No. 793,858. PATENTED JULY 4, 1905.

G. J. THUST.

CLAMPING OR BAR PROTECTING APPARATUS.

APPLICATION FILED MAR. 7, 1904.

3 SHEETS—SHEET 1.

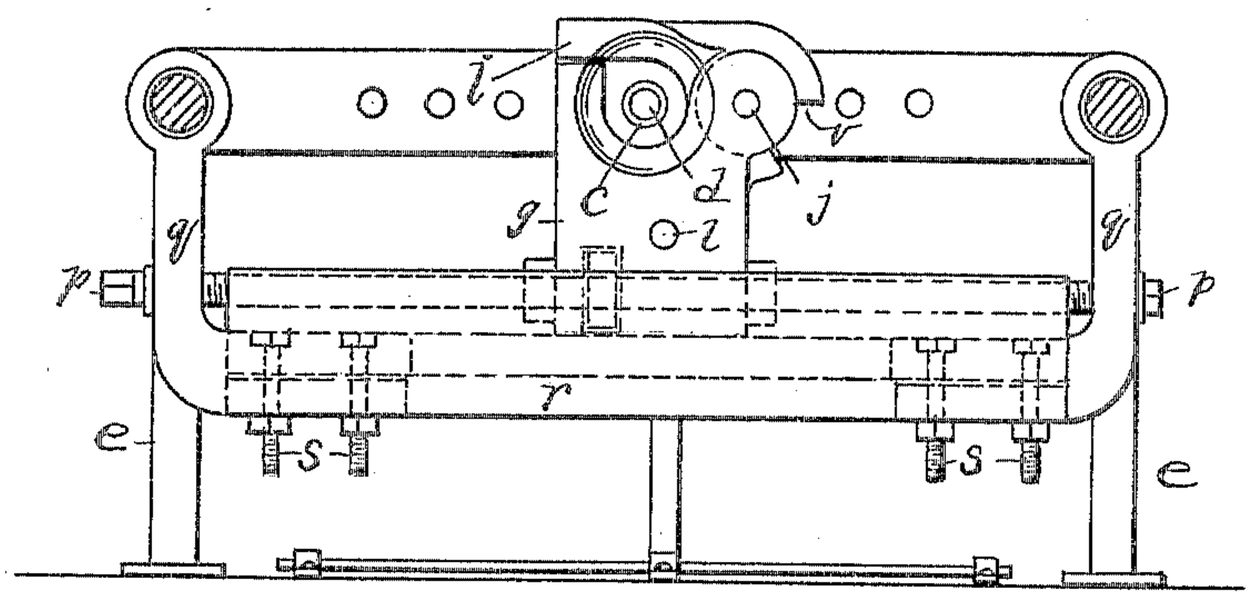


Fig. 1.

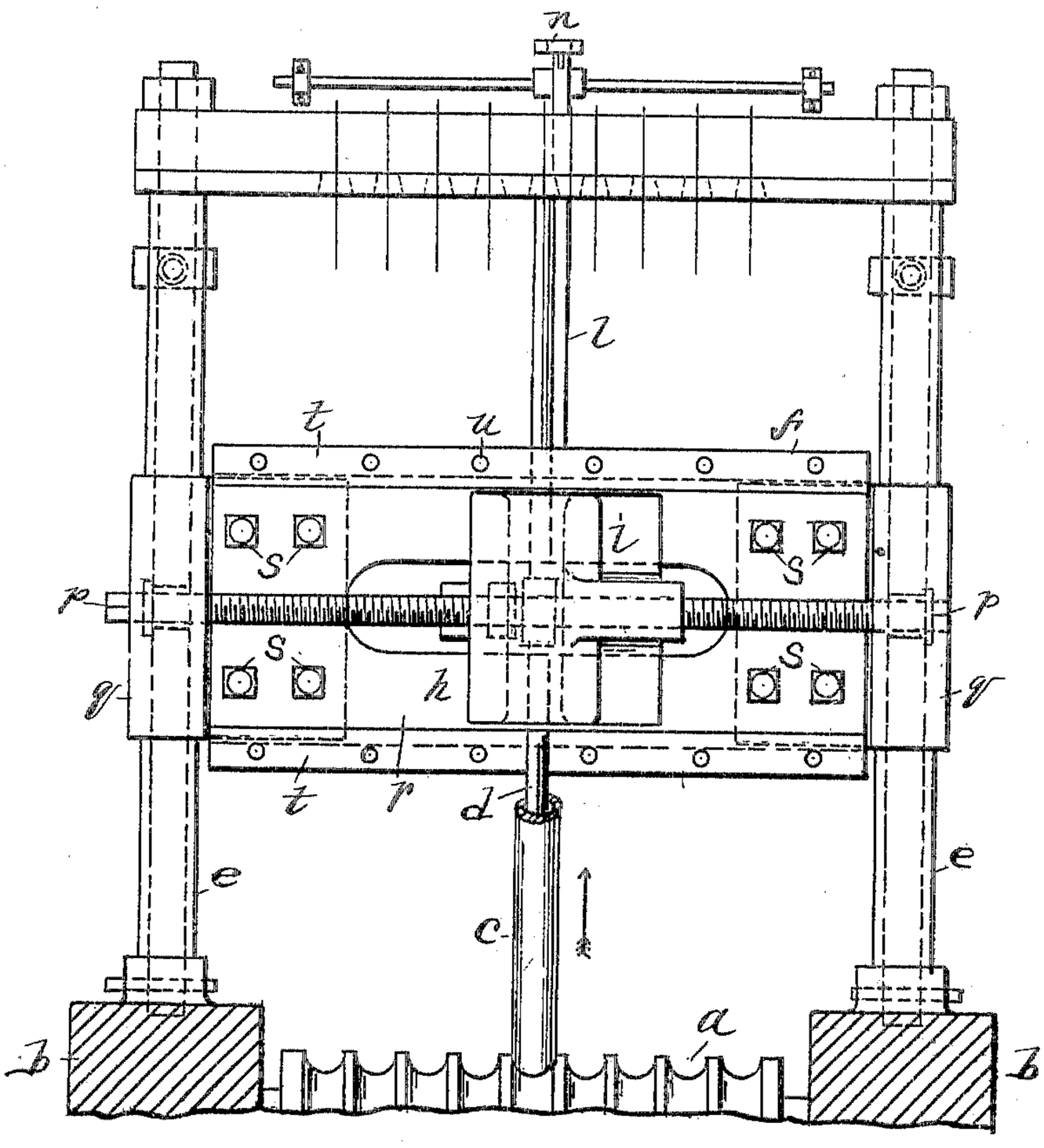


Fig. 2.

Witnesses:
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3 SHEETS—SHEET 2.

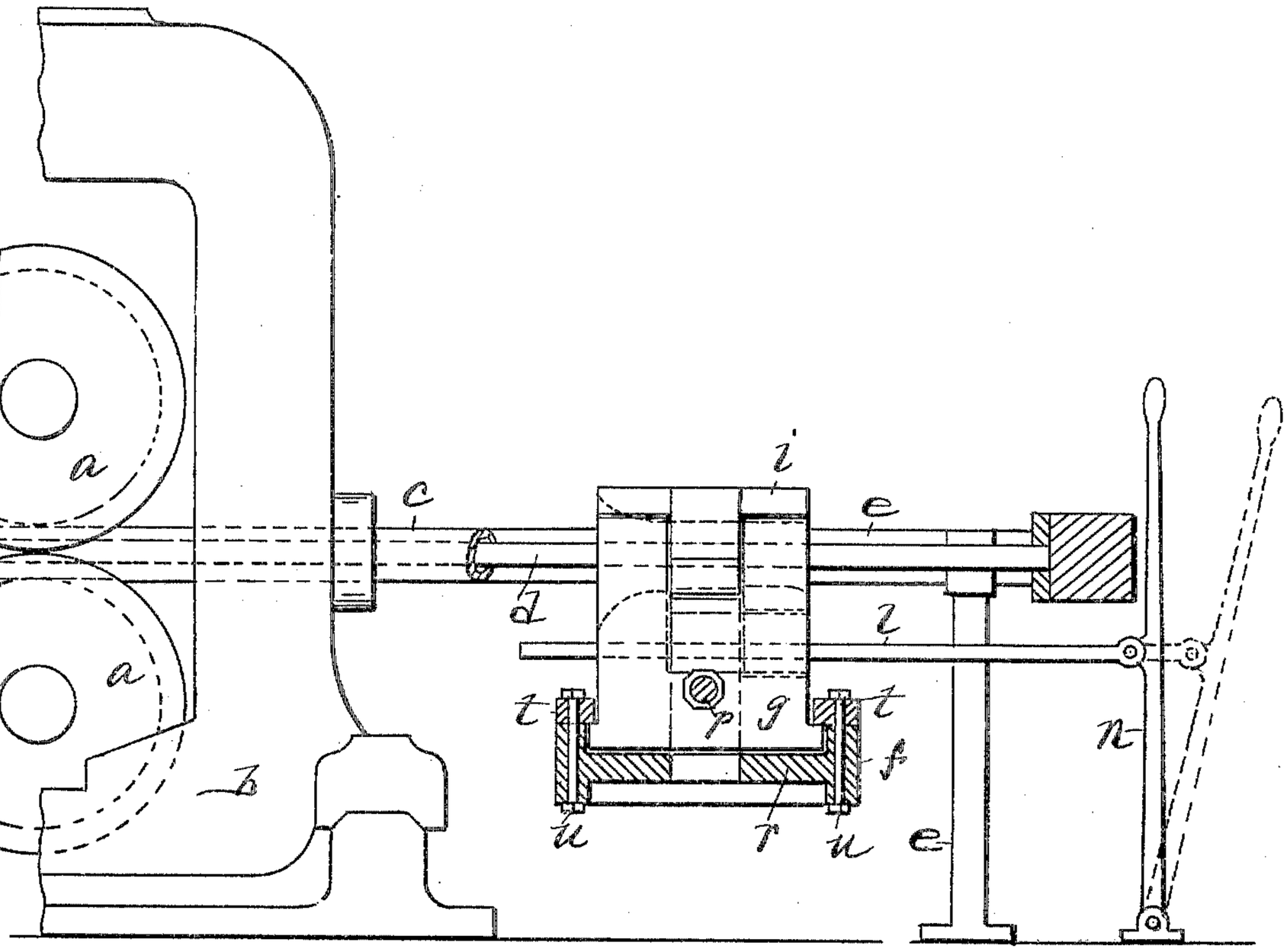


Fig. 3.

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3 SHEETS—SHEET 3.

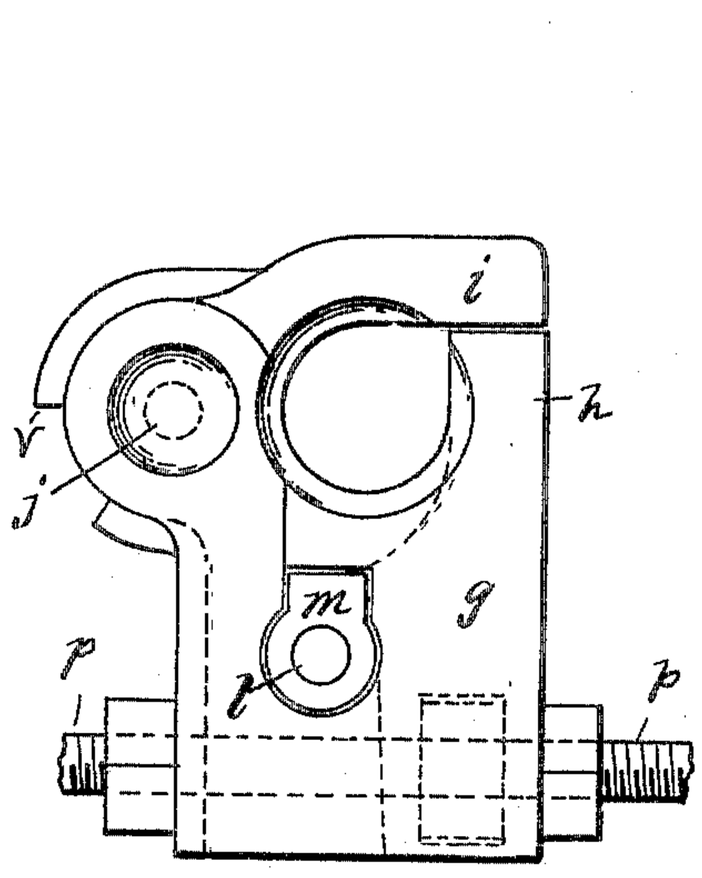


Fig. 4.

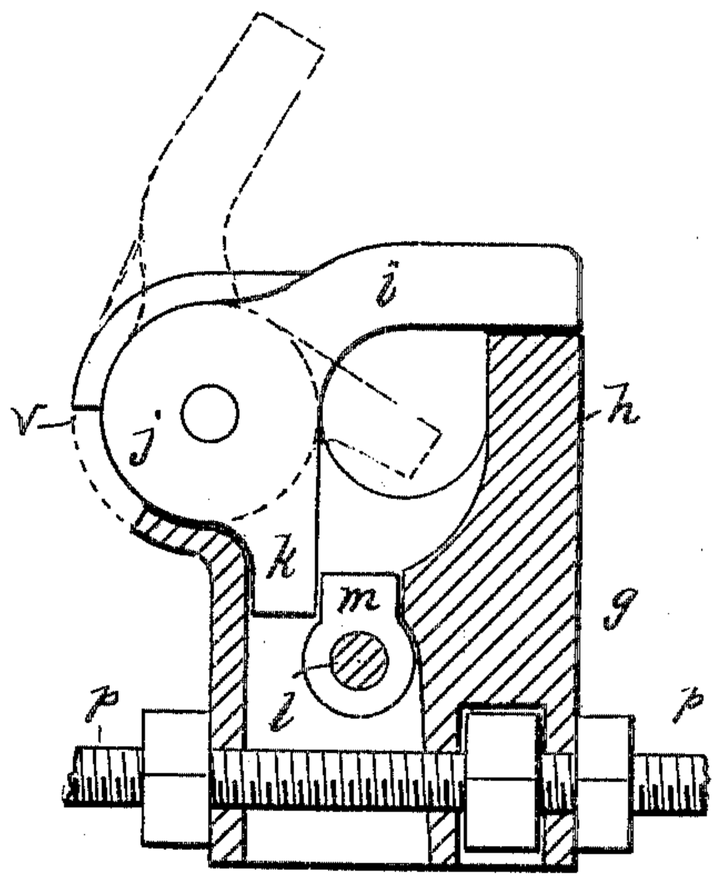


Fig. 5.

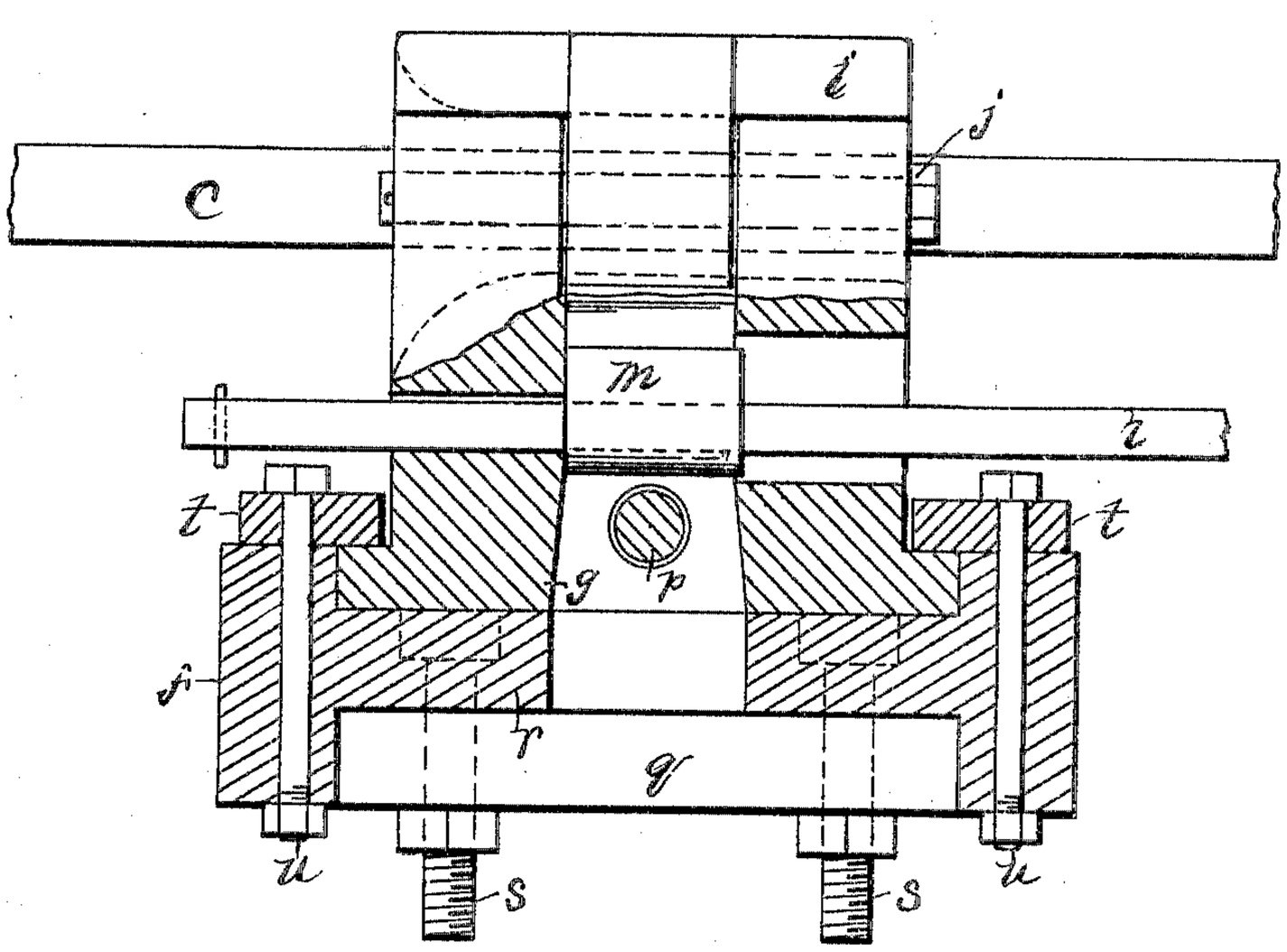


Fig. 6.

Witnesses:
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Newell S. Wright.

No. 793,858. Patented July 4, 1905.

# UNITED STATES PATENT OFFICE.

GEORGE J. THUST, OF DETROIT, MICHIGAN, ASSIGNOR TO W. C. McMILLAN, TRUSTEE, OF DETROIT, MICHIGAN.

## CLAMPING OR BAR-PROTECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 793,858, dated July 4, 1905.

Application filed March 7, 1904. Serial No. 196,944.

*To all whom it may concern:*

Be it known that I, GEORGE J. THUST, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Clamping or Bar-Protecting Apparatus, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has reference to an improved clamping or bar-protecting apparatus, the object of the invention being more especially to prevent bars or tubes of metal in the process of their manufacture from bending in the process of rolling the same through the customary mill-rolls.

The mechanism constituting my invention is particularly intended to be employed in connection with machines for the reduction of tubes, as for drawing out seamless metal tubes.

My invention therefore consists in the construction, combination, and arrangement of devices and appliances hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in end elevation. Fig. 2 is a view in plan. Fig. 3 is a view in side elevation, showing parts in vertical section. Fig. 4 is a detail view of the clamping-jaws in end elevation. Fig. 5 is a view in vertical transverse section. Fig. 6 is a view in side elevation and vertical longitudinal section.

As shown in the drawings, *a* represents the reduction-rolls of a machine for the reduction of seamless tubing. The machine itself forms no feature of my present invention, as my invention is applicable to any machine of this class. A portion of the framework of such a machine is indicated at *b*, and *c* denotes a piece of tubing being passed through the rolls, while *d* represents a mandrel over which the tube is drawn, the mandrel lying in the axial line of the travel of the tube.

My invention contemplates any suitable framework *e*, provided with side bars, upon which is supported a guide way or track *f*, extending transversely between adjacent portions of the framework. Supported upon said track is a transversely-movable carriage *g*, said carriage constructed with a fixed arm or jaw *h*, and to which carriage is jointedly connected a swinging jaw or clamp *i*, as shown at *j*, the two jaws being suitably recessed, so that when the swinging jaw is in closed position the tubing may pass therebetween, the clamping-jaws holding the tubing in proper alinement and preventing its bending. While the tubing is being passed through the reducing-rolls the swinging jaw is closed down upon the work, and to hold said jaw firmly in closed position the same is shown formed with a downwardly-extended arm *k*. A reciprocatory rod *l*, supported on the framework *e*, is provided with a lug *m*, which, in working position, is moved adjacent to the arm *k* to prevent any swinging of the jaw *i*, the lug *m* effectually locking the swinging arm in closed position.

When it is desired to remove the tubing from the clamping device, the rod *l* is drawn forward to remove the lug *m* from the arm *k*. The rod to this end may be provided with an operating-lever *n*. To adjust the clamping mechanism transversely, so that it may engage a tubing passed through any given groove of the reducing-rolls, the framework is provided with adjusting-screws *p p*, engaging said carriage, whereby the carriage may be moved laterally in either direction.

While I do not limit myself to any specific construction of the track *f*, I prefer to construct the same with lateral downwardly-depending arms *q q*, upon which an intermediate inverted-U-shaped plate *r* is secured, as by bolts *s*. Caps *t* are also shown secured upon the plate *r*, as by bolts *u*. The swinging jaw *i* is preferably formed with a stop-shoulder (indicated at *v*) to limit the opening movement of the jaw. When the lug *m* is moved out of the way of the arm *k*, the jaw *i* may readily be swung over into open position by any suitable implement in the hand of the operator, as by means of the instrument usually employed by the operator to handle the tubing and remove it from the machine.

I have shown in the accompanying drawings but one clamping apparatus to engage the tub-

ing; but I would have it understood that my invention contemplates mounting as many duplicate devices as may be desired upon the framework *e*, the swinging jaws all being simultaneously locked by the one bar *l*.

What I claim as my invention is—

1. In a tube-rolling apparatus provided with a mandrel-bar the combination of a stationary supporting-framework, comprising stationary longitudinal side bars, a track extending transversely of the side bars from one side bar to the other, and supported at its extremities upon said side bars intermediate of the extremities thereof, a carriage movable upon said track transversely of the side bars and means on the carriage for supporting the mandrel-bar.

2. In a tube-rolling apparatus provided with a mandrel-bar the combination of a supporting-framework comprising two stationary side bars and an end bar connecting the two side bars, a track extending transversely of said side bars from one side bar to the other and supported at its extremities upon the side bars of the frame, a carriage movable upon said stationary track transversely of the side bars and means on the carriage for supporting the mandrel-bar.

3. A tube-rolling apparatus comprising in combination, a frame, a mandrel-bar, a fixed recessed jaw, a swinging recessed jaw to close upon the fixed jaw to hold the mandrel-bar between said jaws, the swinging jaw provided with a locking-arm, and a reciprocatory device to engage the locking-arm of the swinging jaw to hold the swinging jaw in closed position.

4. A tube-rolling apparatus having in combination a stationary frame comprising side bars, a mandrel-bar, a track extending transversely of said side bars from one side bar to the other and provided with depending arms at its extremities engaged upon said bars, intermediate the extremities of said side bars, a carriage movable transversely of the side bars upon said track, means on the carriage for supporting mandrel-bar, means to transversely adjust the position of said carriage upon the track.

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

GEORGE J. THUST.

Witnesses:
N. S. WRIGHT,
M. L. SIMMONS.