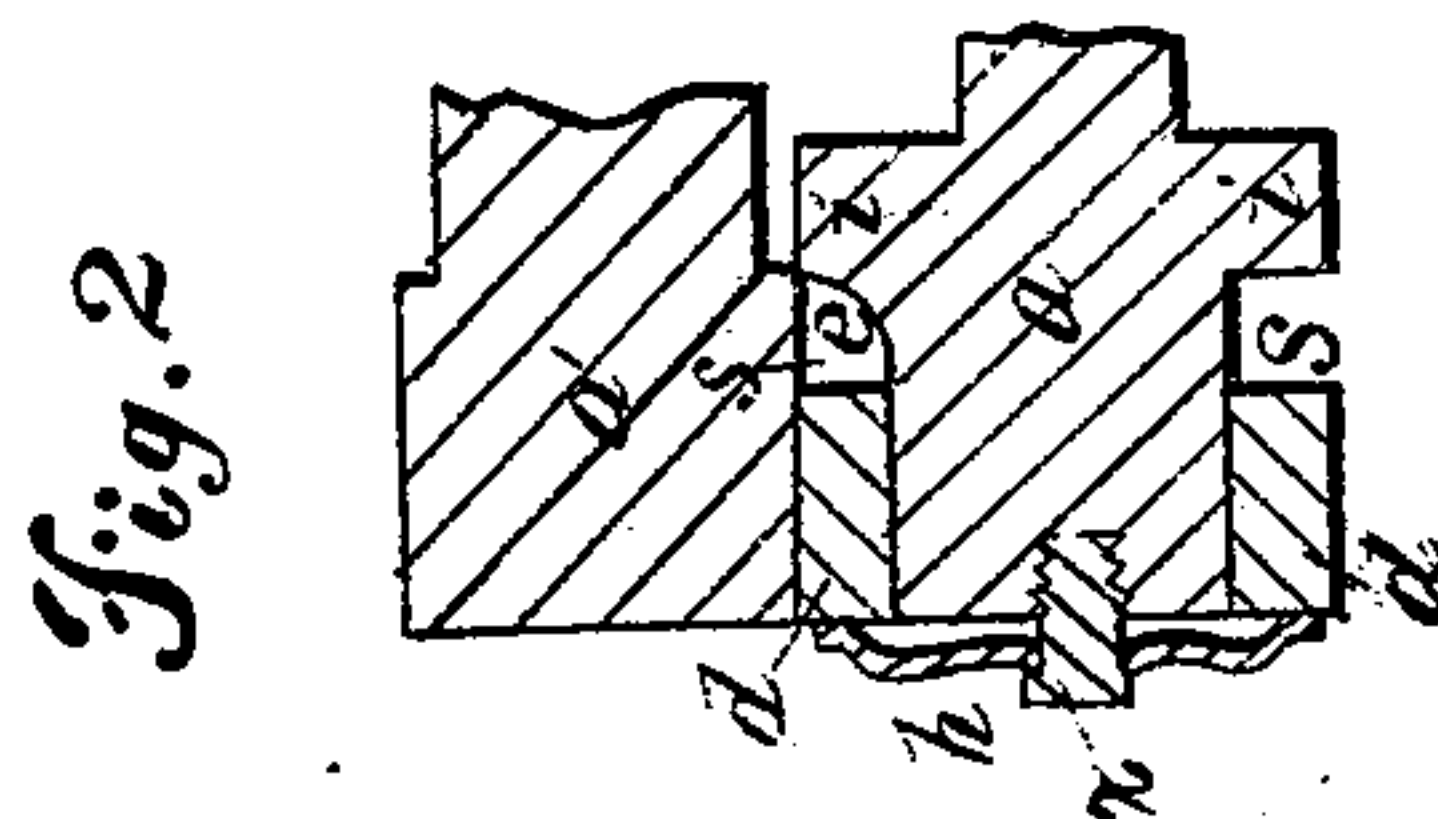
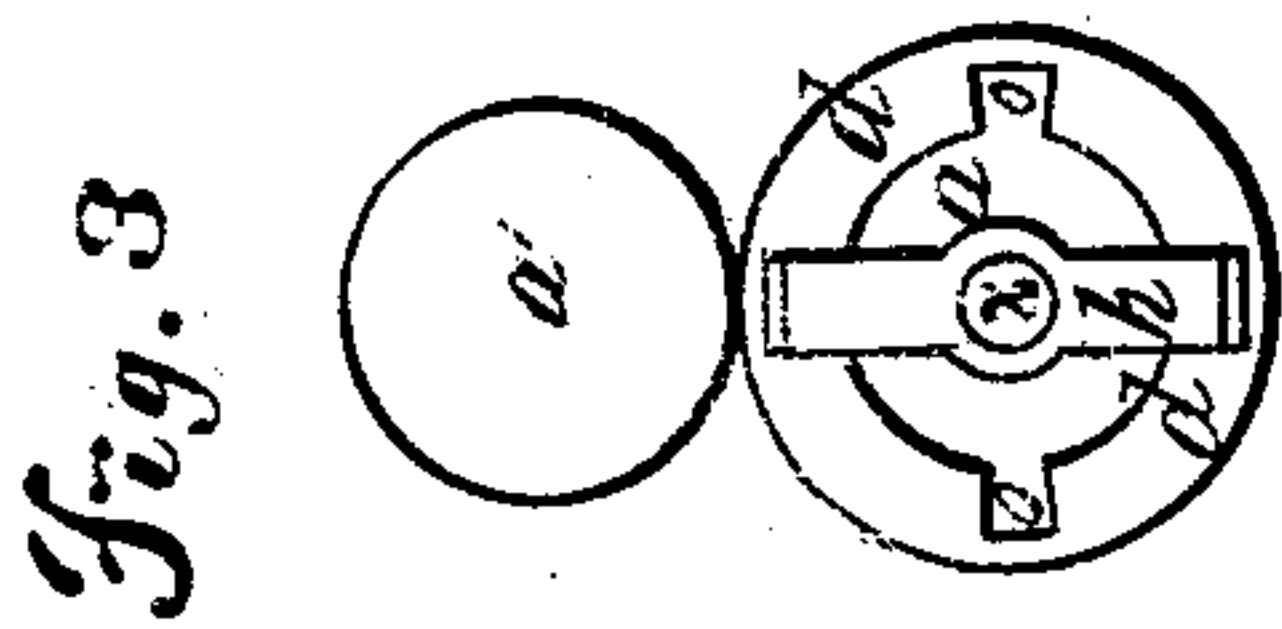
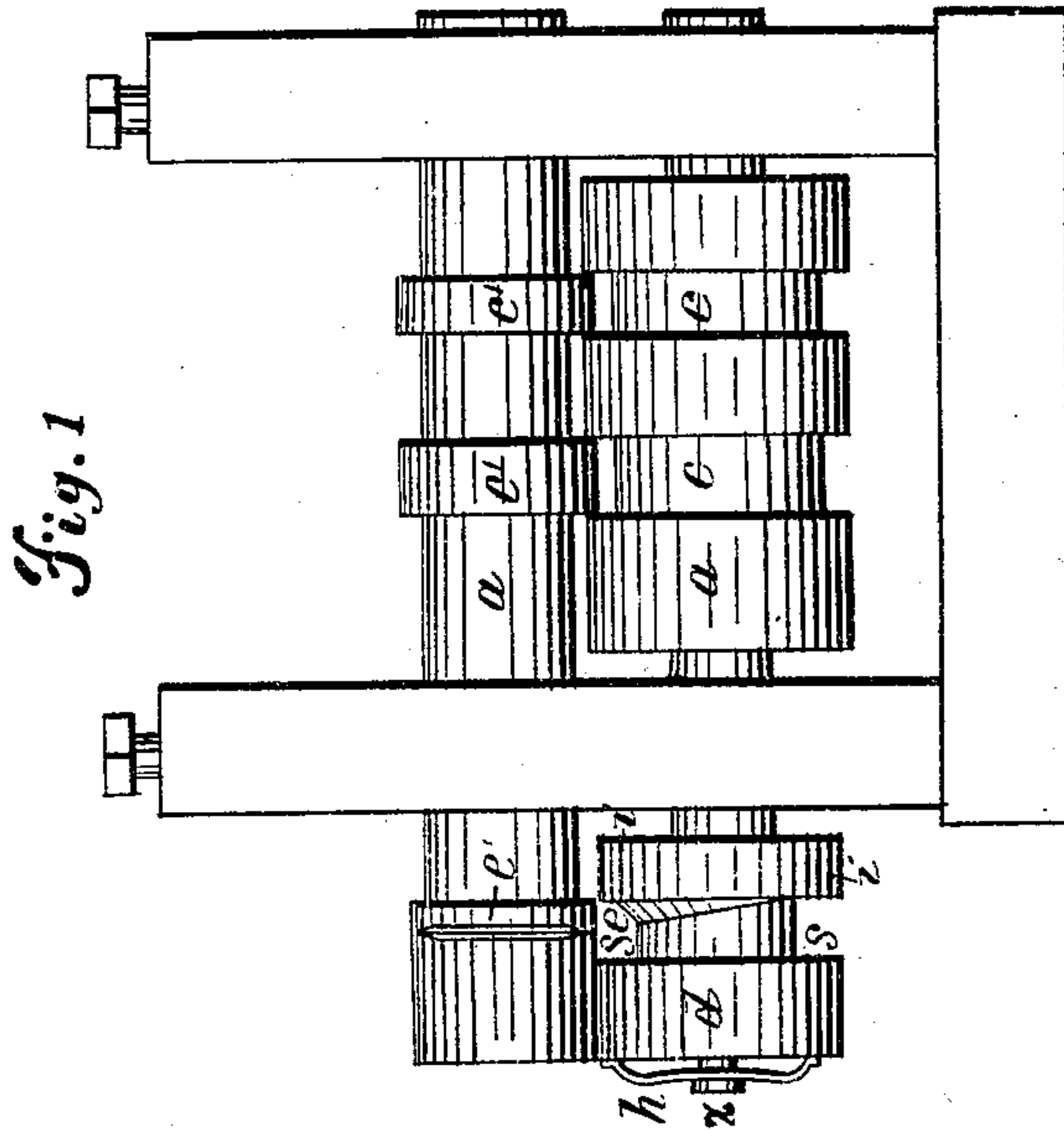


A. REESE.
Rolling Iron.

No. 71,062.

Patented Nov. 19, 1867.



WITNESSES:

A. S. Nicholson
W. W. Moffet

INVENTOR:

Abram Reese
by his attorneys
Baker, Wells & Christy

United States Patent Office.

ABRAM REESE, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 71,062, dated November 19, 1867.

IMPROVEMENT IN THE SHAPING-DIES OF GROOVED ROLLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ABRAM REESE, of the city of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Rolls for Rolling Iron of varying width and thickness; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my improved rolls.

Figure 2 is a horizontal vertical section of one end of my improved rolls, and more particularly illustrating the characteristic feature of my invention, and

Figure 3 is an end view of the rolls.

Like letters of reference designate like parts.

The object of my invention is to roll metallic bars, or a succession of metallic blanks, of variable width and thickness, from which bars or blanks to cut and bend horse-shoes, or other articles capable of being made of such material and by such process; and the nature of it consists in the construction and arrangement on one of a pair of cylindrical rolls of one or more movable collars, which form one or both sides of the groove or die in which such bars or blanks are to be rolled, such collar or collars being susceptible of motion laterally or lengthways of the roll, and furnished with a spring or springs, either fixed or adjustable, for the purpose of increasing the width of the groove as the collar is pressed outwards.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and mode of operation.

a and *a'* are two cylindrical metallic rolls, of the ordinary construction, and grooved and flanged in the ordinary way, except as hereinafter to be described. In the grooves *c c*, and under the corresponding flanges *c' c'*, I reduce the iron to bars of any desired breadth and thickness. As shown in the drawings, fig. 2, the roll *a* is at one end reduced in diameter, or shouldered, and a collar, *d*, fitted thereon, between which and the shoulder or flange *i* is the groove *s*. The bottom of the groove *s* is made with a print, *e*, of any variable shape which it may be desirable to give to either face of the bar or series of blanks to be rolled. The roll *a'* has, on its outer face, and opposite the groove *s*, one or more projections or creases, *e'*, which give shape to the other face of the bar. As it is often desirable to increase the width of a bar at the same time that its thickness is lessened, and *vice versa*, I provide for such variation by adjusting on the cylindrical roll *a*, as already stated, a movable spring-collar, *d*, which forms one side of the groove *e*. This collar *d* is movable laterally or lengthways of the roll, so as to increase the width of the groove *s*. When the bar, under the effect of the print *e* or projections *e'*, or both, is reduced in thickness, the increase of lateral pressure caused thereby forces the collar *d* out, and increases the width of the groove *s*. When such increase of lateral pressure is removed, the collar *d* is moved back, so as to restore the former width of the groove *s*, and consequently the width of the bar or blank which is being rolled, by a spring, *h*, which, in the form shown in the drawing, is so bent as to be readily and securely attached to the roll at its centre, and with its ends operating against the collar *d*. But the shape of the spring is not material, nor its mode of attachment. It may be of any known form, curved, coiled, spiral, elliptic, or of other regular or irregular shape, and so attached as to work against the collar *d* in any convenient or known manner. If desirable, a slot may be made through the roll *a*, and a spring inserted therein to work the collar. Either or both sides of the groove *s* may be made with a collar, operated substantially in the same way. I also, sometimes, rim out either or both such collars, so that they may project over and cover, when desirable, a part or the whole of the print *e*. By the use of slots, and various forms of springs, I adjust and operate such collars *d*, not only on the ends of such rolls, but also at any point or points intermediate between such ends. Keys *o*, of the usual or any known mode of construction, I also use to prevent the sliding of the collar *d* on its roll *a*, as the latter revolves, and at the same time offer no material resistance to its free lateral motion. The spring *h* may be made adjustable, if so desired, by a screw, *x*, or by other equivalent well-known means, in which way the pressure of the collar *d* against the bar passing through the rolls may easily be regulated.

The machine shown in the drawings is particularly adapted to rolling horse-shoe blanks, the print *e* being of the proper shape to flare or bevel the inner edge of the upper face of the shoe, and the creasers *e'* being properly shaped and arranged for creasing the lower face of the shoe; and since the depth of the print *e*, and

consequently the bevel or flare of the shoe-blank, is greatest at the middle of the blank, or, in other words, at the toe of the shoe, the operation of the collar *d* will, as above shown, be such as to secure in the blank the required increase of width at the same point. But I apply this mode of rolling to forming bars or blanks of other shapes, and for the various purposes required in commerce and trade, and apply it to rolling iron, steel, or other metal capable of being shaped in that way.

What I claim as my invention, and desire to secure by Letters Patent, is—

The die, formed by the face of the roll *a*, the collar *i*, and the spring-collar *d*, substantially as and for the purposes hereinbefore described.

In testimony whereof I, the said ABRAM REESE, have hereunto set my hand.

ABRAM REESE.

Witnesses:

W. BAKEWELL,

GEORGE H. CHRISTY.