

1,049,083.

Patented Dec. 31, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

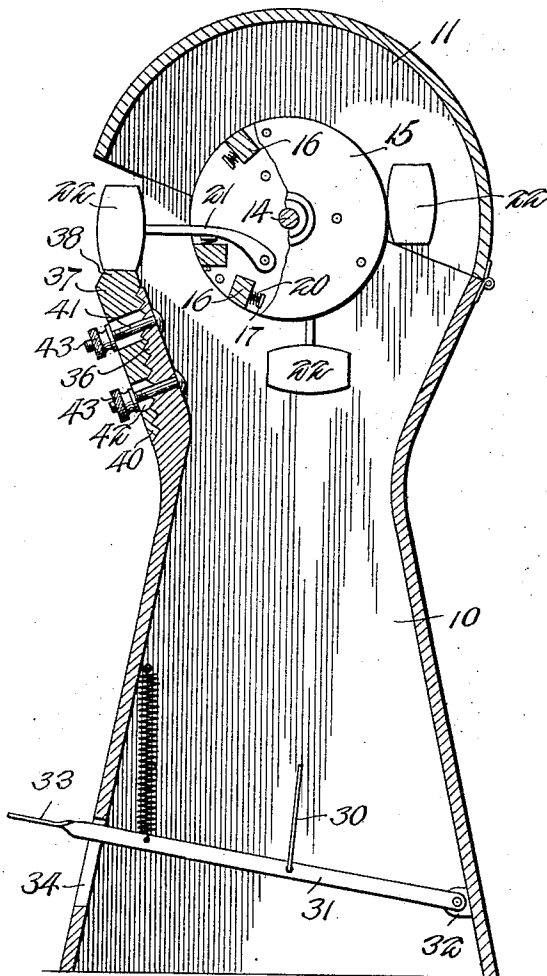
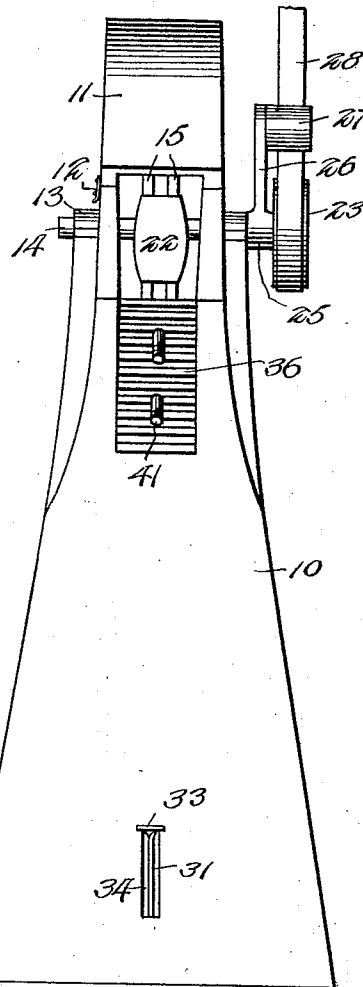


Fig. 3.



Witnesses

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 ROTARY HAMMER.
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2 SHEETS—SHEET 2.

Fig. 3.

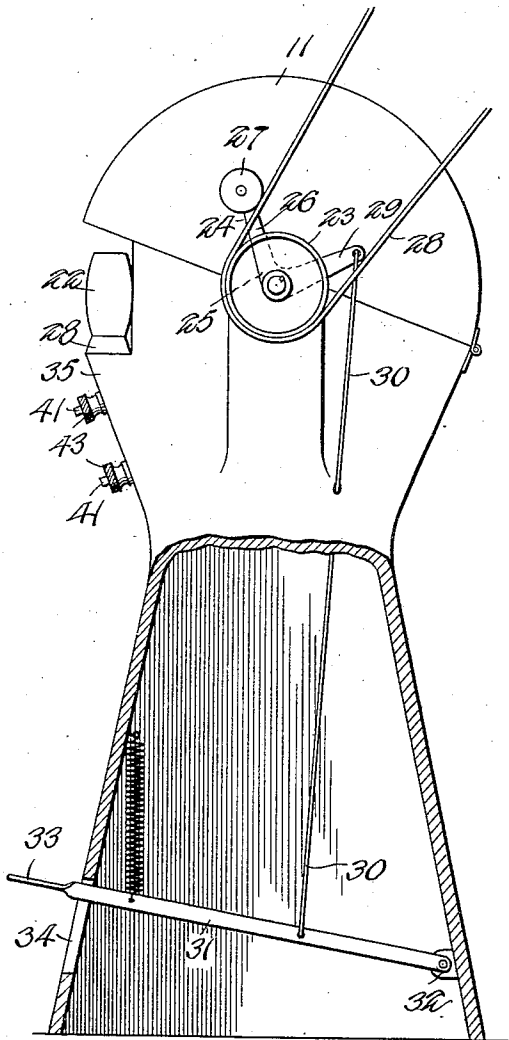


Fig. 4.

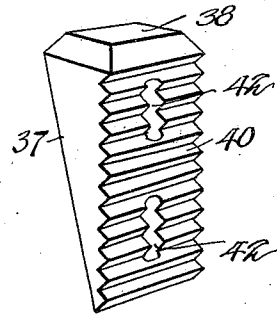
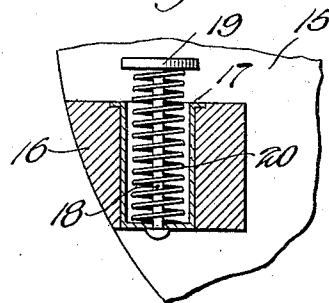


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ROTARY HAMMER.

1,049,083.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed May 10, 1911. Serial No. 626,307.

To all whom it may concern:

Be it known that we, RAY HARNER and FAY HARNER, citizens of the United States, residing at Colby, in the county of Thomas and State of Kansas, have invented new and useful Improvements in Rotary Hammers, of which the following is a specification.

An object of the invention is to provide a device for use in forging various metals upon an anvil.

To accomplish the desired result, use is made of a frame, connected circular plates revolvably mounted on the frame and having hammers pivotally mounted therein, an anvil adjustably mounted on the frame and adapted to receive the blows of the mentioned hammers and means for connection with power transmitting mechanism adapted for operating the said hammers.

Reference is to be had to the accompanying drawings constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a vertical sectional view of our device. Fig. 2 is a partial side elevation of our device showing the driving mechanism. Fig. 3 is a fragmentary front elevation of our device, the anvil being removed therefrom. Fig. 4 is a perspective view of the anvil. Fig. 5 is a detail sectional view through one of the springs mounted between the circular plates and adapted to act as bumpers for the hammers.

Referring more particularly to the views we provide a frame 10 having a cover 11 for removable engagement therewith and secured to the frame 10 is a spring catch 12 having a hooked end for engagement with the cover 11 to releasably secure the cover to the frame. Journaled in suitable bearings 13 secured to the frame 10 is a shaft 14 having keyed thereto a plurality of spaced circular plates 15 provided with braces 16 disposed between the plates 15 and connected thereto, the said braces being equidistantly spaced apart. The braces 16 are each provided with transversely extending apertures in which are slidably mounted bumpers 17 consisting of pins 18 provided with heads 19 and having springs 20 engaging the same to normally position the bumpers for a purpose that will be hereinafter more fully disclosed. Pivotaly mounted on the plates 15 and between the same are arms 21 having trip hammers 22 integrally

formed on the outer ends thereof, the mentioned arms 21 being adapted to engage the bumpers 17 so that the said bumpers will tend to receive the shock occasioned by the hammers when the same rebound after striking a blow. Keyed to the shaft 14 on one of the ends thereof is a belt pulley 23 and journaled on the shaft 14 adjacent the pulley 23 is a belt tightener 24, consisting of a collar 25 encircling the shaft 14 and having an arm 26 extended therefrom, a roller 27 being mounted on the outer end of the said arm and adapted to engage a belt 28 disposed over the belt pulley 23 to tighten the belt relatively to the pulley 23 when the mentioned roller 27 is moved into tightening position. A second arm 29 is extended from the collar 25 and pivotally connected to the outer end thereof is a rod 30 having the lower end thereof pivotally connected to a foot lever 31 mounted to swing on the frame 10 by means of a bearing 32 and having the outer end 33 thereof extended exteriorly through a slot 34 in the frame 10 so that when the foot is placed on the outer end 33 and the foot lever is moved downwardly, the roller 27 will be moved to engage the belt 28, thus tending to frictionally tighten the same relatively to the pulley 23 as will be readily understood.

Formed on the frame 10 are a plurality of spaced flanges 35 and formed on the frame 10 between the flanges 35 are a series of horizontally extending notches 36. An anvil 37 is provided having a head 38 and a shank portion being provided with a series of notches 40 adapted to engage the notches 36, the mentioned anvil 37 being disposed between the flanges 35. Bolts 41 are passed through the frame 10 and extend outwardly therefrom between the flanges 35, the said bolts being adapted to extend through slots 42 formed in the anvil 37 and the mentioned bolts having suitable nuts 43 threadedly engaging the outer ends thereof to retain the anvil 37 in position and the notches 36 in engagement with the notches 40.

Assuming that the belt 28 is connected to suitable driving mechanism to operate the belt and thus revolve the circular plates 15, it will be readily understood that the hammers 22 will successively engage the head 38 of the anvil 37 and if a piece of metal is placed upon the mentioned anvil 37 the action of the hammers 22 relatively to the anvil will forge the metal in the usual manner.

It will be understood that when the blow from the hammer is received upon the metal the hammer will rebound and the shock of the rebound is substantially absorbed by the bumpers 17.

It may be desirable at times to change the position of the anvil 37 and in order to accomplish this result the nuts 43 are first loosened relatively to the bolts 41, the anvil is pulled outwardly and disengaged from the notches 36 and is then moved to the desired position after which the nuts 43 are moved to reengage the bolts 41 and rigidly position the anvil 37 relatively to the frame 10, it being understood that the notches 40 of the anvil will reengage the notches 36 and tend to retain the anvil in locked position.

Having thus fully described the invention, what we claim as new, is:—

1. In a rotary hammer, the combination with a frame, of spaced circular plates keyed to a shaft journaled on the frame, braces interposed between the said plates to retain the same in spaced relation, headed pins slidably mounted on the said braces and extending transversely therethrough, helical springs on the said braces and encircling the said pins to engage the heads thereof, arms interposed between the circu-

lar plates and having pivotal connection therewith, the said arms being movable to engage the heads of the said pins with the free ends of the arms extending beyond the peripheries of the said plates, hammers on the free ends of the arms, and an anvil adjustably mounted on the said frame and adapted to be engaged by the said hammers when the said plates are rotated.

2. In combination with a rotary hammer, comprising a frame having hammer members rotatably mounted thereon, spaced flanges formed on the said frame, a series of notches being formed in the frame between the said flanges, an anvil having a head and a shank and adapted for engagement with the said frame, a face of the said shank having notches therein for engagement with the notches in the said frame, bolts on the said frame and extending outwardly through slots in the said anvil, and nuts for threaded connection with the said bolts for retaining the said anvil rigidly on the said frame.

In testimony whereof we affix our signatures in presence of two witnesses.

RAY HARNER.
FAY HARNER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."