S. S. Greene,

Horseshoe Machine,

No. 7772. Patented Nov. 12, 1850.

Fig: 1.

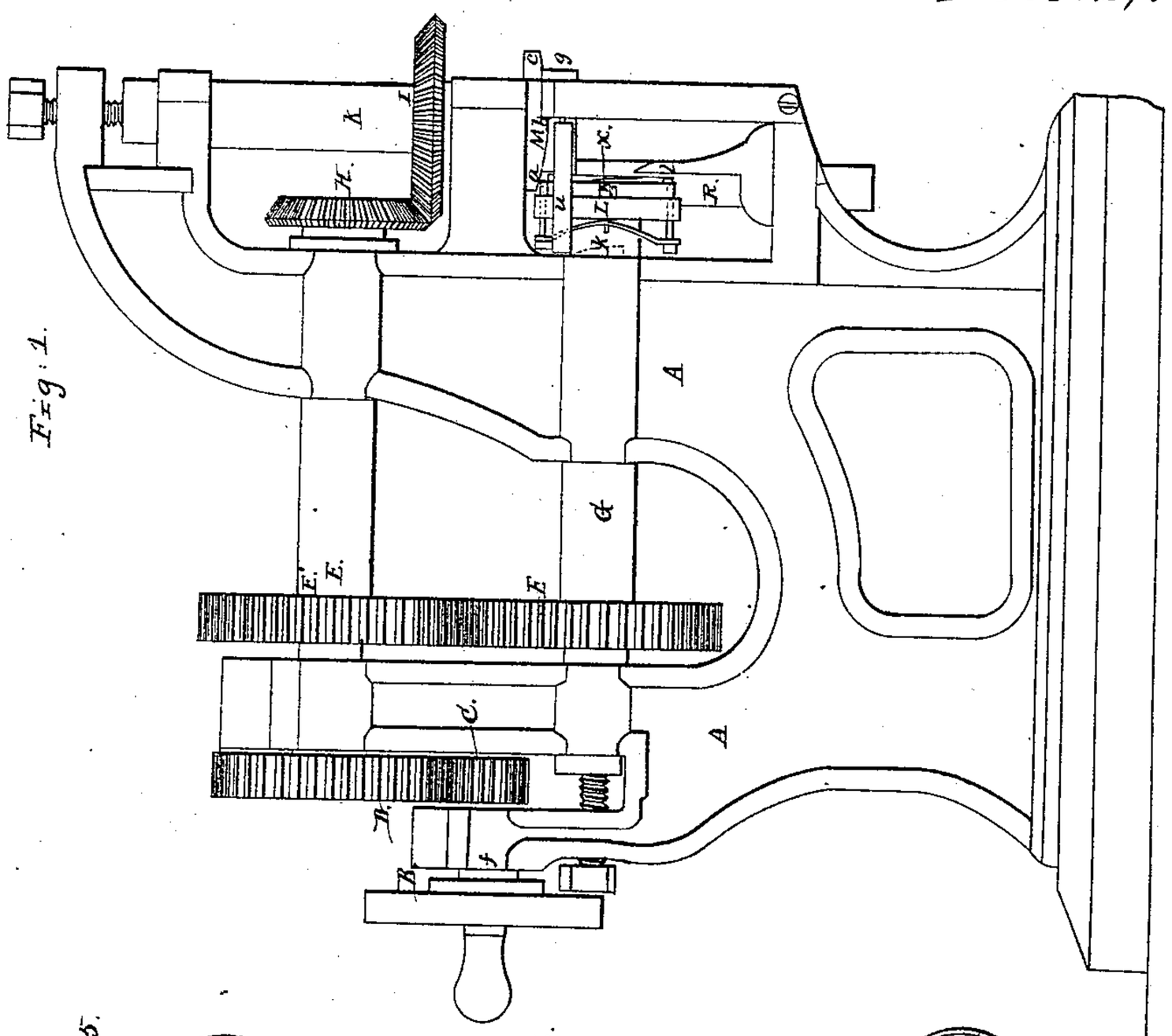


Fig: 5.

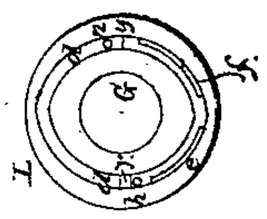


Fig: 6.

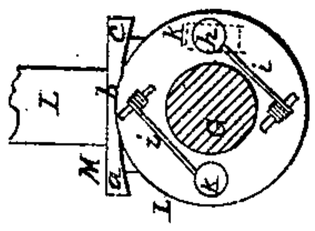


Fig: 8.

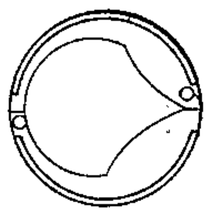


Fig: 4.

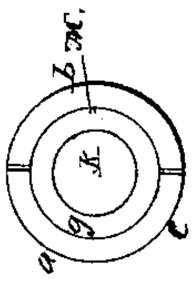


Fig: 3.

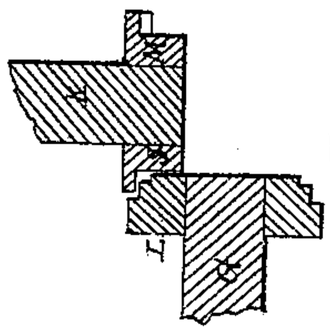


Fig: 7.

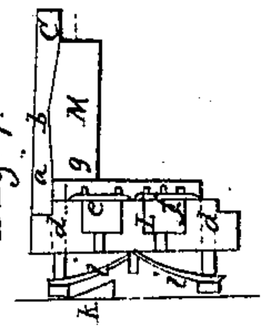
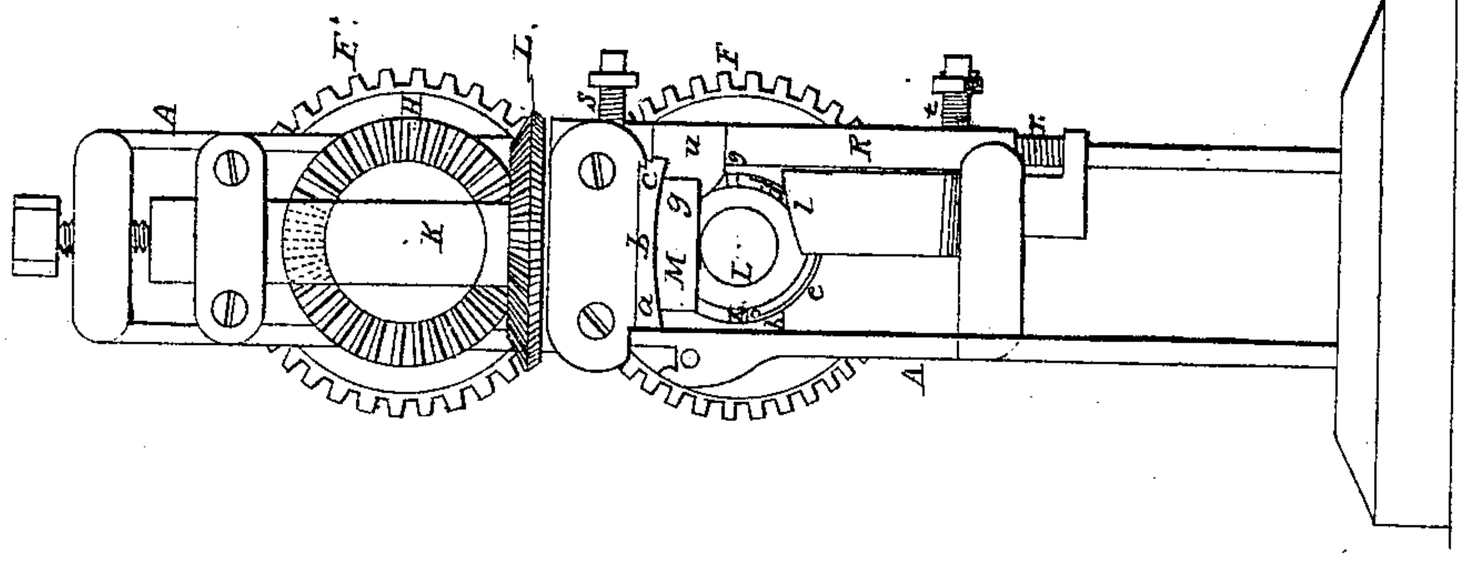


Fig: 2.



UNITED STATES PATENT OFFICE.

SAMUEL S. GREENE, OF LOWELL, MASSACHUSETTS.

HORSESHOE MACHINERY.

Specification of Letters Patent No. 7,772, dated November 12, 1850.

To all whom it may concern:

Be it known that I, SAMUEL S. GREENE, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new Combination of Machinery for Making Wrought-Iron or Metallic Shoes for Either Horses or Oxen; and I do hereby declare that the same is fully described and represented in the following specifications and accompanying drawing, letters, figures, and references thereof.

Of the said drawings Figure 1 denotes a side elevation of my said machine. Fig. 2 is a front end elevation of it. Fig. 3 is a vertical and central section of the two dies. Fig. 4 is an underside face view of the upper die or dies. Fig. 5 is a front or face view of the lower die or dies. Fig. 6 is a rear side view of the lower die. Fig. 7 is a side view of the two dies. Fig. 8 is a face view of the lower die for ox shoes.

In the said drawings A represents the supporting frame of the machine, B the driving shaft having a driving pinion C placed or fixed on it the said pinion being made to engage with a gear wheel D fixed on a horizontal shaft E on which is another gear wheel E made to engage with a gear wheel F of the same size fixed on another horizontal shaft G all as seen in Fig. 1. On the outer or front end of the shaft E is a beveled gear H which is made to engage with another beveled gear L affixed on a vertical shaft K arranged as seen in Figs. 1 and 2. The two shafts G and K may be termed the die shafts because they respectively support the die or dies L and M which are disposed with respect to each other as seen in Figs. 1 and 2. These dies are to be so formed that while rolling together they may by the assistance of other combinations which will be described in the following not only bend a piece or bar of iron or strip of metal into the curve of a horse shoe, but at the same time makes the usual creases and stamps for the holes nearly through, at the same time it is bending or curving. One of the lower descensions of the flanch *a b c* of the upper die commencing at the curved part *d* of the lower die and both revolve until the descension on the opposite side of the upper die meets the curved part *d'* of the opposite side of the lower die and gives the shoe its requisite form which is particularly represented in Fig. 7 which is a side elevation of the two dies L and M. The bar of iron when introduced between the dies is supported on a roller *u* which carries the bar of iron up against the under side edge or face of the flanch of the upper die. The bar then lays edgeways or narrowest way up and sideways against the face of the middle edge of the lower die *i*. The other side of the bar against the part *g* of the upper die. The outer edge of the part *i* which is the first vertical part of the lower die and the under edge or face of the flanch is the part that forms the outer edge of the shoes. The lower vertical edge of the lower die forms the inside edge of the shoes. The bar is then caught between the two dies L and M.

By means of the chisel *x* projecting from the face of the lower die and operating against the part *g* of the upper die the first heel of the shoe is squared off and as the dies revolve the shoe is curved and at the same time coming in contact with the creaser and punches both together forming the projection *c* which creases and stamps the holes through or nearly so—when at the full ascension of both the dies which will be at the part *b* of the upper die. Then the flanch of the upper die descends to the curved part *d* on the opposite side of the lower die pressing down the bar of iron or strip of metal against projection *f* and against projection *y* these last projections finish the last half of the shoes in the same way that the first mentioned ones do their work by operating against the part *g* of the upper die, and the flanch of the upper die to curve the shoes as the dies revolve. The shoe after it receives the pressure of the dies at the place where they act together and upon it is kept against the lower die and from curling or bending out of shape by means of the presser or pressure bar R which is an upright bar on the rear side of the dies supported on a spring T which forces it upward and against two springs, *s*, *t*, which press it toward the dies. The bar carries or has attached to it a plate *u* which projects from it and by means of the two stands on which it slides and the three springs it is pressed against the faces of the dies and against the outer edge of the shoes and is allowed to move both upward downward and laterally, as circumstances may require. There is a piston *h* which presses through the lower die and is attached to spring *i* on the rear side at the curved part *d* of the lower die

and revolves round with the dies. Soon after the shoe leaves the plate *u* on the face of the lower die the piston is carried against and over or upon a cam K and forced forward by the same and against the first heel end of the shoe and presses it off from the die and upon a curved piece of metal, *t*, which is placed close to the face of the lower die and remains stationary and as the dies revolve the shoe runs down over it and is released from the dies when the second piston *h* throws out the last heel end of the first shoe. This shoe as will be seen has occupied one half of the die and as the die finishes its revolution a second shoe will follow in the same manner of the first one from off the other half of the die. Thus making one or two shoes at each entire revolution creased, stamped, and in perfect shape for the hoof, as above substantially specified. By varying the form of the dies ox shoes may be made by them.

What I claim and want secured to me by Letters Patent is,—

The combination of the two flanged rotating dies arranged with respect to each other and operating substantially as herein described said dies being so shaped as to give the requisite form to the metallic shoes of animals.

In testimony whereof I have hereto set my signature this eighteenth day of October, A. D. 1850.

SAMUEL S. GREENE.

In presence of—
ITHAMAR W. BEARD,
A. J. GUNNISON.