

(No Model.)

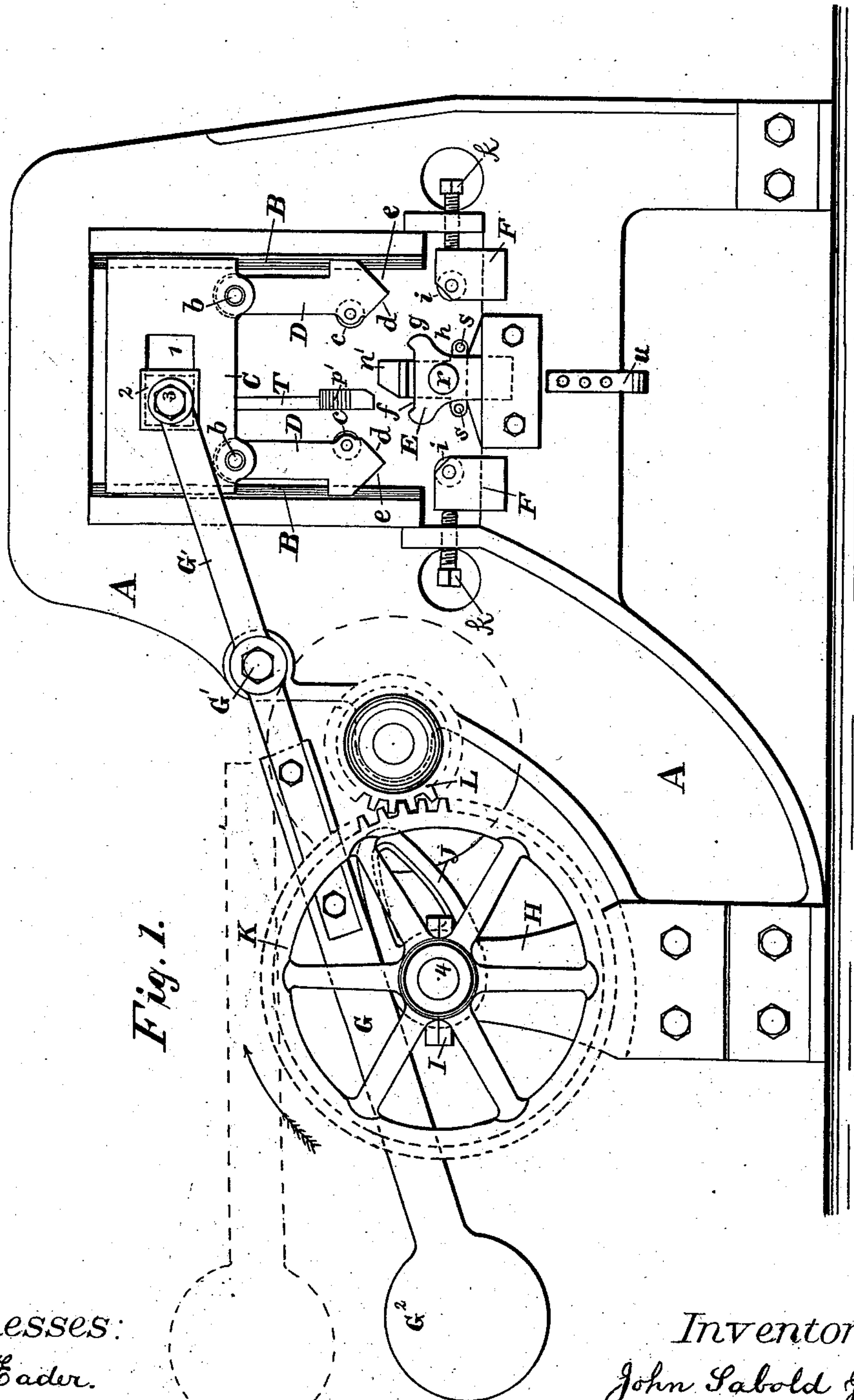
2 Sheets—Sheet 1.

J. SABOLD, Jr.

MACHINE FOR BENDING SHANKS OF SAD IRON HANDLES.

No. 294,509.

Patented Mar. 4, 1884.



Witnesses:
A. C. Eader.
John E. Morris.

Inventor:
John Sabold Jr.
By Chas B. Mann
Attorney.

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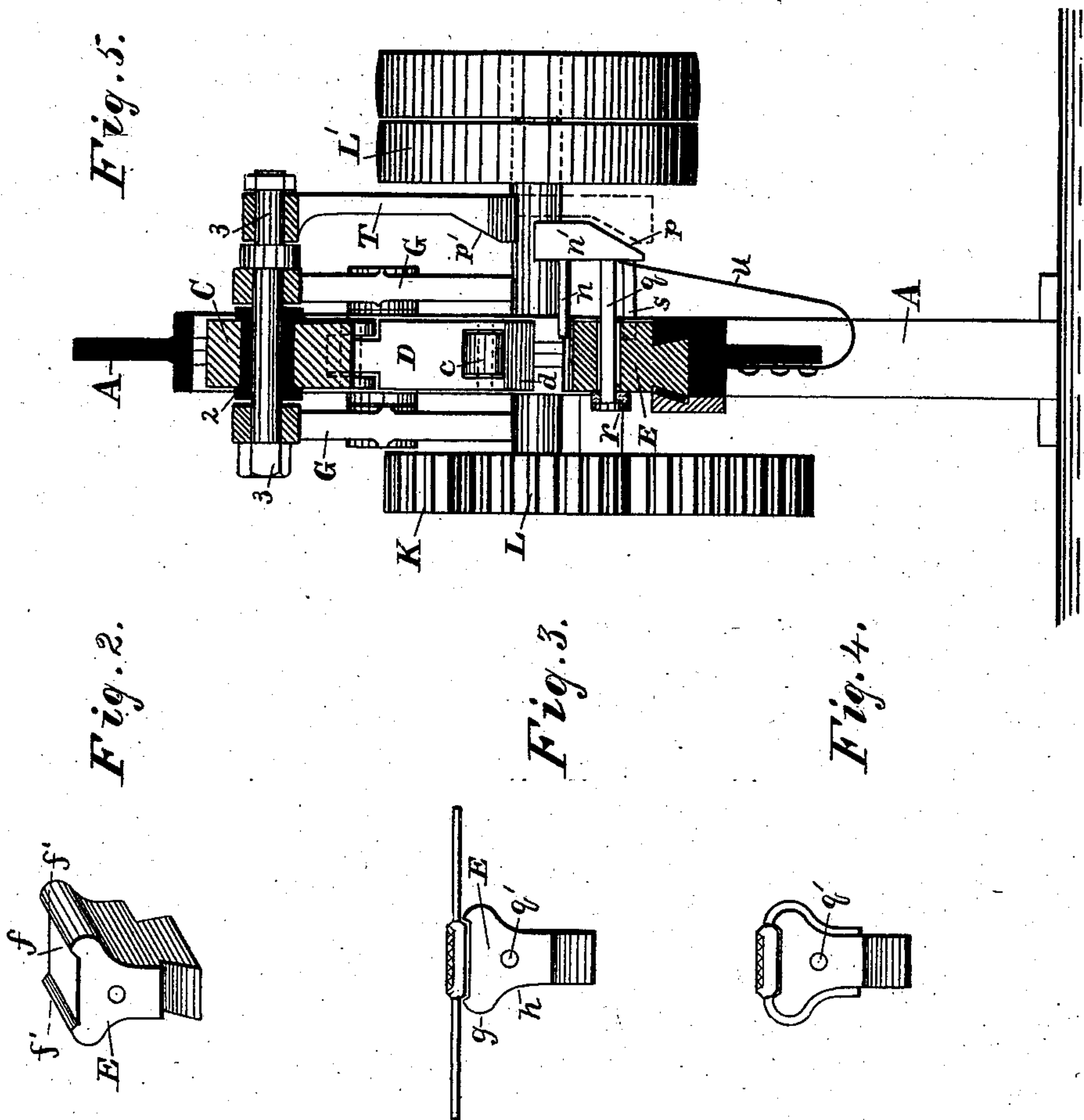
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UNITED STATES PATENT OFFICE.

JOHN SABOLD, JR., OF LITTLE OLEY, PENNSYLVANIA.

MACHINE FOR BENDING SHANKS OF SAD-IRON HANDLES.

SPECIFICATION forming part of Letters Patent No. 294,509, dated March 4, 1884.

Application filed August 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN SABOLD, Jr., a citizen of the United States, residing at Little Oley, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Bending Shanks of Handles for Sad-Irons, of which the following is a specification.

My invention relates to a machine for bending the wrought-iron shanks for handles for sad-irons to the conventional shape.

The construction of the parts comprising the machine and their operation will first be described, and then the parts and combinations constituting the invention will be designated in the claims.

In the annexed drawings, which illustrate the invention, Figure 1 is a front elevation of the machine. Fig. 2 is a view of the mandrel. Fig. 3 is a view of the handle and shanks before they are bent in position on the mandrel. Fig. 4 is a view of the handle with the shanks bent into its sides. Fig. 5 is a sectional elevation of the machine.

In the manufacture of sad-irons that part of the handle which is grasped by the hand is usually made of cast metal. The smoothing-block is also cast metal; but the handle-shanks which connect these parts are made of wrought-iron. The handle is cast with the wrought-iron shanks placed in the mold in such position that when the mold is poured each end of the cast handle will take onto one end of one of the shanks. During this operation the wrought-iron shanks consist, simply, of a piece of straight rod, as shown in Fig. 3.

The machine which comprises the present invention is designed to receive the above-described handle, with its straight wrought-iron parts, and bend the latter to the conventional shape, as shown in Fig. 4.

The letter A designates the upright frame or standard of the machine, made of metal. Preferably the entire standard is one casting.

B designates two vertical guides formed in the standard, in which the head C slides. Two shank-formers, D, are suspended by the upper ends from the head. A pin, *b*, secures each former to the head; but the upper end of the former is rounded and has bearing in a correspondingly-shaped socket on the under side of

the head, whereby when the formers are pressed down by the head no strain comes on the pin *b*, and at the same time the pins *b* will serve as a pivot to adapt the lower ends of the formers to move laterally toward each other. The lower part of each former is provided on one side with a V-shaped groove adapted to bear on the vertical guide B, and on the opposite side of each former has a roller, *c*. From the roller downward each former has two incline faces, *d e*, which together produce a V-shaped end.

A forming-mandrel, E, has a top surface, *f*, sunk to receive the grasp part of the handle of a sad-iron which is placed across it, and at each end of the sunken surface is a raised shoulder, *f'*, on which the shanks of the handle rest, as shown in Fig. 3, and has sides which, near the top, project and curve outward, as at *g*, and then below are hollowed or curved inward, as at *h*, the shape of the sides as a whole being exactly that which it is desired to give to the shanks of the handles. At each side of the forming-mandrel is a block-guide, F, provided on the inner and upper corner with a roller, *i*. This block-guide serves, when the formers D are brought down, to receive on its roller the inclined face *e* of the former, and then, as the downward movement of the formers continues, the latter are, by the block-guides, crowded over laterally toward the hollowed part *h* of the mandrel. The block-guides are adjustable in a horizontal direction to or from each other, and are held to any position by means of the set-screws *k*. This adjustment enables the block-guides to be set to suit different sizes of shanks.

The parts just described comprise those which are directly employed in bending the shanks, and the operation is as follows: The grasp part of the handle is placed on the top surface of the mandrel E, and the shank-formers D are moved down. The first effect is the V-shaped ends of the formers press the straight shanks downward. Then the inclined faces *d* take effect and press the shanks down still farther. Then, when the inclined faces *e* come against the rollers *i* of the block-guides, the lower ends of the formers are thereby crowded over laterally toward the mandrel. This brings the rollers *c* of the formers hard against the

shanks, and the latter are then pressed into the hollowed parts *h* of the sides of the mandrel. Thus, by one downward movement of the pivoted and suspended shank-formers, both of the shanks are bent to the desired shape at once. The handles may now be removed from the mandrel by hand or by any suitable means. For this purpose I provide a pusher, *n*, which reciprocates across the top of the mandrel. This pusher is attached to a head, *n'*, which has the lower part of its rear side beveled or inclined downward, as shown at *p* in Fig. 5. A rod, *q*, is attached to the head *n'*, and passes freely through a hole, *q'*, in the body of the mandrel, and when the pusher reciprocates this rod slides in the hole. A head, *r*, on the rod is underlaid with a soft washer, and this serves to stop the pusher when it is moved back. Two pins, *s*, project from the head, one of which bears on each side of the body of the mandrel. The pusher is moved forward to remove the sad-iron handle by a vertically-movable rod, *T*, which has on its lower end a head with an upwardly-inclined face, *p'*. This rod is attached by its upper end to the bolt 3, which connects the lever with the large head *C*. When this head moves up, the inclined face *p'* on the lower end of the rod *T* bears against the inclined rear side, *p*, of the pusher-head, and thereby the pusher is moved forward, causing the handle to slide from the mandrel. A spring, *u*, attached to the standard bears against the pusher-head and moves it back. The head *C* has vertical movement imparted to it by the lever *G*, which is pivoted to the standard at *G'*. The head has a horizontal slot, 1, in which a block, 2, slides, and the end of the lever is pivoted by a bolt, 3, to this block. The other end of the lever has a weight, *G*², to counterbalance and elevate the head. Standards *H* have box-bearings *I* for a rotary shaft, 4, on which a cam, *J*, is keyed. This cam serves to raise the weighted end of the lever, as indicated by broken lines, and thereby moves the head and shank-formers down. A gear-wheel, *K*, is mounted on the shaft, and is driven by a pinion, *L*, motion being given to the latter by a drive-pulley, *M*.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a stationary mandrel having a sunken surface, *f*, to receive the grasp part of the handle, a raised shoulder, *f'*, at each end of said surface, and sides which curve first outward near said shoulders, and are then hollowed inward, and means to bend both shanks about the mandrel at once.

2. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a mandrel, vertical guides, a large head, *C*, to move in the guides, two shank-formers, *D*, pivoted by their upper ends to the head, and each having a V-shaped lower end, and laterally-adjustable block-guides *F* at each side of the mandrel.

3. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a mandrel, vertical guides, a large head, *C*, to move in the guides, means to bend both shanks about the mandrel, a pusher, *n*, adapted to reciprocate across the top of mandrel, and attached to a head, *n'*, having a downward-inclined side, *p*, and a vertically-movable rod, *T*, having its upper end connected to the said large head, and provided on its lower end with an upwardly-inclined face, *p'*.

4. In a machine for bending the shanks of sad-iron handles, the combination, substantially as set forth, of a mandrel of requisite form, a head moving in vertical guides, and having a horizontal slot, 1, provided with a slide-block, 2, two shank-formers, *D*, to bend both shanks about the mandrel, a pivoted lever, *G*, having one end pivoted to the said slide-block and the other end weighted, and a rotary shaft provided with a cam to move the weighted end of the lever.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN SABOLD, JR.

Witnesses:

WM. SCHAEFFER,
JNO. T. MADDOX.