

(No Model.)

E. T. LUFKIN.

MACHINE FOR FORMING AND DRESSING LUMBER RULES.

No. 272,892.

Patented Feb. 27, 1883.

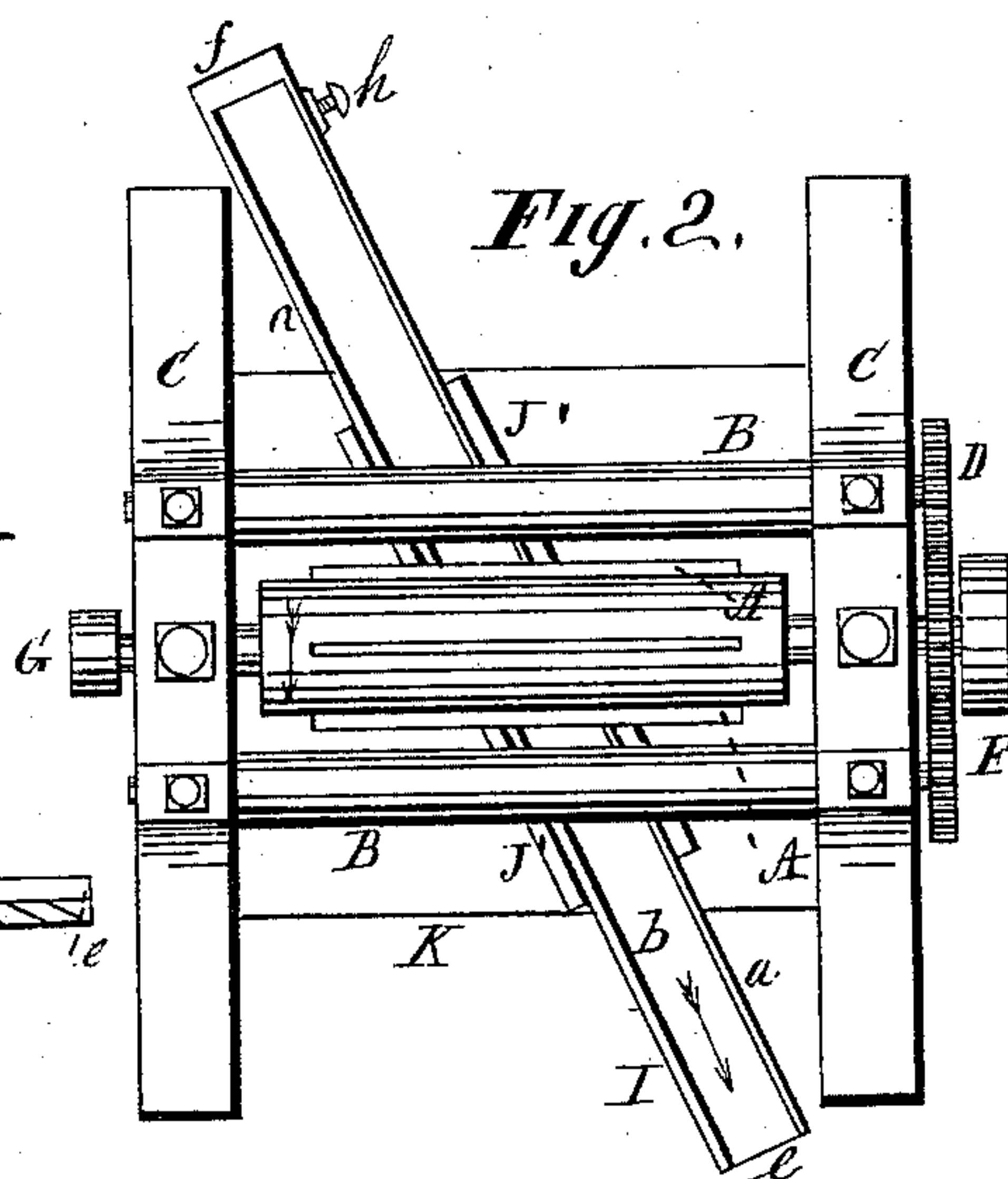
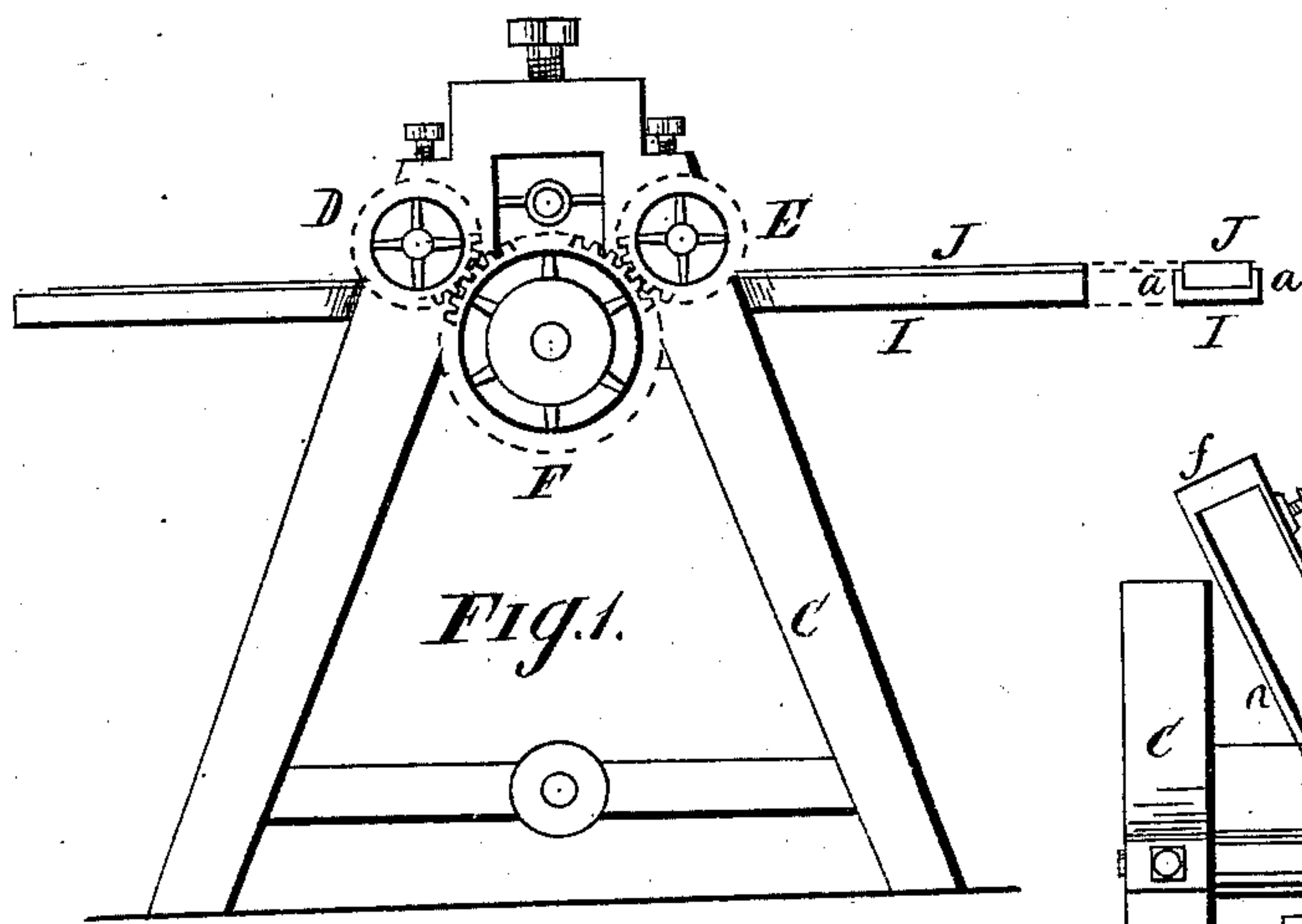
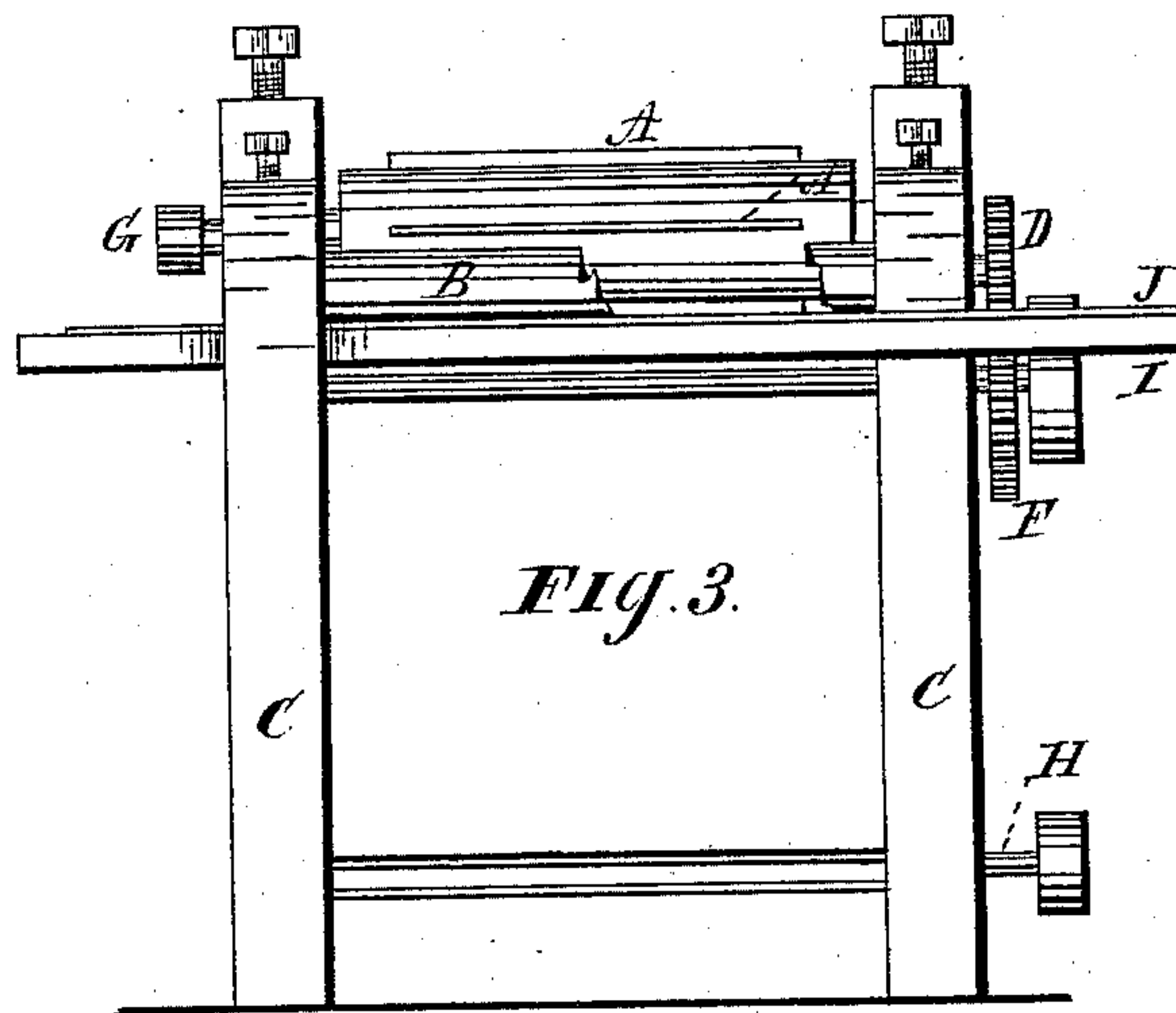
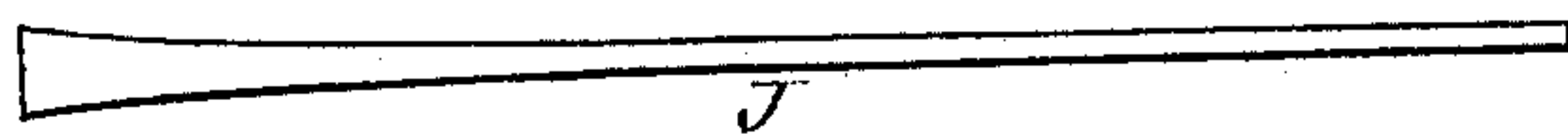


Fig. 5.



Witnesses.
W. G. Lusk
J. W. Burridge

Inventor.
E. T. Lufkin
W. H. Burridge, atty.

UNITED STATES PATENT OFFICE.

EDWARD T. LUFKIN, OF CLEVELAND, OHIO.

MACHINE FOR FORMING AND DRESSING LUMBER-RULES.

SPECIFICATION forming part of Letters Patent No. 272,892, dated February 27, 1883.

Application filed November 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. LUFKIN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and
5 Improved Machine for Forming and Dressing Lumber and Log Rules; and I do hereby declare that the following is a full, clear, and complete description thereof.

My improvement relates to a machine for
10 dressing lumber and log rules; and it consists in part of a peculiarly-shaped form for receiving the piece to be dressed to the shape required for the rule. This form is arranged in relation to rotary cutters connected with the
15 machine, so as to dress the material in a diagonal direction to the line of the grain of the wood, the said form and piece being fed to the cutters in an oblique line or direction thereto.

For a more full and complete description of
20 the said invention reference will be had to the following specification, and to the annexed drawings, making part of the same, in which—

Figure 1 is a side elevation of the machine; Fig. 2, a top view; Fig. 3, an end view, and
25 Fig. 4 a longitudinal section of the form for holding the piece for dressing. Fig. 5 will be referred to in the description.

Like letters of reference refer to like parts in the several views.

30 In making lumber or log rules it has been the usual practice to dress the wood part thereof by hand in the line of the grain with planes, which is a slow and difficult mode, as the wood (hickory) is hard to work and its
35 grain very liable to spalt and split out, owing to its tenacity and fibrous character; hence much care and expert labor is required for this work. With my improvement this labor is greatly reduced and the work more quickly
40 and better done.

The mechanism required for the practical operation of this improvement consists of a machine having a revolving cutter, A, between
45 feed-rollers B, provided with suitable bearings and mounted in a frame, C, Figs. 1 and 2. The said rollers operate conjointly by means of the gearing D E F, and the revolving cutters by means of a belt on the pulley G, Figs. 2 and 3. The counter-shaft H is provided with
50 a pulley for operating the feed-rollers. These mechanical devices are subject to modifications

without departing from the nature of the improvement.

The piece for the rule is split out from the butt-end of the tree, and is roughly shaped to
55 fit into the form I, as indicated at J, Fig. 1. This form is provided with parallel sides *a a*, with a longitudinal space, *b*, Fig. 2, between. The floor or bed *c* is curved along the part *d'*, and is slightly on an incline plane from the
60 curve to the end *e*, as seen in Figs. 1 and 4. The end at *e* is opened and the opposite end, *f*, is closed. The space *b* forms a rectangular groove with the bed *c*, curving along a portion
65 of the groove and an incline plane extending to the open end from the curved portion.

As stated, the rule-piece is split out to fit into the form between the sides *a a*, and held in place by means of the set-screw *h*, which
70 prevents the piece from springing out of place while being dressed to the shape J, Fig. 5. The form, with the piece therein, is then placed under the feed-rollers B, between the guides
75 *J' J'*, attached to the bed K of the machine. These guides are in an angular relation to the rollers and cutters, as seen in Fig. 2, for a purpose hereinafter described.

By means of the feed-rollers the form I is moved across the table between the angular
80 guides in either direction, according to the motion of the feed-rollers. The cutters may also be reversed, so as to cut in accordance with the direction of the piece.

It is preferable to move the form in the direction of the arrow in Fig. 2 by means of the
85 rollers, as the cutters will then be revolved in an opposite direction to the arrow as arranged. The longitudinal pressure or force of the piece J, by the action of the cutters and rollers, will then be against the closed end *f*, with which
90 it will abut at the end.

The rollers B have a compound action upon the piece in the form—that of feeding it obliquely across the table, and at the same time
95 of pressing or forcing down the wood into the groove or channel *b*. Forcing down the piece upon the bed *c* causes the wood to bend to the shape of the bed-form, and when dressed off on one side it is turned over and dressed off
100 on the other, both sides of the wood piece being forced down alternately upon the bed *c*, which causes the rule-piece J to be of the shape

seen in Fig. 5 when thus dressed by the cutter, which is the desired shape to give the peculiar spring or elasticity required in flexible measuring lumber-rules.

5 By means of mechanical devices connected with the machine the form or cutters may be so adjusted to each other as to dress the piece more or less, as the nature of the work may require.

10 The peculiar nature of the wood needed for lumber-rules is such that in dressing or planing it in the ordinary way it spalts out, and, owing to the tough fibers of the wood, they are very liable to string or split out along the
15 line of the rule-piece, so as to render it unfit for a perfect rule. To avoid this waste and spalting of the fiber I cause the piece to be dressed diagonally with the line of the grain of the wood, instead of longitudinally, as in
20 the ordinary way. By dressing the piece in this way the cut is oblique with the grain, which prevents the grain from spalting and tearing out in dressing and planing by the revolving cutter.

25 The edges of the rule-piece are prevented from splitting off, being supported by the sides *a a* of the form, which are in close contact with the edges of the piece and only slightly below the wood, to avoid touching the rotary cutters.

30 By thus dressing the rule-pieces they are more evenly and uniformly finished; the surface is thus better for the figures and letters than if

dressed in the ordinary way, in the line of the grain, which causes the necessity of more skilled labor and time than by the improved 35 mode described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An improvement in the art of manufacturing lumber—such as log and lumber—rules, 40 consisting in placing the blank in a form, which protects the edges thereof, and dressing the said piece when arranged therein in an oblique position in relation to the cutters, substantially as described.

2. The form I, with sides *a a*, and the bed *c* thereof conforming to the faces for the rule, 45 of substantially the form shown, whereby the rule-piece may be dressed, when in the form, to the desired shape by means of the cutters and 50 rollers, substantially in the manner as described, and for the purpose set forth.

3. In combination with the rotary cutters and feed-rollers, the form I, having the bed 55 curved substantially as described, and guides *J*, arranged in an angular relation to said cutters, in the manner substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD T. LUFKIN.

Witnesses:

W. H. BURRIDGE,

J. H. BURRIDGE.