No. 665,725. Patented Jan. 8, 1901.

R. G. BEKER.

UPSETTING PRESS.

(Application filed Jan. 6, 1900.)

(No Model.)

Fig. 1.

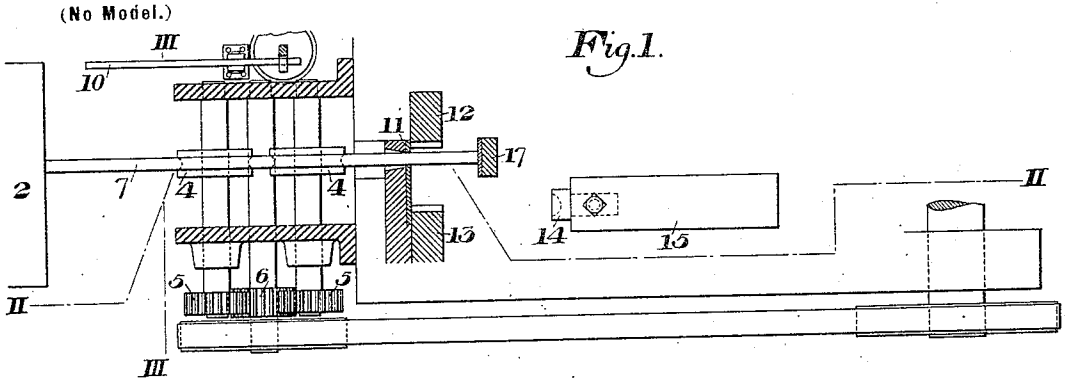


Fig. 2.

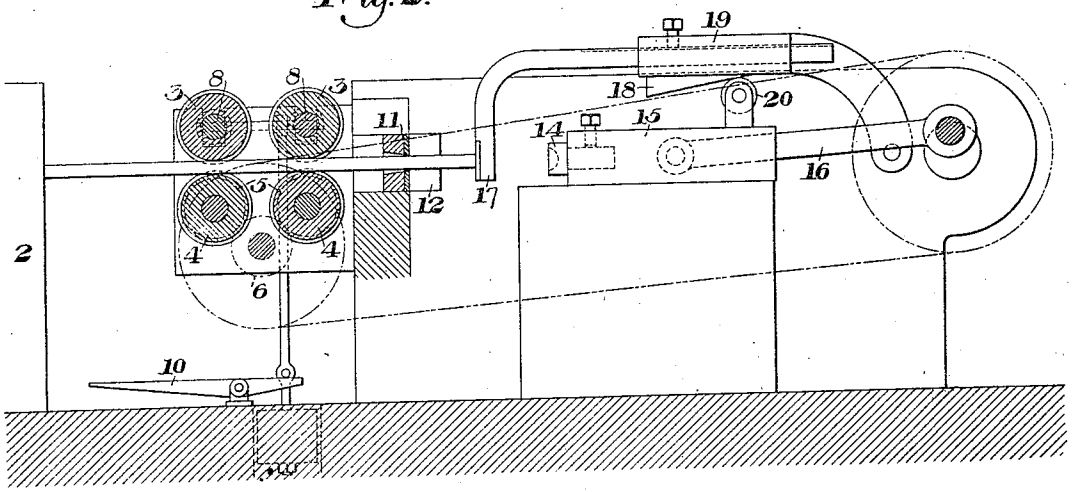
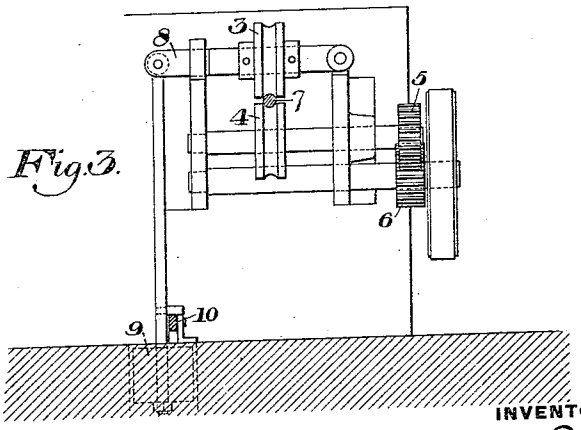


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

RUDOLPH G. BEKER, OF YOUNGSTOWN, OHIO, ASSIGNOR TO THE MAHONING MANUFACTURING COMPANY, OF SAME PLACE.

UPSETTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 665,725, dated January 8, 1901.

Application filed January 6, 1900. Serial No. 564. (No model.)

To all whom it may concern.

Be it known that I, RUDOLPH G. BEKER, of Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Improvement in Upsetting-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows in plan view, partly in horizontal section, a machine embodying my invention. Fig. 2 is a longitudinal section on the line II II of Fig. 1. Fig. 3 is a vertical cross-section on the line III III of Fig. 1.

My invention relates to a machine in which hot metal rods are fed automatically, are cut into exact lengths when in the viscous state, and are then upset for the purpose of forming bolts, rivets, and the like.

In the drawings, 2 represents a heating-furnace, and 3 4 are circular feeding-disks set in front of the door of the furnace. The lower disks 4 4 are driven by gearing 5 6, and the upper disks are preferably not positively driven, but are held down upon the hot rod 7, which is being fed by suitable means, preferably by being journaled on levers 8, provided with a weight 9, a foot-lever 10 being provided to enable the levers 8 to be raised to lift the disks 3 from the rod when desired.

11 is a die-opening through which the rod 7 is fed.

12 is a cutting and gripping die, adapted to move across the die-opening.

13 is a companion gripping-die.

14 is a heading-die carried by plunger 15, which is reciprocated by a pitman 16 or other suitable device.

17 is a stop set in advance of the die-opening 11 and adapted to stop the feed of the rod 7 when it has been advanced the proper length. This stop is movable into and out of the path of the rod by suitable mechanism, preferably by a wedge 18 on the under side of the bar 19, to which the bar is connected, and a roller 20 on the plunger 15, over which the bar 19 is set, thus imparting a rising and falling motion to the stop.

The operation is as follows: The rod 7 having been heated in the furnace 2 is introduced between the disks 3 4, and the positive rotation of the lower disks causes it to advance through the die-opening 11 until it engages the stop 17, the disks 3 meanwhile being revolved by friction. When the end of the rod engages the stop, the disks 4 will rotate idly against the rod 7 and the disks 3 will stop, whereupon the die 12 is caused to advance and a section of the rod is sheared off and carried against the die 13, where it is gripped. The plunger 15 meanwhile advances, causing the die 14 to engage the end of the cut section of the rod and upset the same. Simultaneously with the advance of the plunger 15 the stop 17 is raised by the action of the parts 18, 19, and 20. As soon as the rod is cut, as above explained, the disks begin to act to feed another section through the die 11, the plunger recedes, the stop descends, and the actions above described are repeated.

Within the scope of my invention as defined in the claims the number of rollers may be varied, ungrooved disks may be substituted for the grooved disks shown in the drawings, and changes in the driving mechanism may be made, since

What I claim is—

1. The combination of oppositely-located circular feeding-disks arranged to receive a heated metal bar or rod between them, mechanism for continuously driving one only of said disks, the other being driven merely by contact with the rod, mechanism for checking the rod or bar at a definite point while continuously driven by the disks, and means for cutting the rod; substantially as described.

2. The combination of an upper and a lower feeding-disk having grooves to receive a heated rod or bar, mechanism for driving the lower disk only, the upper disk being an idler arranged to press yieldingly on the rod or bar and be driven thereby, mechanism for checking the hot rod at a definite point while acted upon by the disks, and mechanism for cutting the rod when so stopped; substantially as described.

3. In a machine for upsetting hot metal, the combination of oppositely-located circular feeding-disks having grooves to receive a hot metal rod between them, mechanism for continuously driving one of said disks only, the other being an idler driven by contact with

the rod, means for checking the hot rod at a definite point, and mechanism for cutting and upsetting the rod; substantially as described.

4. The combination with a heating-furnace, of oppositely-located circular feeding-disks arranged to receive a hot metal rod or bar therefrom, mechanism for continuously driving one of said disks only, the other being driven by frictional contact with the rod, a stop arranged to check the rod at a definite point, while engaged by the disks, and mechanism for cutting the rod after being so stopped; substantially as described.

5. The combination of oppositely-located grooved disks arranged to receive a heated metal rod between them, mechanism for driving one of said disks positively and continuously, the other disk being an idler arranged to press yieldingly on the bar and be driven thereby, a stop arranged to check the rod at a definite point while it is continuously acted upon by the disks, mechanism for moving the rod into and out of position, and mechanism for cutting the bar after it is stopped; substantially as described.

6. The combination of oppositely-located circular feeding-disks arranged to receive a heated metal bar or rod between them, mechanism for continuously driving one only of said disks, the other being an idler-disk yieldingly pressed upon the rod, a lever arranged to lift the idler and stop the feed when desired, mechanism for checking the rod or bar at a definite point, while acted upon by the disks, and cutting mechanism for the rod; substantially as described.

In testimony whereof I have hereunto set my hand.

RUDOLPH G. BEKER.

Witnesses:
W. C. CARMAN,
JOHN I. WILLIAMS, Jr.