

O. W. MIELENZ.
 FOOT POWER HAMMER.
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944,140.

Patented Dec. 21, 1909.

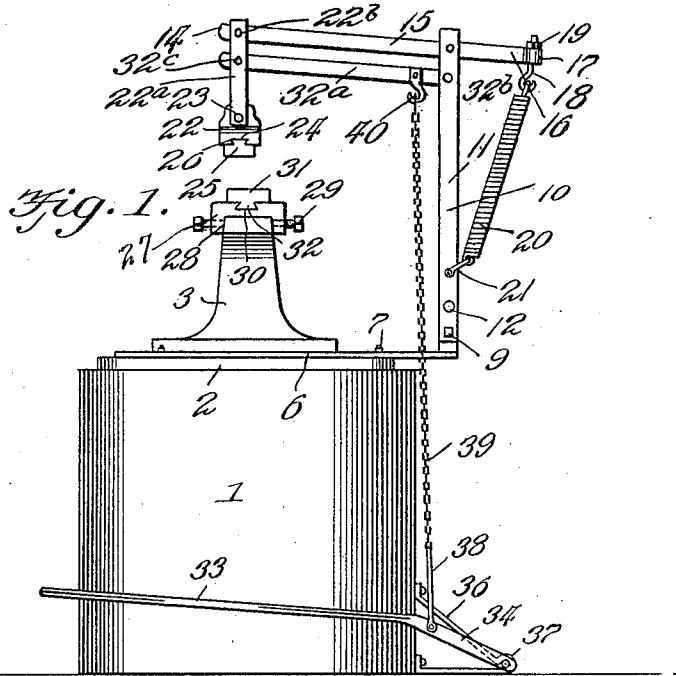


Fig. 2.

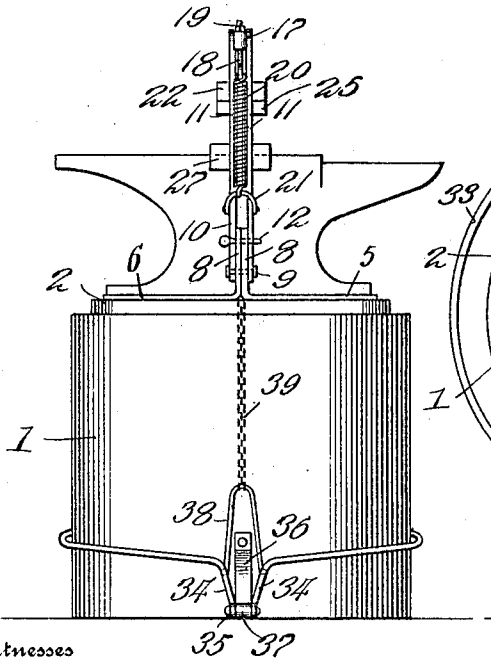
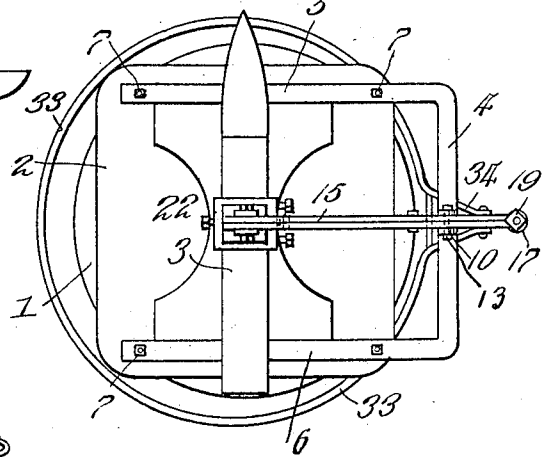


Fig. 3.



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Witnesses

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FOOT-POWER HAMMER.

944,140.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, OTTO W. MIELENZ, a citizen of the United States, residing at Jenks, in the county of Tulsa and State of Oklahoma, have invented new and useful Improvements in Foot-Power Hammers, of which the following is a specification.

This invention relates to a foot-power hammer designed particularly as an attachment for anvils, the object of the invention being to provide a device of this character which may be conveniently applied to any blacksmith's anvil of ordinary construction, which is adjustable to suit different heights of anvils, which may be easily and conveniently operated to strike a powerful stroke, which may be thrown out of operation when its use is not desired, and which is adapted for the application of different sizes or types of anvil and striking dies to the anvil proper and lever of the hammer to suit different conditions of work to be performed.

With this and other objects in view, the invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a side elevation showing the application of the invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a top plan view.

Referring to the drawing, 1 designates an ordinary anvil block, on which is formed or secured a bed or base plate 2 for the anvil 3, which also may be of any ordinary form in common use.

In carrying my invention into practice, I adjustably secure to the plate 2 a substantially U-shaped supporting bracket 4 comprising a pair of L-shaped straps 5 and 6, the main arms of which are secured by fastening bolts 7 to said plate 2, while the short arms of said straps are disposed in alignment above and in rear of the plane of the anvil block and are formed with upright extensions 8 united by a bolt or rivet 9.

A standard 10 is mounted upon the rear portion of the bracket and projects to a sufficient degree above the horizontal plane of the top of the anvil, and preferably comprises a pair of spaced bars or plates 11 arranged in parallel relation and having their lower ends bearing against the upright extensions 8 of the bracket and pivotally mounted upon the bolt or rivet 9. Above

this pivotal connection the said upright extensions 8 and the plates of the standard are formed with apertures for the passage of a removable retaining pin 12, whereby the standard is held and retained in an upright position.

Pivotally mounted upon a pin or bolt 13 to the upper ends of the plates of the standard and between the same is a vibrating hammer arm or lever 14, having a long front arm 15 and a short rear arm 16. The front arm 15 extends forwardly to a position above the anvil, while the rear arm 16 is formed with a socket 17 to receive the threaded stem of a hook 18 having an adjusting nut 19 and connected with the upper end of a coil spring 20, the lower end of which is coupled to the lower end of the standard 10 by a pivoted bale or coupling member 21. The purpose of this spring 20 is to maintain the hammer arm in normal position and to automatically return it to such position after each stroke thereof. The tension of this spring may be regulated by adjustment of the nut 19 so as to regulate the stroke of the hammer.

Mounted upon the forward arm 15 of the lever is a hammer head 22, secured by a fastening screw or other suitable securing means 23 between the lower ends of a pair of supporting plates 22^a, pivoted at their upper ends to the lever by a pin or bolt 22^b. This head comprises a block of suitable form and size and is provided in its underside with an undercut transverse recess or slideway 24 for the detachable application thereto of a striker die 25 provided on its upper surface with an undercut lug or key 26 to fit within said recess, by which construction the die may be readily applied to and removed from the head. A die block 27 is adapted to be applied to the upper or face portion of the anvil 3 and is bifurcated or recessed, as at 28, to fit down upon the same and provided with a set screw 29 to detachably secure it in position. The upper face of this die block is formed with a transverse dovetailed recess 30 and is adapted to support an anvil die 31 having a dovetailed key or lug 32 to fit within said recess. By this construction any size or special type of anvil die may be removably mounted upon the anvil 3 for cooperation with a suitable striker die upon the hammer. A link 32^a, arranged below the lever arm 15, is pivoted at its rear end to the standard 10 by a pin

or bolt 32^b, and at its front end to the supporting plates 22^a by a pin or bolt 32^c. This link, through which power is applied to actuate the hammer on its working stroke, regulates the movement of the supporting plates to cause the hammer to move in a rectilinear path while the lever and link swing in arcuate paths.

A looped or substantially ring-shaped treadle lever 33 embraces the lower portion of the anvil block 1, and comprises a bar or strap bent into form and having its free ends 34 arranged at the rear of the block and bent at a downward and rearward angle as shown and connected by a fastening bolt or rivet 35. Secured to the rear of the anvil block on a line between the portions 34 of the lever is a substantially V-shaped supporting bracket 36, the vertex portion of which is bent to form a loop or eye 37 constituting a journal for the bolt or rivet 35, whereby the lever is pivotally mounted upon said bracket.

Pivotally connected with the arms or bent ends 34 of the lever is a bail shaped link 38 to which is connected the lower end of a link chain 39, the links at the upper end of which are adapted to engage a pivoted connecting hook 40 upon the rear end of the link 32^a, whereby when the lever is depressed the hammer will be drawn down or impelled on its working stroke to bring the striker die 25 into contact with the work supported upon the anvil die 31. By engaging different links of the chain with the hook 40, the chain or flexible connection 39 may be shortened or lengthened to correspondingly shorten or lengthen the stroke of the hammer which is returned to normal position by the spring 20 when the pressure upon the lever is relaxed, the tension of the spring and its resistance to the working movement of the hammer being regulated, as before described, by adjusting the nut 19.

From the foregoing description, the construction and mode of use of my improved hammer attachment for anvils will be readily understood, and it will be seen that a device of this character is provided which may be readily and conveniently applied to any ordinary blacksmith's anvil and its working

operation regulated to suit the character of the work being done, the invention providing for the application of different sizes or types of striking and anvil dies as circumstances may require. By simply removing the pin 12, the standard and the hammer mechanism carried thereby may be swung backwardly out of the way on the pivot bolt 9, leaving the anvil free for ordinary use upon the removal of the die block 27.

Having thus fully described the invention what is claimed as new is:

1. In a foot power hammer the combination of a pivoted treadle lever, a supporting bracket having an upwardly extending portion, an anvil, a standard pivoted to the upwardly extending portion of the bracket, a fastening means for holding said standard against pivotal movement, a hammer arm pivotally mounted between its ends upon the standard to provide a longer forward end projecting above the anvil and a shorter rear end projecting in rear of the standard, a spring connecting said short rear end of the arm with the standard, a support pivoted to the long end of the hammer arm, a hammer carried by said support for coöperation with the anvil, a link pivotally connected with the standard and supported below the hammer arm, and a flexible connection between said link and the treadle lever.

2. In a foot power hammer, the combination, with an anvil block, and an anvil mounted thereon, of a bracket secured to the base of the anvil, a hammer mechanism supported by the bracket, and including a swinging operating member, a looped treadle lever embracing the anvil block, said lever being provided with downwardly bent converging ends, a bracket fixed to the anvil block and to which the converging ends of the lever are pivotally connected, a bail attached to the converging ends of the lever, and a connection between the said bail and the hammer mechanism.

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

OTTO W. MIELENZ.

Witnesses:

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