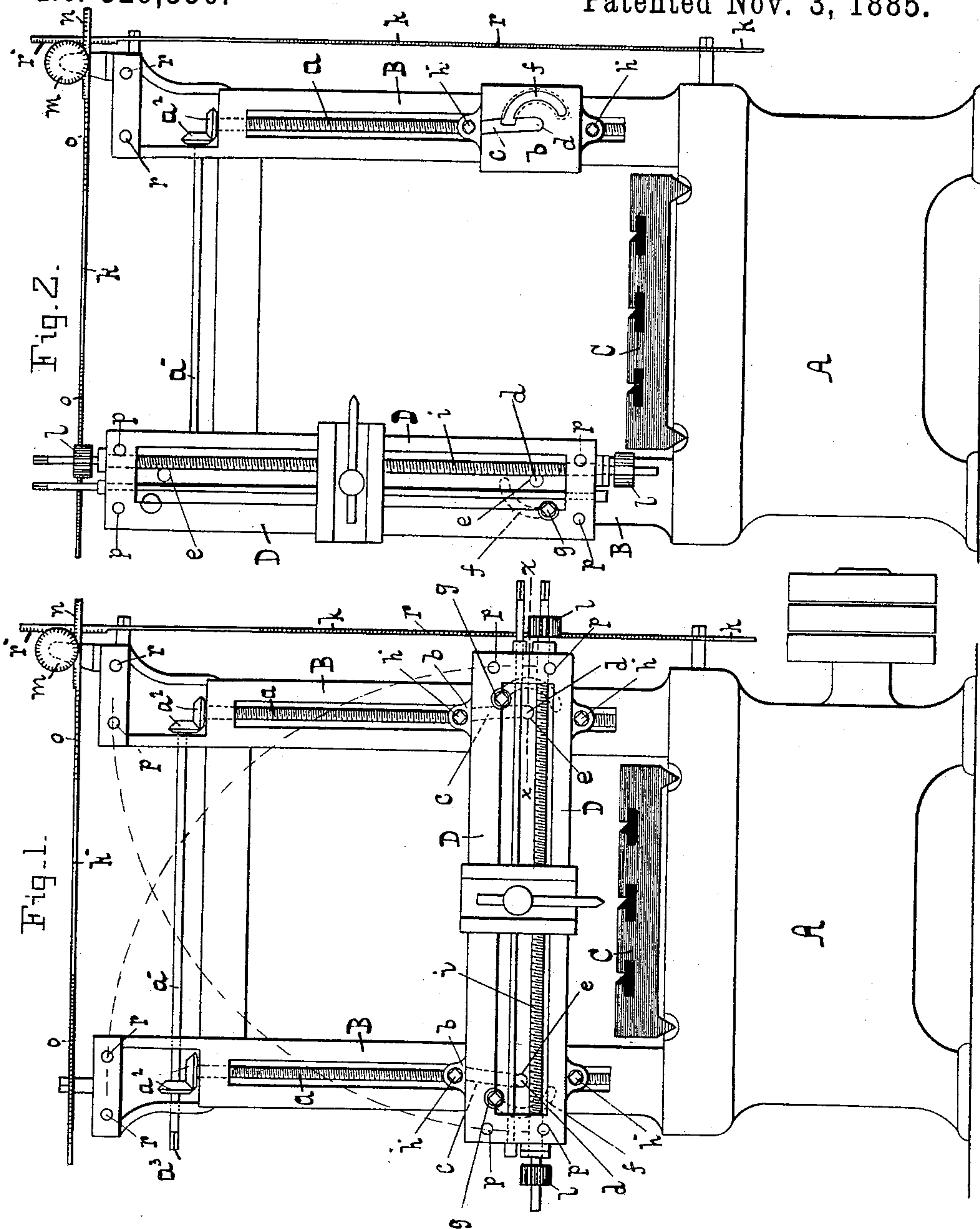


2 Sheets—Sheet 1.

METAL PLANNER.

Patented Nov. 3, 1885.



WITNESSES:

Hilsm Ringle
Ben. F. Bryden.

INVENTORS:

Deane D. Griffin
Lewis H. Bachtell

By

G. A. Boyden

Attorney.

(No Model.)

2 Sheets—Sheet 2.

D. D. GRIFFIN & L. H. BACHTELL.

METAL PLANER.

No. 329,550.

Patented Nov. 3, 1885.

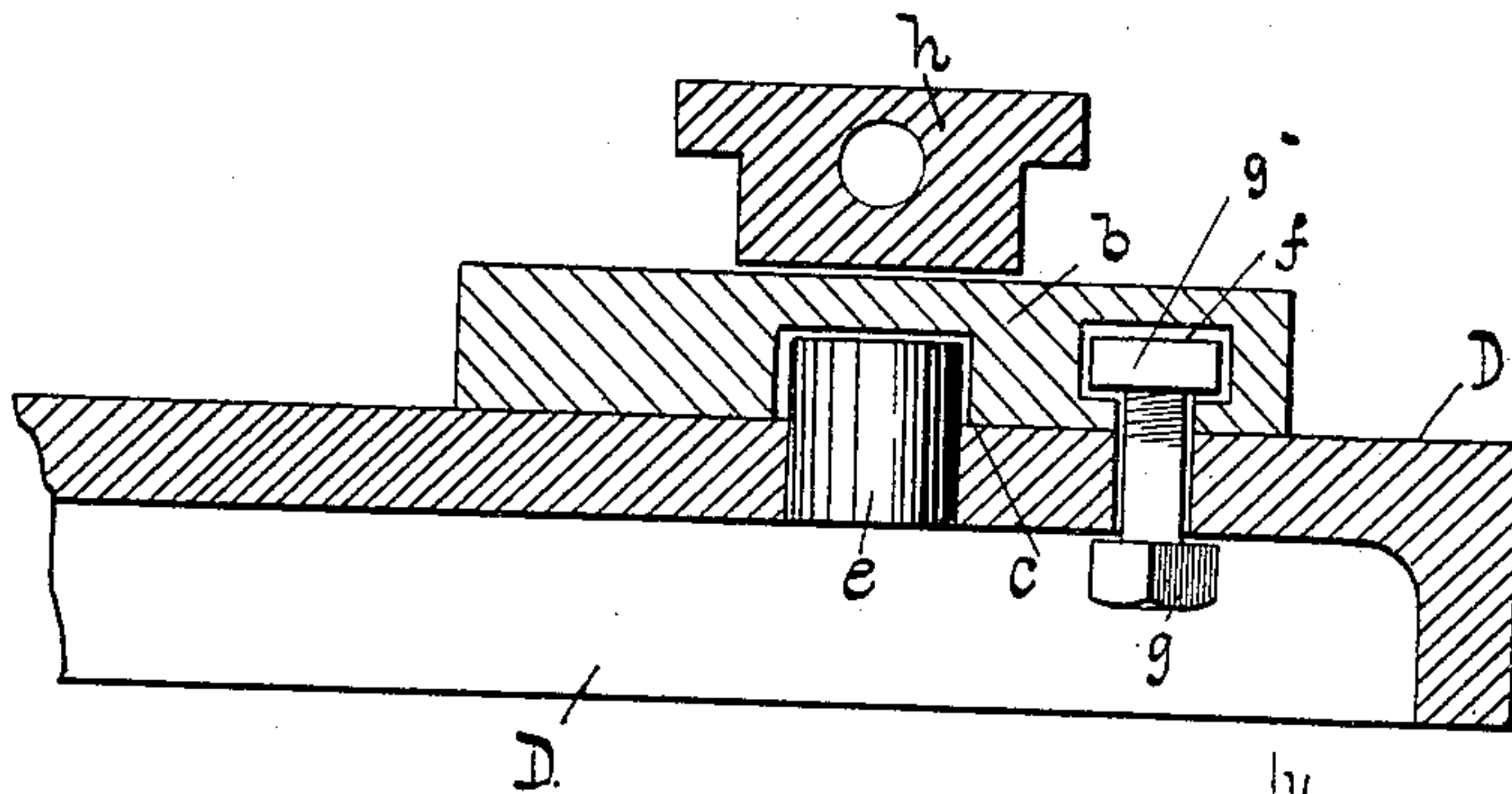


Fig. 3.

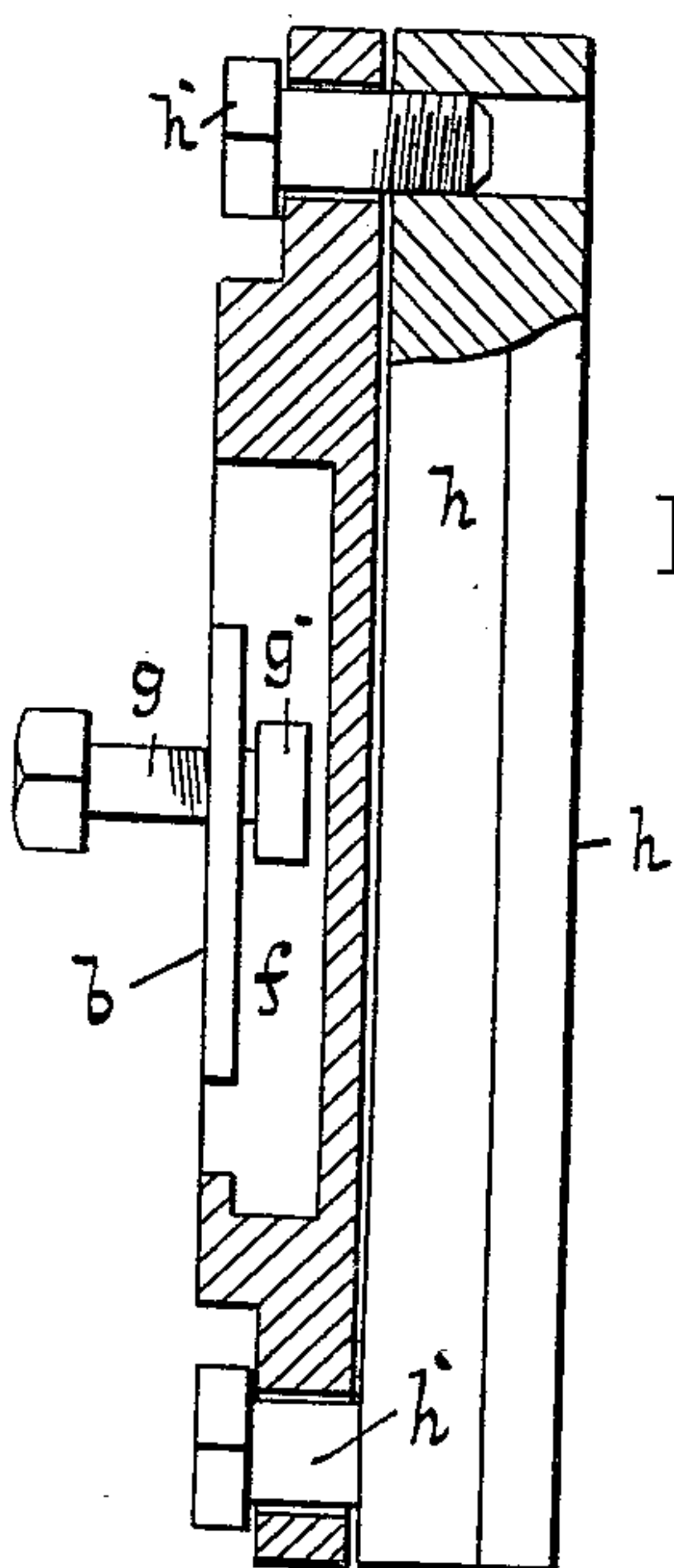


Fig. 4.

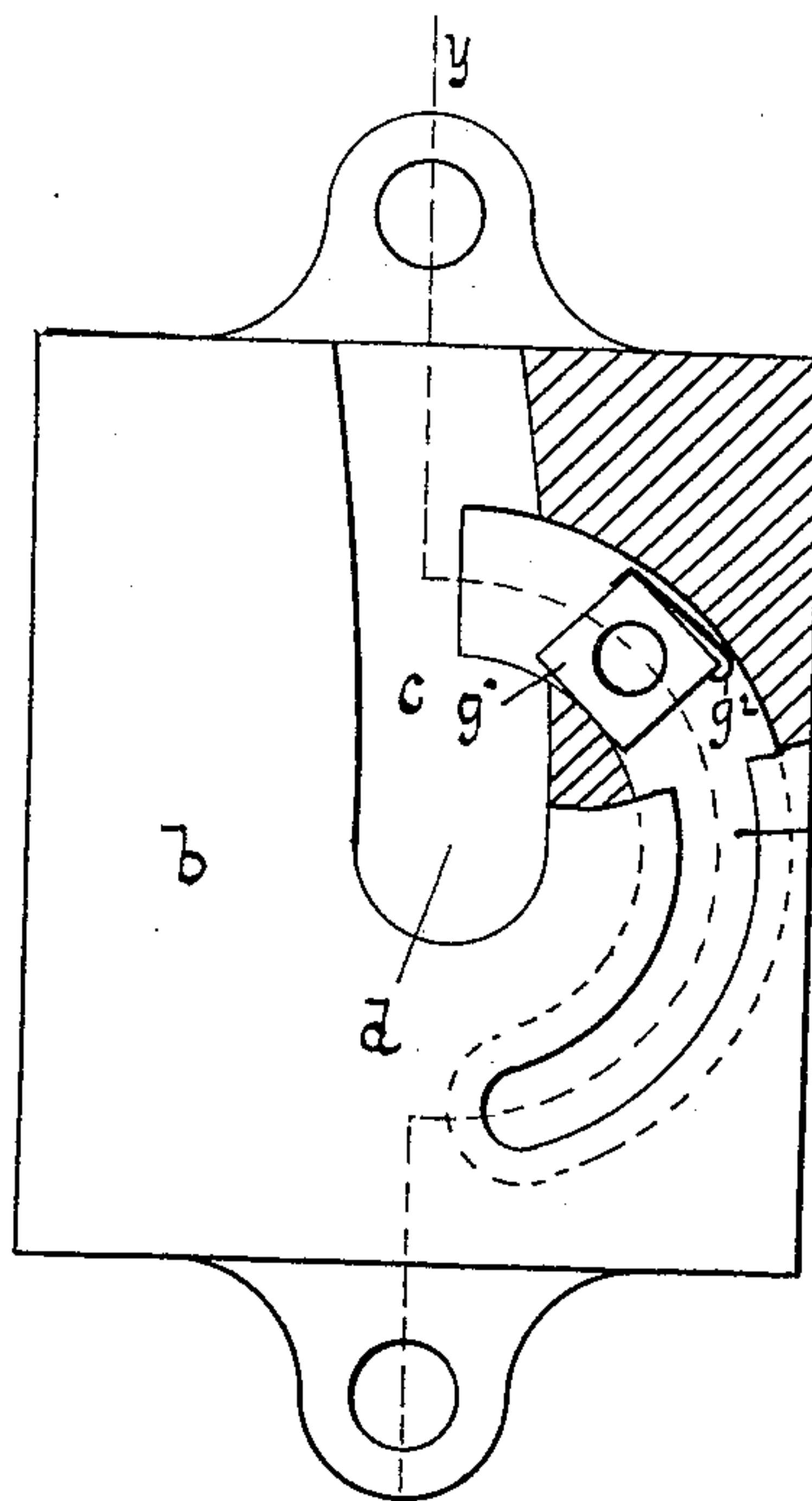


Fig. 5.

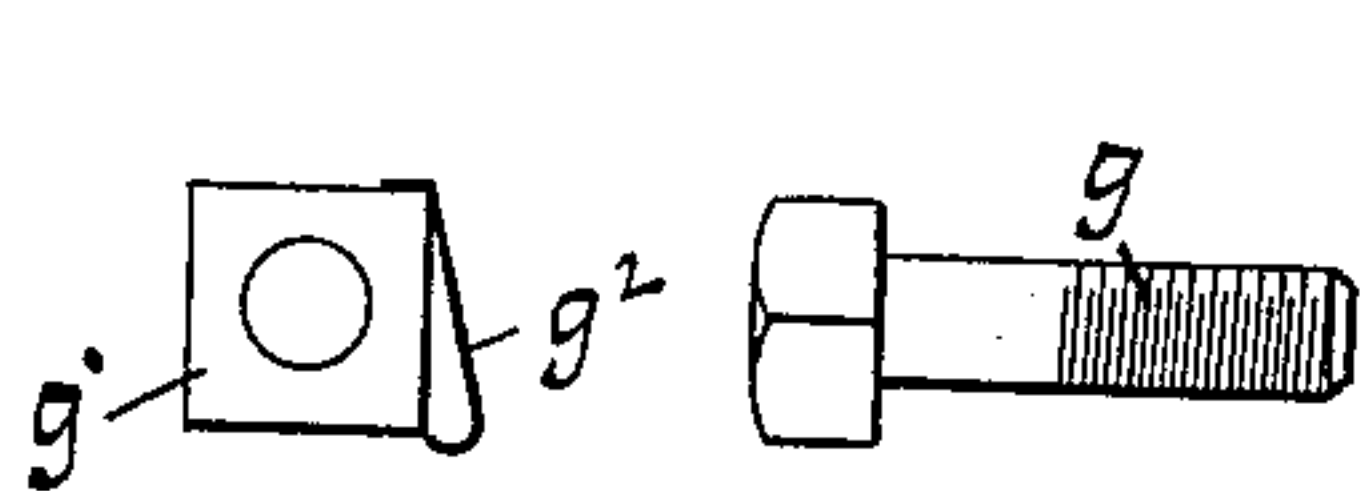


Fig. 6.

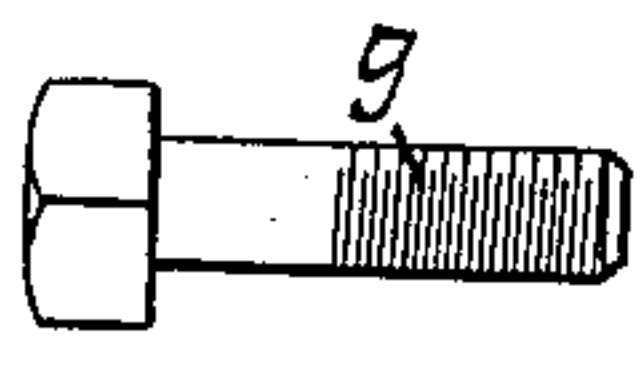


Fig. 7.

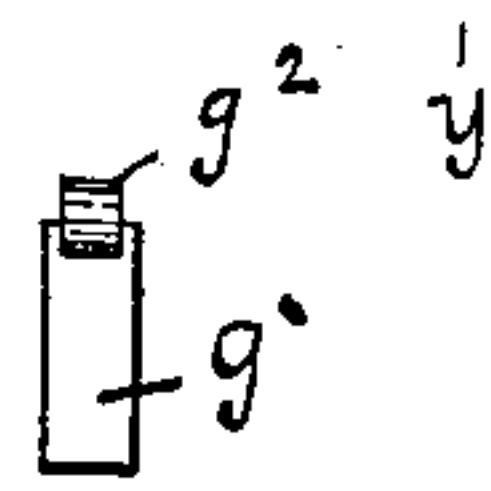


Fig. 8.

WITNESSES:

Wilsen Ringle
Ben. F. Boyden.

INVENTOR:

Duane D. Griffin
Lewis H. Bachtell

By

C. A. Boyden

Attorney.

UNITED STATES PATENT OFFICE.

DUANE D. GRIFFIN AND LEWIS H. BACHTELL, OF BALTIMORE, MARYLAND.

METAL-PLANER.

SPECIFICATION forming part of Letters Patent No. 329,550, dated November 3, 1885.

Application filed February 26, 1885. Serial No. 157,134. (No model.)

To all whom it may concern:

Be it known that we, DUANE D. GRIFFIN and LEWIS H. BACHTELL, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Metallic Planers, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to improvements in metal-planers in which the beam is shifted from a horizontal to a vertical plane, or vice versa, as illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the planer with the beam in a horizontal position; Fig. 2, a like view with the beam in a vertical position; Fig. 3, a detail view of the block and part of beam on line *x*, Fig. 1; Fig. 4, a section view of the block on line *y* of Fig. 5; Fig. 5, a front view of the block with a portion broken away, showing the nut and spring thereon; and Figs. 6, 7, and 8, detail views of the binding screw and nut.

Similar letters refer to similar parts throughout the several views.

The letter A designates the frame; B B, the posts, and C the platen, all arranged in any well-known manner and operated likewise. In the posts B are screws *a*, which are arranged to be operated in unison by the spindle *a'* and the beveled gear-wheels *a''*, the whole being actuated by a crank on the end *a'''* of the spindle, by which mechanism the horizontal position of the beam is varied, as the screws *a* are threaded into and through the rear of the blocks *b*, to which the beam is attached. The beam D is provided with the usual attachments, which may be of any well-known form, as desired, and is provided with means that will permit it to be pivoted to either of the blocks *b*, and thereby allow it to be moved from a horizontal to a vertical position on either post. The blocks *b* are arranged to slide up and down the posts B by the screws *a*, which are threaded into pieces secured to their rear surface, and are provided with the segment-grooves *c*, the radius of which is at *d* on the opposite block, and the grooves *f*, whose radius is at *d* of its respective block. In the former mentioned grooves the pins *e* (which are secured to the beam) rest, and on

them the beam pivots. The grooves *f* are T-shaped in cross-section, and in each is placed a nut, *g'*, provided with a binding-spring, *g''*, by which it is retained in its place or prevented from dropping around the groove *f* when the screw *g* is removed, the said screw *g* passing through a hole in the beam and into the said nut, thereby securely attaching the end of the beam to its respective block. To the rear of the blocks *b* are attached the pieces *h* by means of the screws *h'*, and by which the blocks are clamped to the posts when the beam has been adjusted to the desired height, the same being the usual manner.

To both ends of the feed-screws *i* are attached the gear-wheels *l*, by which motion is communicated from the rack *k'* to the screw *i* when the beam is placed in a vertical position on either of the posts B, thereby automatically feeding the tool-head irrespective of the post to which it is attached. When the beam is placed in a horizontal position, one of the wheels gears with the rack *k*, thus operating the tool-head when the beam is so placed. The wheels *l* are provided with mechanism by which the rotation of the screw *i* is reversed, and the movement of the tool-head likewise effected. The said mechanism being well known a description or illustration is here unnecessary. The feed-racks *k* and *k'* are attached to the planer by any suitable means that will permit them to reciprocate, (said movement being imparted thereto from any suitable mechanism or in any of the numerous ways.) The rack *k* is provided with one set of teeth, *r*, that engage with one of the feed-wheels *l* when the beam is in a horizontal position, and another set, *r'*, at right angles to the former, that engage with and operate the wheel *m*, the face of which is sufficiently broad to engage with the teeth *n* on the rack *k'*, thereby operating it, which in turn operates the feed-wheels *l* when either is brought in contact with the teeth *o* thereon when the beam is in a vertical position on either post. By this mechanism the tool-head may be operated when the beam is in either a horizontal or a vertical position.

In operating our invention the beam, when in a horizontal position, performs the same functions and works in the ordinary manner;

but in case it is desired to use it in a vertical position (as is often the case when work is to be planed on more than one surface or at right angles without unchucking the same from the platen) one of the screws *g* is slightly loosened sufficiently only to permit the beam to be shifted, but not enough to let the same fall forward. The opposite screw *g* is then removed entirely, which permits that end of the beam to be swung up, the pin *e* on the opposite end forming the pivoting-point, and the screw *g* and nut *g'* thereto holding it in its proper position in relation to its movement as they move therewith, the groove *f* permitting the same. When the beam is placed in the vertical position, it is there rigidly secured by the removed screw *g* being entered into one of the holes *p* of the beam and screwed into the hole *r* in the frame, which securely and accurately holds it in the proper place, whereby a vertical cut may be taken on the work. In case it is desired to plane at an angle the beam may be adjusted accordingly in the above-mentioned manner, a suitable support for the unsupported end of the beam then being provided. On removing the screw *g* the nut *g'* is then held by the spring *g²*, so that when the beam is replaced the nut will be in the proper position to receive the screw *g*, otherwise it would be inconvenient to replace the same.

Having fully described our invention, what we claim, and wish to secure by United States Letters Patent, is—

1. In a metal-planer, the combination of the beam *D* and mechanism by which it may be moved from a horizontal to a vertical plane, whereby two or more surfaces of the work may be planed without unfastening the same. 35

2. The combination of the posts *B B*, the beam *D*, the blocks *b b*, and means by which the beam may be pivoted to either block, for the purpose as herein set forth. 40

3. In a metal-planer, the combination of the swiveled beam *D* and the feed mechanism described, whereby the tool-head may be operated when the beam is in either position, as set forth. 45

4. In a metal-planer, the combination of the beam *D*, adapted to pivot at either end, the posts *B B*, and the grooved blocks *b b*, provided with pins *c*, bolts *g*, and screws *a a*, as set forth. 50

In testimony whereof we affix our signatures in presence of two witnesses.

DUANE D. GRIFFIN.
LEWIS H. BACHTELL.

Witnesses:

G. A. BOYDEN,
JNO. T. MADDOX.