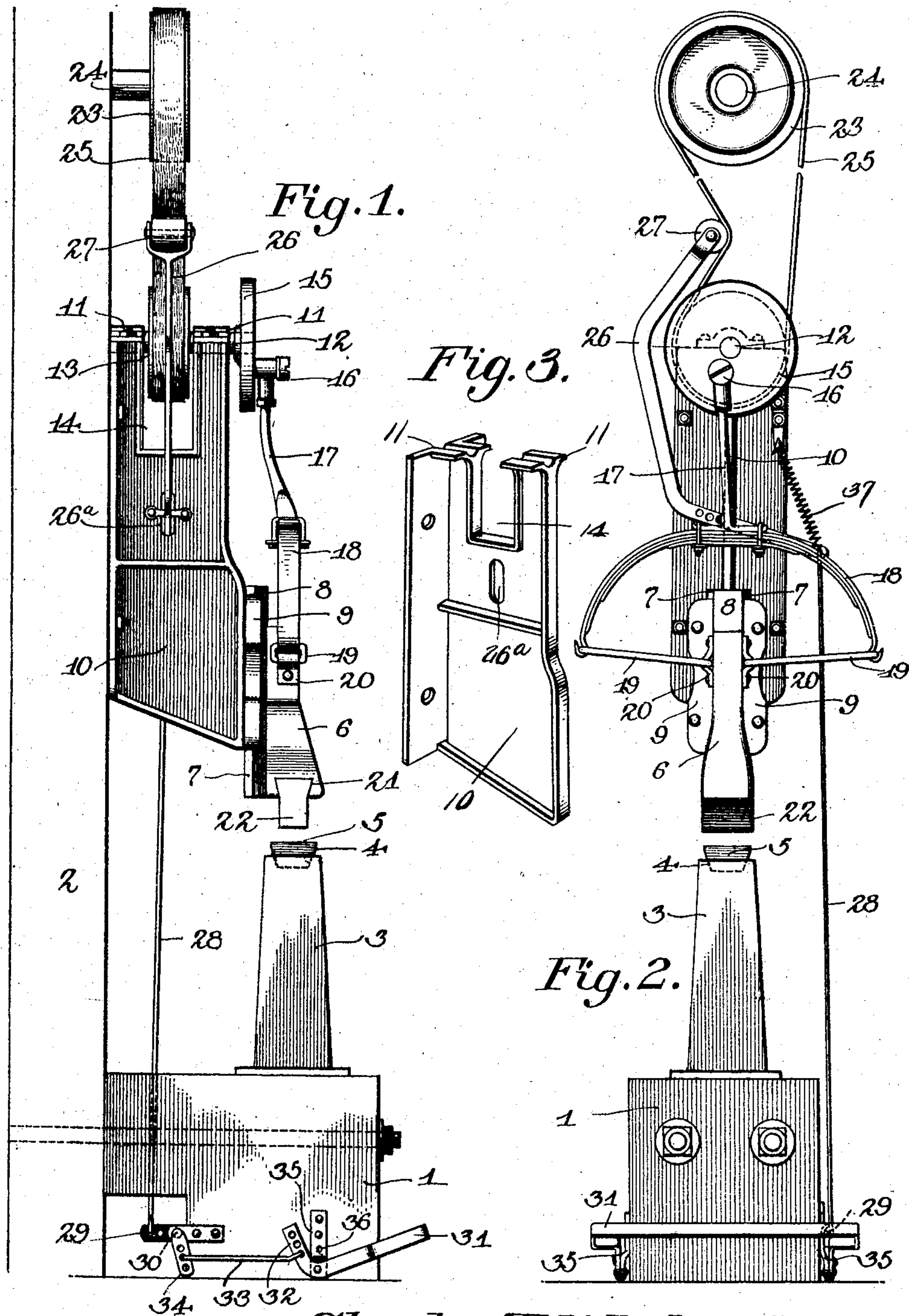


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PATENTED MAY 16, 1905.

C. T. WHITESEL.
POWER HAMMER.
APPLICATION FILED MAR. 17, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLIE T. WHITESEL, OF JASPER, MISSOURI.

POWER-HAMMER.

SPECIFICATION forming part of Letters Patent No. 790,236, dated May 16, 1905.

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To all whom it may concern:

Be it known that I, CHARLIE T. WHITESEL, a citizen of the United States, residing at Jasper, in the county of Jasper and State of Missouri, have invented a new and useful Power-Hammer, of which the following is a specification.

This invention relates to power-hammers, and it has for its object to provide a device of this class capable of being driven by power of any description, said device being extremely simple in construction, containing but few parts, capable of being governed while in operation with ease and certainty, and adapted especially for use in blacksmith-shops, repair-shops, and like places where a simple and convenient device of this class will prove a valuable addition to the equipment.

With these and other ends in view the invention consists of the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being understood, however, that changes and modifications may be made within the scope of the invention and without departing from the spirit or sacrificing any of its advantages.

In said drawings, Figure 1 is a front elevation of a power-hammer constructed in accordance with the principles of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective detail view of the casting or bracket 10 and related parts.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The frame of my improved power-hammer may be constructed of wood or iron. In the accompanying drawings it has been illustrated as being composed of a wooden anvil-block 1 and an upright 2, likewise of wood, to the lower end of which the anvil-block is securely bolted. The block 1 supports the anvil 3, which is provided at its upper end with a recess 4, in which is seated the anvil-die 5. The latter is removable, and in place thereof may be substituted special dies, swages, or other special tools, whereby the

range of effectiveness of the device is greatly increased. A hammer-head 6 is mounted to reciprocate vertically above the anvil, said hammer-head being provided with dovetailed flanges 7 and with a likewise dovetailed extension 8, whereby it is mounted between guides 9 9, securely bolted or otherwise secured upon the smoothly-planed face of a casting 10, which is securely bolted to the upright 2 and which is in the nature of a flat bracket extending forwardly from said upright. The casting or bracket 10 is provided at its upper end with boxes 11, constituting bearings for a shaft 12, carrying a driven pulley 13, for the accommodation of which a slot or recess 14 is formed at the upper end of the bracket 10. The shaft 12 carries at its front end a disk 15, having a wrist-pin 16, connected by a pitman 17 with a spring 18, the ends of which are connected by links 19 with wrought-iron brackets 20, secured upon opposite sides of the hammer-head. The latter is provided at its lower end with a dovetailed recess 21, in which is seated the hammer-die 22.

The pulley 13 is driven from a pulley 23 upon the line-shaft 24 by a belt 25.

26 designates a curved or bell-crank lever, which extends through and is fulcrumed in a slot 26^a in the bracket or casting 10 and carrying at its upper end a belt-tightening pulley 27, adapted to engage the belt, which latter normally is slack upon the pulleys connected thereby. The lower end of the curved or bell-crank lever 26 is connected by a rod 28 with the long arm 29 of a bell-crank lever 30, fulcrumed to one side of the anvil-supporting block 1 near the lower end of the latter.

31 designates a yoke constituting a treadle, the arms of said yoke being pivotally connected with the sides of the anvil-supporting block 1, in front of which the treadle part of the yoke extends. The end of one of the arms of said yoke is bent upwardly to form a crank 32, connected by a link 33 with the short arm 34 of the bell-crank lever 30. The fulcrum of the pivoted yoke 31 and of the bell-crank lever 30 are adjustable, straps 35 provided with perforations 36 for the reception of the fulcrum-bolts being attached to the

sides of the anvil-supporting block near its lower end. The connecting-link 33 likewise is adjustable, the crank 32 and the bell-crank lever 30 being each provided with perforations to enable adjustment of said link to be conveniently effected.

It will be observed that by the construction set forth a compound leverage is established, whereby motion may be transmitted from the treadle to the connecting-rod 28 and by means of the latter to the belt-tightening device, consisting of the bell-crank lever 26, carrying the pulley 27. This compound leverage is so adjusted and maintained that the complete movement of the belt-tightening pulley necessary to throw the device into or out of operation may be effected by a comparatively very short movement of the treadle. This I consider a very important advantage of my invention, for the reason that the operation of the hammer may be thereby more quickly and efficiently controlled than would be the case if a longer throw of the treadle were required. It is obvious, however, that the exact arrangement and disposition of the levers for transmitting motion from the treadle to the belt-tightening mechanism may be altered and modified without departing from the spirit of the invention.

The operation and advantages of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. My improved power-hammer, as will be seen, is extremely simple in its construction and may be manufactured at a moderate expense. The few component parts of the device may also be readily set up and assembled by an ordinary mechanic without the assistance of special skilled labor. By pressure upon the treadle

the belt-tightening pulley will be carried into contact with the belt 25, connecting the line-shaft pulley 23 with the drive-pulley 13, thus tightening the belt and causing the pulley 13 to be driven at a speed which may be regulated by the degree of pressure exerted. When the shaft-carrying pulley 13 is rotated, the disk 15 at the front end of said shaft will, through the connecting means herein described, impart to the hammer a vertical reciprocatory movement, the speed and continuity of which may, as stated, be perfectly controlled. A suitably-disposed retracting-spring 37 is provided to retract the lever carrying the belt-tightening pulley to normal position when pressure upon the treadle is released.

Having thus described my invention, I claim—

In a power-hammer, a flat, narrow supporting-bracket having a recess at its upper end and bearings adjacent to said recess, and a slot below said recess, a shaft mounted in said bearings, a driven pulley upon said shaft, and a belt extending from said driven pulley to the source of power, in combination with a curved lever extending through and pivoted adjacent to the slot in the supporting-plate, a belt-engaging pulley at the upper end of said lever, and means connected with the lower end of said lever whereby it may be manipulated to tighten the belt.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLIE T. WHITESEL.

Witnesses:

J. A. COZATT,

O. FASKEN.