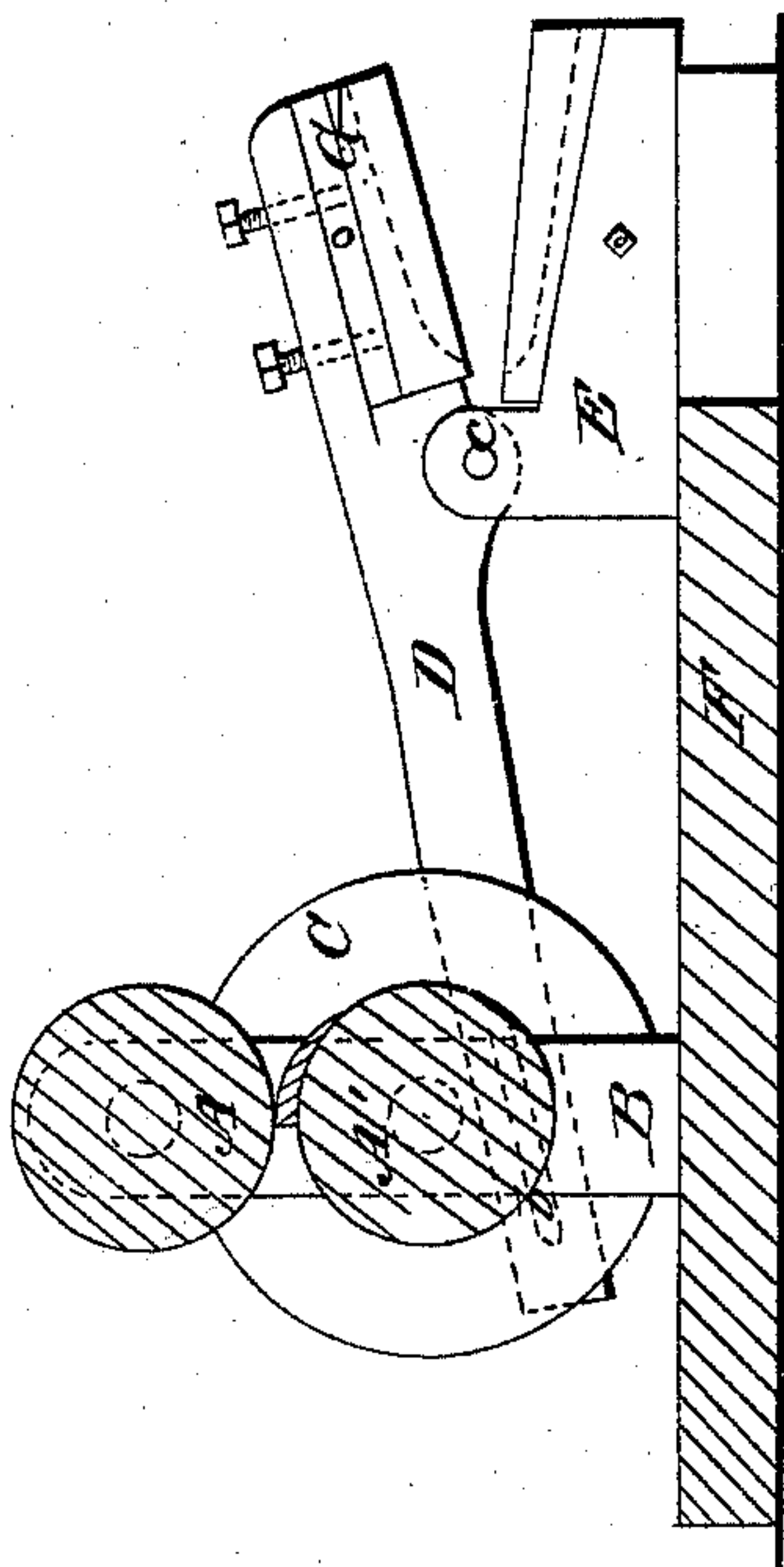
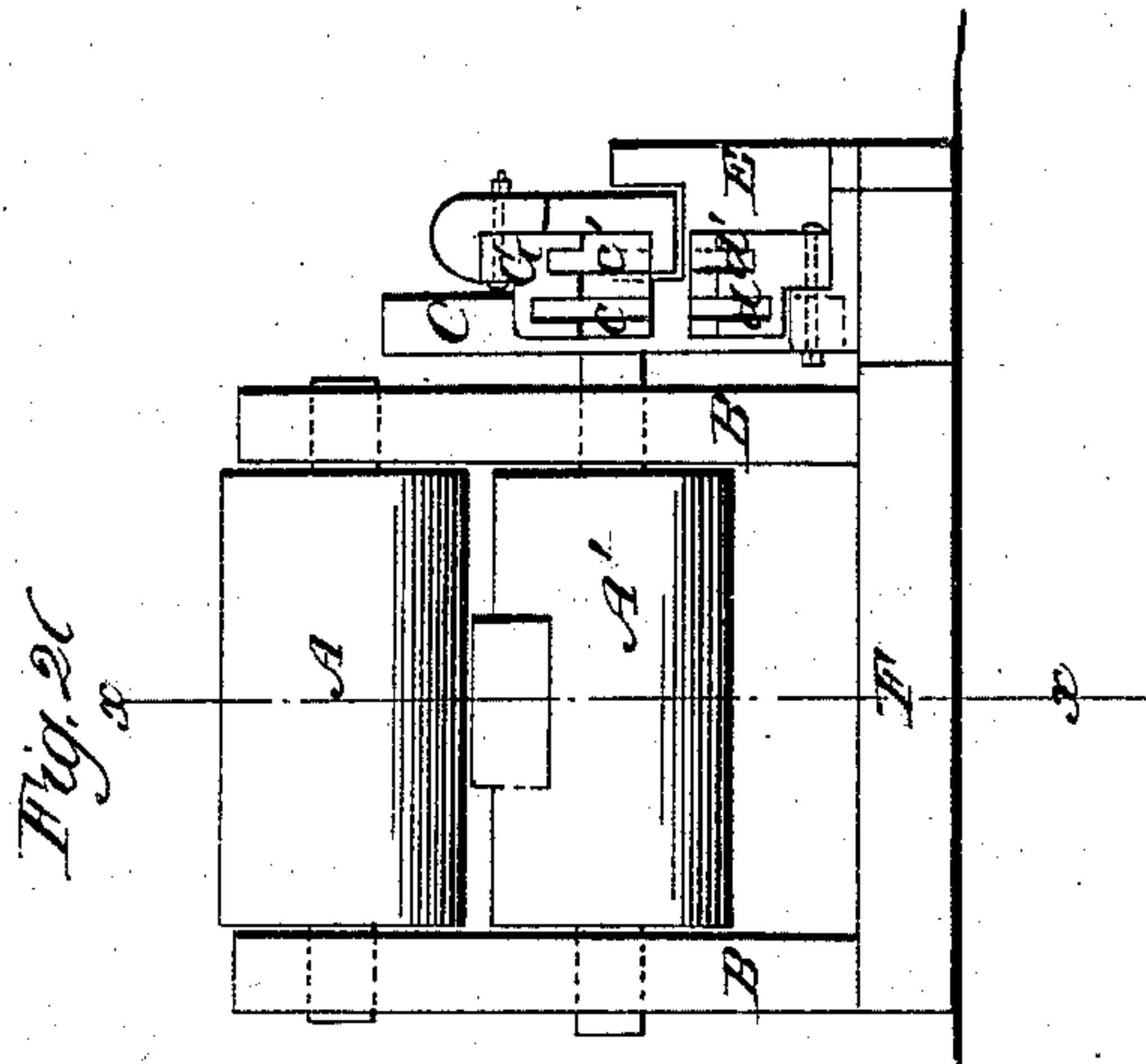


J. B. Cleveland,
Making Springs,
Patented Aug. 20, 1867.

N^o 67,954.



Witnesses.
Phoe Gusche
Wm. Trewin.

Inventor.
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Attorneys.

United States Patent Office.

JAMES B. CLEVELAND, OF HACKENSACK, NEW JERSEY.

Letters Patent No. 67,954, dated August 20, 1867.

IMPROVED DEVICE FOR PREPARING PLATES FOR SPRINGS.

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, JAMES B. CLEVELAND, of Hackensack, in the county of Bergen, and State of New Jersey, have invented a new and improved Device for Preparing Spring-Plates, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim, and desire to have secured to me by Letters Patent.

This invention relates to a new and improved device for preparing plates for vehicle and other springs.

The object of the invention is to avoid the labor now necessarily expended in rendering the plates smooth, or giving them an even or true surface, work now performed by means of a grindstone.

The invention consists in subjecting the plates, previous to the operation of rolling, to the action of dies, whereby they are reduced to the proper thickness throughout their entire length, and consequently will admit of being rolled perfectly smooth and true. In the accompanying sheet of drawings—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, fig. 2.

Figure 2, a front view of the same.

Similar letters of reference indicate like parts.

A A' represent two rollers which are placed one above the other in the same axial plane, and have their bearings in standards B B. On one of the journals of the lower roller A' there is keyed a wheel, C, having a pin, *a*, projecting from it at some distance from its centre, and fitting in an oblong slot, *b*, in one end of a lever, D, the fulcrum-pin *c* of which passes through a block, E, on the base F of the device, (see fig. 1.) The pin *a* of the wheel C, fitting in the oblong slot *b*, operates the lever D when the machine is at work, and to the front end of lever D there is secured a die-block, G, having two dies, *e e'*, made in it, of the shape, but of different sizes, to suit different-sized plates. These dies *e e'* are directly over similar but fixed dies, *d d'*, which are secured on the base F. All of these dies are simply grooves having parallel sides and a curved bottom, the latter being designated by the dotted lines in fig. 1, the curved bottoms corresponding to the form designed for the curved sides of the plates from their centres outward to their ends. These dies perform a very important function, as they reduce the plates to be rolled to the proper thickness required, and give them the desired width and curvature at their sides. The plates are properly heated and placed in the lower die *d* or *d'*, and when the upper die *e* or *e'* is forced down by the operation of the lever D, the plate (one-half) will be compressed between the upper and lower die and brought to a uniform width. The plate is reversed, the other half placed in the lower die while the upper one is rising, and when the upper die descends is subjected to a like action. The plate is then rolled out even and true by the rollers A A', in consequence of this previous swaging between the dies.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

The combination of the dies C C', blocks G, fixed dies *d d'* in the block E, slotted lever D, wheel C, and rollers A A', as herein set forth for the purpose specified.

The above specification of my invention signed by me this 18th day of May, 1867.

JAMES B. CLEVELAND.

Witnesses:

WM. F. McNAMARA,
CHARLES H. NASH.