W. H. DOANE.

Wood Planing Machine.

No. 206,545. **Patented July 30, 1878.**

Fig. 1.

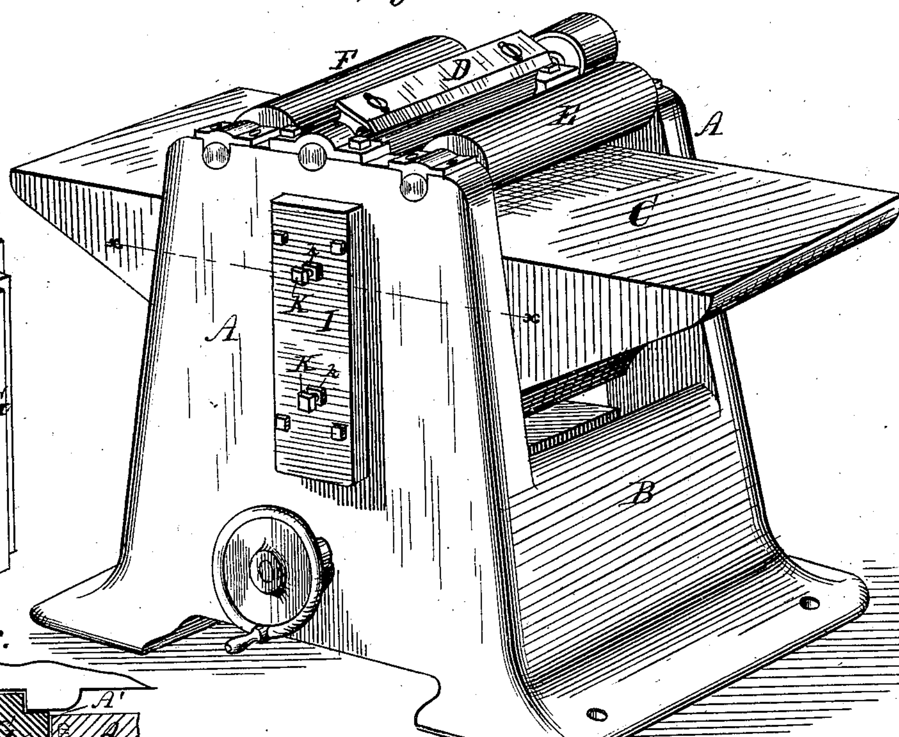


Fig. 5.

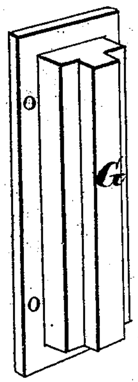


Fig. 6.

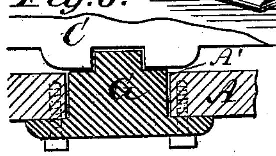


Fig. 2.

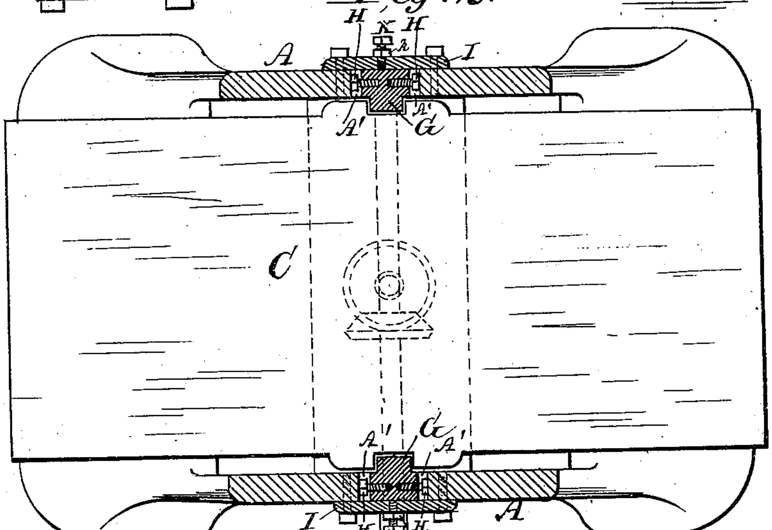
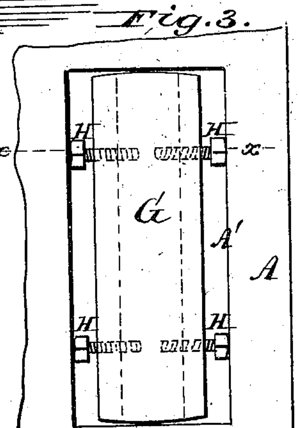


Fig. 3.



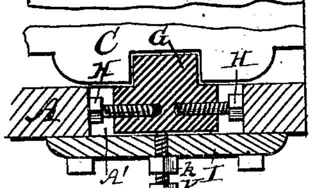


Fig. 4.

Attest:
H. L. Perrine.
Chas. A. Neale

Inventor.
W. H. Doane
by his attorney
[illegible]

UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE, OF CINCINNATI, OHIO, ASSIGNOR TO J. A. FAY & CO., OF SAME PLACE.

IMPROVEMENT IN WOOD-PLANING MACHINES.

Specification forming part of Letters Patent No. **206,545**, dated July 30, 1878; application filed June 8, 1878.

To all whom it may concern:

Be it known that I, WILLIAM H. DOANE, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Machines for Planing Wood, and applicable to other machines, of which the following is a full, clear, and exact description.

This invention was designed with a special view to improve the construction of a certain class of machines for planing wood; but it will be found useful in the construction of other machines which require dressed or planed surfaces on the interior side or sides of the stand or frame. In the following description I shall, however, mention only machines for planing wood, as it is in these machines that the advantages of my invention are particularly noticeable.

The object of the invention is to cast the frame or stand of a planing-machine constructed with a vertically-adjustable table in a single piece. The table of such a machine is supported and guided on vertical ways or guides on the interior faces of the sides of the frame; and as these guides or ways have heretofore been formed on the sides of the frame, it was necessary, in order to provide for the planing thereof as required, to cast the sides of the frame separately, and to afterward connect them together by girt-pieces and by bolts. This necessitated the planing of the sides at the points where the girts were attached, the planing of the ends of the girts, the drilling of bolt-holes in both the sides of the frame and in the girts, and the use of bolts and nuts to bolt the parts together, all of which required considerable labor and added materially to the cost of the machine, and the frame was less rigid than could be desired. All these objections are overcome by this invention, which consists, mainly, in the provision of slots in the sides of the frame and of separate and detachable guides or ways for the table, suitably adapted to be applied to the sides of the frame through the slots therein without requiring any dressing or planing on the interior of such sides, so that such frame, with its sides and connecting-girts, may all be cast in a single piece, as heretofore stated. The use of detachable ways or guides possesses the further advantage that any lost motion between them and the table can be taken up by adjusting such ways or guides.

In the accompanying drawings, Figure 1 is a perspective view of so much of a planing-machine as requires to be shown to properly illustrate the invention. Fig. 2 is a horizontal section thereof in a plane indicated by broken line *x x* in Fig. 1. Figs. 3 and 4 are detail views of the detachable ways or guides, showing the preferred mode of constructing and applying them. Figs. 5 and 6 illustrate a modification in the construction and application of the detachable ways or guides.

The same letters of reference indicate like parts in all the figures.

The frame or stand is composed of the sides or housings A and the girts B, which connect the sides at the ends up to a certain height, so as not to interfere with the vertical adjustment of the table C, located between the sides under cutter-head D and feed and presser rolls E and F, which turn in housings on the top of housing A. In each side or housing of the stand is formed a vertical slot, A′, for the reception of the detachable vertical ways or guides G, on which the table C moves, it being formed or provided with suitable vertical grooves on its sides, adapted to such ways or guides. The preferable construction and application of these guides or ways is shown in the first four figures of the drawings. According thereto these guides consist of a plate, in length about equal to the height of slots A′, but of less width than such slots. A straight rail is formed on the inner side of the plate to engage the groove in the table. Set-screws H are screwed into taps in the side edges of the plate, which screws are screwed out to brace hard against the edges of the slot after the guide has been placed therein in proper position. The set-screws admit of the proper adjustment of the guide with reference to the table. The guides are covered by a plate, I, placed over them and bolted to the sides or housings A; and in order to maintain the guides firmly in position against any lateral crowding of the table, backing-screws K are inserted in the covering-plates I, to bear against

the back of the guides near the top and bottom thereof. The backing-screws are provided with jam-nuts *k* to lock them, and may be used to set up the guides to take up any lost motion occasioned by wear.

The guides may be formed and applied as shown in Figs. 5 and 6; or, instead of securing them by screws, as shown in Figs. 1, 2, 3, 4, they may be secured by wedges or by casting soft metal around them after they have been fitted. Still another modification would be to let guide-blocks on the table project through the slots in the housings A and move on ways on the exterior sides thereof. All these I regard as inferior modifications, and the best form of the invention so far devised by me is shown in the first four figures of the drawings.

In the example shown the table is supported upon a central screw-spindle, which is mounted upon a cross-bar of the frame, operates in a nut fixed on the table, and is driven by bevel-gearing.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The frame or stand constructed substantially as set forth, the sides and ends thereof being composed of a single piece of casting, and slots being formed in the sides for the ways or guides of the table arranged and moving between such sides.

2. The combination, substantially as before set forth, of the connectedly-cast housings or sides of the frame, provided with slots, the table arranged and moving between such housings, and the detachable ways or guides fixed in said slots.

3. The combination, substantially as before set forth, of the side or housing of the frame having a slot, and detachable way or guide inserted in said slot, and set-screws to fix the guide in the slot.

4. The combination, substantially as before set forth, of the side or housing of the frame having a slot, and detachable way or guide inserted in said slot, and set-screws to fix the guide in the slot, and backing-screws to bear against the back of the guide.

5. The combination, substantially as before set forth, of the side or housing of the frame having a slot, and detachable way or guide inserted in said slot, and set-screws to fix the guide in the slot, a plate to cover the guide, and backing-screws to bear against the back of the guide.

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

W. H. DOANE.

Witnesses:
CHAS. G. JONES,
ALBERT N. SPENCER.