F. B. MILES.

Planing-Machines.

No. 142,493. Patented September 2, 1873.

FIG. 1.

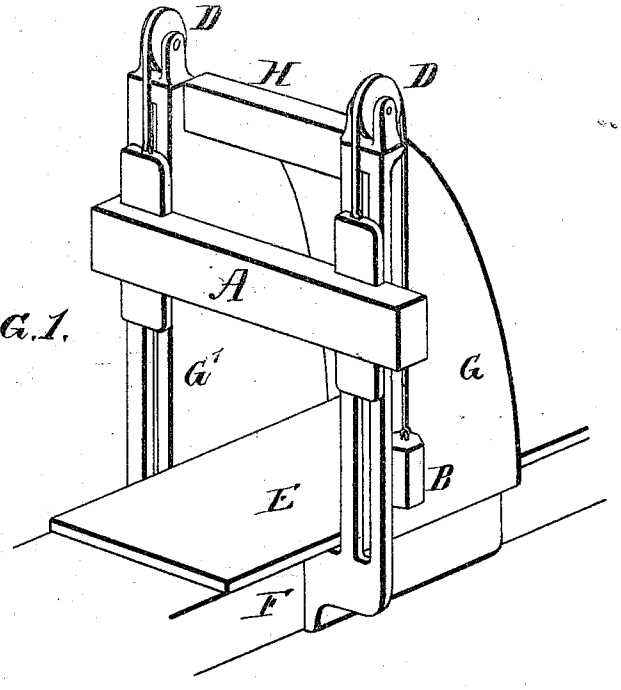
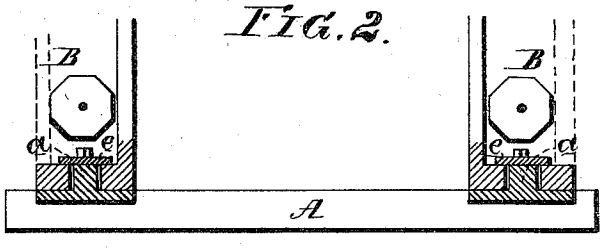


FIG. 2.



Witnesses, John K Rupertus
Thomas McIlvain

Frederick B. Miles
By his Attys.
Howson and Sons

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

FREDERICK B. MILES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND OSCAR C. FERRIS, OF SAME PLACE.

IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. 142,493, dated September 2, 1873; application filed August 4, 1873.

To all whom it may concern:

Be it known that I, FREDERICK B. MILES, of Philadelphia, Pennsylvania, have invented an Improvement in Planing-Machines, of which the following is a specification:

The object of my invention is to facilitate the vertical adjustment of the cross-head of a metal-planing machine, and to dispense with the usual costly appliances for effecting that purpose; and this object I accomplish by so balancing, or nearly balancing, the cross-head, and so adapting it to guides on the frame, that it can be readily raised or lowered without the aid of screws.

Figure 1 is a perspective view of sufficient of a planing-machine to illustrate my invention, and Fig. 2 is a sectional plan of the frames.

F represents part of the bed of the machine; E, the reciprocating table for carrying the work to be planed; G and G′, the opposite side frames, secured to the bed, and connected together at the top by the usual cross-bar H. All these parts, being common to ordinary planing-machines, will need no further description. The cross-head A, which carries the tool-box and other well-known appliances, has, at the back, ribs *a*, adapted to guiding-grooves in the frames G G′, to which the slide is confined by a plate, *e*, and screws, as shown in the sectional plan, Fig. 2.

In ordinary planing-machines the vertical adjustment and guidance of the slide A are dependent upon vertical screws attached to the frames and geared together. To raise the slide by these screws demands tedious manipulation, the exertion required being so severe that gearing deriving its motion from the driving-shaft of the machine has been occasionally employed on large planers for operating the screws.

I discard these costly screws and appliances connected therewith, and simply counterbalance the cross-head, so that it can be readily raised or lowered by hand, or by the aid of simple devices; but in order to carry this mode of adjustment properly into effect, it is essential that the cross-head should be guided; hence the vertical slots in the frame and the ribs on the cross-head which fit into these slots.

It will be understood that there are, as usual, bolts for confining the slide A to the frame after it has been adjusted.

Different plans for balancing the cross-head may be adopted. For instance, a weighted rope or chain may be attached to its middle, and carried over pulleys connected to the roof of the building; but I prefer the plan illustrated in the drawing, which consists in carrying two weighted ropes or chains over pulleys D D on the top of the frames, these pulleys being so situated that the weights B will occupy positions in the corners of the frames, where they will be out of the way. The weights may be contained within the frames when the latter are made hollow.

I claim as my invention—

1. A metal-planing machine in which a balanced or nearly balanced cross-head is adapted to guides on the frame, substantially as described.

2. The combination of the cross-head A, guided on the frames G G′, the pulleys D D, and weighted ropes or chains.

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

F. B. MILES.

Witnesses:

WM. A. STEEL,

HUBERT HOWSON.