(No Model.) 3 Sheets—Sheet 1.

G. L. MARBLE.

CLAMPING DEVICE FOR CROSS BEAMS OF PLANERS.

No. 382,653. Patented May 8, 1888.

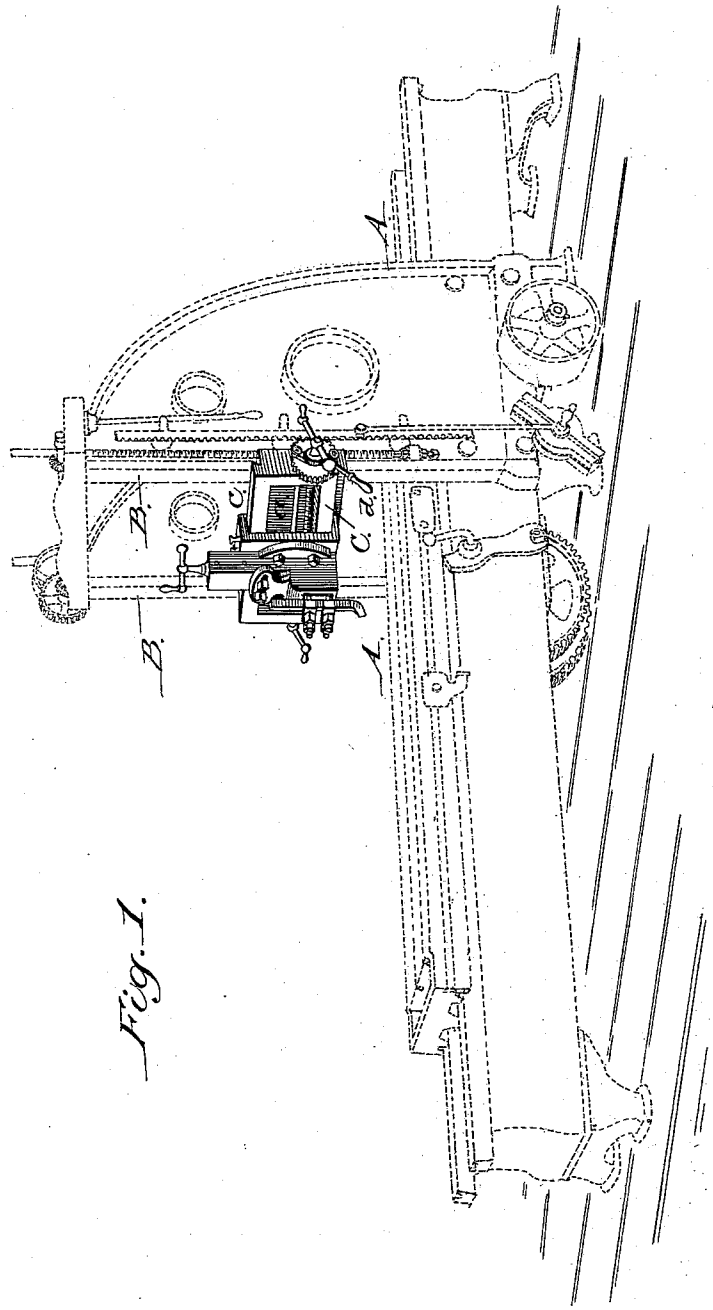


Fig. 1.

WITNESSES.
T. Walter Fowler,
W. H. Patterson.

INVENTOR.
George L. Marble,
by A. H. Evans & Co
his Attorneys.

N. PETERS. Photo-Lithographer, Washington, D. C.

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G. L. MARBLE.

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Fig. 2.

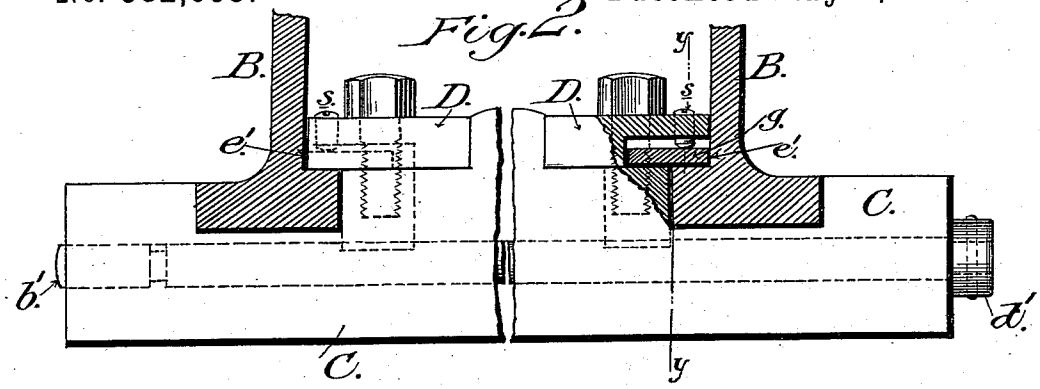


Fig. 3.

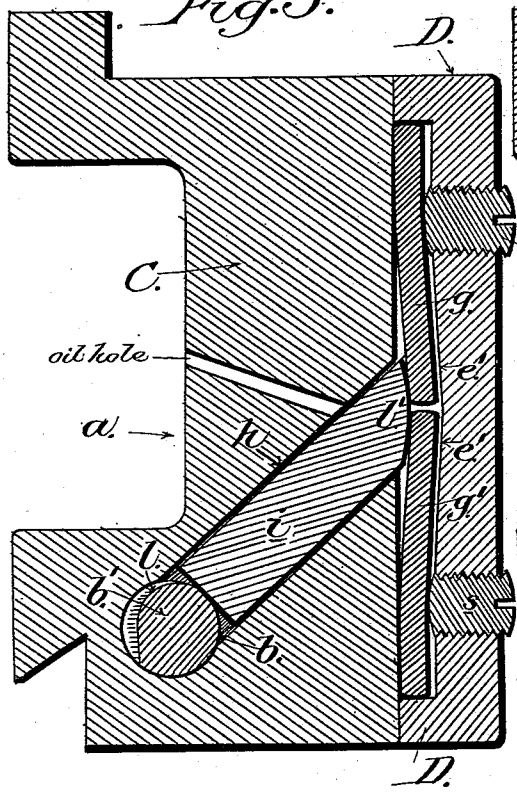
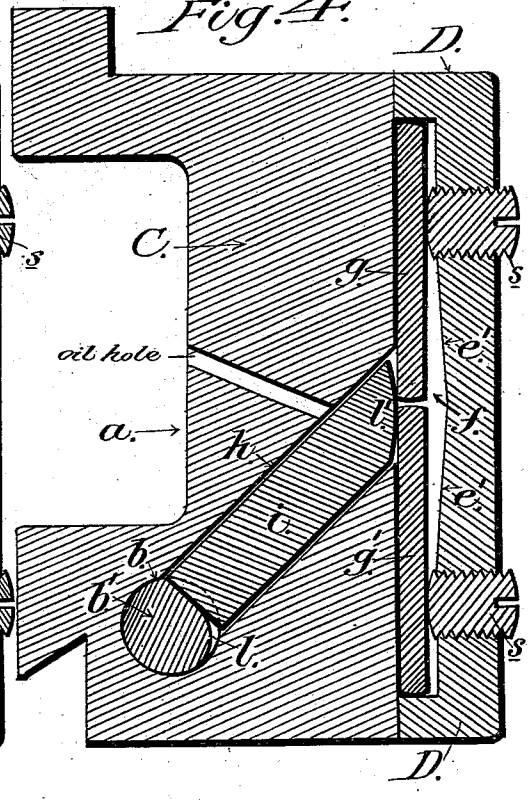


Fig. 4.



WITNESSES.
P. Walter Fowler,
M. H. Patterson.

INVENTOR.
George L. Marble,
by A. H. Evans & Co.
his Attorneys.

N. PETERS. Photo-Lithographer. Washington. D. C.

(No Model.) 3 Sheets—Sheet 3.

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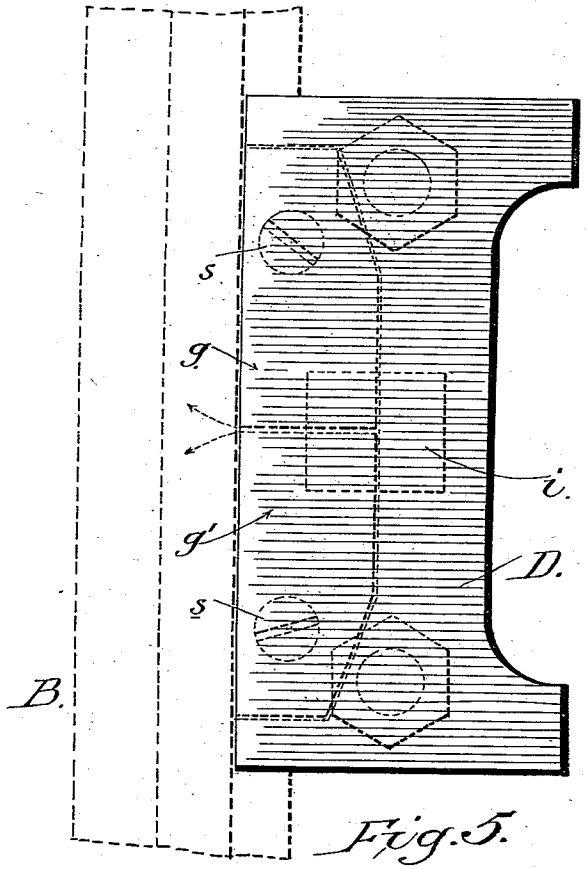


Fig. 5.

WITNESSES.
P. Walter Fowler.
W. H. Patterson.

INVENTOR.
George L. Marble,
by A. H. Evans and Co.
his Attorneys.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

GEORGE L. MARBLE, OF FITCHBURG, MASSACHUSETTS, ASSIGNOR TO THE FITCHBURG MACHINE WORKS, OF SAME PLACE.

CLAMPING DEVICE FOR CROSS-BEAMS OF PLANERS.

SPECIFICATION forming part of Letters Patent No. 382,653, dated May 8, 1888.

Application filed January 16, 1888. Serial No. 260,947. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. MARBLE, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Adjusting Devices for Cross-Beams of Metal Planers and Similar Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a metal-planing machine having my invention applied. Fig. 2 is a plan view of the cross-beam having the central section broken out and the uprights B B in section. Fig. 3 is a vertical sectional view on the line *y y* of Fig. 2, showing the binding devices in position to rigidly secure the cross-beam to the uprights. Fig. 4 is the same section with the binding devices loosened, so the cross-beam may be moved on the uprights. Fig. 5 is an elevation of the rear of the holding-plate, showing the binding devices in dotted lines.

Heretofore the tool-holding cross-beams of metal planers and similar machines have been held to the uprights or other sustaining devices by means of nuts and bolts, or screws, which need to be loosened and tightened at each end of the cross-beam as changes of elevation are required. This loosening and tightening of these nuts or screws involves considerable inconvenience and loss of time to the operative, and the object of my invention is to avoid their use and provide a means whereby the cross-beam can be secured to its supports rigidly at a single movement and without the workman moving from his working position at the machine.

To this end my invention consists in combining with the cross-beam of a planer or other similar machine a longitudinal rod capable of rotation or partial rotation, whereby it operates frictional binding devices which secure said cross-beam in a desired position rigidly.

My invention also consists in sundry details of construction, as will be hereinafter fully described, and specifically pointed out in the claims.

In order that those skilled in the art may make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the said drawings, (see Fig. 1,) A is the bed of the planer, B B are the uprights on which the cross-beam moves, and C is the cross-beam.

In all general respects the construction is after the well-known manner of constructing planers.

Below the recess *a* of the cross-beam, which provides for the transverse movement of the tool-holder, said cross-beam is bored at *b* to receive a cylindrical rod or bar, *b'*, having a protruding end, to which is secured a handle or lever, *d*, for rotating or partially rotating the bar, for a purpose hereinafter set out. Near the ends of the cross-beam and to its back are bolted two holding-plates, D D, which clasp the edges *e e* of the uprights B B, so that the cross-beam can slide up and down the dressed face of the uprights without becoming detached therefrom. The inner faces of the holding-plates D D are cut away, as seen at *f f*, to form a recess to receive hardened frictional binding-plates *g g g' g'*, each end of the cross-beam being provided with a pair of such binding-plates. A diagonal recess, *h*, is made near each end in the cross-beam C, one end of said recess merging in the opening *b*, bored for rod *b'*, and the upper or opposite end opening into the recess or housing *f* for binding plates or bars *g g'* at a point lapping the contiguous ends of each pair of the binding-plates. In each recess *h* is loosely placed a plunger or block, *i i*, adapted to be reciprocated by means of an eccentric, *l l*, on the rod *b'*, said block having its lower end engaging said eccentric and its opposite end *l'* abutting against the contiguous ends of each pair of frictional binding-plates *g g'*. Projecting into the recesses *f f* are adjusting-screws *s s*, the inner ends of each screw bearing against the surface of one of the frictional binding-plates *g g'*, and forming a fulcrum for each of said binding-plates.

The binding or holding devices being in the position shown in Fig. 4, the operation is as follows: The cross-beam is moved by the usual adjusting screws to any desired position on the uprights B B. The handle or lever *d* is turned and turns or partially rotates bar *b'*, thereby,

through the medium of eccentric *l l*, projecting the blocks or plungers *i i* toward and bearing against the contiguous ends of each pair of the hardened frictional binding-plates *g g'*. This pressure on the inner or contiguous ends of each pair of the binding-plates *g g'* causes them to rock or have a slight rotation on the ends of screws *s s*, whereby the opposite ends of said plates *g g'* are thrust laterally with great pressure against the rear faces, *i i*, of the uprights, and thereby rigidly secure the cross-beam to the uprights.

It is obvious that the amount of leverage with which the binding ends of plates *g g'* can be forced against the uprights may be increased or diminished by the projection or withdrawal of the adjusting-screws *s s*, and thereby changing the relative positions of the fulcrums and applications of power.

In this description and accompanying drawings, for the purpose of illustration, I have shown my invention applied to the holding of a cross-beam of a planing-machine; but I do not confine myself to this application alone, as many different adaptations of my improved holding devices may be made without departing from the spirit of my invention.

I claim—

1. The cross-beam C, having the inclined recesses *h*, the holding-plates D, provided with recesses, and the friction binding-plates seated therein, in combination with the operating-rod *b'*, passing through said beam and provided with eccentrics *l l*, and the loosely-seated plungers *i i* in said inclined recesses actuated by said eccentrics to produce a pressure upon the adjacent ends of the binding-plates, substantially as herein described.

2. The uprights B B and cross-beam C, having recesses *f f*, in combination with frictional binding-plates *g g'*. plungers *i i*, provided with eccentrics *l l*, rod *b'*, and handle *d'*, all constructed, arranged, and operated as set forth.

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

GEO. L. MARBLE.

Witnesses:
THORNTON K. WARE,
CHAS. E. WARE, Jr.