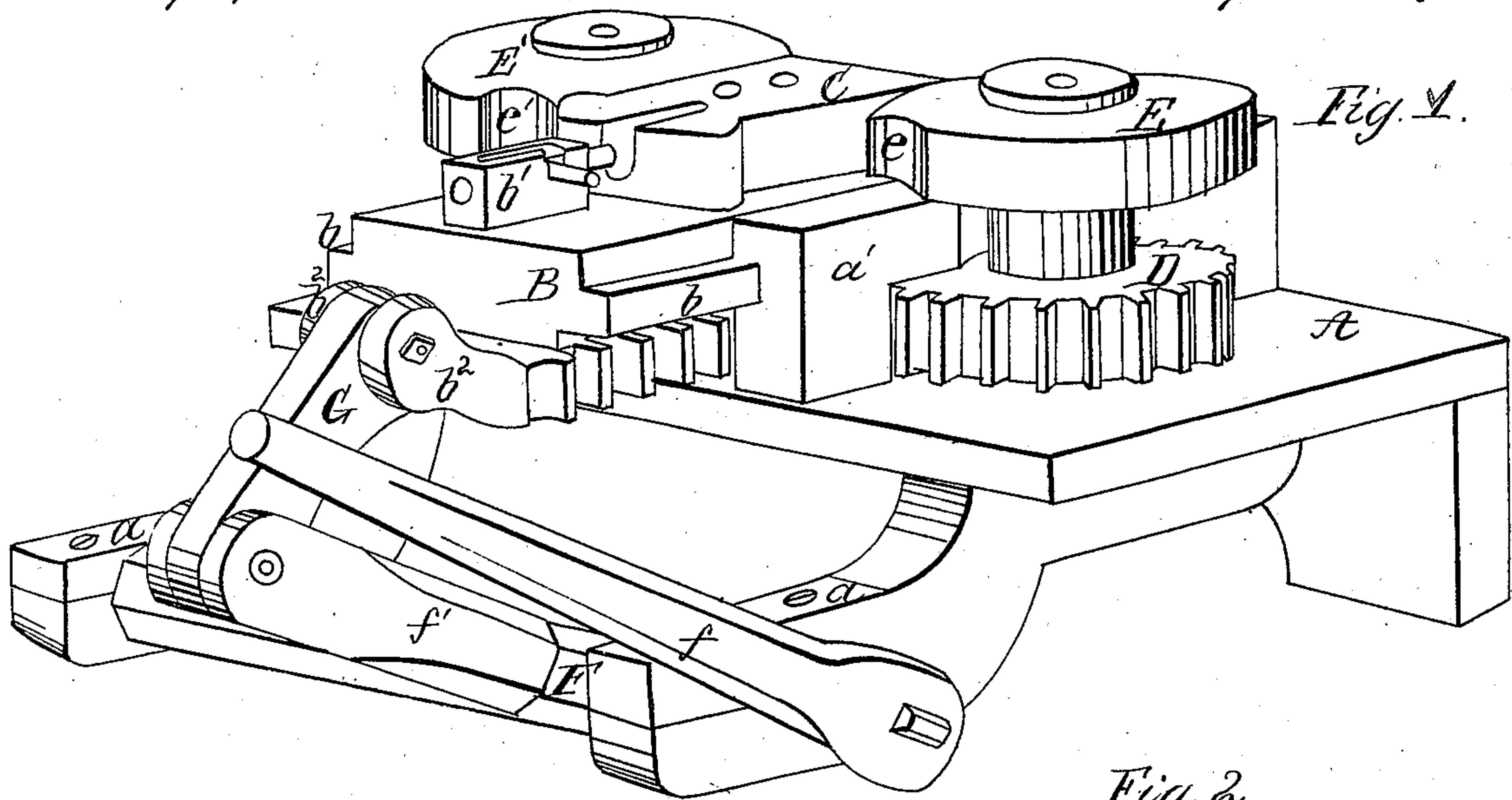


*T. Meikle.*  
*Plow Iron.*

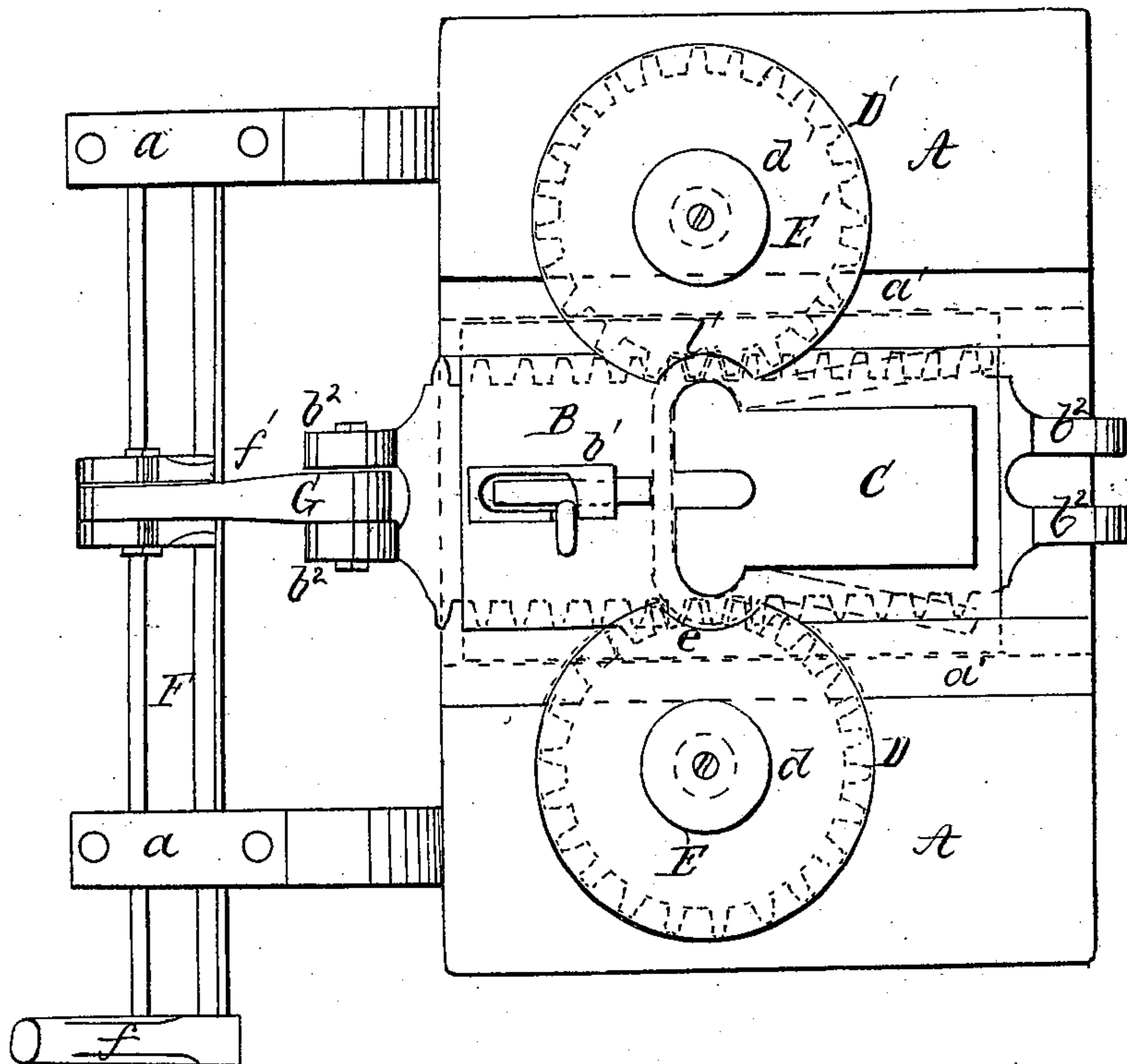
*Nº 93,106.*

*Patented Jul. 27, 1869.*



*Fig. 1.*

*Fig. 2*



*Witnesses,*  
*E. Clausen*  
*A. Rufford*

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*Atty*



# United States Patent Office.

THOMAS MEIKLE, OF LOUISVILLE, KENTUCKY.

Letters Patent No. 93,106, dated July 27, 1869.

## IMPROVED APPARATUS FOR BENDING CLEVIS-BLANKS.

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, THOMAS MEIKLE, of Louisville, in the county of Jefferson, and State of Kentucky, have invented a new and useful Improved Clevis-Bending Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 represents a perspective view of the machine, and

Figure 2, a plan or top view of the same.

Corresponding letters refer to corresponding parts in both figures.

My invention relates to that class of machines by which bars of heated iron are bent into desired forms; and

It consists in a sliding double rack, on the upper surface of which a die is secured, the outlines of which have the form of a clevis or stirrup. The heated bar of iron is bent around this die by two recessed rollers, as it is drawn through them, as hereinafter more fully described.

The following description will enable those skilled in the art to make and use my improved device.

A, in the drawings, represents the frame or bed of the machine, which may be made of cast-iron, and must have the necessary size and strength to carry the different parts of the machine, which are placed upon it.

It is supported on four legs, the two front ones of which are footed, and have in their horizontal portions two blocks, *a a*, in which the journals of the rock-shaft rest.

On its upper surface, two ridges, *a' a'*, are formed, at the necessary distance from and parallel to each other, and running entirely across the bed, which serve as guides for the sliding double rack B. Their inner sides are provided with angular grooves, in which the projections of the rack slide.

These ridges have slots opposite the spur-wheels, through which these are admitted to mesh into the double rack.

B represents the double rack, which may be made of cast-iron, of suitable length, and such width that when placed in the guides, its teeth work free of the inner sides of such guides. Its teeth are formed upon each side, and the lower portion thereof, while the upper portion is provided with two angular projections *b b*, which fit snugly, and slide in the grooves in the guides *a' a'*. Its upper surface is flush with the upper surface of the ridges, and upon it, on one end, a barrel or socket, *b<sup>1</sup>*, is formed, in the eye and slots of which a bolt, provided with an arm, may slide back and forth, and be made to press the heated bar of iron against the end of the die, and hold the same

in position. Each end of the rack has two lugs *b<sup>2</sup> b<sup>2</sup>*. On its lower surface the rack has two rails which rest and slide on the bed.

C represents the die, the outlines of which have the form of a clevis commonly used for plows. It is made also of cast-iron, or other suitable metal, and secured on top of the rack by means of screw-bolts, and in such a manner that its rounded portion points toward the front of the machine, and is a short distance from the socket on the rack.

D D' represent two spur-wheels, which revolve upon two vertical shafts, *d* and *d'*, which are firmly secured in the bed A, one on each side of the rack, and at such distance therefrom that the teeth of the double rack will mesh into the spur-wheels. These wheels have elongated hubs, which extend upward, and some distance above the guides, and to their upper ends the recessed rollers are secured. Disk-plates, screwed to the ends of the vertical shafts, and lying against the upper surface of the rollers, hold these and the spur-wheels down and in proper position.

E and E' represent the recessed rollers, which are firmly secured to the hubs of the wheels, and so that their lower surfaces are just free of the guides over which they extend. Each roller is made of such a diameter that when the straight portion of the die is opposite it, the distance between this latter and its periphery is equal to the thickness of the bars of iron which are to be bent. The positions of their recesses *e* and *e'*, are such, that as the die is drawn between them, by which operation the spur-wheels, and with them the rollers, are revolved, they will be directly opposite, and move around the shoulders of the die, giving the required space for the iron, and bending it around such shoulders.

F represents the rock-shaft, which has its bearings in the feet of the bed. One of its ends extends some distance beyond the block, and to this portion a hand-lever, *f*, is secured. Midway between its journals, and directly opposite the lugs on the rack, it has a forked arm, *f'*, of such length that when it is in a vertical position, the eyes in its jaws are in a horizontal line with the eyes in the lugs of the rack.

G represents the connecting-rod, connecting the arm of the rock-shaft with the lugs of the rack.

The operation is as follows:

The rack is pushed back far enough that the front side of the die may be a little distance behind the rollers. The red-hot bar of iron which has the required length, is then placed edgewise before the die, and so that each end extends an equal distance beyond it, when the bolt is pressed against it, that it may have no side movement, and not be allowed to bulge out in the centre. The rock-shaft is now turned by means of the hand-lever, which brings the ends of



the red-hot bar of iron in contact with the rollers, and it is bent around the die as it is drawn through them. The rack is again pushed back, when the iron may be released and taken from the die.

It is apparent that stirrup-irons may be bent on this machine, they having a similar form to that of a clevis.

I have described the machine as operated by hand only, but it is obvious that it may be made to operate by horse or other power.

Having thus described my invention,

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

1. The combination of the double rack B, and its socket and bolt *b*<sup>1</sup>, with the die C, substantially as and for the purpose set forth.

2. The combination of the double rack B and die C, with spur-wheels D D', and recessed rollers E E', substantially as and for the purpose set forth.

3. The combination and arrangement of the double rack B, die C, spur-wheels D D' recessed rollers E E', bed A, rock-shaft F, and connecting-rod G, substantially as and for the purpose set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

THOMAS MEIKLE.

Witnesses:

T. E. C. BRINLY,  
J. E. BADGER.