

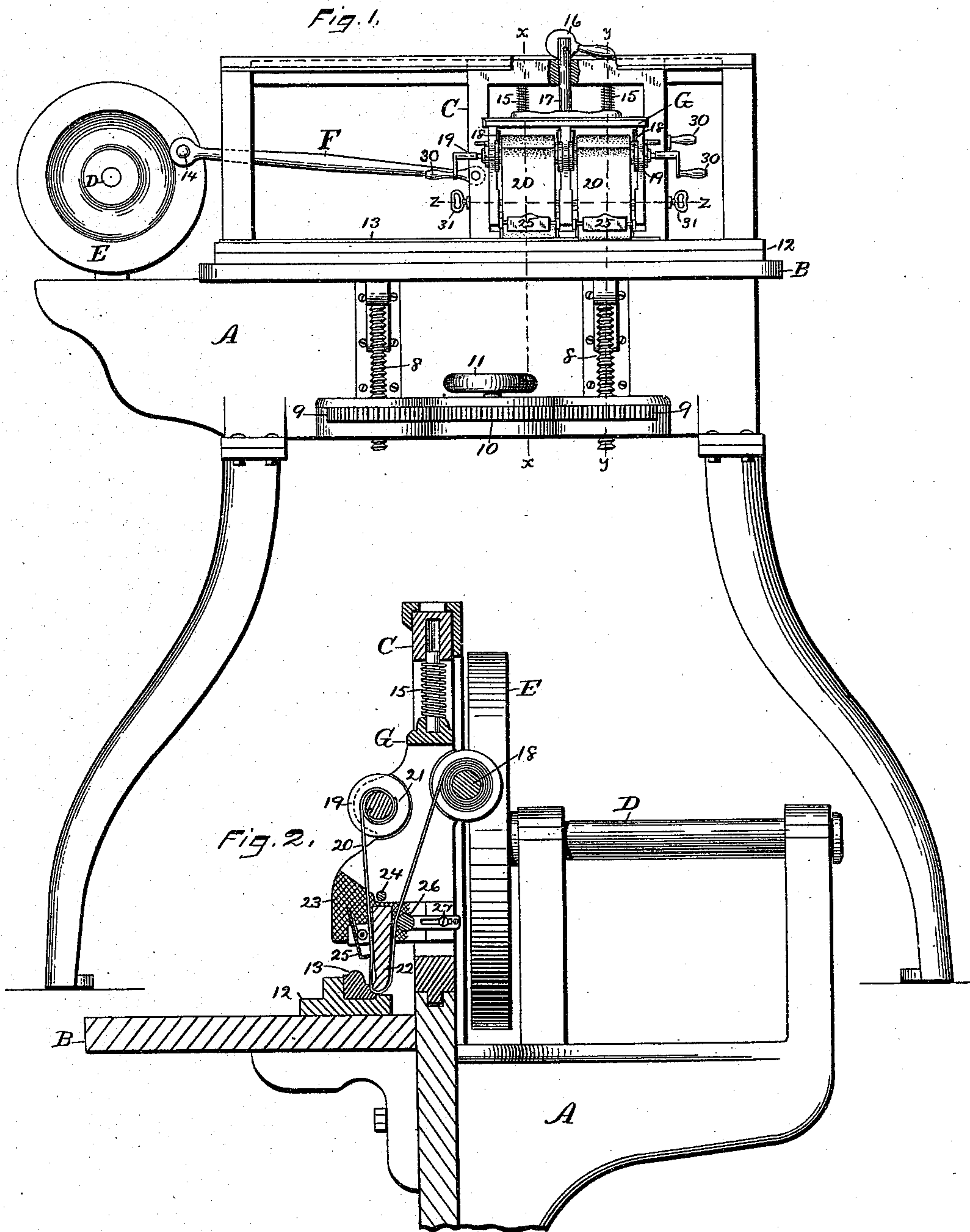
(No Model.)

2 Sheets—Sheet 1.

E. MILLER.
SANDPAPERING MACHINE.

No. 413,786.

Patented Oct. 29, 1889.



WITNESSES.

John Edwards Jr.
W. H. Whitney

INVENTOR.

Ernest Miller.
By James Shepard
Atty.

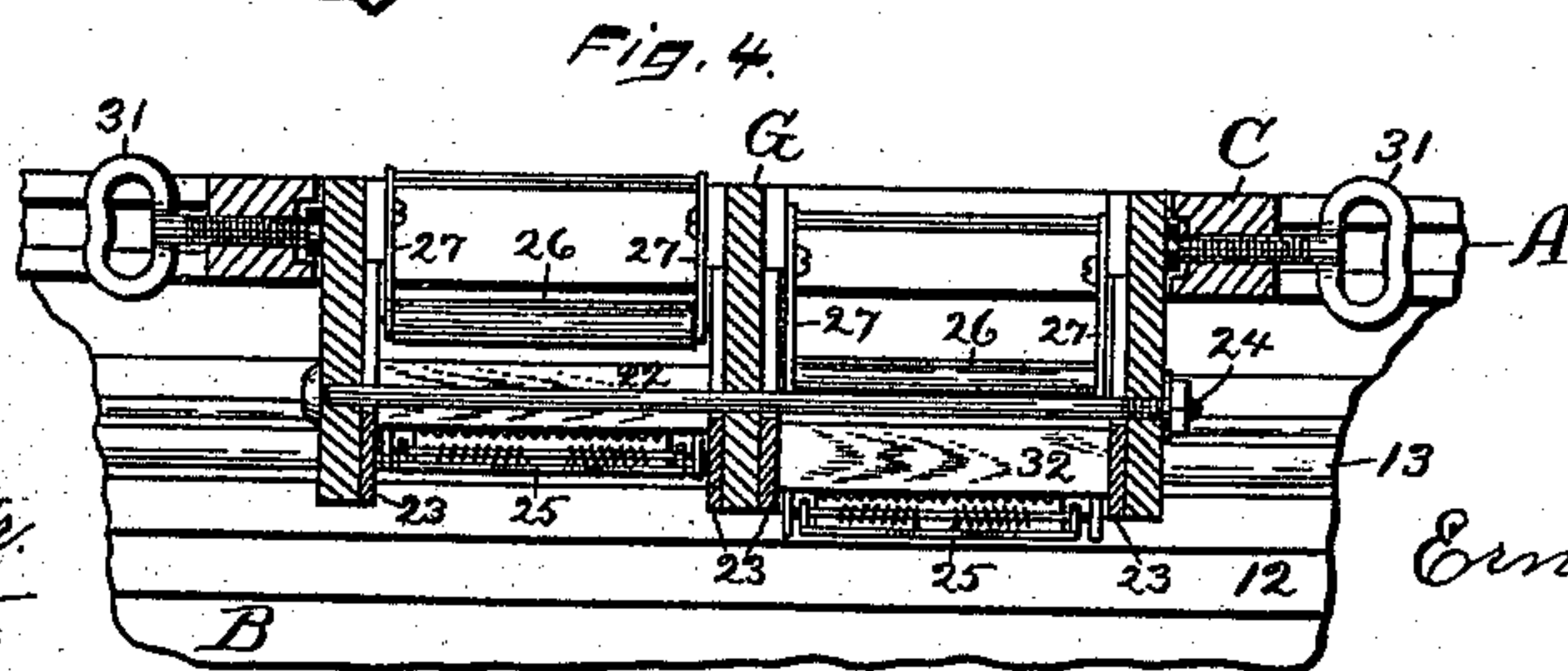
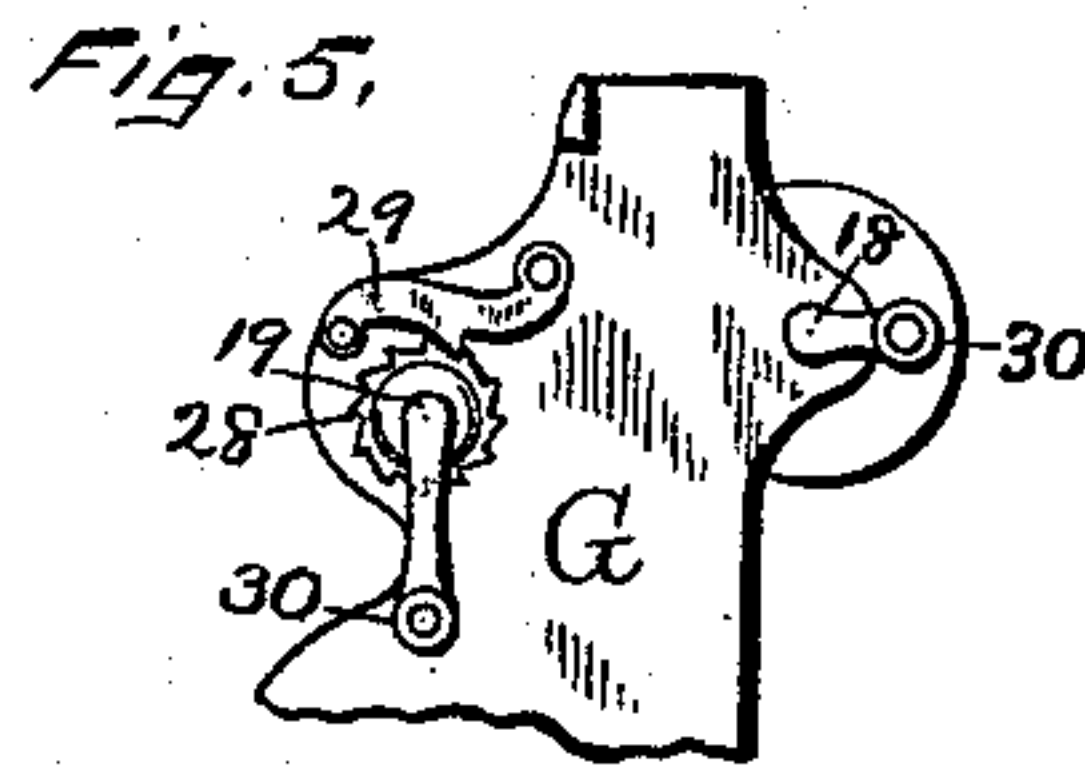
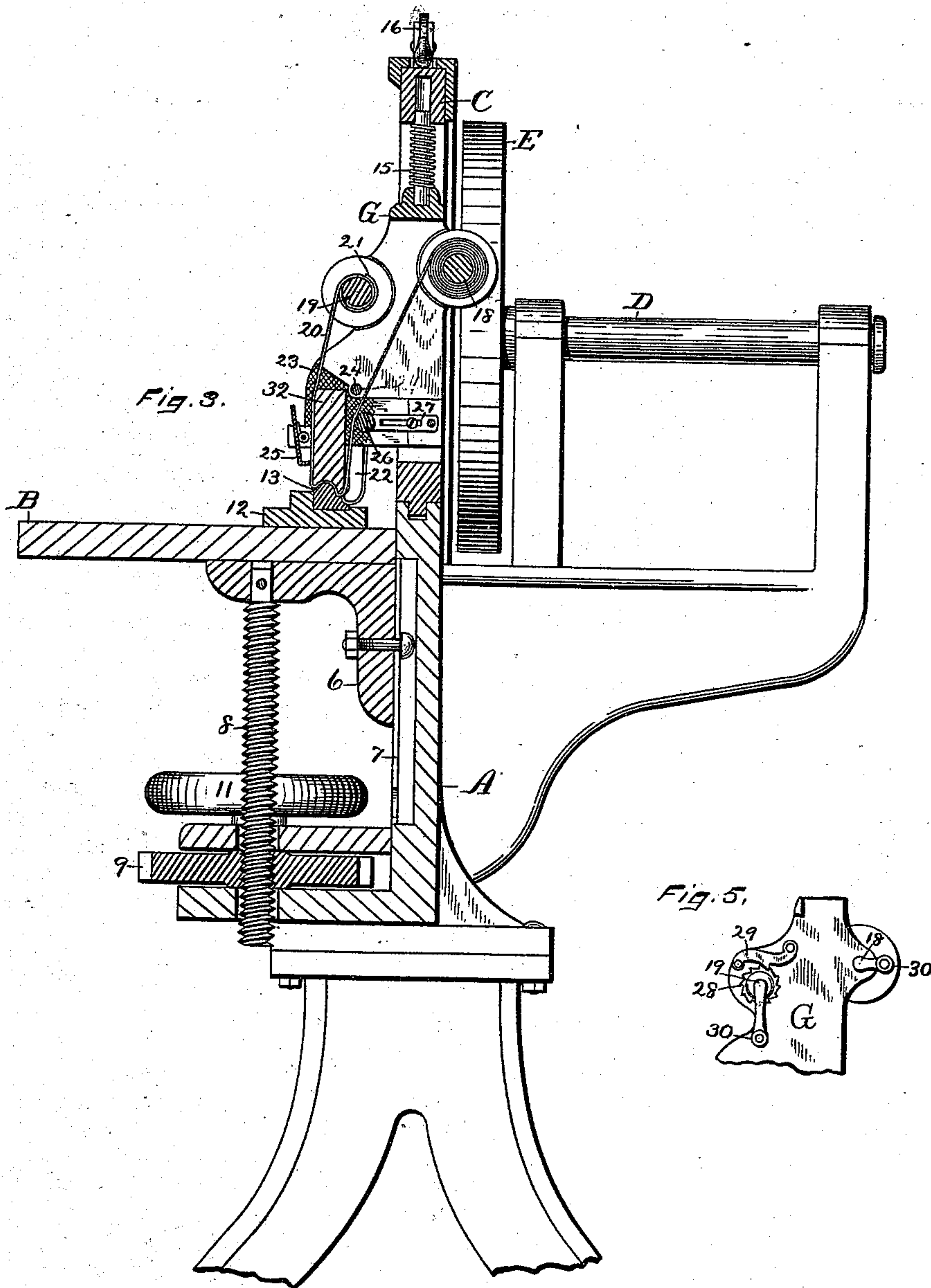
(No Model.)

2 Sheets—Sheet 2.

E. MILLER.
SANDPAPERING MACHINE.

No. 413,786.

Patented Oct. 29, 1889.



Witnesses.

John Edwards W.
W. H. Whiting.

Inventor.

Ernest Miller.

By James Shepard Atty.

UNITED STATES PATENT OFFICE.

ERNEST MILLER, OF THOMASTON, CONNECTICUT.

SANDPAPERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 413,786, dated October 29, 1889.

Application filed June 6, 1889. Serial No. 313,382. (No model.)

To all whom it may concern:

Be it known that I, ERNEST MILLER, a citizen of the United States, residing at Thomaston, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Sandpapering-Machines, of which the following is a specification.

My invention relates to improvements in sandpapering-machines; and the chief object of my improvement is to adapt the machine for sandpapering moldings of various forms.

In the accompanying drawings, Figure 1 is a front elevation of my machine with a portion broken away and another portion in section. Fig. 2 is an enlarged vertical section of the upper portion of said machine on the line $x x$ of Fig. 1. Fig. 3 is a like view on the line $y y$ of Fig. 1. Fig. 4 is a horizontal section of a portion of said machine on the line $z z$ of Fig. 1, and Fig. 5 is a side elevation of a detached portion of the carriage.

A designates the frame of the machine, mounted upon suitable legs or other support. B designates the bed or table, mounted upon suitable brackets 6, which slide up and down in vertical ways or guides 7, Fig. 3. To the under side of this bed I attach adjusting-screws 8, which pass through the threaded hubs of the geared wheels 9, that mesh into a gear-wheel 10 between them, which wheel 10 is provided with an operating-handle 11, whereby turning said handle will revolve said wheels and raise or lower the bed B, as may be desired. On the top of the bed B, I attach a supplementary bed 12, to receive any particular molding to be sandpapered—as, for instance, the molding 13. The upper surface of the molding, as herein illustrated, consists of a cove, a band, a rounded bead, and another band. The upper part of the framing is provided with longitudinal ways, in which I mount the reciprocating carriage-frame C. This carriage-frame may be reciprocated by any ordinary mechanism—as, for instance, the shaft D, pulley E, crank-pin 14, and pitman F. Within the carriage-frame C, I mount the carriage G so as to slide vertically therein. This carriage is pressed downwardly to its work by means of the springs 15, and is lifted upwardly to withdraw it from its work

by means of the cam 16 on the rod 17, as shown most clearly in Fig. 1.

I provide the carriage G with sand-paper rolls 18 and 19 for receiving strips of sand-paper. I have illustrated the carriage as provided with rolls for two strips of sand-paper, which will be sufficient for sandpapering most ordinary moldings; but rolls may be provided for more than two strips of sand-paper, if desired, when moldings of a more complex nature are to be sandpapered. These rolls may be provided with any suitable fastening device for fastening the ends of the strips of sand-paper.

In Figs. 2 and 3 I have shown one of the rolls as provided with a longitudinal groove, into which the end of the sand-paper 20 is received and then wound around the roller. I also provide each roller with a slotted spring-ring 21, the slot in which enables the groove in the roller to be exposed for inserting the end of the sand-paper, after which the slotted ring may be turned on said roller so as to force it over the end of the sand-paper, as shown. In the lower part of the carriage I provide patterns or former-blocks 22 and 32, of any suitable contour, over the lower edge of which the sand-paper passes, as shown. These blocks are placed between friction-plates 23 on the uprights of the carriage, through which I pass the clamping-rod 24. By loosening the nut upon said rod the blocks 22 and 32 may be removed and other blocks inserted in their place; or the blocks may be adjusted to their proper position and then held in place by tightening the nut on the clamping-rod.

Mounted on the carriage in front of each of the former-blocks is a spring-pressed clip for compressing the sand-paper against the front of said block. Upon the rear of each block I provide rolls or bars 26, supported by a slotted bracket 27 at each end, and held in position by screws passing through the slots in said brackets, whereby said rollers may be adjusted toward or from the blocks to hold the sand-paper in the desired relation thereto. The rollers 18 18 will in starting have the main portion of the strip of sand-paper rolled thereon, and they should be mounted with sufficient friction to prevent the sand-paper

from unwinding accidentally. The front rolls 19 are each provided with a ratchet 28 (see Fig. 5) and a pawl 29, engaging therewith to prevent a backward movement of said rollers.

5 The rolls may be provided with cranks 30, either rigidly attached to the roller-shaft or made in the form of a key to fit the ends of said shafts. As the sand-paper becomes worn a fresh portion thereof may be brought

10 under the former-blocks by unwinding it from the rollers 18 and winding it upon the lower rollers 19. The lower part of the carriage is clamped within the frame C sufficiently to hold it from working out of place

15 by means of the clamp-screws 31 31, which bear upon the outer uprights of the carriage, as shown in Fig. 4. At the same time it is intended that these screws shall not be clamped so tightly upon the carriage that the carriage

20 may be raised or lowered. The pattern or former-block 22 is rounded at its lower end, so that the sand-paper which passes over it will fit the cove of the molding 13, as shown in Figs. 2 and 3. The pattern or former-block

25 32 is hollowed out on its lower edge to make the sand-paper fit the rounded bead of the molding 13, while the projecting portion upon each side of said hollow will make the sand-paper fit the bands at each side of said bead.

30 By mounting the sand-paper-carrying rollers on axes that are parallel to the line of reciprocation of the carriage the paper extends over the moldings transversely to their length, so that it more readily conforms thereto.

35 In using my machine the carriage is first raised by means of the cam 16 and the molding 13 placed upon the supplementary bed 12, with a portion thereof under the carriage. If the bed B had not been previously adjusted,

40 the hand-wheel 11 is turned to bring the molding into proper bearing contact with the sand-paper at the lower edges of the patterns or blocks, and motion imparted to the carriage until that portion of the molding is sandpapered. The molding may then be pushed

45 along for sandpapering a fresh portion, or, if desired, the carriage may be first elevated and the molding slipped along the proper distance, after which the carriage may be again

50 let down to its work.

For different forms of moldings, other patterns or former-blocks may be substituted.

I am aware that a prior patent for polishing wood shows a reciprocating carriage, rolls

55 for carrying a strip of grinding-cloth whose

axes are at right angles to the line of reciprocation, and a vertically-adjustable filling-block over which said strip of cloth passes, and I hereby disclaim the same.

I claim as my invention—

1. The combination of a suitable frame, the reciprocating carriage-frame mounted therein, the vertically-movable carriage mounted within said carriage-frame, the paper-carrying rollers and pattern or former-block mounted

65 on said carriage, springs 15, for depressing said vertically-moving carriage, and the cam 16, for lifting the same, substantially as described, and for the purpose specified.

2. The combination of a suitable frame, the reciprocating carriage-frame mounted therein, the vertically-movable carriage mounted within said carriage-frame, the paper-carrying rollers and pattern or former-block mounted

75 on said carriage, springs 15, for depressing said vertically-moving carriage, and the cam 16, for lifting the same, the vertically-adjustable work-bed underneath said carriage, and its adjusting mechanism, substantially as described, and for the purpose specified.

80

3. In a sandpapering-machine, the combination of a carriage, devices for holding a strip of sand-paper, the attachable and detachable pattern or former-block, shaped in conformity to a portion of said molding, the

85 spring-pressed clip upon one side of said former-block, and the laterally-adjustable bar or roller 26 upon the other side of said block, substantially as described, and for the purpose specified.

90

4. In a sandpapering-machine, the combination of the carriage having uprights, the pattern or former-blocks fitted between said uprights, and the clamping-rod 24, for adjustably securing said blocks in place, substantially as described, and for the purpose specified.

95

5. In a sandpapering-machine, the combination of a reciprocating carriage, the rollers 18 and 19, mounted thereon on axes that are

100 parallel to the line of reciprocation of said carriage, a strip of sand-paper having its respective ends secured to said rollers, and a former-block or pattern with the sand-paper passing over its edge, substantially as described, and for the purpose specified.

105

ERNEST MILLER.

Witnesses:

FRED CARROLL,
J. J. FISCHER.