(No Model.)

T. JAMES.

APPARATUS FOR MARKING RAILS, &c.

No. 422,594. Patented Mar. 4, 1890.

Fig. 1.

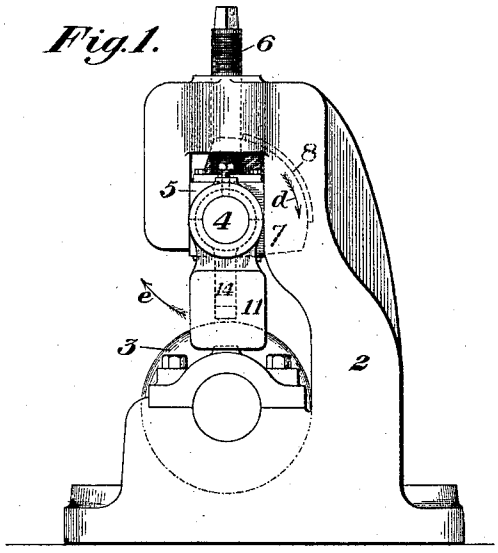


Fig. 2.

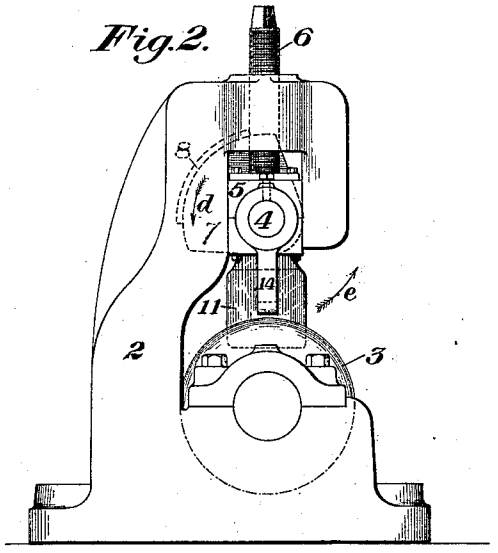


Fig. 3.

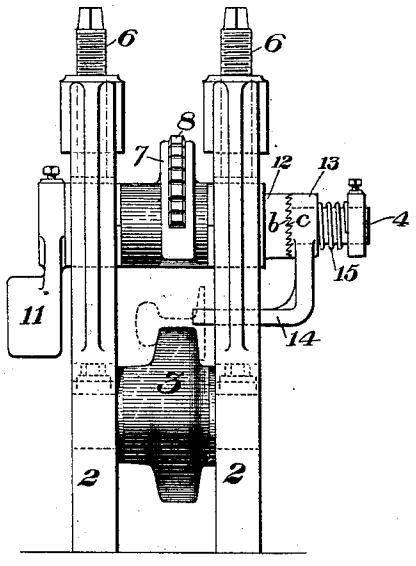


Fig. 4.

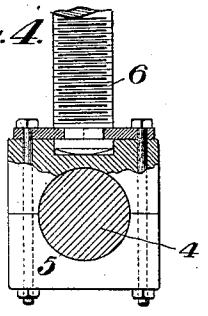
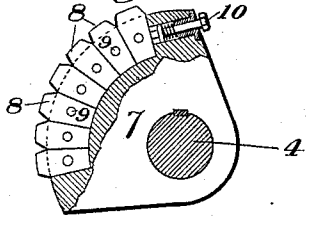


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS JAMES, OF BRADDOCK, PENNSYLVANIA.

APPARATUS FOR MARKING RAILS, &c.

SPECIFICATION forming part of Letters Patent No. 422,594, dated March 4, 1890.

Application filed March 13, 1889. Serial No. 303,071. (No model.)

To all whom it may concern:

Be it known that I, THOMAS JAMES, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Marking Rails, &c., 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—

Figures 1 and 2 are side elevations of the opposite sides of a machine constructed according to my invention. Fig. 3 is a front elevation thereof. Fig. 4 is a sectional elevation of one of the bearings of the shaft of the marking device and its adjusting-screw. Fig. 5 is a side view, partly in section, of that part of the machine which carries the marking-stamps.

Like symbols of reference indicate like parts in each.

My improved machine has been devised for the purpose of stamping or impressing on rails or other metal beams the marks commonly applied thereto in rolling-mills to designate their class, quality, or origin. The machine comprises, essentially, a rotary device—such as a roller—the circumference of which need not be completely circular in cross-section, but may be variously shaped, such rotary device being constructed so as to carry the marking-stamps and being adapted to rotate so as to bring the stamps into contact with and to impress them upon the rail. Machines embodying this principle may be made with various forms and arrangements of the parts. I have, however, shown in the drawings what I deem to be the preferable construction of the machine, and shall now describe it, so that others skilled in the art may construct and use the same.

In the drawings, 2 is the housing or frame of the machine, and 3 is a roll, which is journaled at the base thereof in suitable bearings and which is designed to support the beam or rail during the marking operation.

In the housing 2, above the roll 3, is a shaft 4, the bearings 5 of which are set in vertical grooves in the housing and are provided with adjusting-screws 6, by which they are adjustable vertically. (See Figs. 1, 2, and 3.) To this shaft is keyed or otherwise fixed the marking-head 7, which is preferably in the form of a segment of a circular disk, and is provided with a peripheral slot or recess containing the marking-stamps 8. These stamps are preferably made in the form of separate types or blocks, whose ends are provided with the marks desired to be impressed on the metal, though, if desired, instead of separate stamps or types a single block containing the desired marks in relief may be used.

The types are held in the slot in the roller by means of pins 9, which pass through the sides of the roller and enter recesses in the types, and in addition thereto there is preferably a spring-actuated pin or rod 10, which bears against the end type of the series and keeps them pressed closely together. The type-roller is normally maintained in a position removed from the roll 3 by means of a weight 11, keyed to an end of the shaft 4, projecting from the housing. The other end of the shaft also projects from the housing and is provided with a fixed collar 12, on whose end is a series of ratchet-teeth *b*. A collar 13, forming part of a clutch, is set loosely on the shaft 4 on the outer end of the collar 12, and is provided with a similar series of ratchet-teeth *c*, and from this collar 13 an arm 14, fixed thereto, extends through the open side of the housing over the roll 3. A spring 15, set on the shaft on the outer side of the loose collar 13, tends to force it into engagement with the collar 12.

The operation of the machine as thus constructed is as follows: The machine is preferably set so that the rail or beam as it comes from the finishing-rolls shall enter the machine, the side of the rail resting and moving on the surface of the roll 3. In entering the machine the forward end of the rail engages the arm 14 and moves it in the direction of the arrows *e*. (Shown in Figs. 1 and 2.) The collar 13 at the end of this arm being in engagement with the collar 12, the motion of the arm is transmitted to the shaft 4 and rotates the same in the direction of the arrows *d*, Figs. 1 and 2, thereby causing the revolution of the marking-roller 7 and bringing its peripheral stamps into engagement with the web of the rail. When this occurs, the frictional contact of the moving rail with the

stamp will cause a continued motion of the stamp-roller independently of the arm 14, which by this time has freed itself from the end of the rail and remains stationary during the further motion of the roller 7, the construction of the teeth of the clutch-collars 12 and 13 permitting one to slip on the other. The frictional revolution of the roller 7 by means of the rail causes the stamps or types 8 to impress their marks on the web, as will be readily understood. When the last stamp of the series has passed and impressed itself on the rail, the marking-roller 7 is freed therefrom, and the weight 11 on the shaft 4, being then in an elevated position and having moved past the vertical line of its arc of rotation, will fall by gravity into the position shown in Figs. 1, 2, and 3, thereby elevating the marking-roller 7 and bringing the several parts of the machine into the position shown in the several figures of the drawings, excepting the arm 14, which remains slightly elevated until the rail has passed entirely through the machine. While in this elevated position the stamps may be readjusted in the periphery of the marking-roller, or may be removed and others substituted while the rail is passing through the machine, and without involving the delay which would necessarily occur in waiting until the rail has completely passed before shifting the stamps.

From the construction of the machine it follows that the position of the marks stamped on the rail depends on the position at which the arm 14 is engaged by the rail, and the place of the mark can therefore be changed by properly changing the position of the arm.

The advantages of my invention will be appreciated by those skilled in the art.

The machine is automatic in its action, and is the means of saving considerable labor in the operations of the rolling-mill in which it may be used.

I claim—

1. In an apparatus for marking metal beams, the combination, with a rotary marking-head, of a beam-support arranged in juxtaposition with the marking-head to present the beam thereto, and an arm connected with the shaft of the marking-beam and adapted to be struck by the moving beam to bring the marking-head into frictional contact with said beam, substantially as and for the purposes described.

2. In an apparatus for marking metal beams, the combination, with a beam-support, of the marking-head and an arm connected with the shaft of the marking-head and projecting into the path of the passing beam to move the marking-head into engagement with the beam, substantially as and for the purposes described.

3. In apparatus for marking metal beams, the combination of the rotary marking-head, the rotary beam-supporting roller 3, and an arm projecting from the shaft of the marking-head into the path of the beam, whereby the movement of the beam actuates the shaft through contact with the arm and brings the marking-head into contact with the beam, substantially as and for the purposes described.

4. In apparatus for marking metal beams, the combination of the rotary marking-head, the rotary beam-supporting roller 3, an arm projecting from the shaft of the marking-head into the path of the beam, whereby the movement of the beam actuates the shaft and brings the marking-head into contact with the beam, and a clutch connecting the arm with the shaft, substantially as and for the purposes described.

5. In apparatus for marking metal beams, the combination of the marking-head, an arm projecting into the path of the passing metal beam and connected with the shaft of the marking-head to move the marking-head into engagement with the beam, and a weight connected with and acting on the head to raise it from the beam to permit removal of the stamps, substantially as and for the purposes described.

6. In a marking device for marking metal beams, the combination, with a beam-support, of a counterweighted segmental roller having removable peripheral stamps, substantially as and for the purposes described.

7. In a marking device for marking metal beams, the combination, with a beam-support, of a roller having removable peripheral stamps and pins whereby the stamps are held, substantially as and for the purposes described.

8. In an apparatus for marking metal beams, the combination, with a beam-support, of a rotary stamp having removable stamps and a weighted shaft for freeing the stamp-head from the beam at the close of its work, substantially as and for the purposes described.

9. In apparatus for marking metal beams, the combination, with a beam-support, of a pivoted segmental marking-head arranged in juxtaposition thereto to bind on the beam in its passage between the said segment and beam-support, substantially as and for the purposes described.

10. In apparatus for marking metal beams, the combination, with a beam-support, of a pivoted counterweighted segmental marking-head arranged in juxtaposition thereto to bind on the beam in its passage between the said segment and beam-support, substantially as and for the purposes described.

11. In apparatus for marking metal beams, the combination, with a beam-support, of a pivoted segmental marking-head provided with an arm arranged to project into the plane of the beam-support or path of the beam, said marking-head arranged in juxtaposition to the beam-support to bind on the beam in its passage between the said segment and beam-support, substantially as and for the purposes described.

12. In apparatus for marking metal beams, the combination, with a beam-support, of a pivoted counterweighted segmental marking-head provided with an arm arranged to project into the plane of the beam-support or path of the beam, said marking-head arranged in juxtaposition to the beam-support to bind on the beam in its passage between the said segment and beam-support, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 6th day of March, A. D. 1889.

THOMAS JAMES.

Witnesses:

W. B. CORWIN,

THOMAS W. BAKEWELL.