No. 640,114. Patented Dec. 26, 1899.

F. DOWLING.

FOOT OPERATED HAMMER.

(Application filed Aug. 23, 1899.)

(No Model.)

Fig. 1.

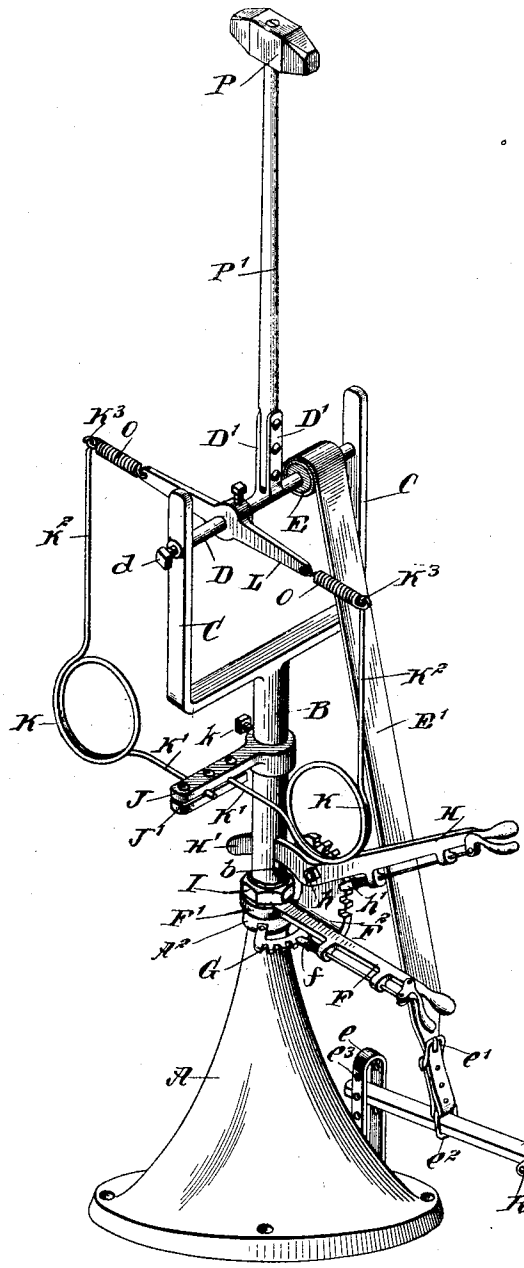


Fig. 2.

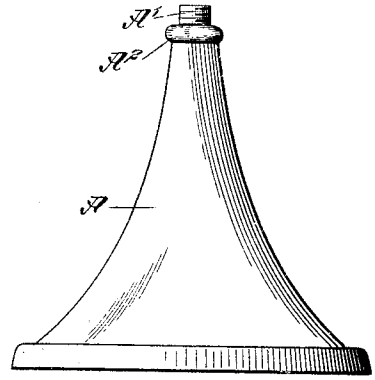


Fig. 3.

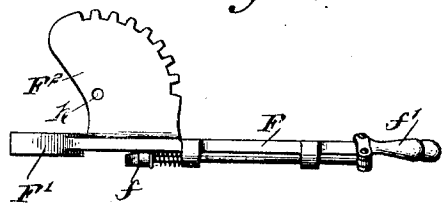
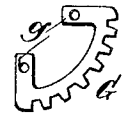


Fig. 4.



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FRANK DOWLING, OF COLERIDGE, NEBRASKA, ASSIGNOR OF ONE-HALF TO CHARLES R. APPLEGATE, OF SAME PLACE.

FOOT-OPERATED HAMMER.

SPECIFICATION forming part of Letters Patent No. 640,114, dated December 26, 1899.

Application filed August 23, 1899. Serial No. 728,214. (No model.)

To all whom it may concern:

Be it known that I, FRANK DOWLING, of Coleridge, in the county of Cedar and State of Nebraska, have invented a new and Improved Foot-Operated Hammer, of which the following is a full, clear, and exact description.

My invention relates to an improvement in hammers which are designed to be operated by the feet, and comprises the novel features which are hereinafter described and claimed.

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

Figure 1 is a perspective view of the invention. Fig. 2 is an elevation of the base. Fig. 3 is a side elevation of the shifting lever; and Fig. 4 is a plan of the toothed segment which is secured to the base and is engaged by the catch of the shifting lever.

The object of my invention is to provide a mechanism for holding a hammer or sledge which may be operated by the foot of the blacksmith whenever desired, thus dispensing with the services of a helper.

Upon a suitable base A, which is provided with means for securing it to the floor, is mounted a post B, said base having a vertical hole through the same receiving said post and permitting it to turn. At its upper end the post terminates in a yoke C, between the upper ends of which a horizontal shaft D is pivoted, the pivot herein shown for the same consisting of set-screws *d*, which pass through the side of the yoke and which are provided with conical ends adapted to enter conical holes in the ends of the shaft D. The form of bearing used for this shaft is, however, immaterial. At about the center of the length of the shaft it is provided with laterally-extending bars D′, which are separated sufficiently to receive the end of the sledge-handle P′ between them. In its normal position the sledge P is held vertically, as shown in Fig. 1.

Upon the shaft D is secured a bar L, which extends oppositely from the shaft and is adapted at its ends to receive the ends of spirally-coiled springs O. These springs at their opposite ends are connected to hooks K^3, formed upon the outer ends of upwardly-extending arms K^2, which form a continuation of the spirally-coiled springs K. The other ends of the bars forming these springs K are extended horizontally to form arms K′, by which the springs are secured to the post. These ends K′ of the springs pass between two bars J and J′ and lie in grooves formed therein and are securely held by bolts passing through said bars. One of these bars J is provided with an eye which closely fits about the post B and is secured thereon by means of a set-screw *k* or any other suitable device. The tension of the springs K is such as to normally hold the sledge in the vertical position shown in Fig. 1. Upon the shaft D is also secured a small pulley or roller E, to which is secured one end of a belt E′ or any similar flexible connector. The lower end of this belt is provided with a buckle *e*′, by means of which it may be adjusted in length, the loop formed thereby in the belt containing a ring e^2, which passes over the shank E^2 of a treadle. The fulcrumed end of this treadle is pivoted within a loop *e*, which extends upwardly from the base A and is provided with a series of holes e^3, so that the fulcrum-pin may be adjusted in height. The outer portion E^3 of the treadle is so constructed that it may be slipped over the end of the shank E^2 or removed therefrom, as desired. This construction consists of a cross-pin R at the end of the part E^3 and a cross-bar R′, located inward from the end and at a higher elevation. The shank E^2 passes over the pin R and under the bar R′. This enables the foot portion of the treadle to be removed when the device is not in use, and thus to get it out of the way.

The upper end of the base A is provided with a threaded section A′, upon which a lock-nut I screws. The post B passes downward through a hole which extends centrally through the base and through the threaded section A′. At the lower end of the threaded section A′ is formed a collar A^2, which is, however, integral with the body of the base. About the lower end of the threaded section A′ is placed the eye F′ of the shifting lever F. This lever is not threaded upon this section, but is free to swing thereon as upon a pivot. The lock-nut I, which is threaded upon the section A′, is designed to hold the

eye F′ of this lever securely in place and yet to allow it to freely swing.

Upon the base A is secured a toothed segment G by means of set-screws passing through holes *g*, formed in the inner portions thereof. This toothed segment is adapted to be engaged by the catch *f* upon the lever F, said catch being of the usual construction and being operated by a small lever *f′*, mounted upon the lever F. The lever F has a flange or web F^2 extending upwardly from one side thereof and having one edge toothed and curved as a segment of a circle. At the center of this segment a pivot-pin *h* is mounted, upon which is pivoted the raising and lowering lever H. This lever has a curved extension H′, which passes through a slot *b* in the post B. The lever H is also provided with the usual catch device *h′*, which is adapted to engage the teeth upon the segmental web or plate F^2. The lever H forms a connection between the shifting lever F and the post B, by means of which the latter is turned upon its axis. The lever H may also be operated so as to raise and lower the post B, and thus adjust the elevation of the sledge-pivot. By this means the elevation of the sledge and the direction of its swing may be readily adjusted so that it may be made to strike upon any portion of the anvil.

With this device it would be possible for a blacksmith, if necessary, to operate the sledge himself and at the same time to use an ordinary hand-hammer. Where the use of a sledge is needed for a short time only, this will avoid the necessity for getting the services of another man. In many ways such a device as this is preferable over a poor striker, as it will always strike in the same place and truly.

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

1. A foot-operated hammer, comprising a base, a post supported thereby, a hammer pivotally mounted on said post, a spring-support on said post, spring-arms having horizontal portions secured in said support, coils at the ends of such portions, and vertical portions leading from said coils and terminating in hooks, and arms secured to the pivot of the hammer and extending therefrom in opposite directions, said arms being provided at their ends with coil-springs with which said hooks engage, as and for the purpose set forth.

2. A foot-operated hammer, comprising a base, a post vertically and rotatably adjustable on said base, a hammer pivotally mounted on said post, oppositely-extending arms secured to the pivot of the hammer, coil-springs secured to the ends of the arms, spring-arms having vertical portions connected with the coil-springs, coils, and horizontal portions turned toward each other, and a spring-holder clamping the ends of the horizontal portions and adjustably held on said post, as and for the purpose set forth.

3. A foot-operated hammer, comprising a base, a post vertically and rotatably adjustable on said base and formed with a slot near its lower end, a segmental horizontal rack secured on said base, a lever mounted to turn horizontally on said base and arranged for engagement with said rack, said lever having a segmental rack extending vertically therefrom, and a second lever fulcrumed on said last-named rack and arranged for engagement therewith, said latter lever having an extension forward of its fulcrum and inserted through the slot in the post, as and for the purpose set forth.

4. A foot-operated hammer, comprising a yoke, a hammer having a pivot-shaft secured to its handle and journaled in said yoke, two spring-bars each having a coiled central section and arms at their ends, a support on the post for one arm of said springs, arms upon the pivot-shaft of the hammer and extending oppositely an equal distance therefrom, coiled springs connecting said arms with the other arms of the first-mentioned springs, and means for swinging the hammer upon its pivot, substantially as described.

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