

(No Model.)

A. A. SIMONDS.
GUIDE FOR ROLLING MILLS.

No. 280,093.

Patented June 26, 1883.

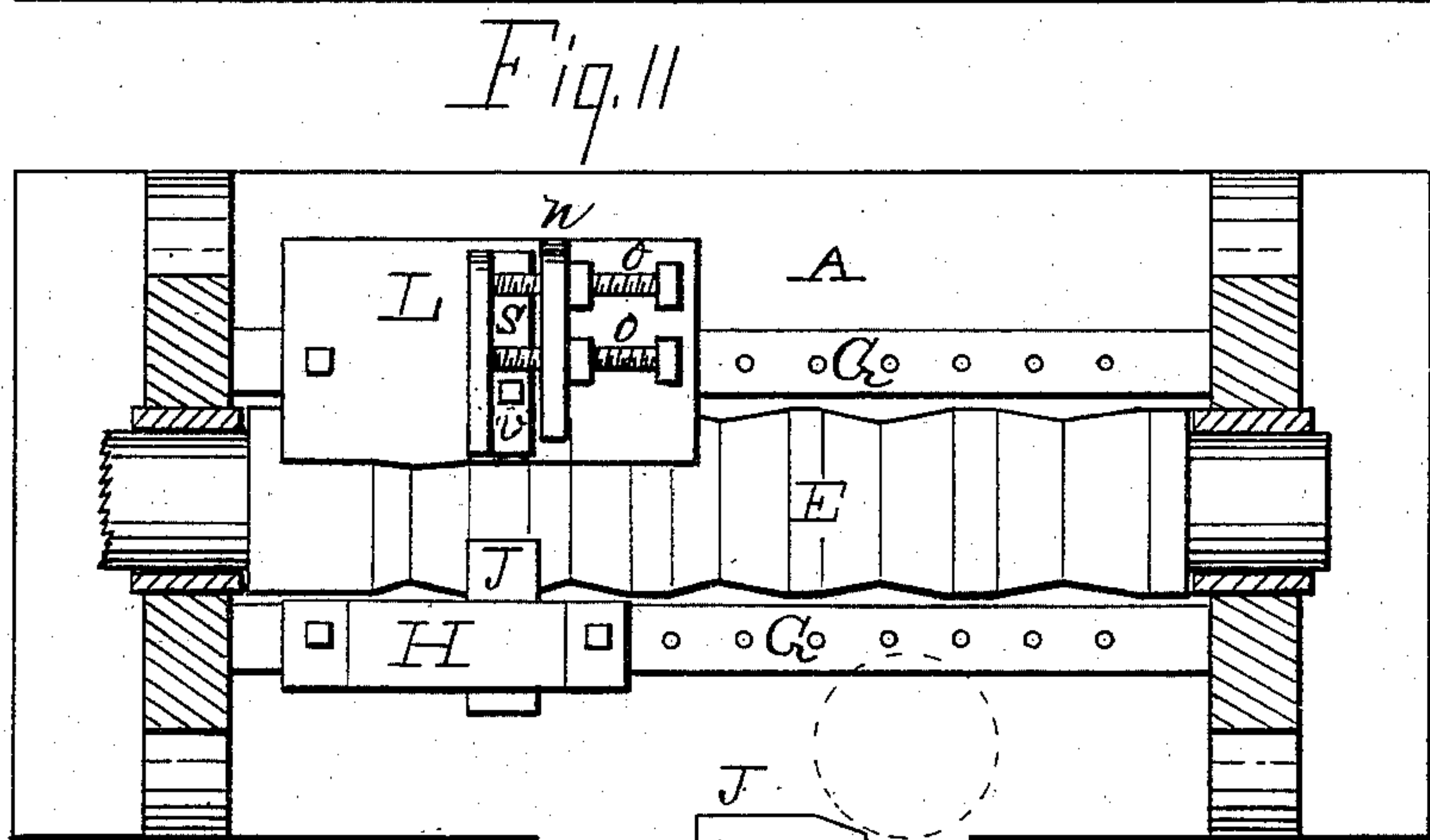
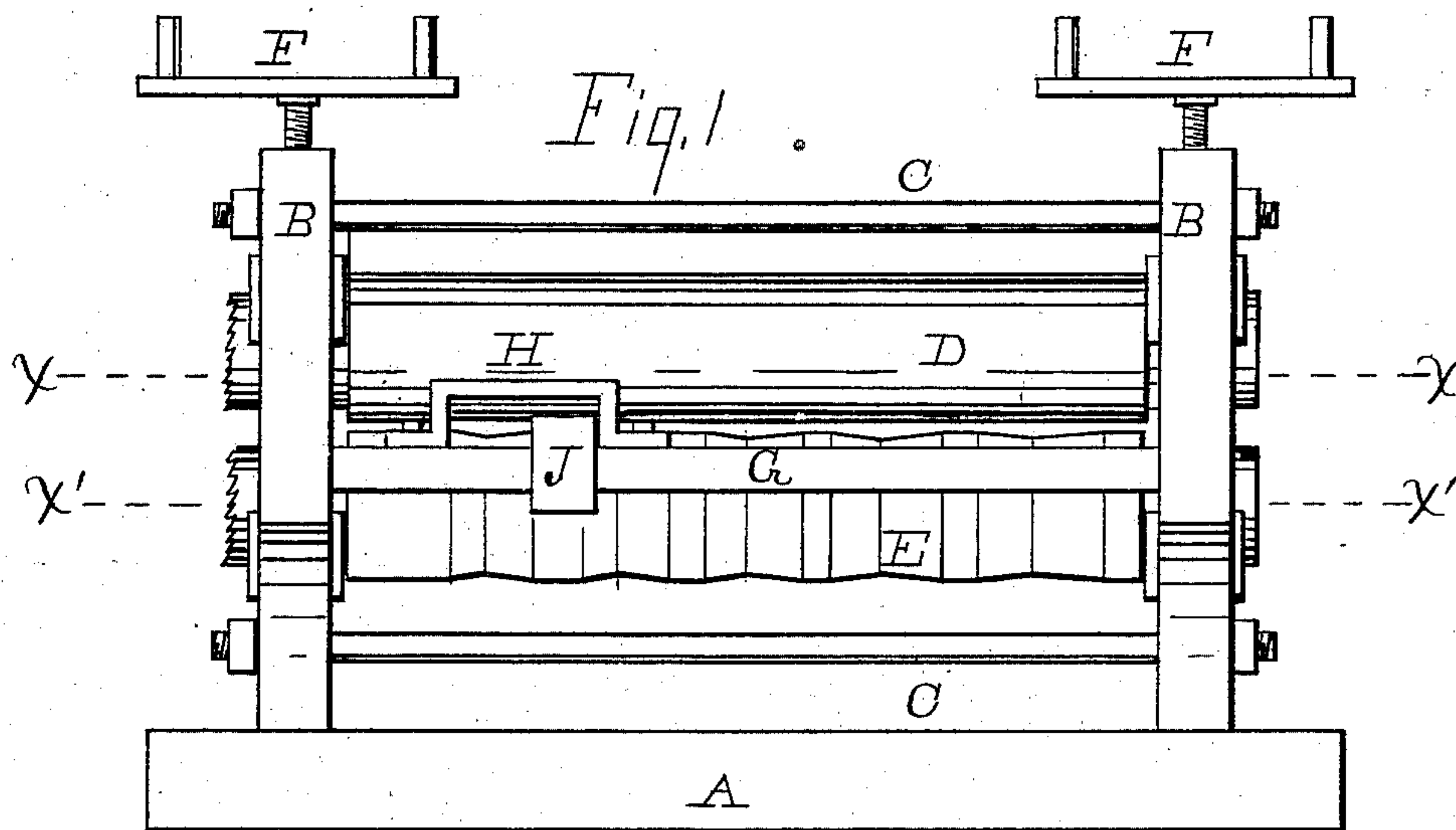
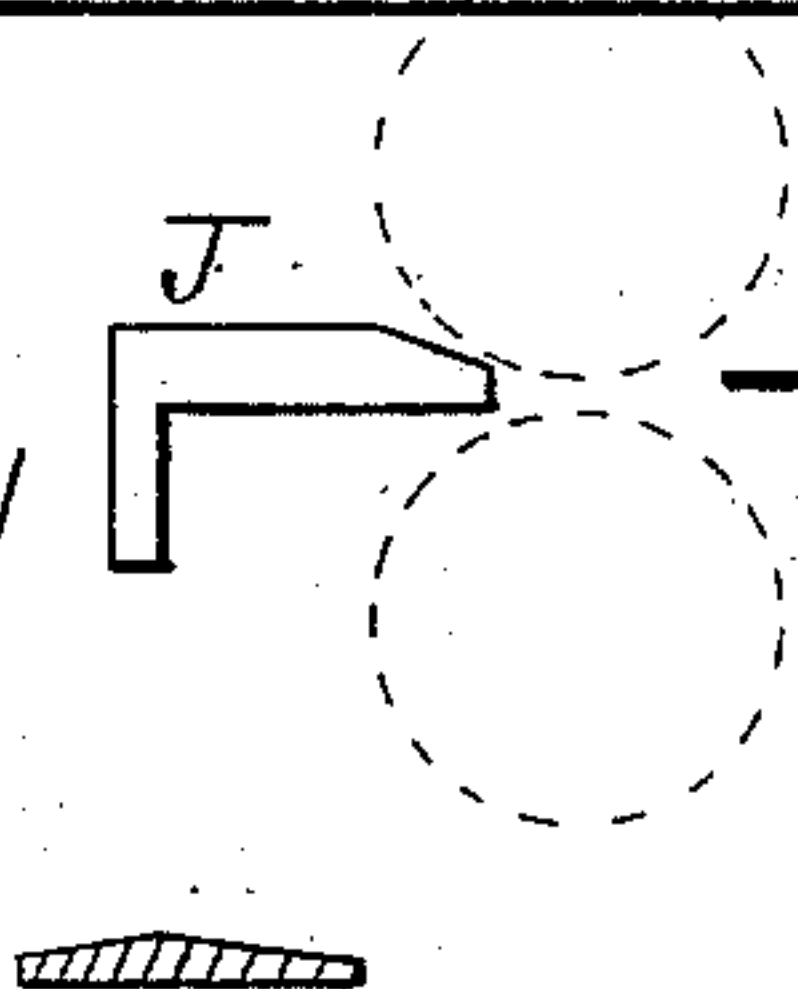


Fig. III

Fig. IV



WITNESSES:

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GUIDE FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 280,093, dated June 26, 1883.

Application filed May 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALVAN A. SIMONDS, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Process of Manufacturing Paper-Mill Fly-Bars, of which the following is a specification.

My invention relates to manufacturing fly-bars, or rag engine cutters, of plates of iron and steel, which, when properly heated, are simultaneously welded and formed between suitable rolls, thereby doing expeditiously and accurately in one operation that which was formerly done tediously and less accurately by the trip-hammer.

The mechanism involved in the process is illustrated in the accompanying drawings, in which—

Figure I is a side elevation of the rolling-machine. Fig. II is a horizontal section of the frame of the same on the line x' , with a top view of the guides beneath the line x . Fig. III is a side view of the movable guide or shim. Fig. IV is a transverse section of the fly-bar.

Like letters of reference on the several figures designate like parts.

The general features are like the rolling-machines in use.

A represents the frame, which consists of a base and the two vertical parts B, these parts being held together by substantial rods C. Within mortises of the frame are suitable bearings for the rollers. On both sides of the lower roll, and nearly on a line with its top, are two cross-pieces, G, firmly attached to the uprights. These have a series of holes for bolts, by the means of which are secured the guides H and L.

D is a cylindrical roller, and has screws F to engage its bearings, for the purpose of regulating its proximity to the lower roller, and thereby determining the thickness of the fly-bar. The nether roller has a series of obtuse peripheral grooves corresponding in form to the several sizes of fly-bars.

H is a guide, which is firmly bolted to the cross-bar, and is placed so as to guide the metal as it enters the rollers.

J is a movable guide or shim, which is placed within the guide frame as a convenient means of lessening the guide-space to the varying widths of fly-bars. One or several shims may be used for this purpose. The outer end of the shim is bent down, and this holds it in position. The rear guide-plate, L, is bolted on to the rear cross-bar, and has the rib n , which supports the adjustable guide S, against which the bar bears on leaving the rollers. This guide is held in position by the bolts v and o , which pass through a threaded orifice in the rib and are secured by lock-nuts. Both guide-frames are bolted to the cross-bars to suit the several grooves of the nether roller.

The operation is thus described: On a plate of iron of suitable length and width is placed a narrower plate of steel of the same length, the steel being laid to the left edge of the iron plate. Thus prepared the plates are put into a furnace and brought to a welding-heat, then are passed through the rolls several times, the rolls being closed a little after each passage, until the beveled fly-bar is in perfect form, as illustrated in cross-section at Fig. 4. After passing the rolls it is only necessary to straighten the bar. By this process an amount of work is accomplished which could not be done by the trip-hammer operation.

The fly-bars vary in width, but in cross-section they are similar, the shorter bevel being on the edge on which the steel is laid.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The cylindrical roller D, and the roller with obtuse peripheral grooves, suitably supported in a frame, in combination with the front guide, H, with its shim, and the rear guide-plate, L, with adjustable guide S, held by adjusting-screws $o o$ and bolt v , substantially as set forth.

ALVAN A. SIMONDS.

Witnesses:

B. PICKERING,
JOHN HANTCH.