

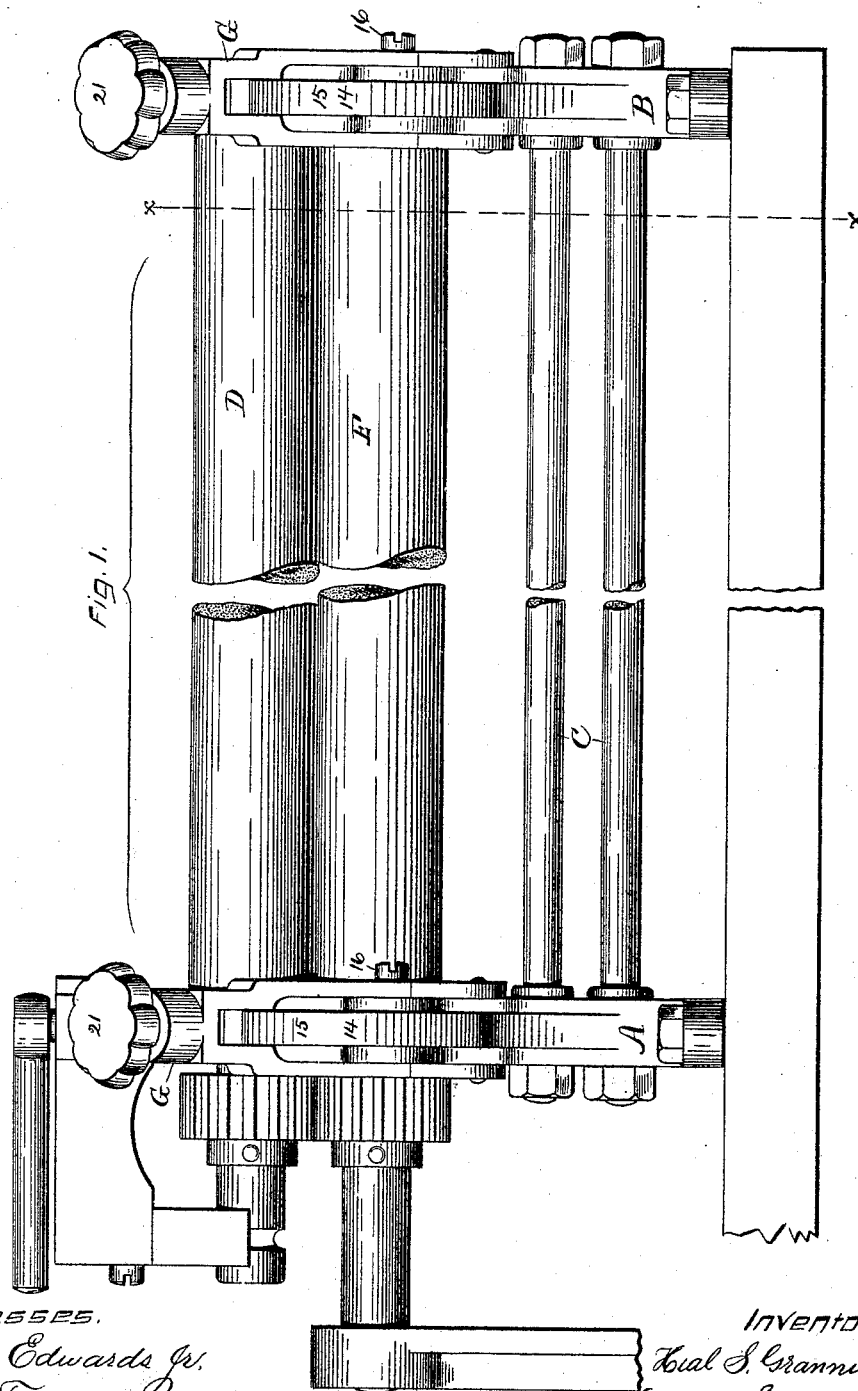
(No Model.)

2 Sheets—Sheet 1.

H. S. GRANNIS.
STOVE PIPE FORMER.

No. 458,683.

Patented Sept. 1, 1891.



Witnesses.

John Edwards Jr.
C. V. Tracy.

Inventor.

Isaac S. Grannis.

By James Shepard.

Att'y.

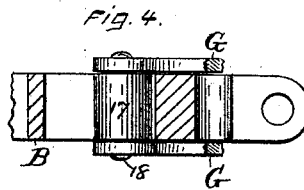
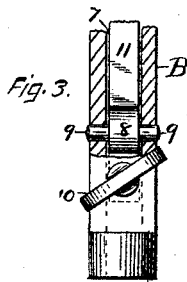
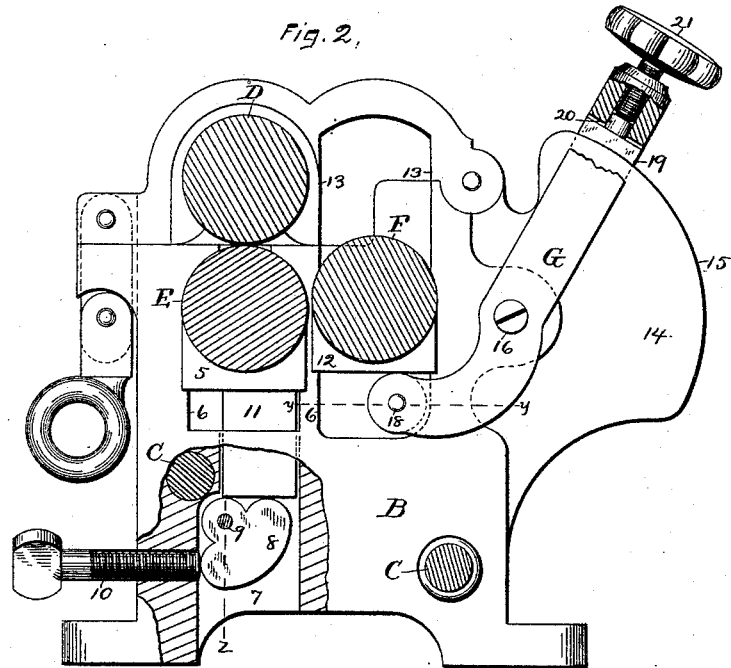
(No Model.)

2 Sheets—Sheet 2.

H. S. GRANNIS.
STOVE PIPE FORMER.

No. 458,683.

Patented Sept. 1, 1891.



Witnesses.
John Edwards Jr.
O. V. Tracy.

Inventor.
H. S. Grannis.
By James Shepard.
Atty.

UNITED STATES PATENT OFFICE.

HIAL S. GRANNIS, OF SOUTHTON, CONNECTICUT, ASSIGNOR TO THE PECK,
STOW & WILCOX COMPANY, OF SAME PLACE.

STOVE-PIPE FORMER.

SPECIFICATION forming part of Letters Patent No. 458,683, dated September 1, 1891.

Application filed March 11, 1891. Serial No. 384,566. (No model.)

To all whom it may concern:

Be it known that I, HIAL S. GRANNIS, a citizen of the United States, residing at Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Stove-Pipe Formers, of which the following is a specification.

My invention relates to improvements in machines for forming stove-pipes and other sheet-metal cylinders; and the principal objects of my improvement are to provide a convenient adjustment for the rear roller that permits the boxes or bearings for said roller to be adjusted on vertical ways and to provide a vertical adjustment for the lower roll that may be operated by a set-screw on the front side of the machine.

In the accompanying drawings, Figure 1 is a rear elevation of my machine, the middle portion being broken away so as to shorten up the rollers and connecting-rods. Fig. 2 is a transverse section through said rollers and rods on line *xx* of Fig. 1, with a partial vertical section of the left-hand frame on the right of said line when viewed from the rear, as in Fig. 1. Fig. 3 is a partial vertical section of a portion of one of the frames on line *z* of Fig. 2; and Fig. 4 is a horizontal section of a portion of said frame on line *yy* of Fig. 2, together with a plan view of the lower end of the adjusting-lever.

I have herein shown my improvement as applied to what is known as a "slip-roller" former of the class shown and described in my patent, No. 402,582, dated May 7, 1889; but the improvements herein described and claimed are equally applicable to ordinary stove-pipe formers in which the upper roller is not arranged for slipping the pipe or cylinder endwise from the machine.

A designates the right-hand frame, B the left-hand frame, and CC the connecting-rods for holding said frames together in the ordinary manner.

D is the upper roller, E the lower roller, and F the rear roller. The upper roller D may have its bearings formed in the frame in the ordinary manner for either of the two classes of machines hereinbefore specified. The lower roller E has its bearings in a box 5, which is vertically adjustable on ways 6 of the frame

at each end of the machine. A vertical opening 7, Figs. 2 and 3, extends from the opening between the ways 6 6 downwardly through each of the frames. In the lower part of this opening is an angle-lever 8, formed with three lobes and pivoted to the frame by the pin 9, as shown in Figs. 2 and 3. The front of the frame is bored through at a point in front of the angle-lever 8 and threaded to receive the adjusting-screw 10, which extends to the front of the machine, as shown. A sliding block 11 is placed under the box 5 and above the angle lever 8, so that by turning the horizontal adjusting-screw 10 the angle-lever will push said sliding block and the box 5, which rests upon it, upwardly to adjust that end of the roller E. Unscrewing the adjusting-screw will permit said box and roller to fall by gravity. The other end of the roller is adjusted by like mechanism in the other frame. The sliding block 11 is only for convenience of construction, and its equivalent may be produced by forming an extension integral with the lower end of the box 5. It is, however, more convenient to construct this extension of a separate piece; but it makes no difference with the operation.

The rear roller F is supported at each end in boxes 12, which move in vertical ways 13 in each of the frames. Each frame is provided at its rear with a holding-wing 14, the outer edge 15 of which is concentric with the screw 16, by which the forked adjusting-lever G is pivoted to each of the frames. The two arms of said lever extend downwardly upon each side of the frame to a point below the box 12. The lower end of this lever is provided with a cross-piece 17, which is preferably in the form of a friction-roller, mounted on the pin 18 and which extends horizontally through the opening in each frame underneath the box 12. In the outer end of the forked adjusting-lever there is a shoe 19, that bears upon the concentric face of the holding-wing, which shoe is held in place by a projection or boss 20, that enters the hole in the end of said lever. A set-screw 21 is screwed into said lever, so that its end may bear upon the boss of the shoe. By loosening the set-screw the adjusting-lever may be turned downwardly at its outer end to throw the box 12

and end of the roller F upwardly, or its motion may be reversed to permit said roller and box to fall, and when the roller is brought to the desired height the adjusting-lever is fastened
5 in place by turning the set-screw 21 to bind the shoe 19 upon the edge of the holding-wing. A like lever is arranged upon each frame.

While I have shown the shoe as mounted in the end of said lever, it is evident that the
10 lever might be fastened and unfastened by a longer set-screw that would bear directly upon the edge of the holding-wing, or a cam bearing on the shoe might be substituted for the screw, and either of such changes would
15 not avoid my invention. By my invention the lower one of the two front rollers may be adjusted vertically by means of a horizontal set-screw at the front of the machine. I am also enabled to arrange the rear roller in
20 boxes that are mounted upon vertical ways and to provide an efficient and quick adjustment of the same.

I claim as my invention—

1. In a former, the combination of the
25 frames having vertically-adjustable boxes 5, the lower roller E of the front rollers having

its bearings in said boxes, the adjusting-screws 10, and the angle-pieces 8 for transmitting the motion of said adjusting-screws to said boxes, substantially as described, and for the
30 purpose specified.

2. In a former, the front rollers D E, the frames in which said rollers are mounted, having straight vertical ways at the rear of said front rollers, the rear roller F, the boxes 12,
35 arranged to slide in said rear vertical ways and within which boxes said rear roller is mounted, the adjusting-lever G for raising said rear boxes and rollers vertically, and holding mechanism, substantially as de-
40 scribed, and for the purpose specified.

3. In a former, the combination of the frames, the rear roller F and its sliding boxes 12, the adjusting-levers G, pivoted to the
45 frames and having a cross-piece extending under said boxes, and holding mechanism to fasten said levers in place, substantially as described, and for the purpose specified.

HIAL S. GRANNIS.

Witnesses:

STEPHEN WALKLEY,
E. M. STANNARD.