L. T. PAGE
SHAPING ROLLS FOR HORSESHOE BARS
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To all whom it may concern:

Be it known that I, Luther T. Page, a citizen of the United States, and a resident of Wareham, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Shaping Rolls for Horsehoe Bars, of which the following is a full, clear, and exact description.

This invention relates to an apparatus for use in forming of horseshoes and in particular to means for creasing the bars from which the complete shoes are subsequently completed.

A particular object of the invention is the provision of an apparatus wherein is avoided creeping or misregistry of the rolls and the bars.

Another object is to provide a grooved roll member which can be adjusted frictionally to compensate for the movement of the creasing and marking ring.

Drawing.

The figure is a side view, partly in section showing the mounting of the rolls and their operating relation, and an adjusting means whereby said rolls are operated.

Description.

The herein disclosed construction constitutes an improvement over my Patent No. 1,183,145 dated May 4, 1915, and to which cross reference is here made.

In this patent is illustrated the use of bars from which horseshoes are subsequently made, the bar stock being passed between rolls, one of which forms on one face of the bar, elongated depressions or creases within which the heads of the hoof engaging nails are disposed.

At spaced points intermediate pairs of successive depressions, markings are made to indicate the point at which the bar stock is to be cut to form successive shoes.

It is therefore essential that the markings not only be properly spaced, but that the bar stock be allowed to feed through the rolls without curling and without slipping.

The markings are made by a ring 10 which has formed on the periphery thereof die sections 11 and punch points 12. The ring is mounted to rotate frictionally with and on the shaft 13 and is held in place by the thrust collars 15.

The ring may be changed to suit different sizes of shoes.

The bar to be operated upon passes through a groove roll 17 which rotates freely on suitable roller bearings 18 disposed on the shaft 19. The periphery of the ring 10 lies within the groove 20 of the grooved roll 17 and engages the bar stock pressing there through. The roll 17 is mounted for rotation, and endwise movement on the shaft 19, its movement being controlled by a thrust collar 16 on the latter.

Both the shafts 13 and 19 are to be coupled and driven in the usual manner from a common source of power.

It is necessary that the grooved roll 17 while being rotated may be impelled thereto frictionally so that its movement may conform to the peripheral speed of the ring 10 in one instance, and in another conform to the speed of the periphery of the die projections 11 so that there will be no slippage between the bar stock and the ring 10, due to different peripheral speeds of the free ends of the die sections 11 and the bottom of the groove 20, of the roll 17, which slippage would otherwise result in unequal spacings of the markings used, and made by the projections 19 on the ring 10. Due to the equality in structure of the die ring 10 and the groove 20 of the roll 17, there is a discrepancy in peripheral speed, as for instance the extreme free ends of the die sections 11, of the ring 10, have a tendency to travel faster than the bottom of the groove 20, and this discrepancy is compensated for by a relative slipping of the roll 17 on its bearings 18, therefore, it may be said that the bar stock is driven by the ring 10.

To adjust the friction for regulating the movement of the grooved roll 17, use is made of the friction collar 21, which is keyed to the shaft 19 by a Woodruff key 23, that prevents the collar from revolving on the shaft. Movement of the collar lengthwise of the shaft is prevented. A set screw 24 in the collar serves to hold the collar temporarily when it is being adjusted. When the collar is pressed tightly against the roll 17 it will be maintained in this position by the screws 23, which back up the bearing blocks 22 and brasses 24 as in the usual construction. The flange 25 of the brasses bear against the collars 21 and give the needed friction. The collars 21 can therefore be
acted on as a brake element to regulate the speed of the roll suitable with the thickness of the bar stock and with the peripheral speed of the different surfaces of the die ring 10.

Claims.

1. In a machine of the class described, a pair of parallel shafts, a die ring on one of said shafts, a grooved roll on the other of said shafts and rotatable therewith, means on said grooved roll shaft for coupling said grooved roll to the shaft in slipping relation, the peripheral edge of said die ring being disposed within the groove of said grooved roll.

2. In a machine of the class described, a pair of parallel shafts, a die ring on one of said shafts and rotatable therewith, a grooved roll on the other of said shafts, roller bearings interposed between said grooved roll and its shaft, and means carried by said last named shaft for frictionally coupling said grooved roll for rotation therewith, the peripheral edge of said die ring being disposed within the groove of said grooved roll for rotation therewith when a length of stock is fed to and between the same.

3. In a machine of the class described, a pair of parallel shafts, a die ring frictionally rotatable on and with one of said shafts, a grooved roll mounted on the other of said shafts, anti-friction bearings interposed between said grooved roll and its shaft, and means carried by said last mentioned shaft for frictionally coupling said grooved roll thereto, the groove of said grooved roll being adapted to receive the periphery of said die ring for rotation therewith when a length of stock is fed to and between the same.

4. In a machine of the class described, a pair of parallel shafts, a die ring loosely mounted on one of said shafts, means for frictionally coupling said die ring to its shaft for rotation therewith, a grooved roll mounted on the other of said shafts, roller bearings interposed between said grooved roll and its shaft, and means carried by said last mentioned shaft for frictionally coupling said grooved roll for rotation therewith, the groove of said grooved roll being adapted to receive the peripheral edge of said die ring for rotation therewith when a length of stock is fed to and between the same.

5. In a machine of the class described, a pair of parallel shafts, a die ring mounted on one of said shafts for frictional rotation therewith, means carried by the shaft for varying the amount of friction between the same and said die ring, a normally free running grooved roll mounted on the other of said shafts, and means carried by said last mentioned shaft for friction coupling said grooved roll for rotation therewith, the groove of said grooved roll being adapted to receive the peripheral edge of said die ring for rotation in unison therewith when a length of stock is fed between the groove and the die ring.

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