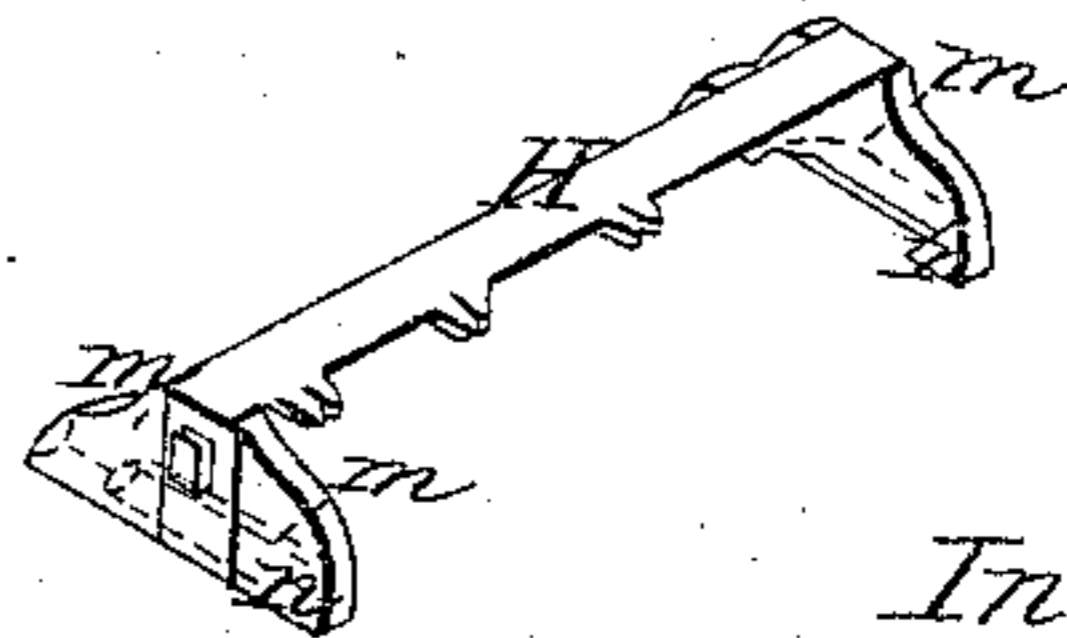
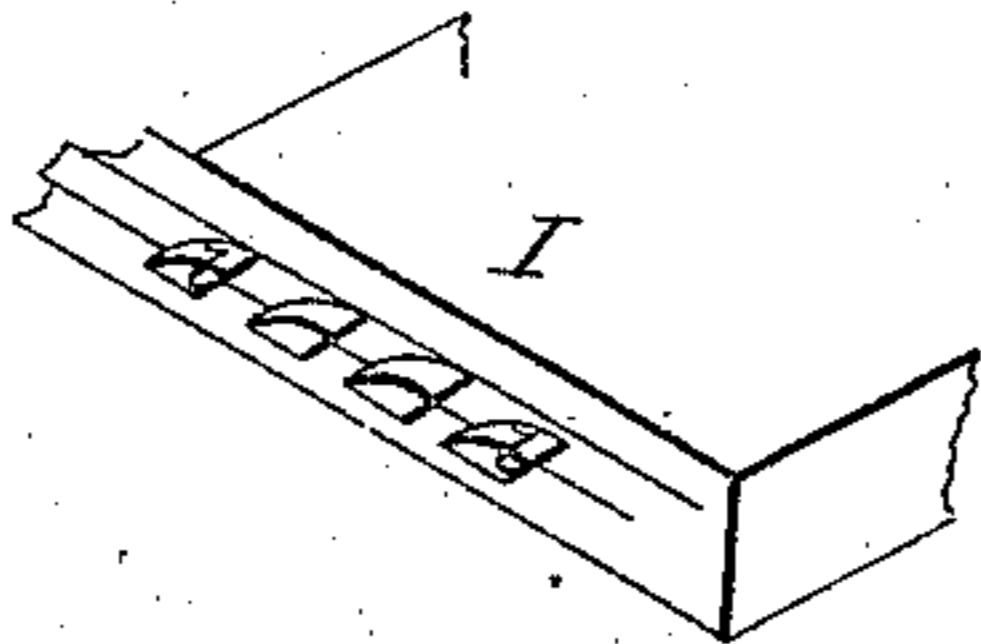
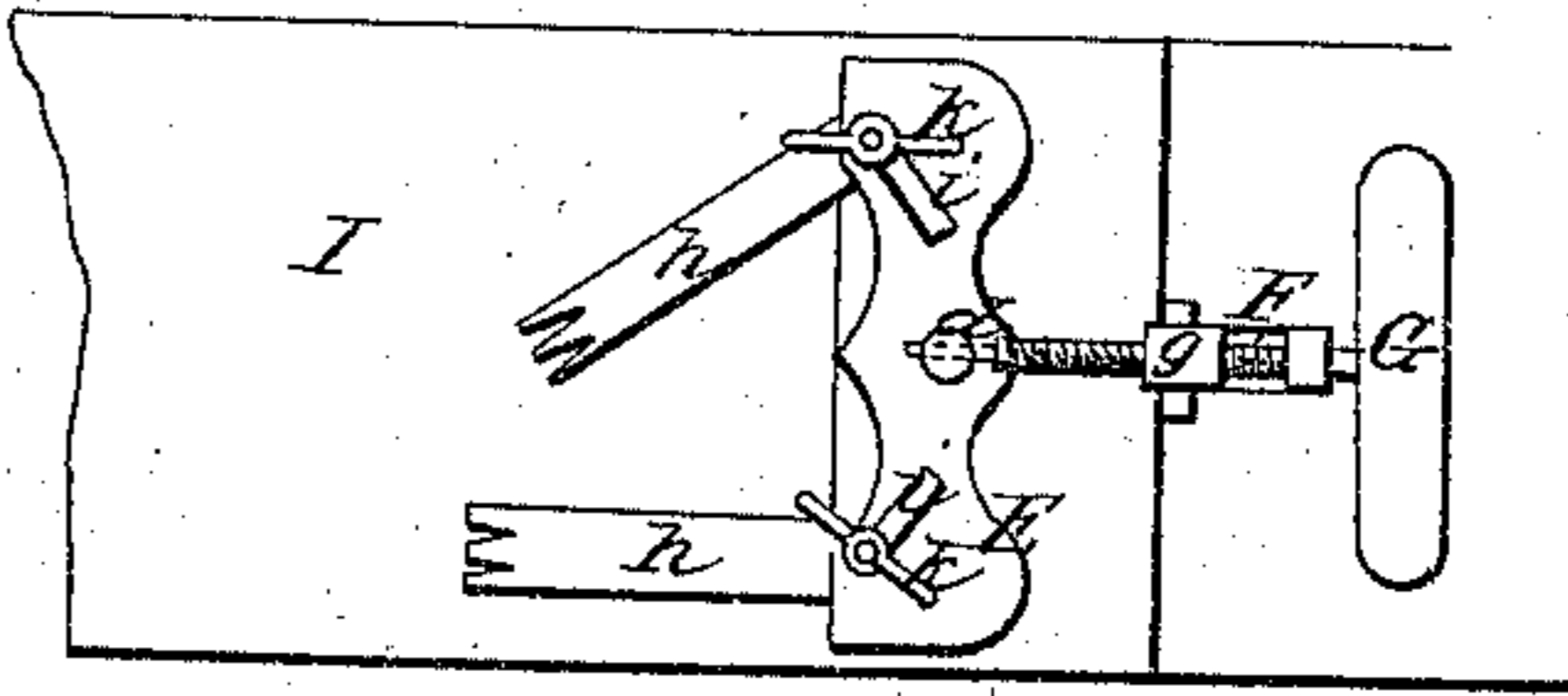
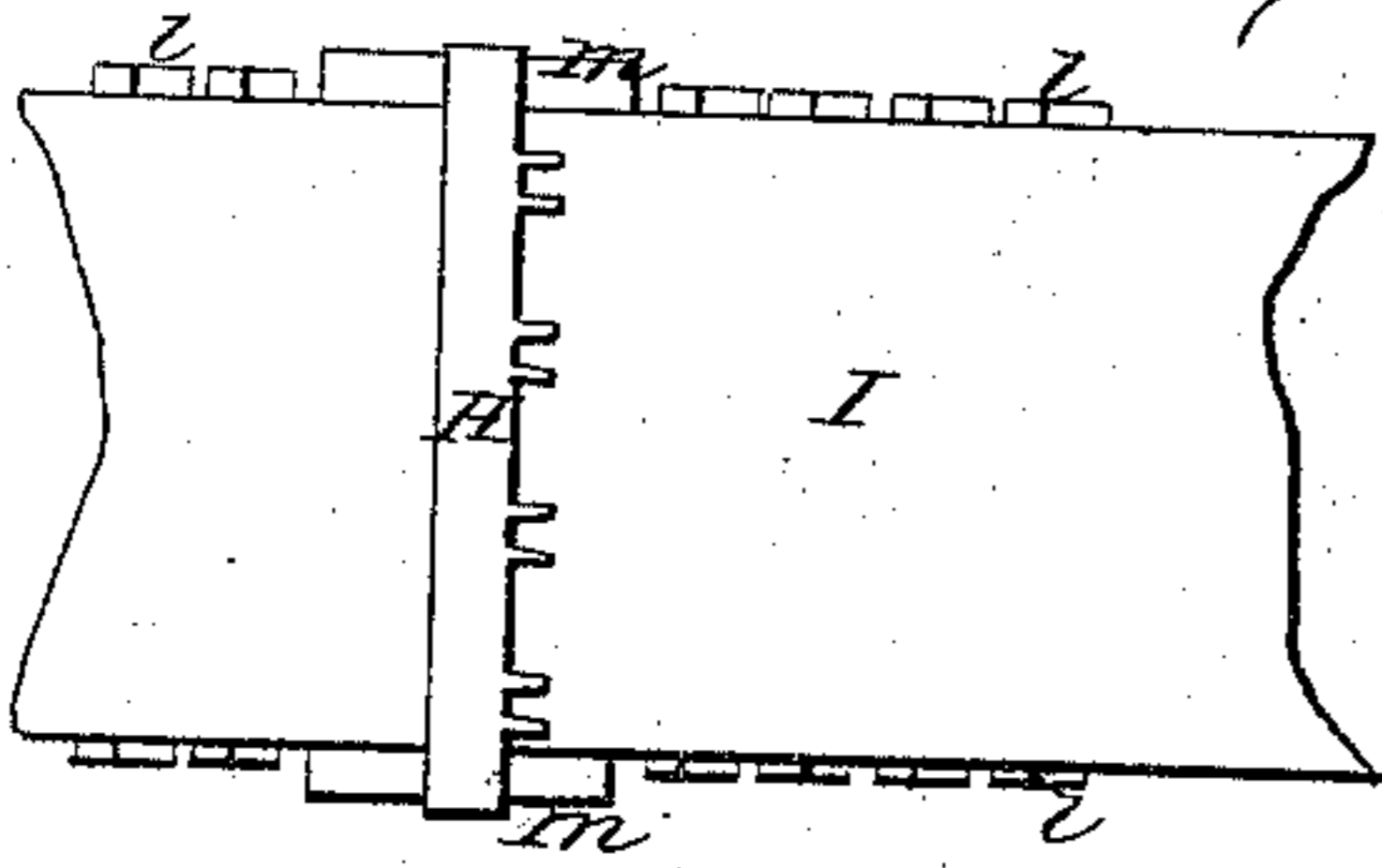
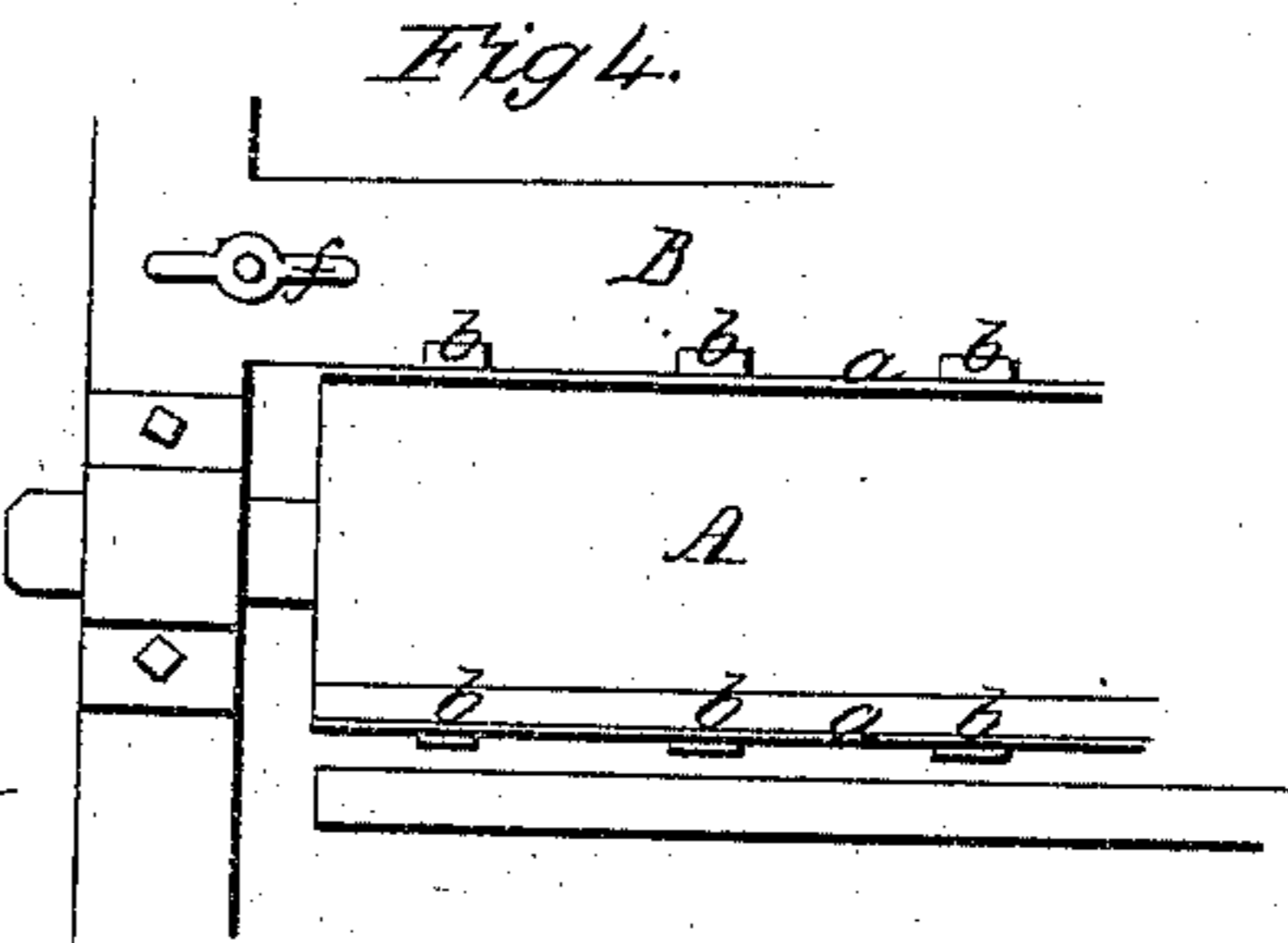
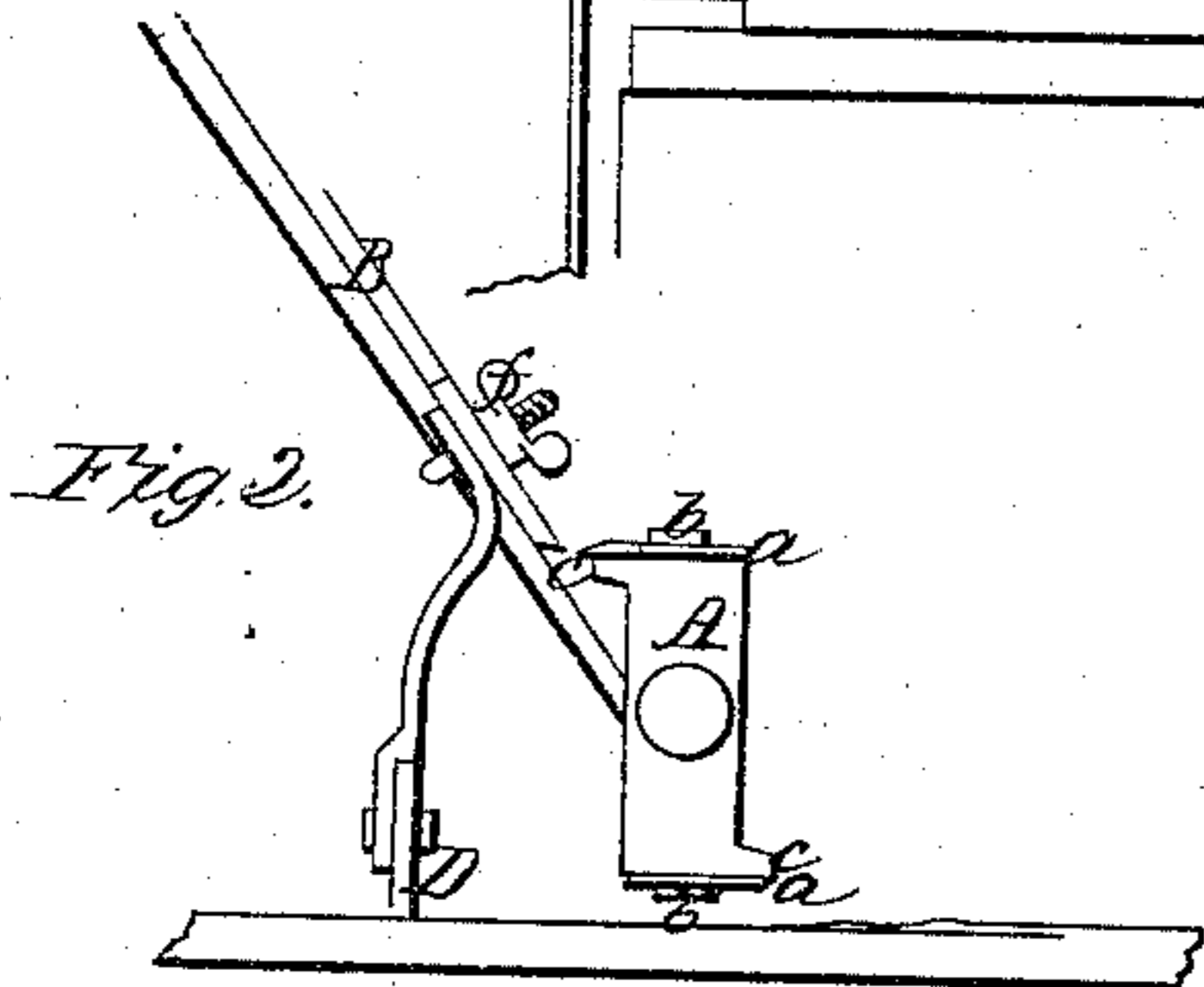
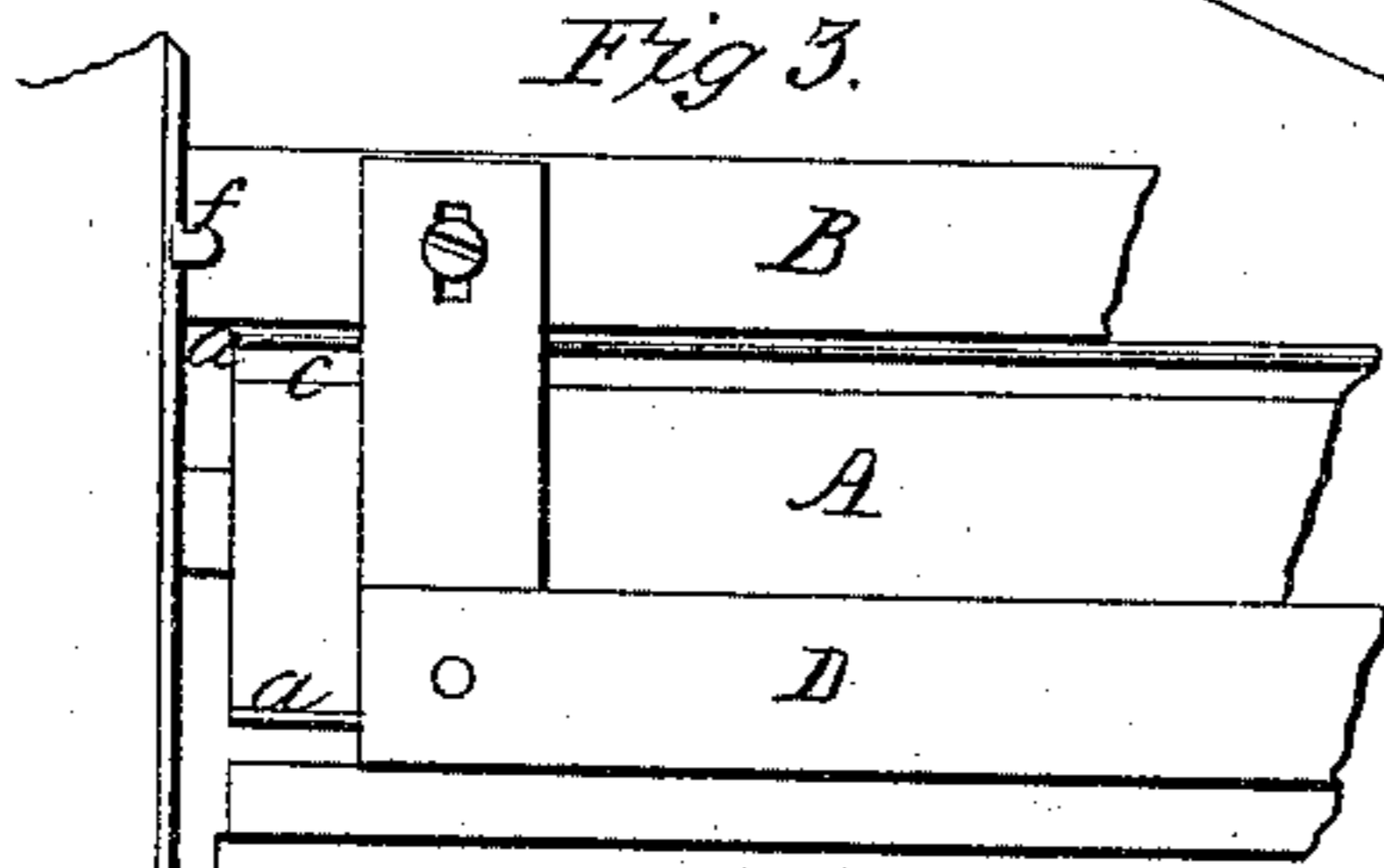
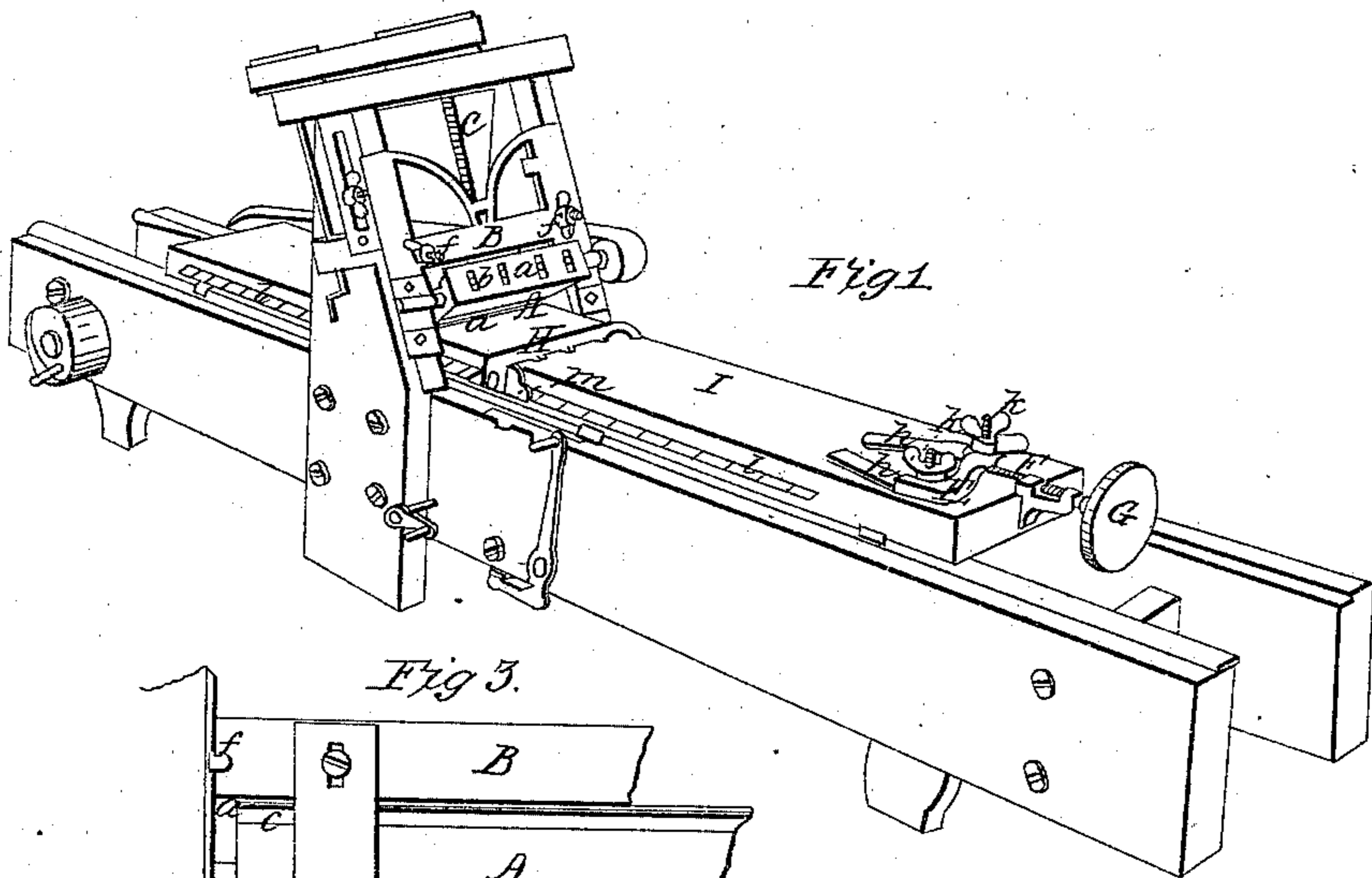


S. S. Gray,
Wood Planing Machine.

N^o 11,582.

Patented Aug. 22, 1854.



Witnesses
Sam. Cooper
John S. Brown

Inventor:
Seimon S. Gray

UNITED STATES PATENT OFFICE.

SOLOMON S. GRAY, OF SOUTH BOSTON, MASSACHUSETTS, ASSIGNOR TO S. S. GRAY AND S. A. WOODS.

MACHINE FOR PLANING LUMBER OUT OF WIND.

Specification forming part of Letters Patent No. 11,582, dated August 22, 1854; Reissued April 17, 1860, No. 945.

To all whom it may concern:

Be it known that I, S. S. GRAY, of South Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Planing-Machines, of which the following is a full, clear, and accurate description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of a planing machine with my improvements attached. Fig. 2 is a section through the cutter cylinder and the parts immediately connected therewith. Fig. 3 is a view of the bar which prevents the board from being raised by the action of the cylinder cutters. Fig. 4 is a front view of the cutter head and cutter. Fig. 5 a plan of the traveling bed with the clamps for securing the lumber.

Planing machines may be divided into two classes,—those in which pressure is applied to the plank, before and behind the cutter, and which reduce boards to a uniform thickness, and those which are calculated to plane out of wind, and in which consequently no pressure can be applied to the board. In machines of the latter class, of which the “Daniell’s planer” is an instance, it has not been found practicable to make use of cylinder cutters as these require that the board be held firmly upon its bed, or at least that it be prevented from rising therefrom; the necessity has therefore existed in machines for planing out of wind, of using cutters which revolve horizontally across the board, the operation of which is very slow.

The first part of my invention consists in a peculiar construction of cutter head for the purpose of more effectually turning and breaking the shavings,—the duty of the cap being performed by a portion of the cutter head which is peculiarly formed for the purpose as will be hereafter more fully explained.

My second improvement consists in a peculiar form of clamp which is especially applicable to “planing machines” of this class, by which boards with inclined ends may be instantaneously and securely dogged or pieces of different lengths may be planed at the same time.

To enable others skilled in the art to make and use my invention I will proceed to describe the method which I have adopted of carrying it out.

The general features of the machine as they do not differ from those of others of this class need not be here described.

A is the cutter head, of the form represented in Fig. 2—the plane irons *a* being secured to it by the screws *b* working in slots in the planing irons. Immediately back of the cutting edge of the planing iron the cutter head is made concave as seen at *c* Fig. 2 for the purpose of bending over and breaking the shaving. The cutter head itself is thus made to form the cap of the iron, its concave form immediately behind the cutting edge adapting it peculiarly to this purpose.

The cutter head is raised and lowered in the usual manner in its frame B by means of the screw C and is clamped firmly to its ways by the thumb nuts *f*.

E is the clamp seen in plan in Fig. 5. The body of the clamp is pivoted at its center *d* upon the end of the screw F which works in the nut *g* and is operated by the hand wheel G. The dogs *h* are pivoted to the body of the clamp and may be secured by means of the thumb nuts *k* in any position required for the purpose of holding pieces of different lengths or of dogging boards with oblique ends. One end of the board being secured to the movable dog H the dogs *h* are made to bear upon the other end of it the thumb nuts *k* are then tightened and the clamp which is forced up by turning the screw G adjusts itself by swiveling upon the point *d* until both its dogs have an equal bearing upon the end of the board. Both the dog H, and the clamp E are secured to the movable bed I which carries the lumber through the machine.

For the purpose of holding the dog H securely to the bed of the machine, and also to enable it to be readily and quickly moved to accommodate it to the different lengths of boards to be planed I make use of the following device—*l* are teeth or cogs which are suitably secured to both sides of the bed of the machine as seen in the drawings, the advance side being inclined and the top curved as represented in the different views given in Fig. 5.

The dog H is furnished with side pieces *m, m*, which are so mortised upon their inner side as to fit over the cogs *l* the inclined edge *n* of the mortise, bearing against the under side of the cogs—the dog is thus held immovably and firmly to its place while it

may be instantaneously and easily moved at any moment that it becomes necessary.

1. I claim the peculiar construction of cutter head herein described the cutter head
5 itself being made use of to turn and break the shaving in the manner of a double iron plane and being furthermore made concave for the purpose of facilitating this operation.

10 2. I claim the clamp as herein described for the purpose of dogging the lumber to the bed of the machine, the body of the clamp being pivoted at *d* and forced up by

the screw *F* or its equivalent, the dogs *h* being adjustable therein in the manner and 15 for the purpose set forth.

3. I claim the within described method of securing the dog *H* to the bed of the machine, by means of the teeth or cogs *l* and the mortises in the side pieces *m* for the 20 purpose set forth.

SOLOMON S. GRAY.

Witnesses:

SAM. COOPER,
JOHN S. CLOW.

[FIRST PRINTED 1913.]