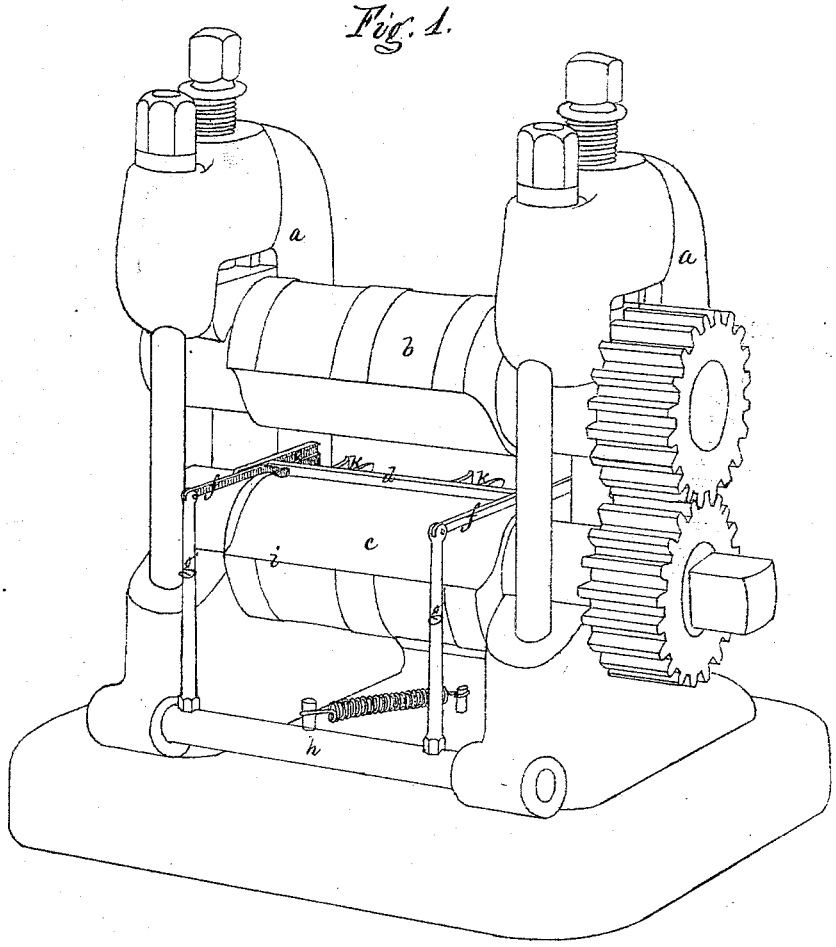
3 Sheets--Sheet 1.

H. WATERS.

Improvement in Guiding and Gauging Mechanisms for Roller-Dies.

No. 114,735. Patented May 9, 1871.

Fig. 1.



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M. W. Frothingham.

Henry Waters
by his Attys.
Crosby & Halsted & Gould

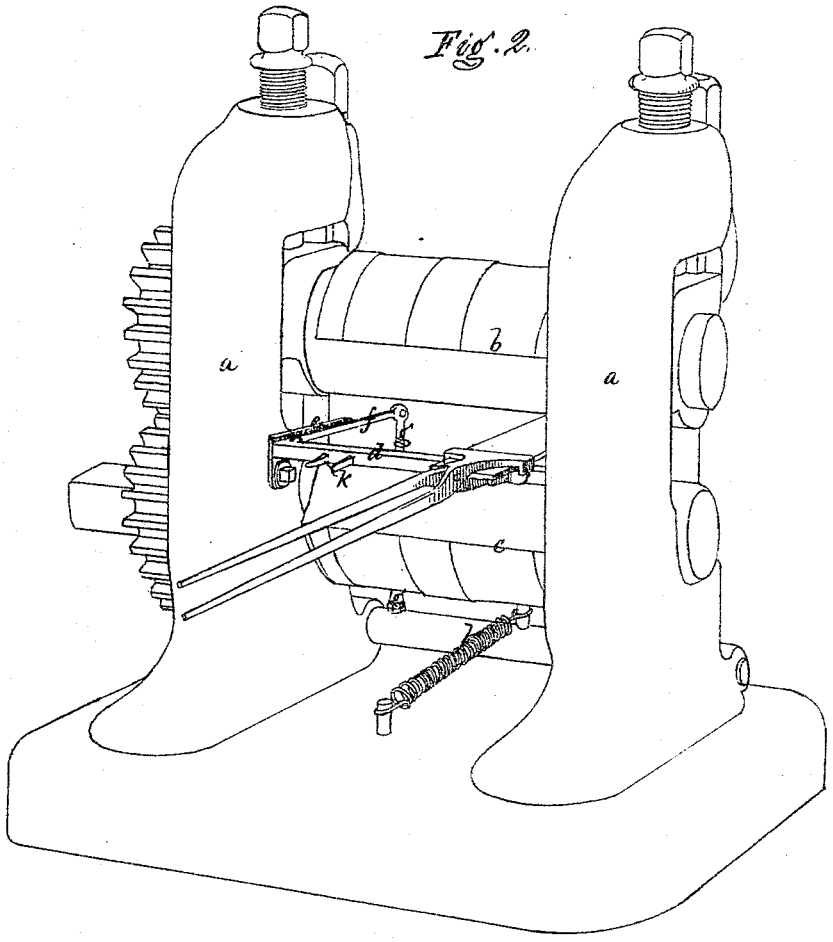
3 Sheets--Sheet 2.

H. WATERS.

Improvement in Guiding and Gauging Mechanisms for Roller-Dies.

No. 114,735. Patented May 9, 1871.

Fig. 2.



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Improvement in Guiding and Gauging Mechanisms for Roller-Dies.

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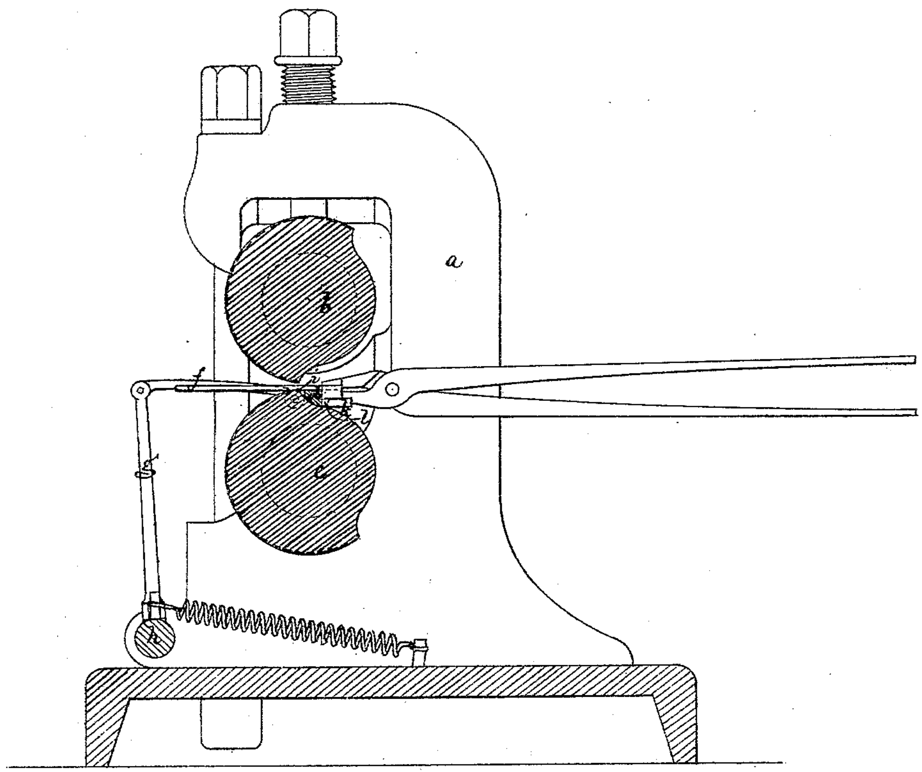
Fig. 3.



Hervey Waters
by his Attys.
Crosby, Halsted & Gould

Witnesses
S. B. Kidder
M. W. Frothingham

UNITED STATES PATENT OFFICE.

HERVEY WATERS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN GUIDING AND GAGING MECHANISM FOR ROLLER-DIES.

Specification forming part of Letters Patent No. **114,735**, dated May 9, 1871.

To all whom it may concern:

Be it known that I, HERVEY WATERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Machines for Rolling Metal; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates particularly to a means of guiding and holding a bar or blank to be rolled in position to be seized by the working-grooves of a pair of die-rolls, the bar or blank supported upon the guide being thrust through between the parts of the rolls which are lower than their working-surfaces, and these held (resting upon the guide) by the operator in position for the action of the rolls.

The invention consists in the employment, in combination with a pair of rolls, of a sliding gage-bar, the opposite ends of which are supported and run upon guide ways or rails, and in combining with said bar a guide or guides for receiving a projection from the blank or tongs to position the blank laterally with reference to the die-grooves, suitable stops being arranged so that the guide-bar is arrested, when pushed between the rolls, to bring the bar into proper position to be struck by a shoulder upon one of the rolls, so that the dies always act upon the blank with reference to the position of the projection upon the tongs relatively to the surface to be shaped.

The drawings represent a rolling-machine embodying my improvements.

Figures 1 and 2 show perspective elevations of the same. Fig. 3 is a sectional elevation.

a a denote the stands or housings, in which are journaled the two rolls *b c*, having parts of their surfaces lower than their working-surfaces and having in their working-surfaces the die-grooves, which impart the desired shape to the bar to be rolled.

d is a gage-bar extending across the machine from stand to stand and parallel to the axes of the rolls, and sliding in stationary grooves or ways *e e*. This gage-bar is connected by links *f* to the upper ends of rocker-arms *g*, extending from a rocker-shaft, *h*. The gage is normally held in front of the rolls or upon the side where the operator stands by a spring or weight, and it occupies such position with relation to the lower roll that when slid between the blank surfaces of the rolls it will be struck by the shoulder *i* of the lower roll as the rolls rotate and will be carried toward the operator. Upon this gage-bar, in vertical plane with each die-groove, is a guide or projection, *k*, for positioning the bar or blank laterally with respect to the die-groove. The blank, grasped in suitable tongs, is laid upon the gage-bar, with a projection from the blank or a projection, *l*, from the tongs between the guides *k*, said projection being against the gage-bar. The operator then pushes the blank and gage between the open rolls until the gage is arrested by suitable stops on the guideways, and the bar will then be in position for the action of the rolls. As the rolls turn, they do not immediately bite upon the blank, but the shoulder *i* strikes the gage and moves it back, so that the dies bite upon the blank at a point having definite relation to the part of the blank grasped by the tongs, thus insuring uniform action of the rolls upon the blanks.

I claim—

In combination with shaping die-rolls, a movable gage-bar arranged with reference to the rolls and to guide the blank, substantially as described, when such movable gage-bar is provided with a guide or guides for positioning the blank laterally, substantially as described.

HERVEY WATERS.

Witnesses:
J. B. CROSBY,
FRANCIS GOULD.