

(No Model.)

E. H. TAYLOR.
MECHANICAL MOVEMENT.

No. 572,584.

Patented Dec. 8, 1896.

Fig. 1.

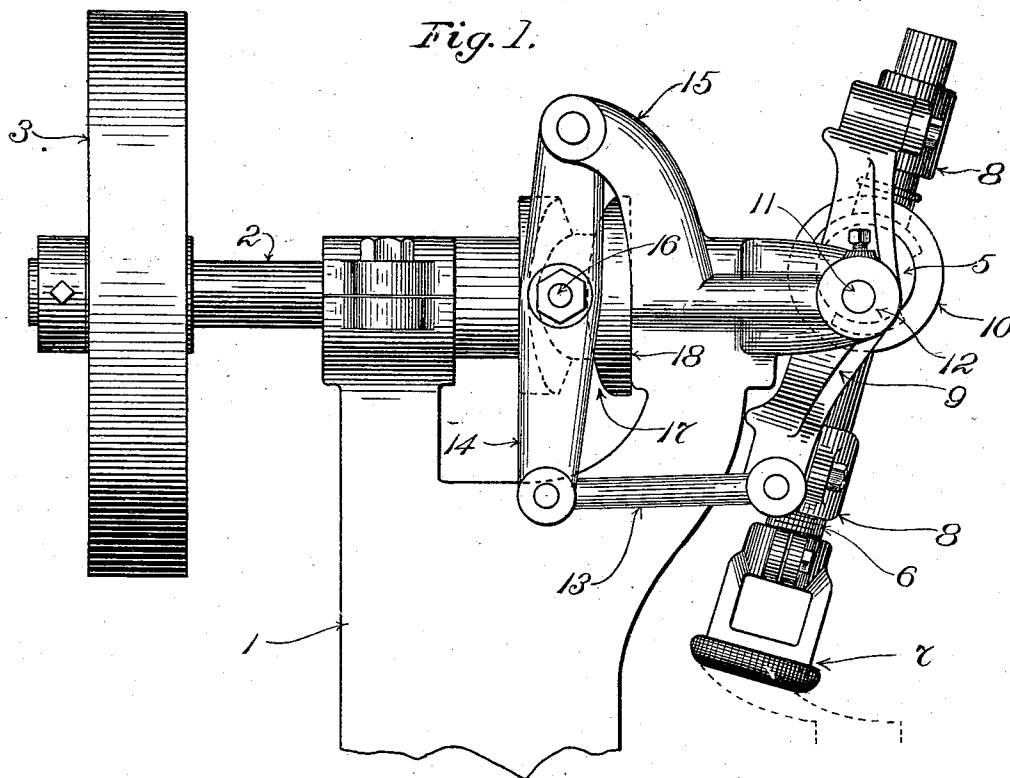
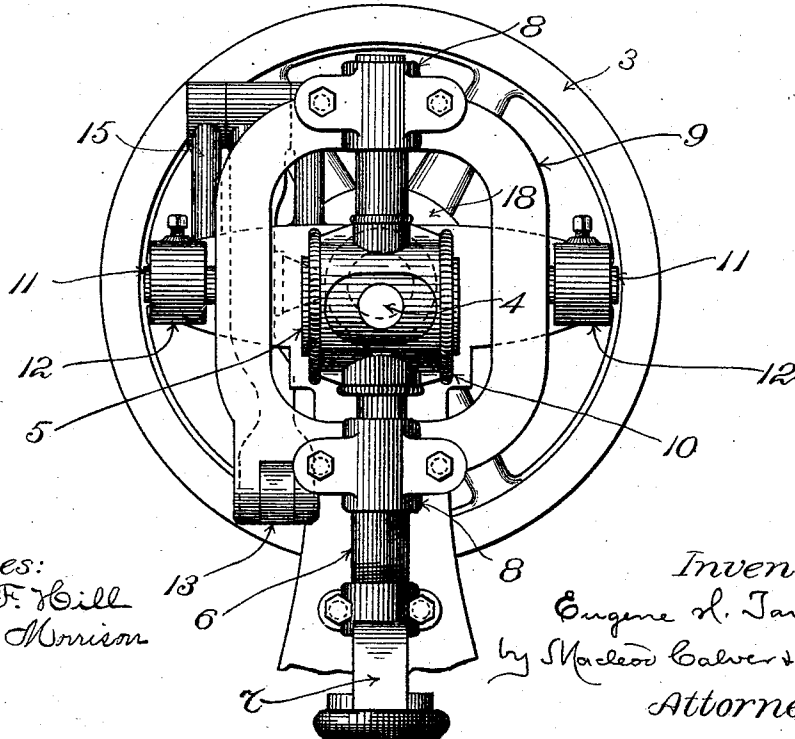


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

EUGENE H. TAYLOR, OF LYNN, MASSACHUSETTS.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 572,584, dated December 8, 1896.

Application filed April 20, 1896. Serial No. 588,261. (No model.)

To all whom it may concern:

Be it known that I, EUGENE H. TAYLOR, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention will be described, first, with reference to the accompanying drawings, in which is represented the best embodiment thereof which has been produced, after which the characteristic features thereof will be particularly pointed out, and distinctly defined in the claims at the close of this specification.

Figure 1 of the drawings shows in side elevation an arrangement of mechanism embodying my invention, the lower part of the supporting-stand being broken away. Fig. 2 is a view in elevation from the right-hand side in Fig. 1.

1 is a supporting stand or framework. 2 is a shaft which is mounted in bearings in the said framework. 3 is a band-pulley on the said shaft, by means of which the latter may be operated. The precise means of actuating the said shaft 2 is not important, and I have represented the band-pulley 3 merely as a convenient means of indicating that in practice the shaft is rotated.

4 is a crank-pin at the front end of the shaft 2, it fitting within a cylindrical hole that is formed diametrically through a cylindrical block 5. The longitudinal axis of the block 5 is at right angles to that of the shaft 2, and the said block 5 is capable of sliding upon the crank-pin 4 in the direction of the length of the latter.

6 is a plunger having the head 7 affixed to the lower end thereof. The upper and lower portions of the said plunger are steadied by means of guides 8 8, which are provided on a yoke 9 and in which guides the plunger has longitudinal movement. The said plunger has an enlarged intermediate portion 10, the latter having a cylindrical opening extending transversely through the same and to which opening the cylindrical block 5 is fitted with capacity to slide endwise in the opening. This capacity enables the block 5 to follow the crank-pin 4 and partake of the lateral

components of the rotary movement of the said crank-pin. The yoke 9 is mounted pivotally upon center pins 11 11, which latter engage with the opposite sides of the yoke and are fixed in projecting portions 12 12 on the frame or stand. The pivotal axis of the yoke intersects the axis (prolonged) of shaft 2. A rod 13 connects the yoke 9 to the lever 14, the latter being pivoted to a projection 15 on the frame or stand 1 and being provided with a pin or roller at 16, which latter works in the groove 17 of a cam 18, that is fast on the shaft 2.

The result of the construction and connections which have been described is that while the plunger 6 is moving lengthwise in response to the action of the crank the yoke is swung or vibrated backwardly and forwardly. The cam-groove 17 is so formed and its timing is such that in the elevated position of the plunger and the head 7 carried thereby the said head is located rearwardly of the position which is occupied by the head when in its lowest position, thereby uncovering any device against which the said head may act when in its depressed position. In the descent of the plunger the said head is moved downwardly and forwardly. Preferably I arrange so that the plunger shall perform a considerable portion of its descent before swinging forward. Thus by proportioning properly the grades of the cam the head may be caused to have little or no forward movement at first, it being then brought forward in a curved or inclined sweep until completely over the position finally reached by it, when it descends vertically. The path of movement of the head is indicated in dotted lines in Fig. 1.

A use to which I have contemplated applying the present invention is in machines such as those that are employed for making heels for boots and shoes, in which a piece of material is laid onto a cutting-die, and a head corresponding with that herein designated 7 is caused to strike against the said piece of material, driving it onto the die and forcing into the interior of the latter a piece of material corresponding in shape with a lift of a heel of a boot or shoe. This, however, is but one of a variety of uses for which the invention is fitted, and I wish it to be un-

derstood that I do not limit the invention to use in the connection specified.

An important object attained by causing the head 7 to complete a considerable portion of its descent before it is carried forward to the position which it reaches at the conclusion of its forward movement is that it will operate to brush off the attendant's hand or fingers should any part thereof be permitted to remain over the device against which the head acts. The head in like manner will act to brush off any undesired object which accidentally remains in the way. The rearward movement which is given to the head as it arises uncovers the spot on which the head rests when at the bottom of its movement, thereby leaving the said spot or the device which occupies the same completely exposed to view and enabling the operator freely to perform such duties as may have to be performed in connection therewith.

I claim as my invention—

1. In combination, a shaft provided with a crank-pin, a plunger, a block free to slide

transversely of the said plunger and receiving the said crank-pin, a frame in which the plunger is mounted to move longitudinally, a rotating cam, and connections intermediate the said cam and the said frame to move the frame laterally, substantially as described.

2. The combination with the plunger, and a head carried thereby, of a cylindrical block fitted to a cylindrical opening which is formed transversely through the said plunger, a shaft carrying a crank-pin which passes diametrically through the said cylindrical block, a swinging frame or yoke in which the said plunger is mounted to move longitudinally, a cam, and connections intermediate the said cam and the said swinging frame or yoke whereby to vibrate the latter, substantially as described.

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

EUGENE H. TAYLOR.

Witnesses:

CHAS. F. RANDALL,
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