

UNITED STATES PATENT OFFICE.

JOSEPH JEPSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ROLLING-MILLS.

Specification forming part of Letters Patent No. 169,907, dated November 16, 1875; application filed October 28, 1875.

To all whom it may concern:

Be it known that I, JOSEPH JEPSON, of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Rolling-Mills, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to draw between a pair of rolls circular or segmental plates with a bevel on one side gradually decreasing the thickness from a center circle to the edge, as is used in the manufacture of shingle and veneering circular saws, which, previous to my invention, were rolled of one thickness to the edge, and the metal ground away to form the bevel, which is a waste of metal, an expense, and loss of time.

The invention consists, in the combination of a pair of rolls, (one or both eccentric,) an adjustable guide and stop, and a center pin when rolling a circular plate, and one or more pins when rolling a segment-plate, all arranged to operate substantially as herein described.

Figure 1 represents a front view of a pair of housings and rolls with my improvements. Fig. 2 is a sectional side view of the same on the line *x x*.

Other figures are parts in detail.

Similar letters in the drawings refer to like parts.

A represents the housings, and are constructed, as is usual, with bearings for the rolls. The bearings for the top roll B are supported by springs, or they may be supported by a weighted lever, as is frequently used. The roll B is made of a true circle. The roll C is in the form of an eccentric or cam, as is shown in Fig. 2. *b* is a rest, which is fixed in a slot, *d*, in the housings A. To this rest is fixed, by two screw-bolts, *e e*, Fig. 1, the stop-gage *a*, which is adjustable by means of the slots *f f*. D represents a circular plate or disk with a beveled edge, as is required for a shingle-saw. In the center of the plate D is a hole, into which fits a loose pin, *p*. E represents a segment-plate, such as is used to make veneering-saws. This segment has a number of holes, into which the pin *p* will fit.

The operation of my invention is as follows: The plates and segments have previously been

rolled to their proper thickness for the center of the saw. A hole is drilled or punched in the center for the pin *p*, and, in case of a segment, it is cut to the proper shape, and the number of holes desired are drilled or punched for the pin or pins. The plate is then heated to a red heat, the operator grasps it with a pair of tongs and rests it on the heads of the screw-bolts *e e* and guide *a*, when the pin *p* is dropped in the center hole and the plate is pushed between the rolls till the pin *p* is stopped by the guide *a*. Power being applied to the roller C, it revolves in the direction of the arrow, and the edge of the plate being pressed between the two rollers it will be forced toward the operator, and the plate will be drawn down gradually to the edge, it being turned around by the operator, presenting a different part of the plate for each operation, gradually feeding the rolls closer together by means of the screws *s s*, and the plates will be rolled or drawn to the form, as is shown in the drawings.

It will be noticed that the bevel is all on one side of the plate, which bevel is formed by the bottom roll. The length of this bevel may be varied by the form of bottom roll and adjustment of the stop-guide *a*.

Two eccentric rolls may be used; but they will require to be geared together by spur-gearing, and the bevel will be formed on both sides of the plates in rolling them, and they may be heated and the bevel hammered all to one side; but I think one eccentric roll preferable, which, if desired, may be geared to the plain or top roll, or driven by friction, as shown in the drawings.

During the forming or drawing of the bevels it may be necessary to heat the plates more than once, all of which will be understood by any one accustomed to drawing steel plates for circular saws.

In rolling the segments it may be desirable to have a pin, *p*, in each of the holes of the segment. The guide-stop *a* is so constructed that one or more pins can be used at one time, and in rolling the plates they can be shifted under different parts of the rolls, so that the rolls will wear even, for, if rolled in one place, it would make them wear uneven and hollow across the face. This is prevented by shift-

ing the plates by the operator during the rolling.

I am aware that many parts described in my specification are not new; but

What I claim as new is—
The combination of a pair of rolls, one or both eccentric, with the adjustable guide or

stop *a* and center pin or pins *p*, as shown and described, and for the above purpose.

JOSEPH JEPSON.

Witnesses:
W. N. MARCUS,
JOHN SHINN.