J. NICHOL.

SHEARS FOR CUTTING IRON.

No. 90,184. Patented May 18, 1869.

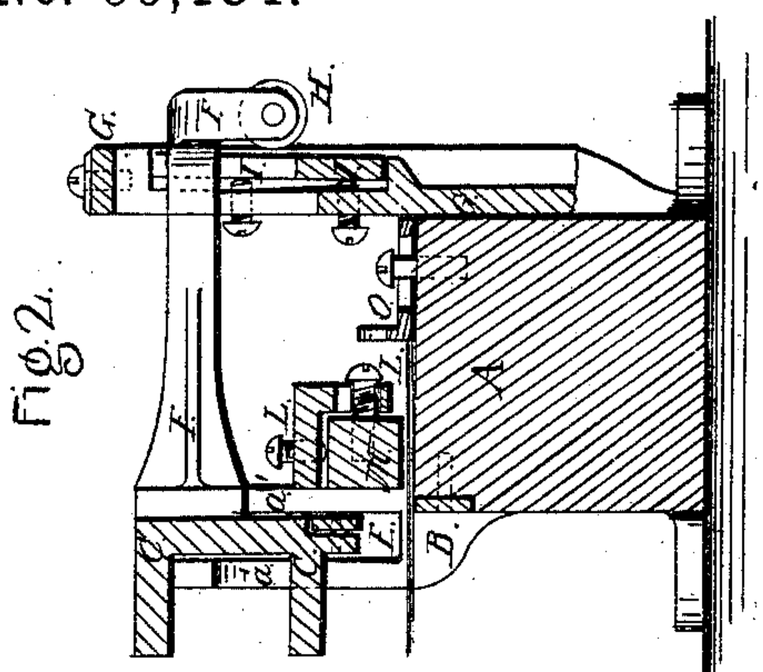

Fig 2.

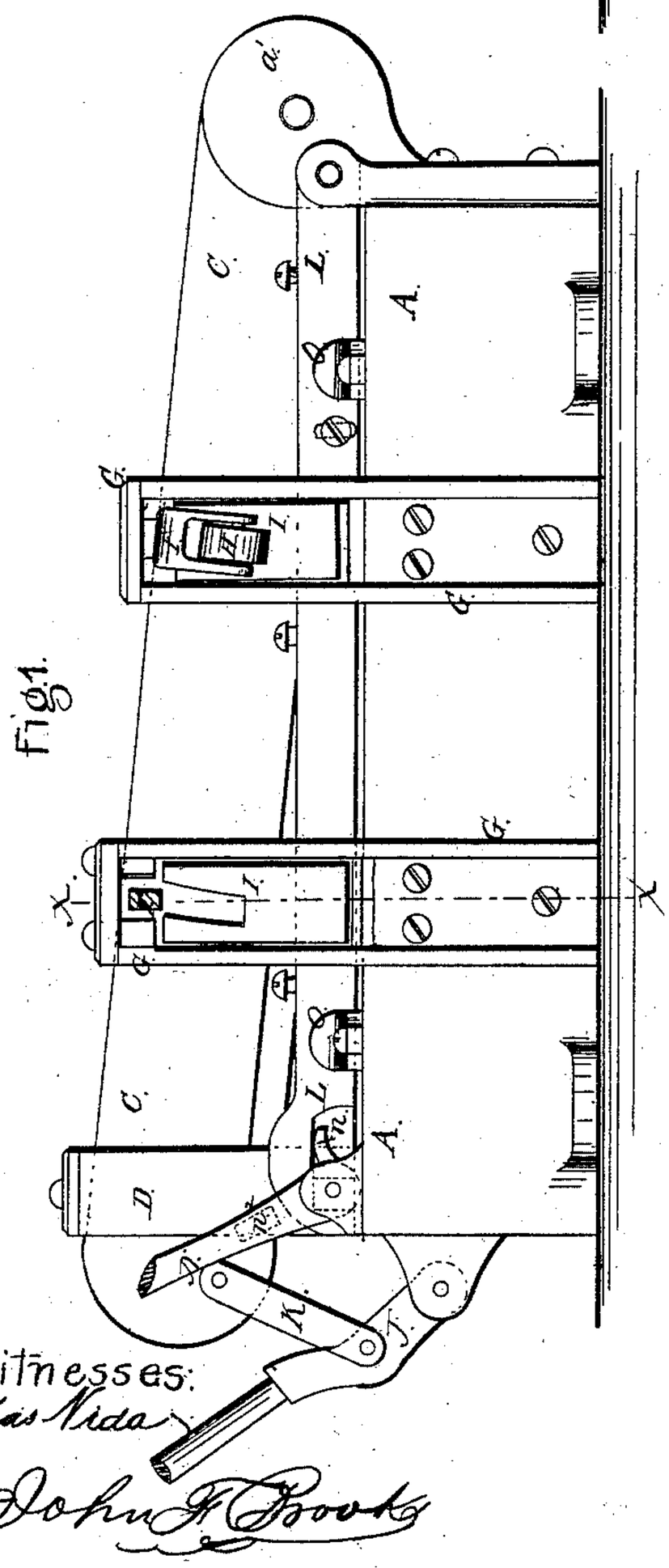

Fig 1.

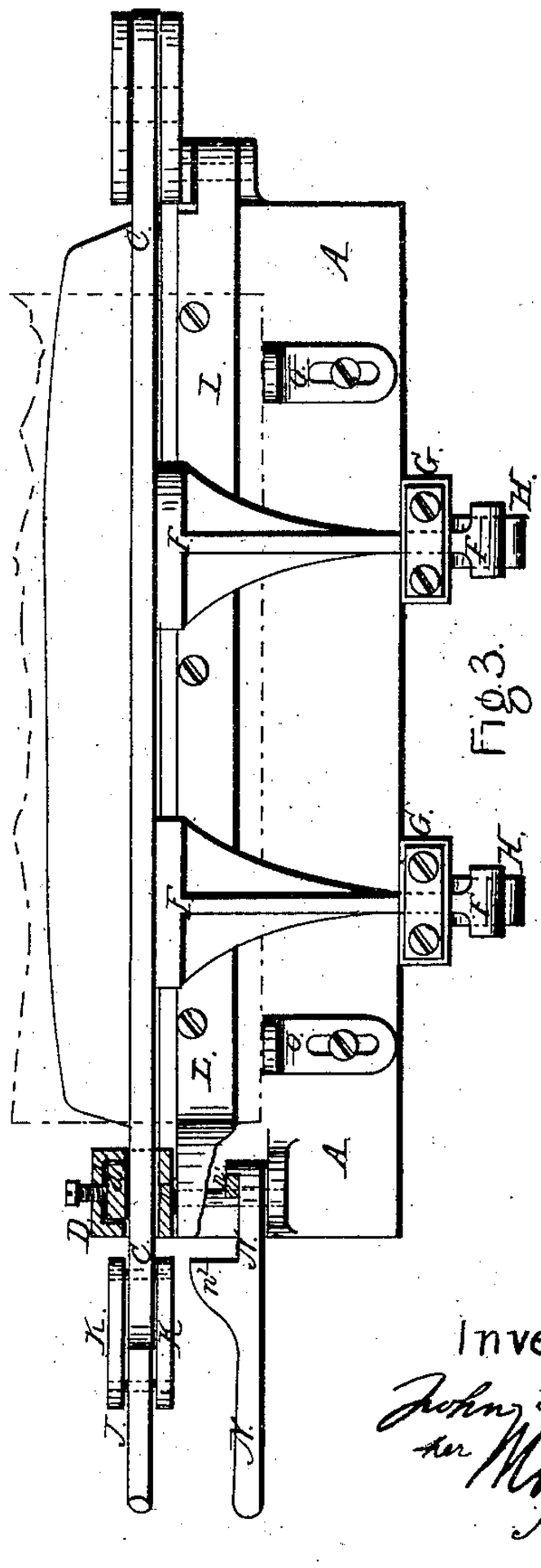

Fig 3.

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JOHN NICHOL, OF NEW YORK, N. Y.

Letters Patent No. 90,184, *dated May* 18, 1869.

IMPROVED SHEARS FOR CUTTING IRON.

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, JOHN NICHOL, of New York city, in the county and State of New York, have invented a new and useful Improvement in Shears for Cutting Iron; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a side view of my improved shears, parts being broken away to show the construction.

Figure 2 is a detail sectional view of the same, taken through the line *x x*, fig. 1.

Figure 3 is a top view of the same, parts being broken away to show the construction.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved shears for cutting sheet-metal, of any desired size, and which shall be so constructed and arranged as to hold the metal securely and cut it smoothly and true, however large the sheet or plate may be; and

It consists in the construction and combination of various parts of the shears, as herein described.

A is the bed or frame of the machine, which may be of any desired length, and to the upper part of the forward side of which is attached the stationary cutter B.

Upon one end of the bed A are formed, or to it are attached, ears, or brackets *a*, to which the knife, or cutter-bar C is pivoted, the forward end of which passes through and works in the space between the standards D, attached to the forward end of the bed A.

d' is a plate, fitted into a recess in the inner side of the outer standard D, and which is set forward by means of set-screws, passing in through the said standard, so that the movable cutter may be always held up against the stationary cutter, so that the cut may be made smooth and true. The upper or movable cutter E is secured to the lower part of the inner side of the bar C.

To the upper part of the inner side of the cutter-bar C are attached one or more arms F, which pass through slots in the standards G, attached to the rear side of the bed A.

The outer ends of the arms F project downwards, and are slotted, to receive the friction-wheels H, the faces of which rest against the plates I, placed in recesses in the outer sides of the standard G, and adjusted and held out against the wheels H by set-screws, so that the wear may be conveniently taken up, and the movable and stationary cutters always held close together.

J is the lever, by means of which the cutter-bar is operated, the lower end of which is pivoted to the end of the bed A, and which is connected to the forward end of the cutter-bar C by the pivoted link, or bars K.

L M is the clamp, by which the metallic sheet is held while being cut. The clamp is made in two parts, L and M.

The part L, the rear end of which is pivoted to ears, or standards, formed upon or attached to the end of the bed A, is formed with a large rectangular, longitudinal recess, or groove, as shown in fig. 2, in which is placed the other part M, which rests upon the iron to be cut, and which is secured in place, when adjusted, by screws, or bolts passing throught slots in the rear part of the part L.

The part M is adjusted, according to the thickness of the iron, by means of set-screws passing in through the upper part of the said part L.

N is a lever, which is pivoted to the forward end of the bed A, or to ears or standards attached to said bed.

Upon the lower end of the lever N is formed, or to it is attached an arm, n^1, which enters a recess formed in the lower part of the outer side of the bar L, so that, by lowering the outer end of the lever N, the clamp L M will be raised, for the removal or insertion of the iron.

The upper side of the forward end of the bar L is rounded or bevelled off, and upon the inner side of the lever N is formed an arm, n^2, which, when the outer end of the lever N is raised, to allow the clamp L M to drop down upon the iron, acts as a cam upon the rounded or bevelled end of the bar L, to force the clamp L M down upon the iron to be cut, and hold it securely during the cutting.

O are gauge-stops, adjustably secured to the upper side of the bed A, by screws passing through slots in said stops, and screwing into said bed, so that the stops may be conveniently adjusted according to the desired width of the piece to be cut from the metallic sheet.

Having thus described my invention,

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

1. The combination of the arms F, one or more, and friction-rollers H, with the movable cutter-bar C and standards G, attached to the bed or frame A, whether used with or without the adjusting-plates I, substantially as herein shown and described, and for the purpose set forth.

2. The adjustable clamp L M, constructed and adjusted substantially as herein shown and described, and for the purpose set forth.

3. The lever N n^1 n^2, constructed as described, in combination with the adjustable clamp L M, and bed A, substantially as herein shown and described, and for the purpose set forth.

The above specification of my invention signed by me, this 10th day of February, 1869.

JOHN NICHOL.

Witnesses:

FRANK BLOCKLEY,

JAMES T. GRAHAM.