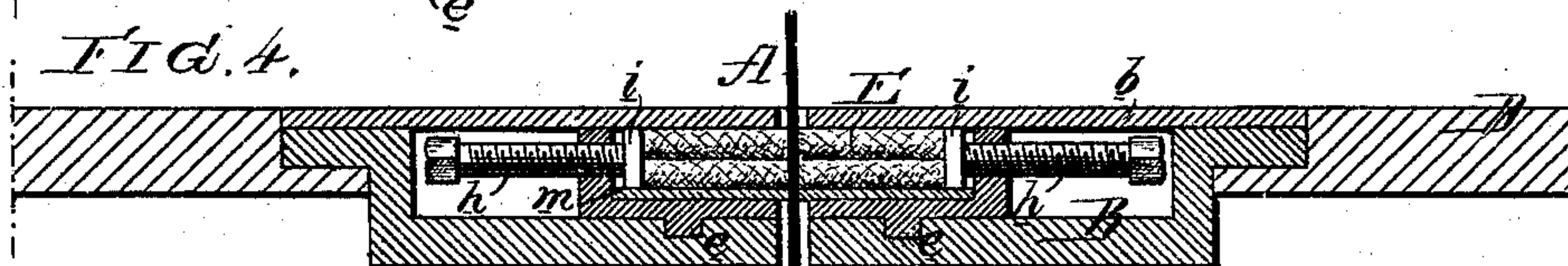
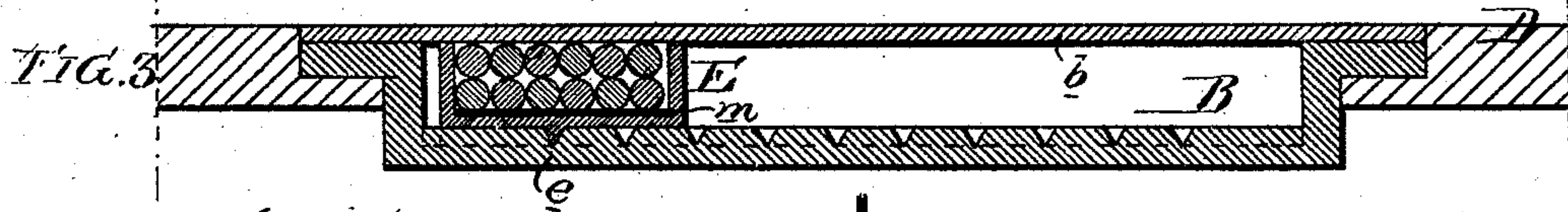
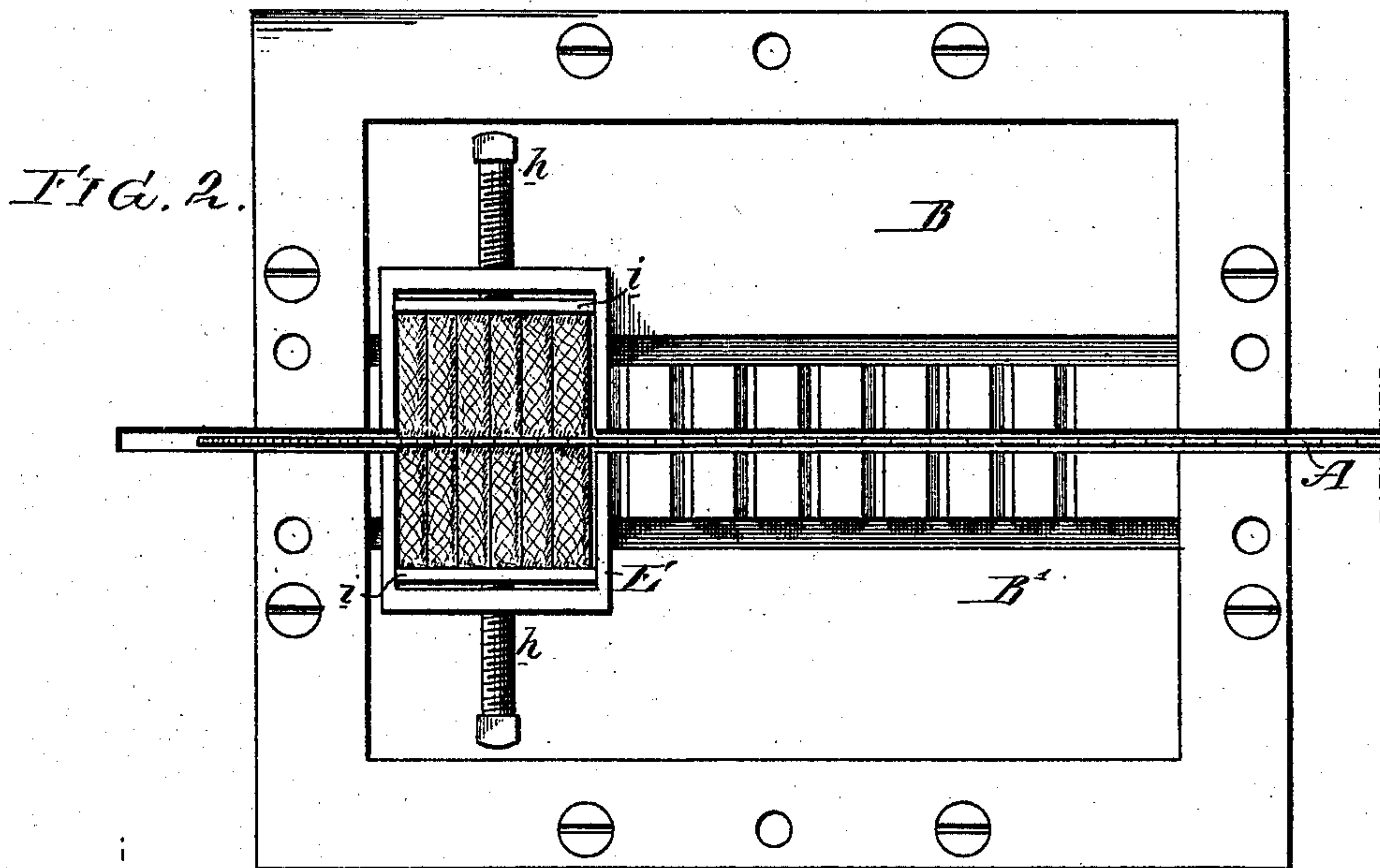
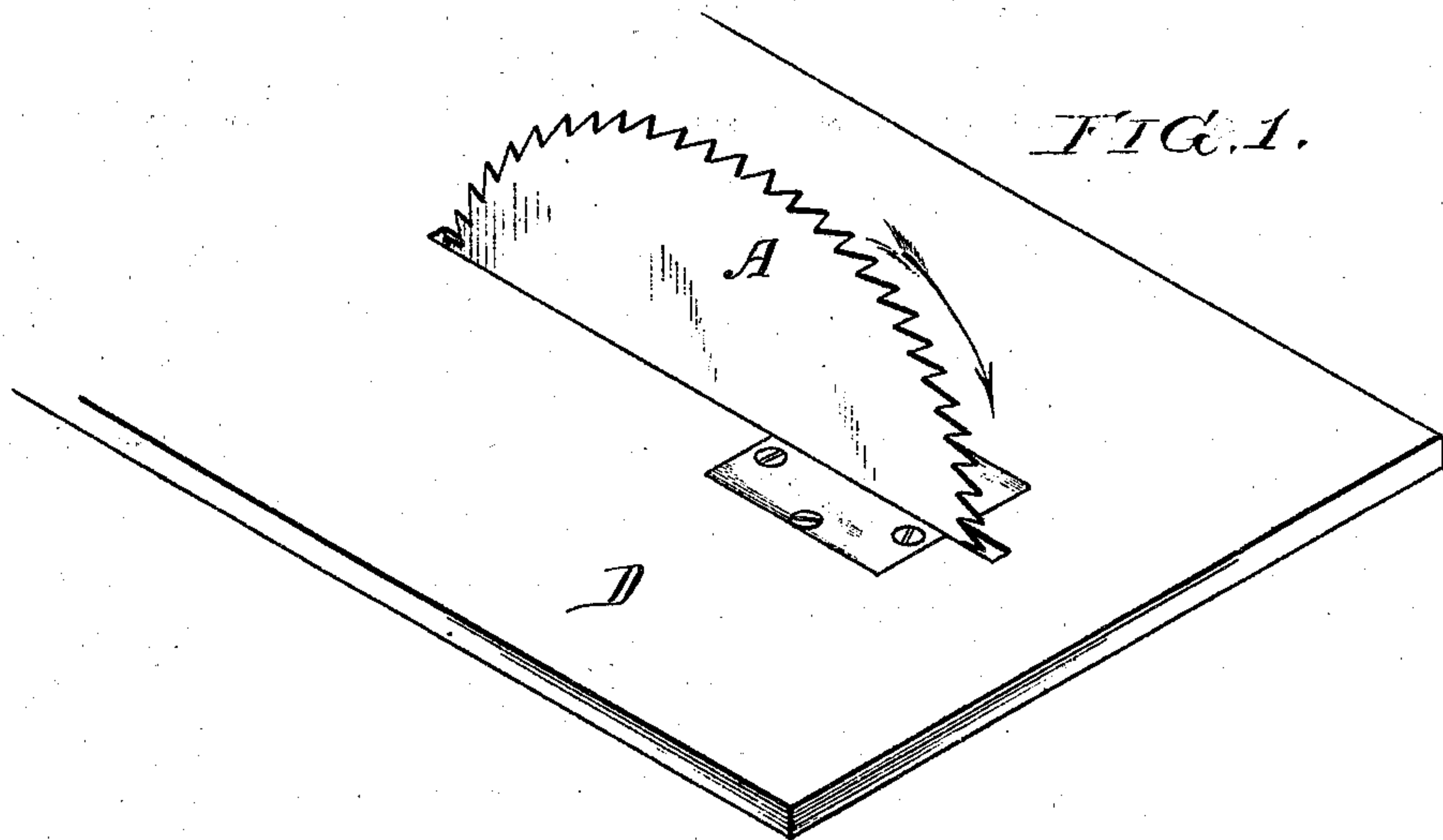


J. SMITH.
Circular Saw-Machines.

No. 150,723.

Patented May 12, 1874.



Witnesses, Harry Smith
Thomas McSwain

John Smith
by his attys.
Howson and Son.

UNITED STATES PATENT OFFICE.

JOHN SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HENRY
DISSTON & SONS, OF SAME PLACE.

IMPROVEMENT IN CIRCULAR-SAW MACHINES.

Specification forming part of Letters Patent No. **150,723**, dated May 12, 1874; application filed
February 23, 1874.

To all whom it may concern:

Be it known that I, JOHN SMITH, of the city and county of Philadelphia, State of Pennsylvania, have invented Improvements in Circular-Saw Machines, of which the following is a specification:

The object of my invention is to lessen the waste of wood, and to insure a clean cut by circular saws; and these objects I attain by combining, with the blade of the saw and its table, adjustable packing-boxes, one on each side of the blade, as shown in the perspective view, Figure 1, and plan view, Fig. 2, of the accompanying drawing, so that the said blade, which may be much thinner than usual, may be guided by and between the packing at a point near the cutting-edge, no matter what the altitude of the table may be in respect to the saw.

Ordinary circular saws are very apt to become warped, especially when heated, and in order to prevent this warping as much as possible the blades are made comparatively thick and strong, an excessive set being frequently imparted to the teeth, so that a warped blade may not interfere materially with the progress of the wood submitted to the saw. This results not only in great waste of wood, owing to the width of the cut made by the saw, but the cut itself is frequently of an irregular and ragged character.

These objections I obviate by the invention which I will now proceed to describe.

A represents a thin circular-saw blade, arranged to revolve in the direction of the arrow, and D represents the table. Into this table are let two recessed plates, B and B', one on each side of the blade, with sufficient space between them to permit the said blade to revolve freely. To the top of each plate is fitted a cover, *b*, (best observed in the longitudinal section, Fig. 3, and transverse section, Fig. 4,) the upper surface of this cover-plate being in the same plane with that of the table. A packing-box, E, is confined within the recess of each plate B by the cover *b*, on removing which the said box can be adjusted longitudinally in the said recess, the under

side of the box being provided with a projection, *e*, adapted to any one of a number of notches in the bottom of the recess, so that the said box, after securing the cover *b*, may be steadily retained in any position to which it may have been adjusted.

Each box E is open at the top for the reception of the packing, which may consist of a number of short pieces of the lubricated packing-rope usually employed in connection with the stuffing-boxes of steam-engines. Each box is open at the end nearest the saw-blade, so as to permit the packing to be forced against the same by a set-screw, *h*, and plate *i*.

Between the under side of the layers of packing and the bottom of the box I interpose a thin strip, *m*, of hard wood, or other equivalent material, which, bearing with one edge against the saw-blade, prevents the latter from dragging portions of the packing downward from the box.

When the packing is properly set up by the screws *h* against the opposite sides of the blade, the latter must of necessity revolve truly, and hence the blade may be very thin, and the teeth may have little or no set, and consequently the result will be a very narrow cut in the wood subjected to the saw, and a saving of wood. The cuts, moreover, will be so clean that but little labor will be required in finishing the sawed surfaces of the wood. The packing will also serve to constantly lubricate the saw, and thus ease the passage of the latter through the wood.

In order to carry this plan of guiding the blade between surfaces of packing properly into effect, it is essential that the boxes should be made adjustable, in the manner described, or in some other available manner, for the packing-boxes to be available must always be as near as possible to the cutting-edge of the blade.

The tables of circular saws have frequently to be adjusted to different altitudes, and whenever this adjustment is demanded, it must be followed by such an adjustment of the boxes that their packing will always be as near as possible to the cutting-edges of the blade;

hence the provisions above described for changing the position of the boxes, and for securing them after adjustment.

I claim as my invention—

1. The combination, substantially as described, of adjustable stuffing-boxes, provided with followers *i* and screws *h*, and the table and blade of a circular saw.

2. The combination of the box *E*, provided with lugs *e*, the box *B*, the bottom of which

has notches to receive the lugs *e*, and the cover *b*, substantially as and for the purpose specified.

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

JOHN SMITH.

Witnesses:

WM. H. WRIGHT,
F. C. DISSTON.