

(No Model.)

3 Sheets—Sheet 1.

J. B. HOWE.

POUNCING HEAD FOR HAT POUNCING MACHINES.

No. 495,491.

Patented Apr. 18, 1893.

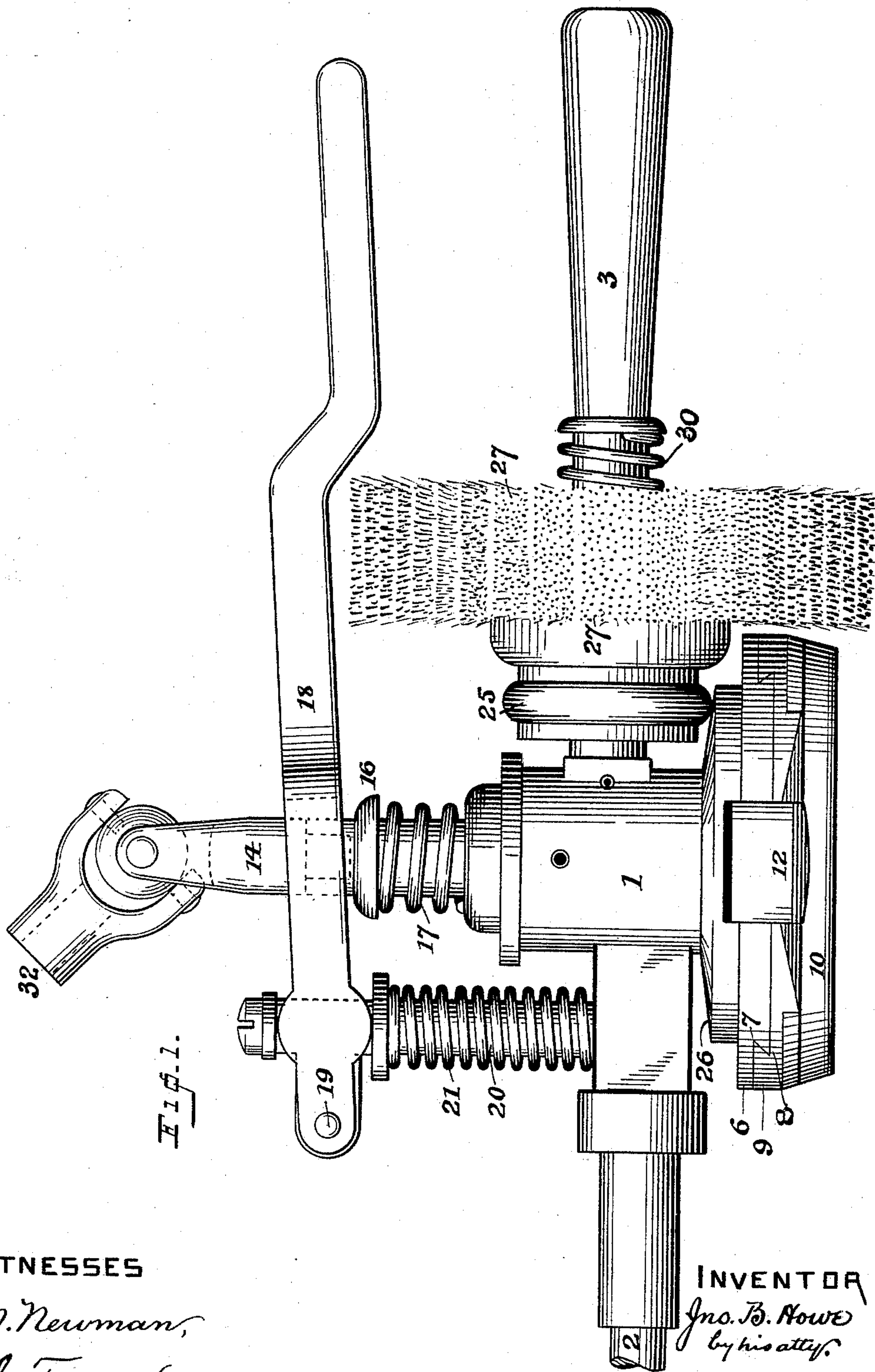


Fig. 1.

WITNESSES

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D. A. Hubbard

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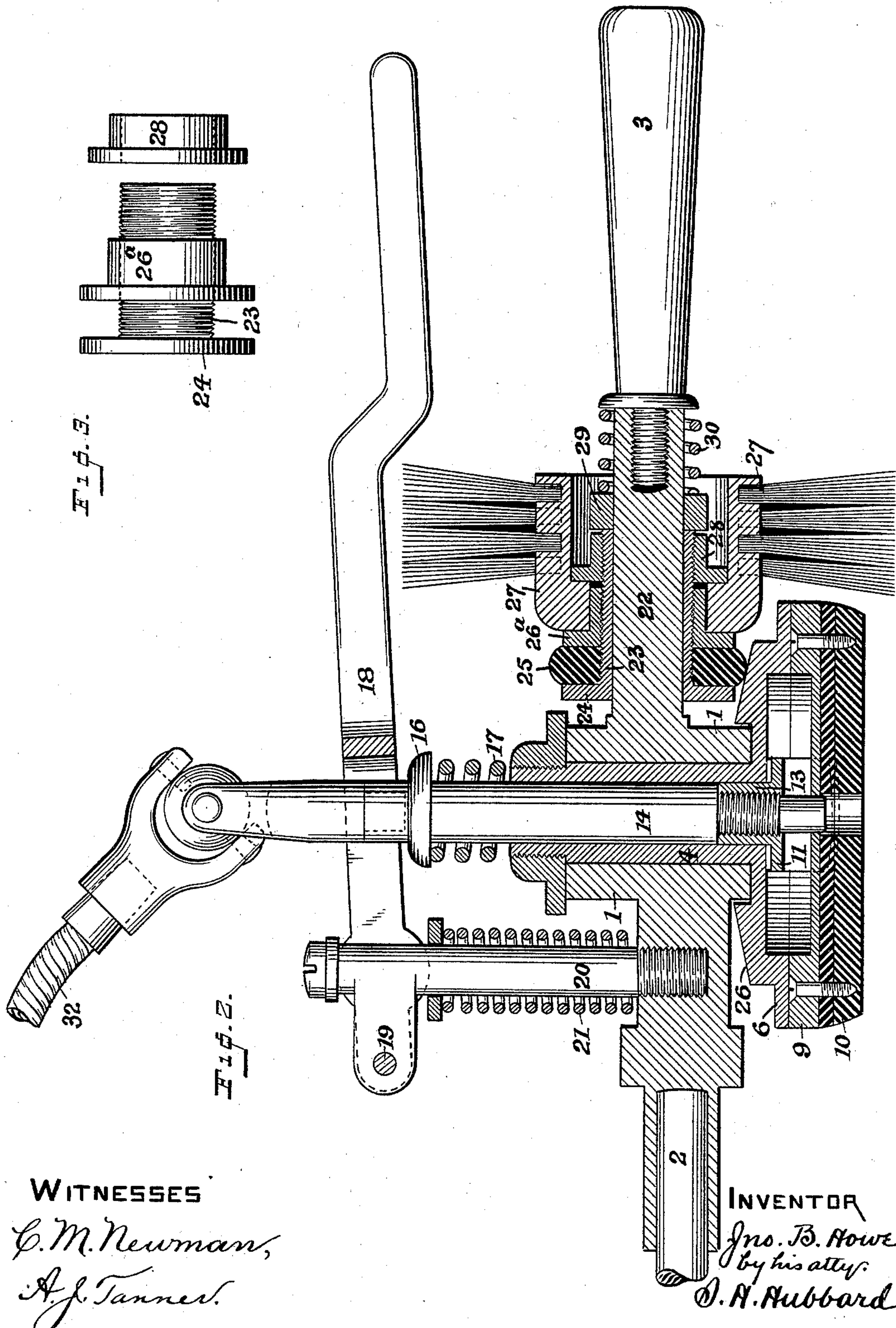
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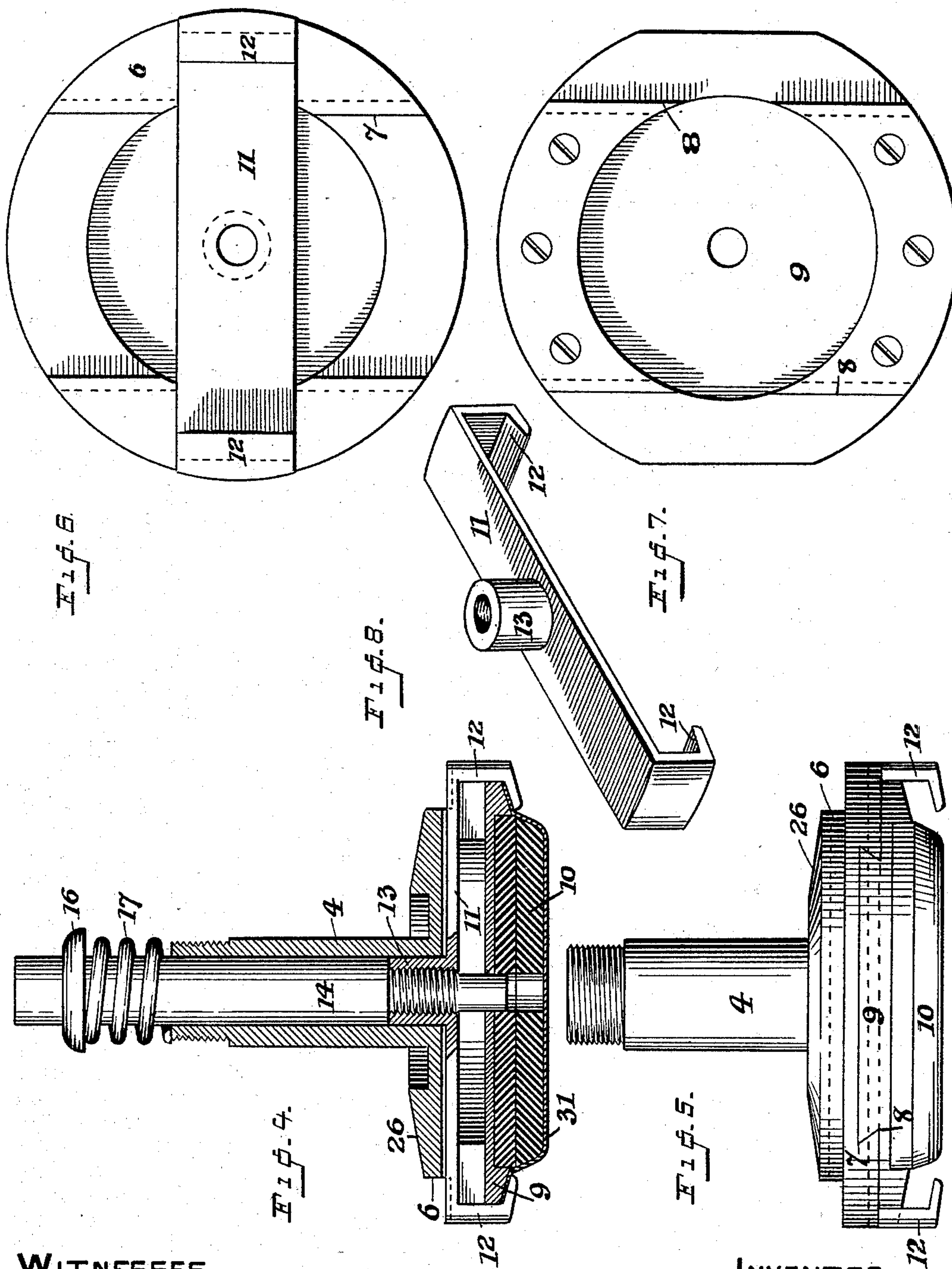
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# UNITED STATES PATENT OFFICE.

JOHN B. HOWE, OF DANBURY, CONNECTICUT.

## POUNCING-HEAD FOR HAT-POUNCING MACHINES.

SPECIFICATION forming part of Letters Patent No. 495,491, dated April 18, 1893.

Application filed March 2, 1892. Serial No. 423,519. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN B. HOWE, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Pouncing-Heads for Hat-Pouncing Machines; and I do hereby 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.

This invention relates to certain new and useful improvements in pouncing heads for hat-pouncing machines, such for instance as is shown in my patent No. 480,098, dated August 2, 1892. Pouncing heads adapted to contain an abrasive grinding device, such for instance as a sheet of sand-paper are not broadly new, but in using them it is necessary for the operator to exercise considerable care in keeping the hat free from the dust which results from the action of the sandpaper on the hat, as this, if allowed to remain, will be rubbed or ground into the felted surface, to the injury of the latter.

It is the object of my present invention to combine with the pouncer head a brush, which, as fast as the surface is ground off or "pounced" will remove therefrom the dust and cuttings.

It is also an object of my invention to provide a pouncer head of novel and convenient construction, and to provide means for the ready insertion and release of the sand-paper; and with these ends in view my invention consists in the construction and combination of elements hereinafter fully and in detail explained and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and method of operation, I will describe the same in detail, reference being had to the accompanying drawings, forming a part of this specification, and in which,

Figure 1, is a side elevation; Fig. 2, a longitudinal vertical section; Fig. 3, a detail elevation of the collars shown at the right of Fig. 2; Fig. 4, a detail vertical section at right angles to Fig. 2; Fig. 5, a detail elevation; Fig. 6, a detail bottom plan showing the grasping fingers; Fig. 7, a plan view of the pad-sup-

porting plate, and, Fig. 8, a perspective showing the grasping device separate from the other parts.

The same numerals denote the same parts in all the figures.

The support or base of the pouncer head is denoted by the numeral 1, and is mounted upon the end of a suitable pouncer arm 2, shown as broken off at the left of Figs. 1 and 2. Opposite to the pouncer arm is located a handle 3 whereby the base and its attached parts may be moved relative to the hat to be operated upon.

The base has formed therein a vertical bearing, see Fig. 2, and in this is seated and adapted to revolve a tubular short shaft 4 held in place by a screw-plate 6, shown in bottom plan view at Fig. 6, and this has a dove-tailed slide-way 7 to which by a similar dove-tail 8, a plate 9 is secured; see also Fig. 5. To this plate 9 is attached, as by screws, a pad or cushion 10 made up of one or more thicknesses of rubber, leather or the like. The plate 6 is channeled or recessed across its lower face, see Figs. 1 and 4, for the reception of a grasping device consisting of a flat sheet metal strip 11 having its ends downwardly and inwardly bent to form fingers 12. This strip has a small central hub 13 and this is connected to a screw-threaded driving shaft 14 which extends downward through the hollow shaft 4, as seen at Figs. 2 and 4, and whose upper end is connected to a flexible shaft 32. This flexible shaft is driven from any convenient part of the machine. As the strip having the grasping fingers lies in the recess of the plate 6, the shaft 14 in carrying the strip necessarily carries the plate and its connections. Upon the shaft 14 is a collar 16 between which and the top of the shaft 4 is interposed a short spiral spring 17 whose action is normally to hold the several parts in the position in which they are shown at Fig. 4. If, however, the shaft be pushed downward against the action of the spring the grasping fingers will be disengaged and carried away from the flanged face of the cushion or pad, as appears at Fig. 5. For effecting this disengagement a lever 18 is provided having an opening through which the shaft 14 freely extends. The inner end of this lever is fulcrumed, as at 19, on an upright bolt 20, which



latter is mounted on the base 1. Beneath the lever and around the bolt is a spiral spring 21 whose function it is to normally retain the lever 18 out of engagement with the collar 16 on the shaft 14. The parts hereinbefore described make up a complete and operative pouncer and constitute one branch of my invention.

Between the hub in which the shaft 14 is mounted and the handle 3, is an axle or bearing denoted by 22. Upon this is rotatably mounted a bearing collar 23 screw-threaded on its outer surface and is provided with a flange 24. Upon this bearing collar is a wheel or roll 25 of rubber, leather or other material, and its periphery engages against an annular inclined surface 26 formed upon the top of the plate 6. The wheel or disk 25 is supported upon one side of the flange 24 and is crowded firmly against the latter by means of a screw-threaded flanged collar 26<sup>a</sup>. Upon this last-named part is fitted the hub of a brush 27, whose interior is hollowed out, as shown at Fig. 2, and which is secured to the base by a screw-threaded abutment collar 28 also running on the screw-threaded surface of the part 23. Beyond this collar a ring 29 surrounds the bearing and between this and the handle is interposed a spring 30 whose function it is to press the brush, the friction wheel and the other attached parts away from the handle, and to keep the periphery of the friction disk 25 in firm and constant contact with the surface 26.

In the operation of my invention the sandpaper, which is numbered 31 at Fig. 4, is inserted by first throwing down the grasping jaws or fingers to the position shown at Fig. 5 by means of the handle 18, and then, after placing the sandpaper within the field of action of the fingers, permitting the parts to be returned to their normal position by the action of the spring 17. The shaft 14, when the machine is in operation, is driven at a high rate of speed from the flexible shaft 32 carrying with it the sandpaper, and it is then passed over the surface of the hat either by hand, through the medium of the handle 3, or by means of some automatic mechanism, such as is shown in my Letters Patent heretofore referred to. As the revolving head passes over the hat it grinds off the projecting fibers of the felt in the form of dust, as has already been explained. The brush 27, however, is driven by the frictional connection heretofore described, and performs toward the hat, simultaneously with the grinding, a cleansing or sweeping function whereby the dust is removed as fast as made and is not therefore worked into the felt.

I have shown what I believe to be the best means, all things considered, of connecting the brush with the pouncer head, but I do

not wish to be confined to the specific construction herein shown and described, since it may be widely varied and altered without departing from the essentials of my invention, which I deem commensurate in scope with the terms of the claims here following.

I claim—

1. In a machine of the character described, the combination with a revoluble pouncing head, of a brush borne upon the same frame as said pouncing head, and a driving connection interposed between said brush and pouncing head whereby the former is driven simultaneously with and by means of the latter, substantially as described.

2. In a machine of the character described, the combination with the revoluble pouncer head, of the brush having its axis at right angles to the axis of the pouncer head, and frictional driving gear interposed between the brush and head, whereby the former is driven from the latter, substantially as described.

3. In a machine of the character described, the combination with the revoluble pouncer head provided on its top with a friction ring or surface, of a brush mounted adjacent to said pouncer head, and a friction disk connected to the brush and engaging the friction surface on the head, substantially as and for the purpose set forth.

4. The combination with the shaft 14 provided with the grasping jaws or fingers, of the head connected to and carried by said shaft, and a spring interposed between and having suitable connection with said shaft and head, and means as described for moving said jaws or fingers relative to the head.

5. The combination with the revoluble body having a handle for its manipulation, of the vertical shaft provided with suitable grasping jaws, the pad with which said grasping jaws co-operate, a spring engaging the shaft 14 and adapted to hold the grasping surfaces normally in their clamped position, and a lever having engagement with the shaft 14 whereby the temporary disengagement of the clamping devices may be effected.

6. In a device of the character described, the combination of the plates 6 and 9 having a dove-tailed engagement, the pads secured to the lowermost of said plates, and the shaft 14 provided with grasping jaws and movable relative to said plates, the whole constructed and adapted to operate substantially as described.

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

JOHN B. HOWE.

Witnesses:

C. M. NEWMAN,  
JOHN R. BOOTH.