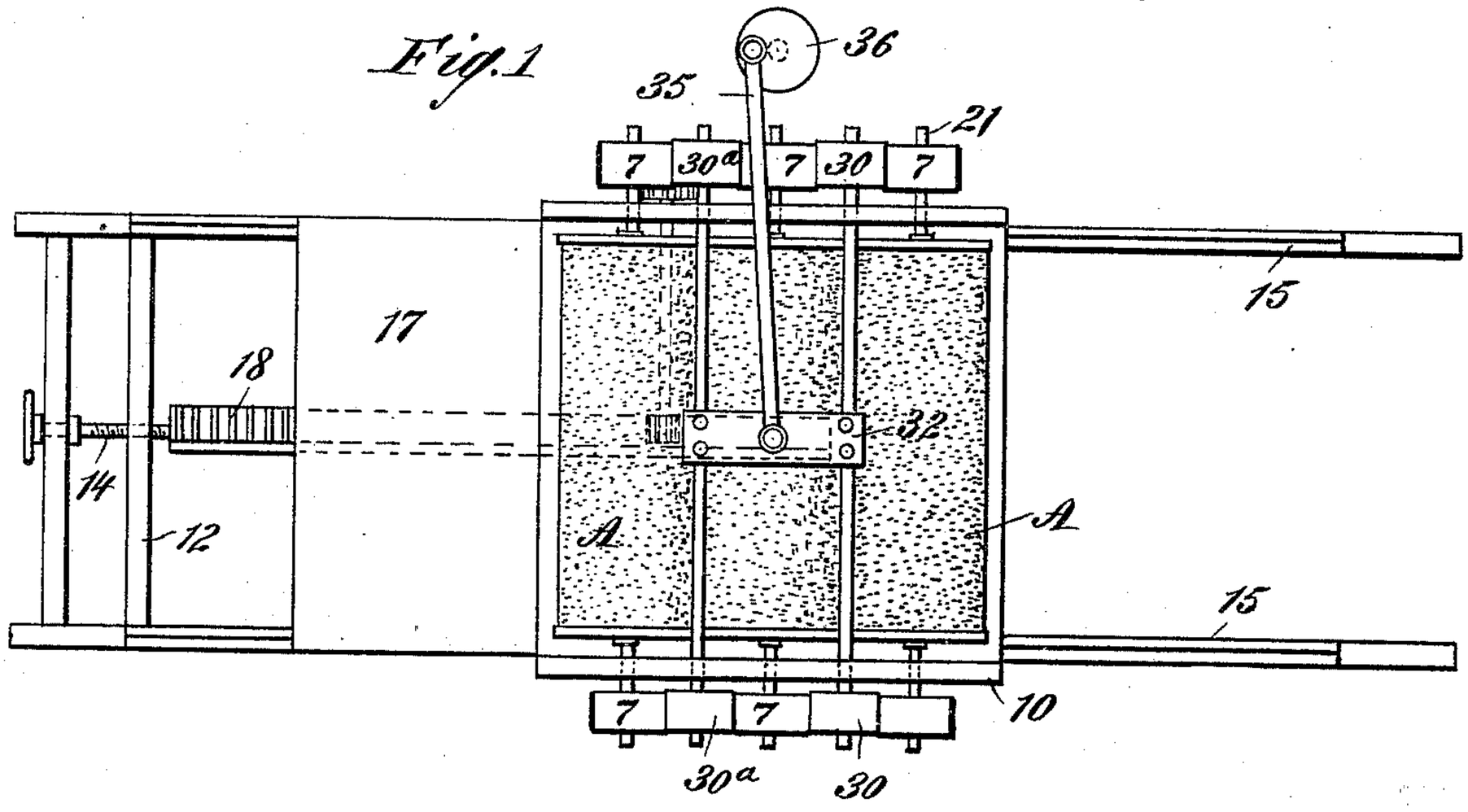


Fig. 2.

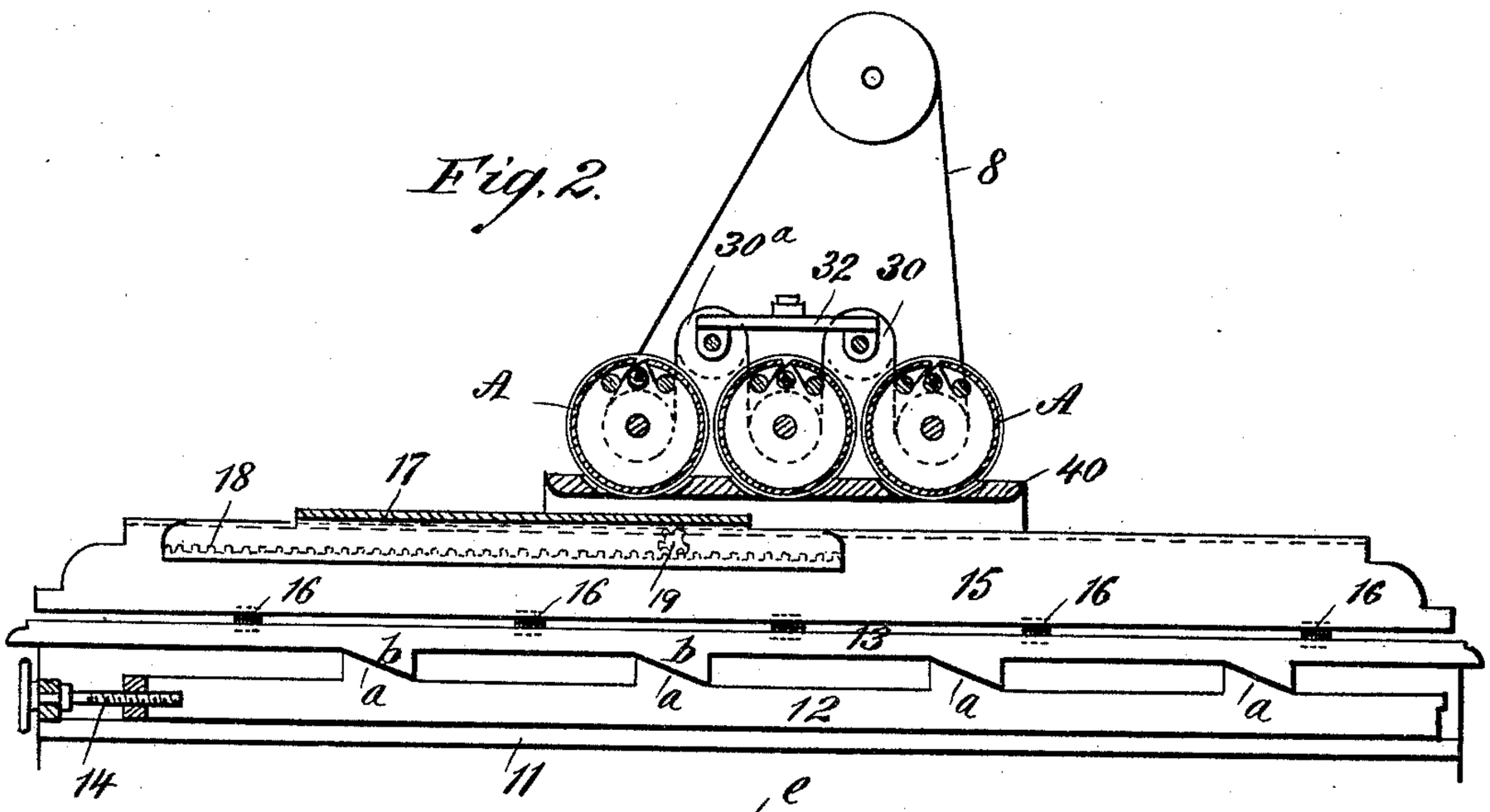
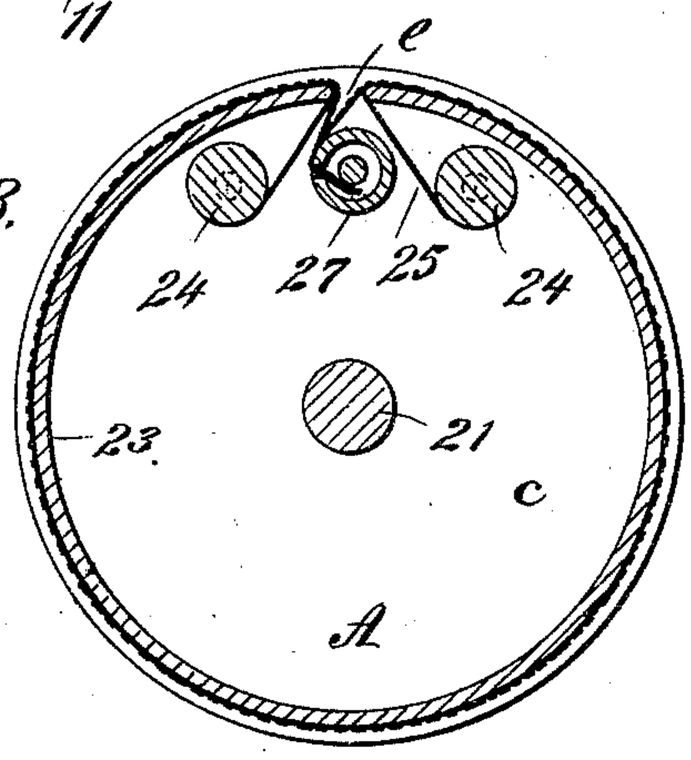


Fig. 3.



WITNESSES:

Donn Twitchell

C. Sedgwick

INVENTOR:

A. K. Hatteberg

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4

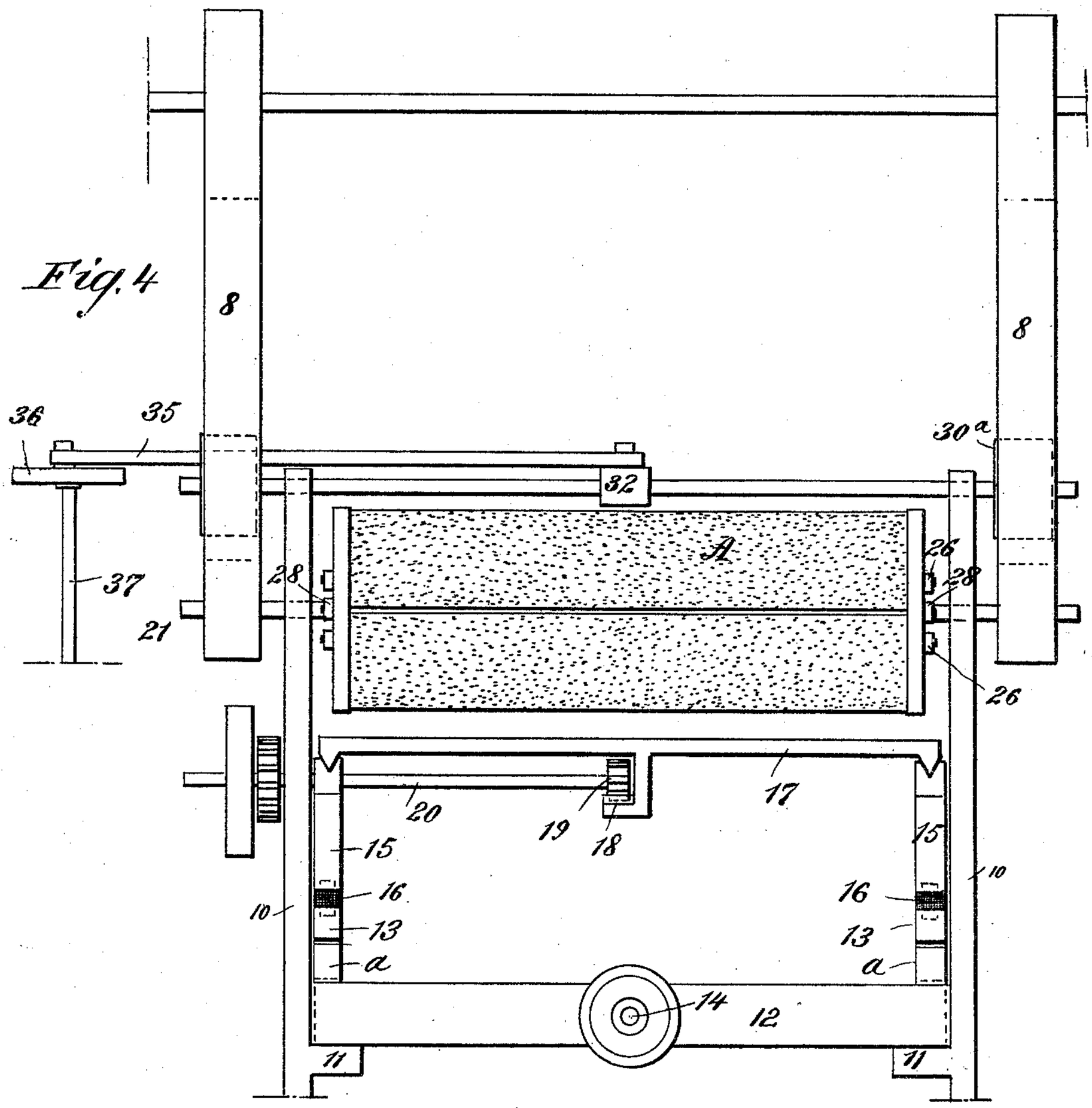
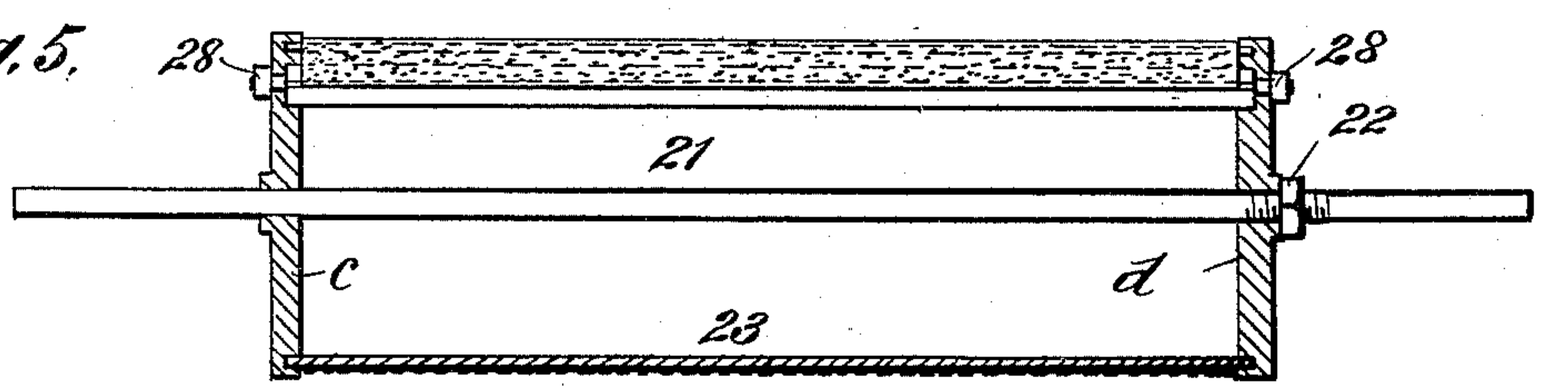


Fig. 5.



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UNITED STATES PATENT OFFICE.

AXEL K. HATTEBERG, OF MARSHFIELD, WISCONSIN.

SANDPAPERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 432,873, dated July 22, 1890.

Application filed September 4, 1889. Serial No. 322,955. (No model.)

To all whom it may concern:

Be it known that I, AXEL K. HATTEBERG, of Marshfield, in the county of Wood and State of Wisconsin, have invented a new and Improved Sandpapering-Machine, of which the following is a full, clear and exact description.

This invention relates to sandpapering-machines, the object of the invention being to provide for the holding of the work in yielding contact with the sandpapering-cylinders, to provide for a reciprocation of the sandpapering-cylinders in a line parallel with their shaft-axes, and to provide for the adjustment of the machine in a manner such that the machine may be used in connection with material of different thickness.

To the ends above named the invention consists of certain novel constructions, arrangements, and combinations of elements to be hereinafter fully described and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of my improved sandpapering-machine. Fig. 2 is a central longitudinal sectional view thereof. Fig. 3 is an enlarged cross-sectional view of one of the sand-paper-carrying cylinders. Fig. 4 is an end view of the machine, and Fig. 5 is a central longitudinal sectional view of one of the sand-paper-carrying cylinders.

In the drawings, 10 represents the main frame of the machine, in which frame the journals of the sand-paper-carrying cylinders are mounted, as will be presently explained. The frame 10 is formed with inwardly-extending projections 11, which constitute ways, and upon the ways so formed there is mounted a frame 12, having upwardly-extending projections, which are formed with inclined faces *a*. Above the frame 12 is mounted a frame 13, which is formed with downwardly-extending projections having inclined faces *b*, the faces *a* and *b* being in opposition, as is best shown in Fig. 2.

In connection with the frame 12, I arrange an adjusting-screw 14, which is mounted to turn in the main frame, the end of the screw engaging the thread of the threaded aperature that is formed in one of the cross-bars of the frame 12, the arrangement being such that by forcing the frame 12 forward the frame 13 will be raised.

The frame 13 supports two longitudinal bars 15, rubber or other springs 16 being arranged between the frame 13 and the bars 15, and upon the bars 15 there is mounted a carriage 17, provided with a rack 18, which said rack is engaged by a pinion 19, that is carried by a shaft 20, the arrangement being such that as the shaft 20 is revolved (which revolution of the shaft may be brought about in any desired manner) the carriage will be carried forward or backward in accordance with the direction of the revolution.

The sand-paper cylinders A, of which three are shown in the drawings, are mounted above the bars 15, such cylinders consisting, preferably, of a head *c*, that is made fast upon the cylinder-shaft 21, and a second head *d*, that is loosely mounted on said shaft and held to place by a lock-nut 22. The heads *c* and *d* are grooved to receive a metal body 23, that is bent to conform to the grooves formed in the heads, there being a space *e* (see Fig. 3) between the approaching edges of the metal.

Within the cylinders formed as above described I mount drums 24, to which the edges of the cylinder-lining 25 are secured, the drums 24 being supported by shafts which extend through the cylinder-heads, the ends of the shafts being engaged by nuts 26, as represented in the drawings, the arrangement being such that by loosening the nuts and slightly turning the drum-shafts the lining may be tightened to such degree as may be deemed advisable. Between the drums 24, I mount a sand-paper-receiving drum 27, which drum is preferably formed from gas-pipe that is slotted longitudinally and mounted upon a shaft which extends through the cylinder-heads, there to be engaged by nuts 28, so that after the ends of the strip of sand-paper have been passed through the longitudinal slot the drum may be turned and the sand-paper tightened to place.

To impart a rotary motion to the cylinders A, I provide each cylinder-shaft with a pulley 7, and about these pulleys I pass a driving-belt 8, which belt also passes over two idlers 30 and 30ª, said idlers being mounted on

shafts that are journaled above the cylinder-shafts. To the idler-shafts I connect a yoke 32, and to this yoke I pivotally connect a pitman 35, which extends to a crank-disk 36, that is carried by a vertical shaft 37, as shown in Figs. 1 and 4. The cylinders A extend downward through apertures formed in a table 40, that is supported by the main frame.

From the construction above described it will be seen that the carriage 17 may be adjusted toward or from the cylinders A, and that by turning the shaft 20 the carriage may be advanced or retracted beneath the sand-paper cylinders, and as the carriage is so advanced or retracted, it being understood that a proper motion is imparted to the cylinder-driving belt, said cylinders will be revolved, and if at this time the shaft 37 be revolved the idlers will be reciprocated, and in reciprocating will draw upon the belt, by which the cylinders A are revolved, and cause a slight reciprocation of such cylinders.

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

1. In a sandpapering-machine, the combination, with a sand-paper-carrying cylinder and a means for revolving the same, of a yieldingly-mounted carriage and a means for reciprocating the same, substantially as described.

2. In a sandpapering-machine, the combination, with a sand-paper-carrying cylinder and a means for revolving the same, of a yieldingly-mounted carriage, a means for adjusting the carriage, and a means for reciprocating the carriage, substantially as described.

3. In a sandpapering-machine, the combination, with the main frame, of a frame mounted to slide on the main frame and provided with upwardly-extending projections having inclined faces, a frame above the said frame and provided with downwardly-extending projections having inclined faces, a carriage mounted to slide on the last-named frame, and springs interposed between the carriage and the frame upon which it slides, substantially as herein shown and described.

4. In a sandpapering-machine, the combination, with the sand-paper-carrying cylinders provided with pulleys, of shafts mounted above the cylinders, idlers secured to the shafts, a belt passing around the pulleys of the cylinders and the idlers, a yoke secured to the shafts of the idlers, a crank-disk, and a pitman connected to the crank-disk and to the yoke, substantially as and for the purpose set forth.

5. In a sandpapering-machine, the combination, with a cylinder, of drums arranged therein, a lining arranged for connection with the drums, a means for holding the drums against rotation, a slotted drum arranged to receive the sand-paper edges, and a means for holding said drum against rotation, substantially as described.

AXEL K. HATTEBERG.

Witnesses:
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GEO. E. INGALLS.