(No Model.)

W. R. ALLEN.

CUTTER HEAD AND MEANS FOR ADJUSTING THE CUTTERS OF THE SAME.

No. 384,491. Patented June 12, 1888.

Fig. 1.

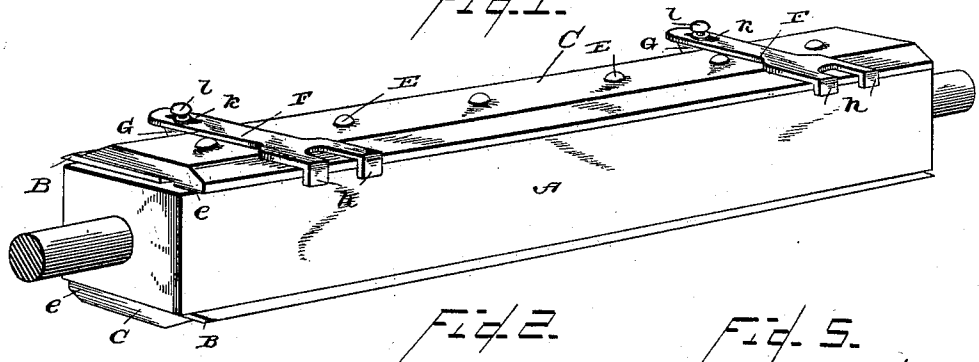


Fig. 2.

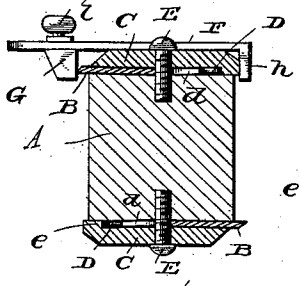


Fig. 5.

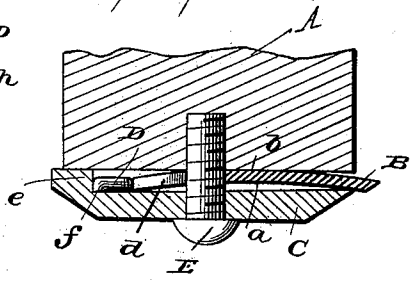


Fig. 3.

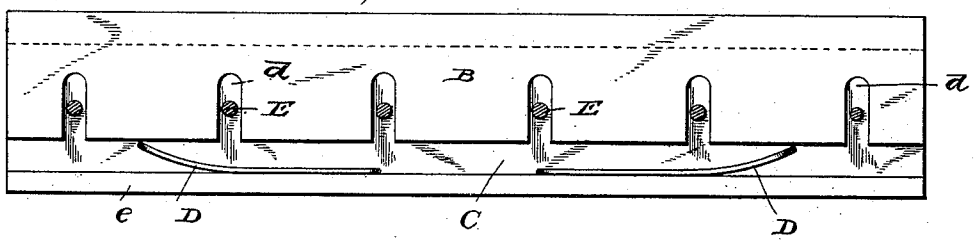
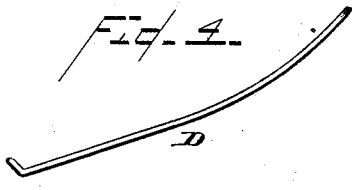


Fig. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM R. ALLEN, OF CAPE VINCENT, NEW YORK, ASSIGNOR OF ONE-HALF TO LEWIS C. MARKS, OF SAME PLACE.

CUTTER-HEAD AND MEANS FOR ADJUSTING THE CUTTERS OF THE SAME.

SPECIFICATION forming part of Letters Patent No. 384,491, dated June 12, 1888.

Application filed February 18, 1888. Serial No. 264,462. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. ALLEN, a citizen of the United States, residing at Cape Vincent, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Planer-Cutters and Means for Adjusting the Same; and I do 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.

This invention has relation to improvements in planer cutter-heads and means for adjusting the cutters.

The invention will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a four-sided planer-head bearing two of my knives and improvements with the improved gage attached. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a plan view of the inner side of one of the caps, showing a cutter thereon with the securing-bolts in section. Fig. 4 is a view of one of the springs employed to advance the cutter; and Fig. 5 is an enlarged sectional view of a portion of the head, showing one of the cutters in a position preparatory to being tightened by the screws or bolts.

Referring by letter to the said drawings, A indicates a planer-head, which I have shown as four sided, although it may have any number of sides, and may be of any ordinary or approved pattern.

B indicates the cutters, which are preferably made of thin blades of steel, and are convex on their face side, as shown at *b*, and concave on their opposite side, as shown at *a*, and are of a uniform thickness throughout. These cutters are slotted transversely a sufficient distance from their inner edges, as shown at *d*, for the free passage of the connecting-bolt, as will be presently explained.

C indicates the caps for securing the cutters upon the head, having their inner rear sides rabbeted, as shown at *e*, which are designed to furnish a stop for springs D, interposed between the said cap and the planer-head. The rabbets formed in the inner sides of the caps are a trifle deepest at the back, as shown at *f*.

It will thus be seen that the rib *e* on the back of the caps will be a little thicker than the cutters, thereby allowing the caps and cutter to be brought down securely at the front edge when the bolts E have been screwed up. This action will not interfere with the free working of the springs *f*.

The springs of the cutters, due to their peculiar form, will serve as an additional means for securing and preventing them from vibration. In the under side of the caps are secured the inner ends of the springs D, having their opposite ends directed forwardly, so as to bear against the back edge of the cutter-blades and throw them out when the screws have been loosened.

It will be observed that I employ a bolt or screw for securing the caps, and arrange one at each slot or recess in the cutters, although I do not wish to be confined to any number of bolts, nor any particular means of securing the caps to the planer-head.

I will now describe the means which I employ for adjusting the cutter-blades in their bearing upon the planer-head.

F indicates a gage having one end, preferably, forked, as shown, and the ends of the fork terminate in short rectangular arms *h*, which are of a length sufficient to engage the rear edge of the cap-plate. The opposite or rear branch of the gage is slotted longitudinally, as shown at *k*, for the passage of a set-screw *l*, having a wing-nut, as shown. This screw is provided on its outer or lower end with a lug, G, adapted to engage snugly the edge of the cutter-blade.

When it is desirable in putting in a new cutter-blade or adjusting the old one to advance its cutting-edge, I first place the gage on the cap, confining the cutter so as to have the arms *h*, bearing against the rear edge of the cap, and the lug G of the said gage extending across the path of the cutter-blades. By simply loosening the bolts or screws E, through the action of the springs D, the cutters will be thrown forward until their cutting-edges are stopped by the said lugs of the gage. By then manipulating the screws *l* the lugs G can be adjusted in the slots *k*, so as to regulate the depth or distance at which the cutting-blades are to be set. After the adjustment of the blade the bolts may be tightened and the gages then removed.

Having described this invention, what I claim is—

1. The combination, with the planer-head, of the rabbeted cap-plates, the cutter-blades, and the springs interposed between the cap-plates and the planer-head and adapted to engage the back edge of the cutter, substantially as specified.

2. The combination, with a planer-head, of the cap-plates rabbeted, as described, and being deepest adjacent to the rib forming the rabbet, the springs secured within the rabbeted portion of the caps, and the cutters arranged in advance of the springs, substantially as specified.

3. The combination, with a planer-head, of the cutter-blades constructed as described, the cap rabbeted on its inner side, and the springs D, having one end secured in the said rabbeted portion and adapted to bear against the rib *e*, and their opposite ends curved forwardly to engage the rear edges of the cutters, substantially as specified.

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

WILLIAM R. ALLEN.

Witnesses:
ALEXANDER GILBERT,
WILLE ROBERTSON.