

JOHN C. MACKAY.

Lath Machines.

PATENTED FEB 28 1871

112261

Fig. 1.

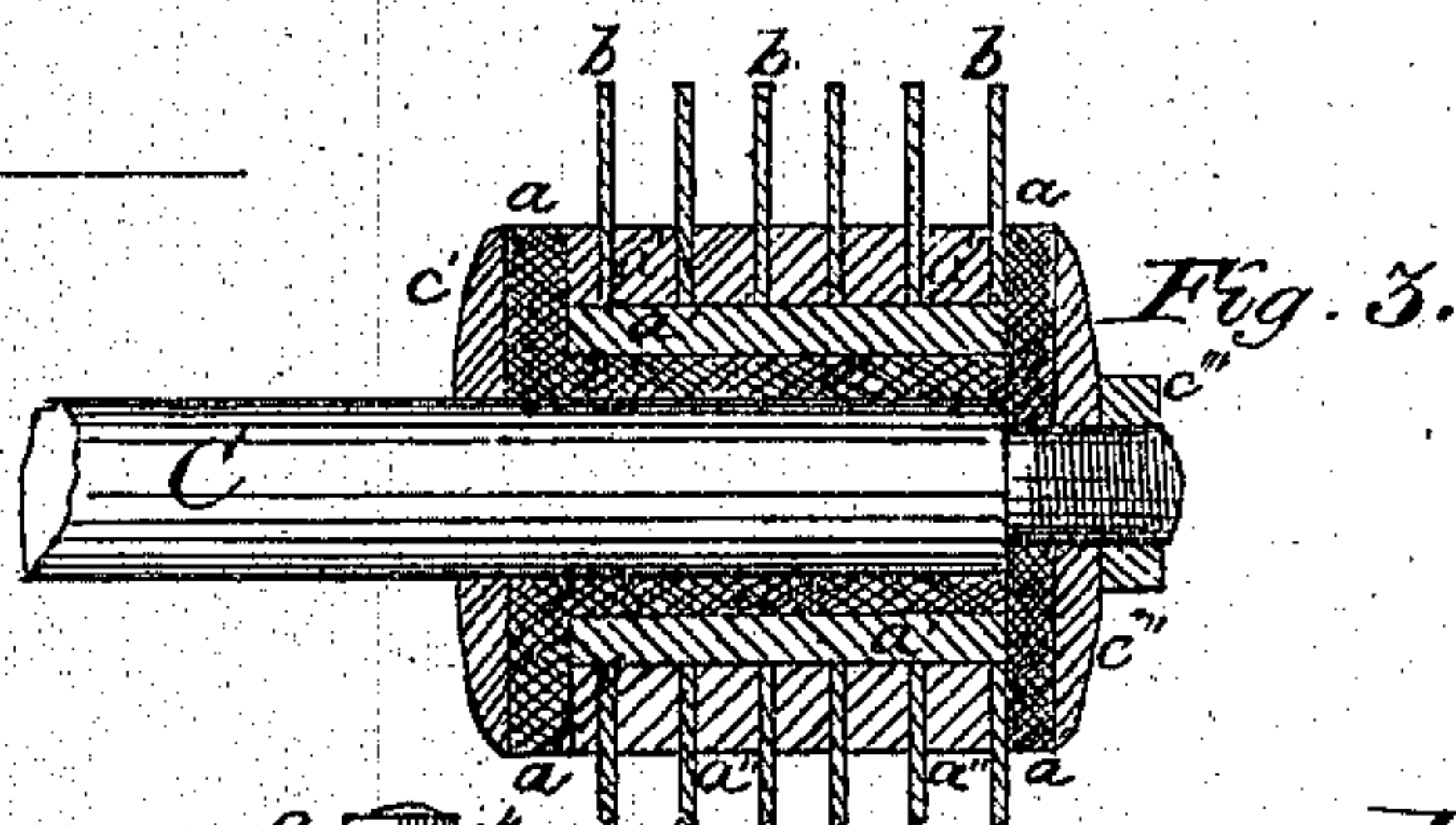
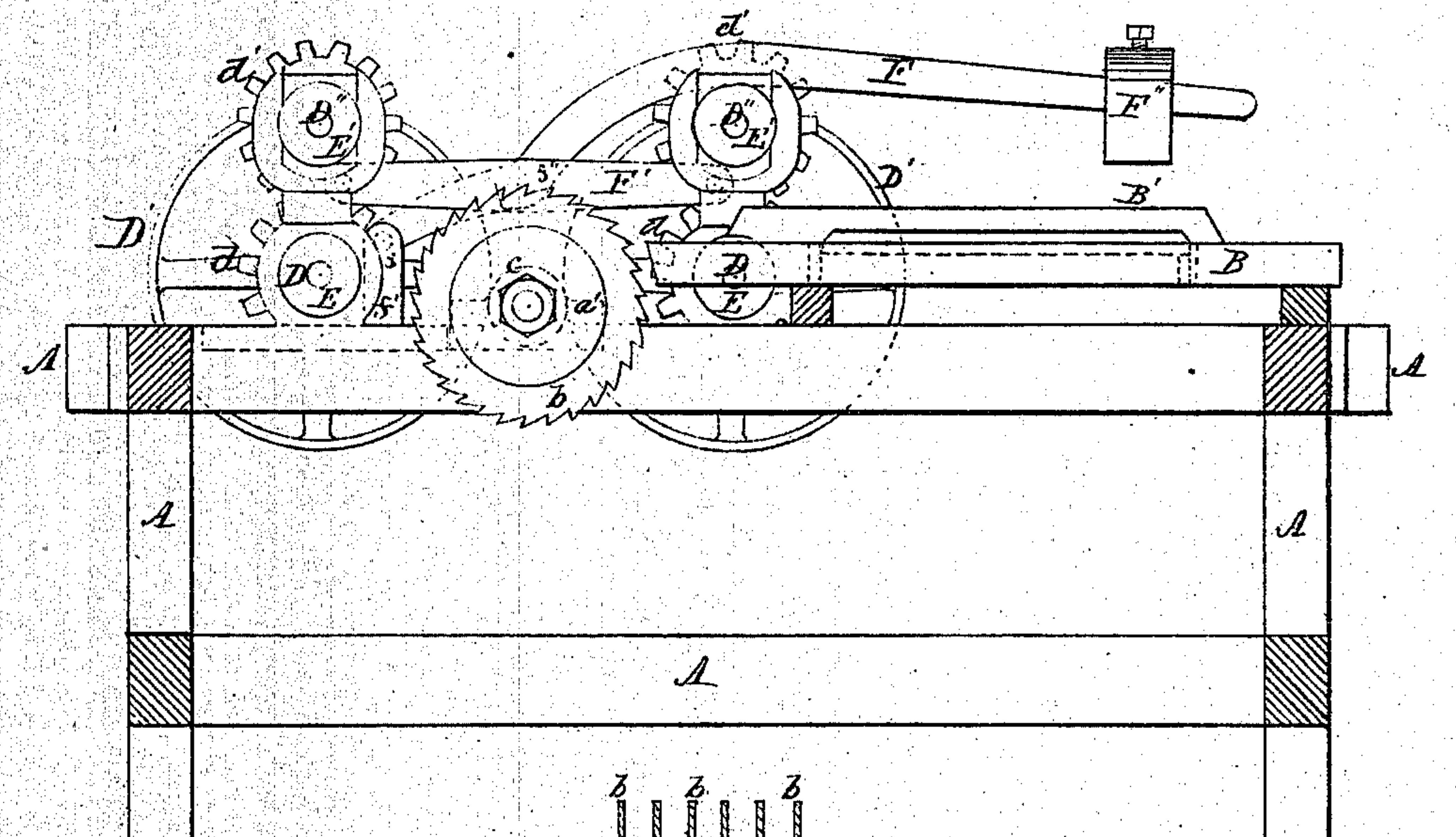
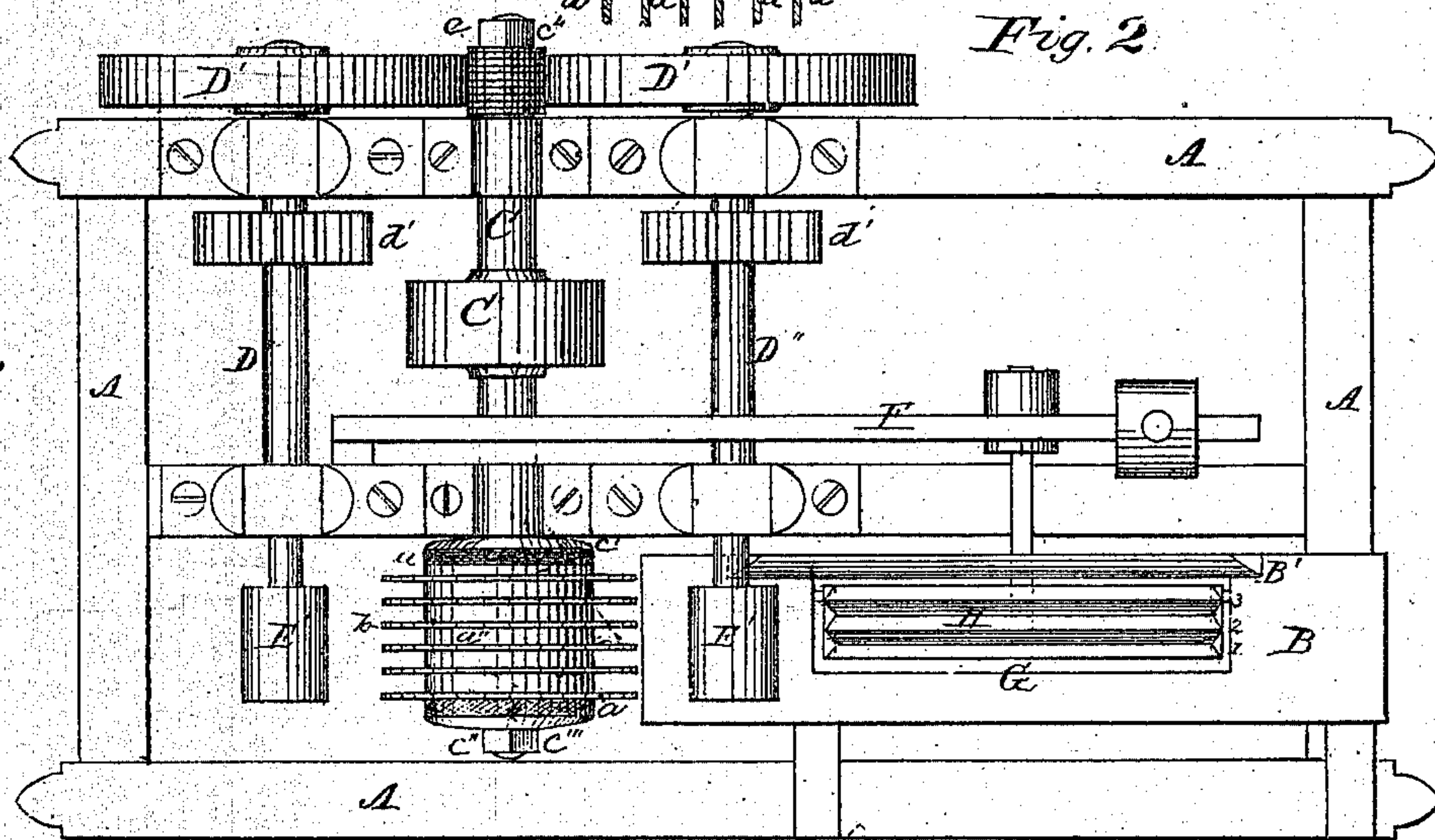
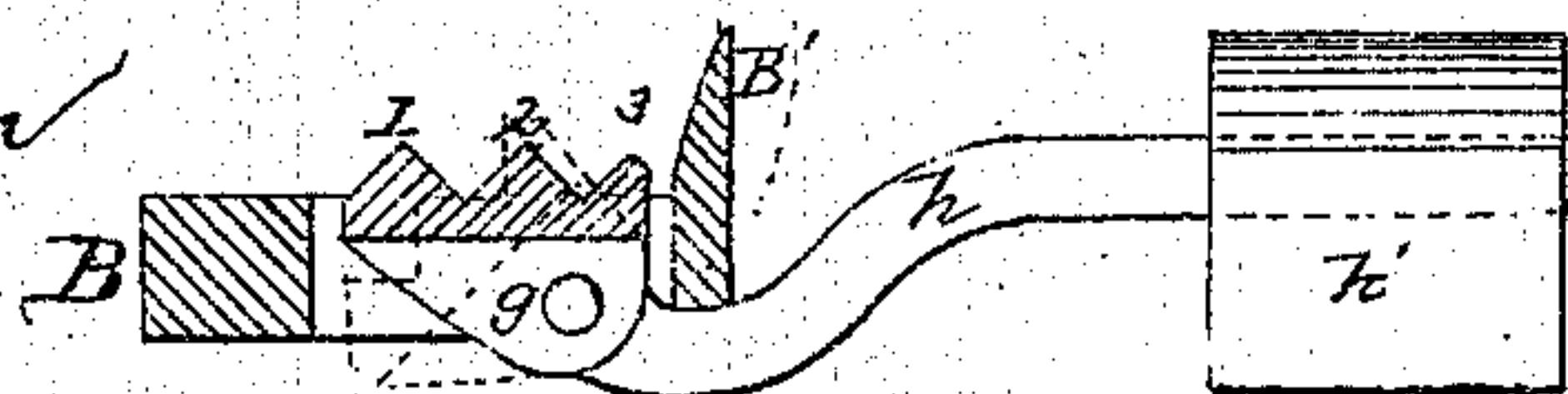


Fig. 2.



Witnesses:  
 Newton Cranford  
 Charles Chinn

Fig. 4.



Inventor

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# United States Patent Office.

JOHN C. MACKAY, OF IONIA, MICHIGAN.

Letters Patent No. 112,261, dated February 28, 1871.

## IMPROVEMENT IN LATH-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN C. MACKAY, of Ionia, in the county of Ionia, in the State of Michigan, have made certain Improvements in Machines for Sawing Lath and other pieces of wood, of which the following is a specification.

The object of the invention is—

First, to prevent the saw or saws from becoming heated in the operation of sawing lath or other small pieces from bolts of wood; and

Second, to obtain a better means of guiding the bolts to the saws that cut the lath; and

It consists in the application of means for preventing the heating of the saws, and in the construction of the guide or fence against which the bolt slides in its passage to the gang of saws to be sawed into lath or other pieces, and also in the construction of the pulley for driving the feed-rollers.

In the drawing—

Figure 1 is a side view of the machine;

Figure 2 is a top view of the same;

Figure 3 is a section of the gang of saws, the saw-arbor, interposed fibrous non-conducting substance, cylinder or removable sleeve, and separating-washers; and

Figure 4 is an end view of the pivoted guide-way for feeding bolts of different width to the saws, to be cut into lath.

A is the frame that supports the machine.

B is the bed upon which the bolt from which the lath is to be sawed is laid and fed to the saws, and may be made of metal, wood, or other suitable material. In this bed is a rectangular opening, G, the purpose of which will be hereafter described.

C is the saw-shaft, working in proper bearings on frame A, with driving-pulley C', the gang of saws *b b*, the interposed fibrous non-conducting substance *a*, removable cylinder *a'*, adjusting-washers *a'' a''*, collars *c'* and *c''*, with nut *c'''* on one end, and the friction-pulley *c* and nut *c'* at the other end.

The driving-pulley C' gives motion to the shaft C and saws *b b*, while the friction-pulley *c* is made to come in contact with and give motion to the driving-pulleys D' D' on shafts D D, which have feed-rollers E E on their ends, and gear-wheels *d d* thereon gearing into gear-wheels *d' d'* on shafts D'' D'', and thus give motion to the upper feed-rollers E' E'.

As the thickness of the bolt from which the laths are to be sawed may vary, in order to give lath of different widths, the upper feed-rollers are made to rise and fall. To admit of such change in the width of the bolt, and yet keep sufficient hold upon the bolt to feed it to the saws, a weighted bent lever, F, is employed, which is pivoted at *f* to a post, *f'*, and at *f''* to cross-bar F', which is pivoted to the boxes through

which the shafts D' pass, by which arrangement, when a thicker bolt is fed in between the two first feed-rollers, the upper roller will rise, carrying with it the end of the cross-bar F', and raise the weighted lever F, and, as the bolt passes on to the saws, and the sawed lath goes between the last pair of feed or delivery rollers, the upper roller will also be raised and carry with it the journal-box and the other end of the cross-bar F', which will also raise the weighted lever F still more, this connection being such that either one or both of the upper feed-rollers may rise or fall, as circumstances will dictate.

The back ends of shafts D' work in boxes that can oscillate in their supports freely.

The weight F' can be adjusted upon the lever F, to give more or less pressure upon the feed-roller, as may be desired.

The friction-pulley *c* is made up of a number of disks of the proper diameter cut from pasteboard, and when enough of these disks are prepared to make the pulley of the proper length, they are glued together and placed upon the saw-shaft C, and the nut *c'* turned hard up against the disks, forcing them into close contact, and, when the glue is hardened, the pulley is turned off to the right size, and it is ready for work, which forms a cheaper, more durable, and truer wearing pulley than any other substance known to applicant; and this construction of pulley can be successfully applied as a friction-pulley to larger mills for sawing lumber, for operating the carriage, as it will stand severe shocks and not be harmed or put out of true.

In order to prevent the communication of heat from the saws from the arbor or shaft C, a flanged cylinder *a*, of fibrous non-conducting substance is securely attached to the shaft C, and bearing against the collar *c'*, and, when so attached, is turned off truly, so that the removable sleeve or cylinder *a'* shall fit over and against the fibrous non-conducting substance *a*, with a washer, *a''*, that will just slide closely over the sleeve *a'*, is forced against the substance *a*; then a saw, *b*, is next put on, followed by another washer, and so on until the gang of saws is complete, when a disk of the non-conducting substance is placed against the last saw and a collar, *c''*, against that, and the nut *c'''* turned hard up against the collar, when the gang of saws with the non-conducting substance interposed, is complete and ready for service.

In the rectangular opening G in the bed B is placed an oscillating guide-way, H, having angular grooves in its upper surface, forming points 1, 2, and 3. The guide-way is pivoted at its ends, at *g*, to the bed, so as to freely oscillate or turn upon its pivots, and fast to the back side is a bent arm, *h*, that extends



away from the bed, and has an adjustable weight thereon that can be graduated to exert a greater or lesser overbalance, as desired.

The object of this guide-way is, if a bolt will make out two lath, point 1 becomes the guide or fence against which the bolt is placed to feed it to the saws; but, if it will make another lath, then it is placed against point 2, and against which it is fed to the saws; or, if it will make more, it is placed against point 3, or against the fixed fence or guide B'.

Any number of grooves and points may be used up to the number of saws in the gang.

In running the bolt against any one of these points, 1 or 3, the side of the grooved guide-way next the attendant is forced down, so that point 1 will be on a plane with the top of the bed B, and so on; and, if the bolt is large enough to be guided against the fixed fence B', then the point 3 will be on a line with the top of the bed, and, as soon as the bolt has passed off

of the grooved guide-way, the weight  $h'$  on arm  $h$  will bring the guide-way back to its horizontal position.

Having thus described my invention,

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

1. The fibrous non-conductor  $a$  on the saw-arbor C, in combination with the cylinder or sleeve  $a'$ , saws  $b b$ , and washers  $a''$ , in the manner and for the purpose described.

2. The pivoted grooved guide-way H, having points 1, 2, and 3, arm  $h$ , and weight  $h'$ , in the manner and for the purpose described.

3. The friction-pulley  $c$ , when constructed from disks of pasteboard, as described, and used in combination with the pulleys D' D', in the manner and for the purpose shown.

Witnesses:

JOHN C. MACKAY.

NEWTON CRAWFORD,  
CHARLES CHINN.