

W. H. DOANE & G. W. PASSEL.

HAND PLANING-MACHINE.

No. 170,349.

Patented Nov. 23, 1875.

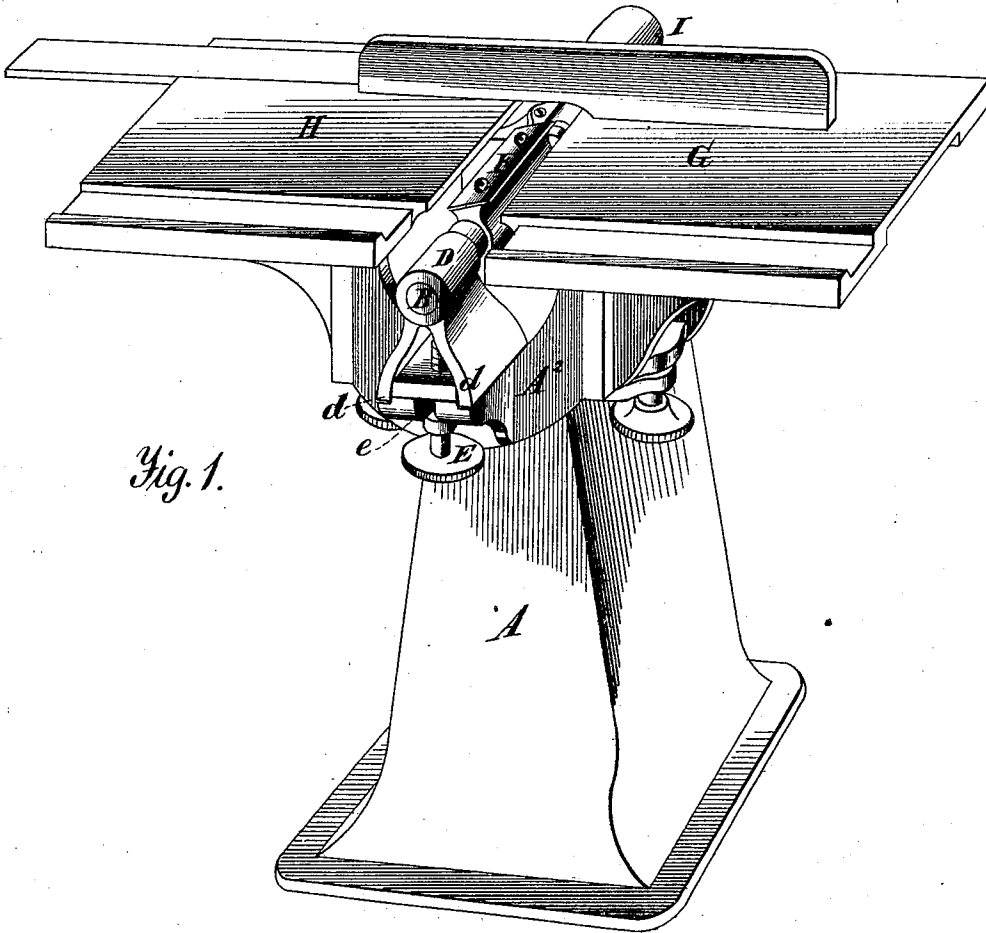


Fig. 1.

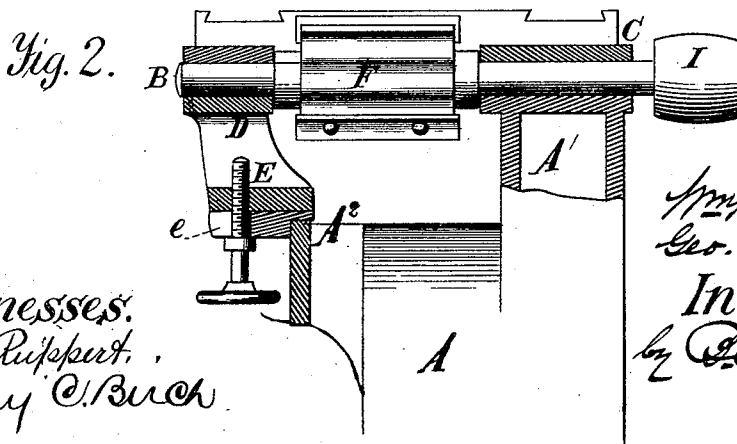


Fig. 2.

Witnesses:
A. Ruppert,
Harry C. Buck

Wm. H. Doane
Geo. W. Passel
Inventors.
by J. Edgar Cils
att.

UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE AND GEORGE W. PASSEL, OF CINCINNATI, OHIO,
ASSIGNORS TO J. A. FAY & CO., OF SAME PLACE.

IMPROVEMENT IN HAND PLANING-MACHINES.

Specification forming part of Letters Patent No. **170,349**, dated November 23, 1875; application filed
July 17, 1875.

To all whom it may concern:

Be it known that we, WILLIAM H. DOANE and GEORGE W. PASSEL, both of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain Improvement in Hand Planing-Machines, of which the following is a specification:

Our invention relates to that class of wood-working machines in which cutter-heads of varying sizes are used at different times to perform a variety of work; and it is especially designed for hand planing-machines (so termed, although they are also capable of grooving and gaining) in which the cutter-head operates between two separate tables, properly adjustable to adapt the machine for the different kinds of work it is designed to execute. Our improvement consists in supporting the spindle of the cutter-head in two bearings, and mounting the cutter-head thereon between said bearings, one of which is made so that the height of the bearing from the center to the base will allow the largest cutter-head ever to be used on the machine to be inserted, and is detachably supported on the frame or stand in such a manner that it may be removed bodily by slipping it axially off the spindle. This detachability of this bearing permits the ready substitution of one cutter-head for another without requiring a displacement of the spindle or any other part of the machine, the frame or stand of which will, of course, also be suitably constructed, so as not to interfere with this axial removal or replacement of the cutter-heads. The easy and convenient removal and application of cutter-heads is naturally quite important, and has heretofore been provided for by mounting them on an overhung end of the spindle. Such an arrangement has the disadvantage that unless a spindle of unusual strength is employed the cutter-head is subject to tremblings and vibrations when put to any severe task, and does imperfect work in consequence, and the spindle also becomes easily sprung, all of which is overcome by our invention.

In the annexed drawings, Figure 1 is a perspective view of a hand planing-machine embodying our improvement. Fig. 2 is a trans-

verse section of the same, omitting part of the stand.

The same letters of reference are used in both figures in the designation of identical parts.

A refers to the column or stand of the machine, on the upper end of which suitable webs are formed to afford means for supporting the tables and cutter-spindle in a position properly elevated above the central column. The spindle B, arranged horizontally across the machine, is at one end supported in a bearing, C, fixed to or cast on the top of web A¹, and at the other end in a removable bearing-block, D, the base of which, about on a line with the top of column A, has a couple of longitudinally-disposed ribs, *d*, fitting corresponding grooves in the bracket A², cast upon or secured to the column A. This bearing-block is secured to the bracket by a clamping-screw, E, which passes through a slot, *e*, in the outer edge of the bracket into a tap in the base of the bearing-block, so that to remove the latter requires only a few turns of the screw to loosen its hold on the bracket, when the block can be slid endwise and detached. The seat of the bearing-block D is parallel to the axis of the cutter-spindle, so that it may be readily removed from and again slipped on the outer end of such spindle, when it becomes necessary to substitute one cutter-head for another. The height of this bearing-block from the base to the center will vary on different machines, it being always somewhat greater than the radius of the largest cutter-head to be used on the machine.

The cutter-head F is arranged between the adjustable tables G and H upon the spindle B, which is driven by a pulley, I, to impart the required rotary motion to the cutter-head, which is so secured on the spindle that it may be readily slipped off the same.

We do not propose to claim, broadly, the combination of a cutter-head, a spindle, a fixed bearing, and an axially-removable bearing-block, being aware that substantially the same combination, with the addition of a second fixed bearing, has been known and in

public use for years past on molding-machines, where the cutter-head operates above a table or platen.

Our invention consists only in the application of the above-stated combination to hand planing-machines of the particular character stated—namely, where the cutter-head operates on the bottom side of the stuff through a gap between two tables, which are capable of independent adjustment both horizontally and vertically, the bearings being suitably disposed, so as not to interfere in any way with such adjustment of the table.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of the both vertically and horizontally adjustable independent tables H and G, cutter-head F, spindle B, fixed bearing C, and axially-removable bearing-block D, substantially as and for the purpose specified.

In testimony whereof we have signed our names to the foregoing specification in the presence of two subscribing witnesses.

WM. H. DOANE.
GEO. W. PASSEL.

Witnesses:

WM. S. BATES,
DANIEL S. J. KELLY.