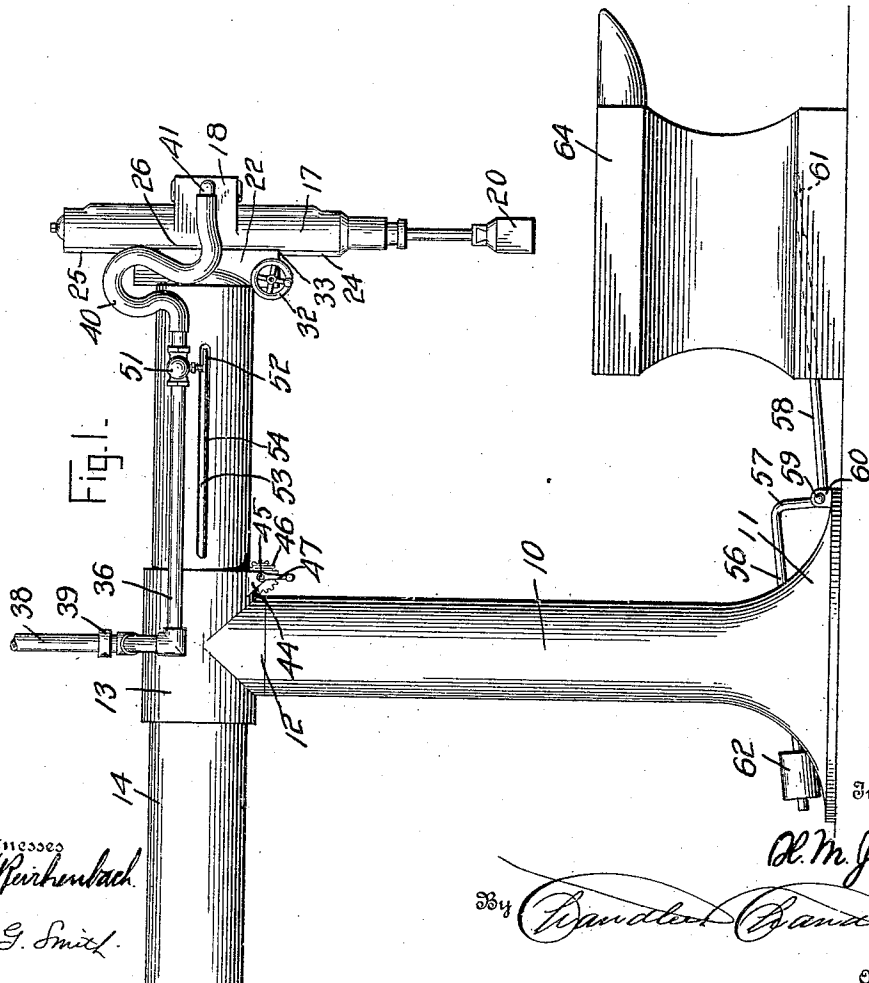
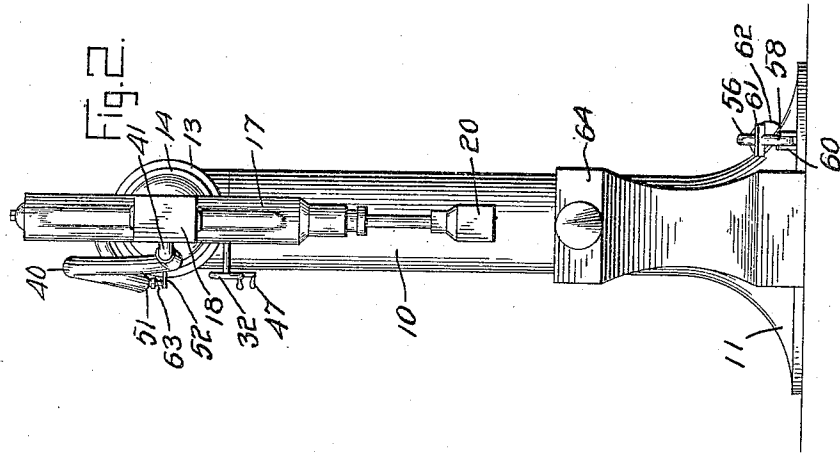


H. M. JACOBS.
PNEUMATIC HAMMER SUPPORT.
APPLICATION FILED NOV. 26, 1907.

955,166.

Patented Apr. 19, 1910.

3 SHEETS—SHEET 1.



Witnesses
C. H. Reinhardt
H. G. Smith

Inventor
H. M. Jacobs
By *Edward C. Daniels*

Attorney

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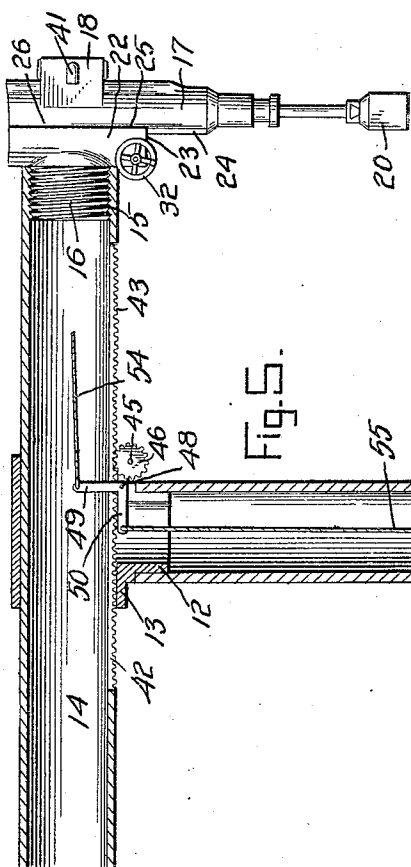


Fig. 5.

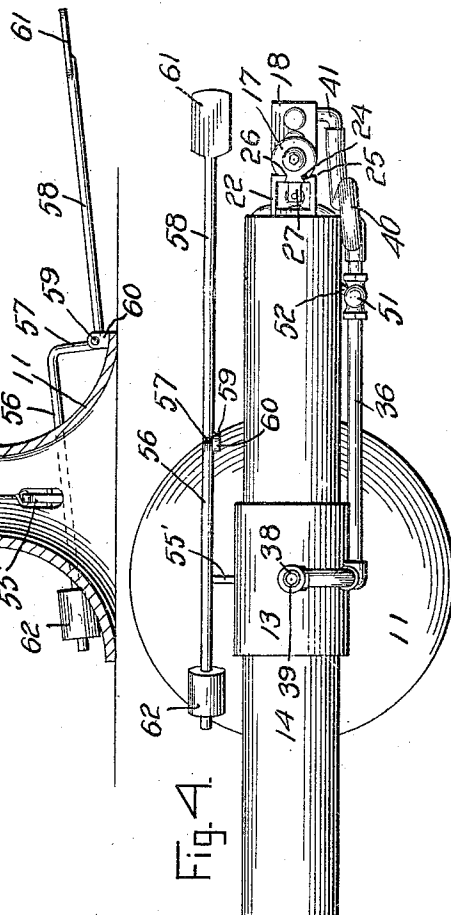


Fig. 4.

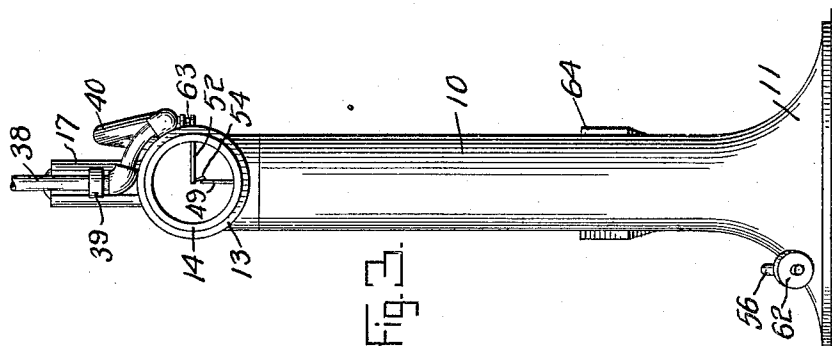


Fig. 3.

Witnesses.

C. K. Rickenbach
H. G. Smith

Inventor

H. M. Jacobs

334

Charles H. Jacobs

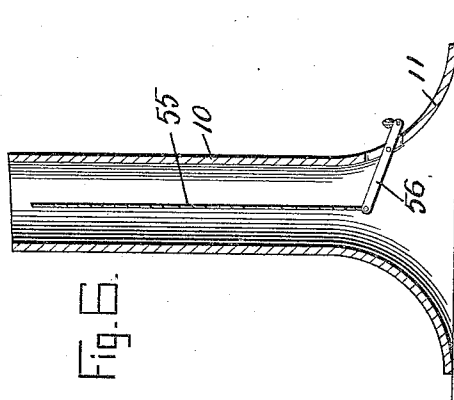
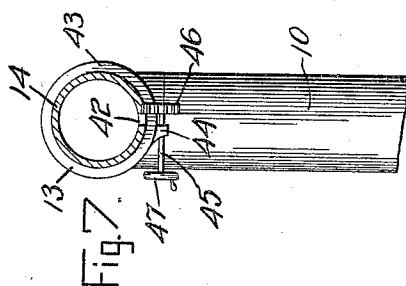
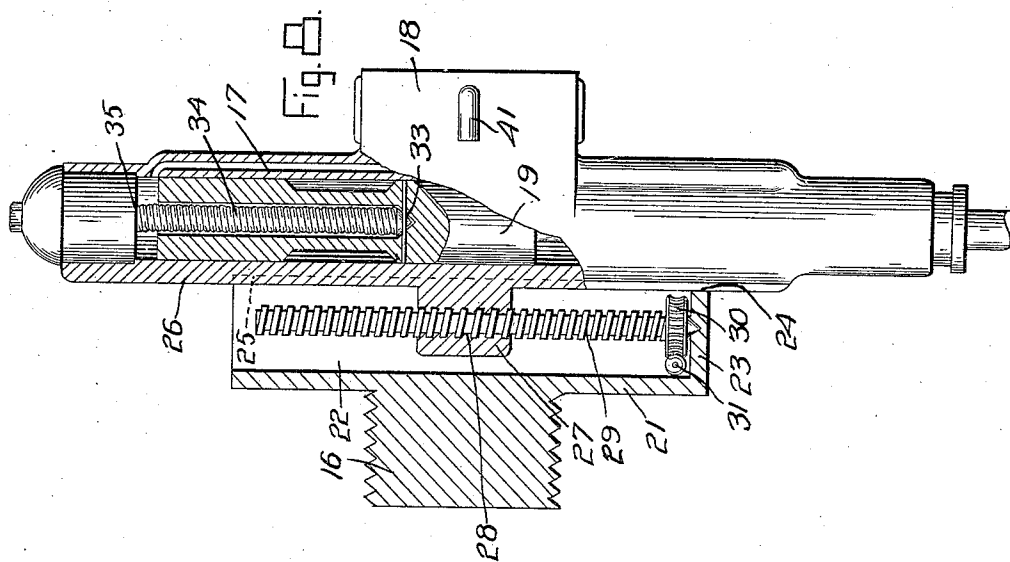
Attorneys.

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3 SHEETS—SHEET 3.



Witnesses

E. H. Reichenbach.

H. G. Smith.

Inventor

H. M. Jacobs.

334

Charles Charles

Attorneys.

UNITED STATES PATENT OFFICE.

HENRY M. JACOBS, OF EUREKA, UTAH.

PNEUMATIC-HAMMER SUPPORT.

955,166.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed November 26, 1907. Serial No. 403,967.

To all whom it may concern:

Be it known that I, HENRY M. JACOBS, a citizen of the United States, residing at Eureka, in the county of Juab, State of Utah, have invented certain new and useful Improvements in Pneumatic-Hammer Supports; 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 power hammers and more particularly to that class which are designed for use in connection with an ordinary blacksmith's anvil and the primary object of the invention is to provide a novel form of support for a hammer of this type, the support being so constructed that the position of the hammer may be varied at the will of the operator.

In carrying out my invention I provide a support of such character that the hammer may be brought to position above any desired portion of the anvil and may be adjusted vertically above the anvil so as to shorten or lengthen the stroke of the hammer. The support is also so constructed that the hammer may be swung to inoperative position with relation to the anvil when not in use.

In the accompanying drawings, Figure 1 is a side elevation of the support showing it in operative relation with respect to an anvil, Fig. 2 is a front elevation thereof, Fig. 3 is a rear elevation, Fig. 4 is a top plan view, Fig. 5 is a vertical longitudinal sectional view through the support, Fig. 6 is a vertical transverse sectional view through the support, Fig. 7 is a similar view but taken in another plane, and, Fig. 8 is a detail vertical sectional view through the hammer, its cylinder, etc.

As shown in the drawings, the support comprises an upright which is indicated by the numeral 10 and which is formed at its lower end with a base indicated by the numeral 11. This upright is cylindrical and is arranged at its upper end for the reception of a journal 12 which is formed integral with a sleeve 13, the said sleeve being supported, by reason of the reception of the journal in the upper end of the upright, in a plane at right angles to the vertical plane occupied by the upright and for rotation. Slidably engaged through this sleeve 13 is an arm 14 which is cylindrical and is formed

at one of its ends with a large threaded bore or socket 15 into which is screwed a threaded boss or head 16 which is formed integral with the pneumatic hammer as will be presently described.

The hammer mentioned above is, with the exception of one or two features which will be specifically described, of the ordinary type and comprises a cylinder indicated in general by the numeral 17, a valve chest indicated in general by the numeral 18, a piston 19, and a hammer head 20 which is carried at the lower end of the piston or plunger. The head 16 is formed integral with one wall 21 of a guide which includes, in addition to the said wall 21, parallel side walls 22 and an end wall 23. The opposing edges of the side walls 22 of the guide are formed each with a longitudinally extending guide groove 24 and working in these grooves are the beveled longitudinal edges 25 of a back plate 26 which forms a portion of the cylinder 17 of the hammer. The guide above mentioned is disposed vertically and it will be understood that in this manner, the hammer is supported for vertical adjustment.

In order that the hammer may be held in adjusted position, the back plate is formed with a lug 27 which projects between the side walls of the guide and which is formed with a threaded bore 28 through which is engaged an adjusting screw 29. This screw has a bearing at its lower end in the end wall 23 and carries adjacent its lower end a worm gear 30 with which meshes a worm 31. The worm 31 is provided with a crank handle 32 by means of which it may be rotated and thereby rotate the worm gear 30 and the adjusting screw 29, this rotation serving to raise or lower the hammer as will be readily understood.

Secured at its lower end by means of a screw bolt 33 to the head of the piston 19 is a spring 34 this spring being connected at its upper end as at 35 to the upper end or head of the cylinder 17. This spring 34 serves to hold the piston normally raised and the advantage of this construction will be apparent when it is considered that in this manner the hammer head is normally elevated above the anvil which will presently be described, and as a consequence the work to be operated upon may be properly placed beneath the hammer before the hammer is put in operation. It will further be understood in this connection, that the number of

blows received by the work may be limited at the will of the operator whereas heretofore it has been the practice to place the work beneath the hammer after the hammer has been put in operation, the hammer normally resting upon the anvil or being at the lower limit of its reciprocatory movement.

The compressed air supply pipe for the pneumatic hammer above described is indicated by the numeral 36 and is supported beside the sleeve 13 and the arm 14 and the inner end of this pipe is turned to extend upwardly and over the said sleeve 13 and thence directed vertically as at 38, this last mentioned portion being positioned directly axially with respect to the upright 10 and having swivel connection with the main compressed air supply pipe which is indicated by the numeral 39, it being understood that this construction permits of the arm 14 and its supporting sleeve 13 being turned or swung in a horizontal plane. To the outer end of the pipe 36 is connected a length of flexible tubing or hose 40 and the other end of this tubing connects with an elbow 41 which has communication with the valve chest 18 of the pneumatic hammer.

From the foregoing it will be understood that the arm 14 may be adjusted longitudinally in the sleeve 13 by reason of the fact that the hose section 40 is flexible. In order that the arm 14 may be adjusted as stated above, it is provided in its under side with a slot 42 which extends longitudinally thereof and to one side of which is formed a plurality of rack teeth 43, these teeth being extended in a continuous series along the said edge of the slot.

Mounted in a suitable bracket 44 upon the sleeve 13 at one end thereof is a short shaft 45 and this shaft has fixed to it a pinion 46 which works in a recess formed in the said end of the sleeve 13, the shaft being also provided with a crank handle 47 by means of which it may be rotated. When so rotated, the pinion 46, being in mesh with the rack 43, the arm 14 will be moved as above stated, either forwardly or rearwardly.

Pivoted as at 48 within the sleeve 13 and extending with one of its arms 49 through the slot 42 in the arm 14 is an angle lever including a second arm 50. A valve 51 is interposed in the pipe 36 and this valve has attached to its stem an arm 52 which extends through a slot 53 formed in the adjacent side of the arm 14. Attached to the end of this arm 52 is one end of a cable 54 the other end of the cable being connected to the end of the arm 49 of the angle lever.

A similar cable 55 is connected to the end of the arm 50 of the angle lever and depends therefrom and is connected at its lower end to a lever which is indicated by the numeral 55' and is mounted for rocking movement through a slot formed in the base of the standard 10. The outer end of this lever 55' is pivoted to a lever 56 which is bent at its middle to form a crank portion 57. That portion of the lever 56 which lies to the other side of its crank portion 57 is indicated by the numeral 58 and the lever is pivoted as at 59 at the lower bend of its crank portion 57 in a suitable bracket 60 upon the base 11 of the support. At the end of the portion 58 of the lever there is formed a foot piece 61 which may be depressed to rock the lever and consequently the lever 55' and tighten or slacken the cable 55, there being a weight 62 adjustably supported upon the first mentioned portion of the lever 56 which weight tends to normally lower this end of the lever and in so doing slacken the cable 55.

The valve 51 is controlled by means of a spring 63 which tends to throw it to closed position it being understood that by depressing the foot piece 61 a pull will be exerted upon the cables 55 and 54 and the valve opened against the tension of its controlling spring.

From the foregoing description of my invention it will be seen that I have provided a support for a pneumatic hammer of such character that the hammer may be brought to position over any portion of the anvil, which in the accompanying drawings is indicated by the numeral 64 and is of the ordinary construction, and that the hammer may also be raised and lowered with respect to said anvil.

What is claimed, is—

A support for pneumatic hammers comprising a hollow base member provided with a broadened bottom portion, a hollow T-shaped member supported on said base member, a tubular arm carried in said hollow member, said arm being arranged to slide in the T-shaped member and the T-shaped member being rotatable with reference to the base member, slides mounted on one end of said arm, and a hammer casing mounted in said slides.

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

HENRY M. JACOBS.

Witnesses:

G. A. FRANKE,
E. H. PULVER.