(No Model.)

E. K. JENKINS.

CUTTER HEAD FOR MOLDING MACHINES.

No. 259,692. Patented June 20, 1882.

Fig. 1.

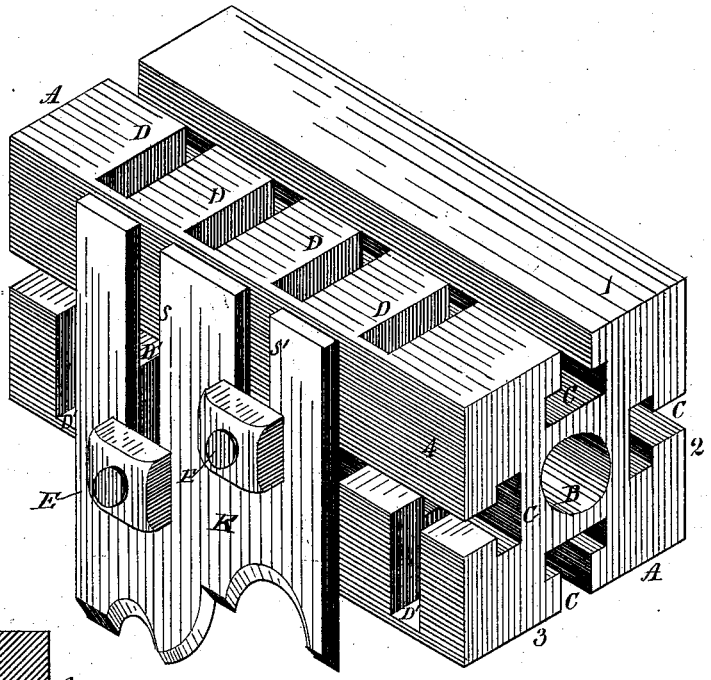


Fig. 2.

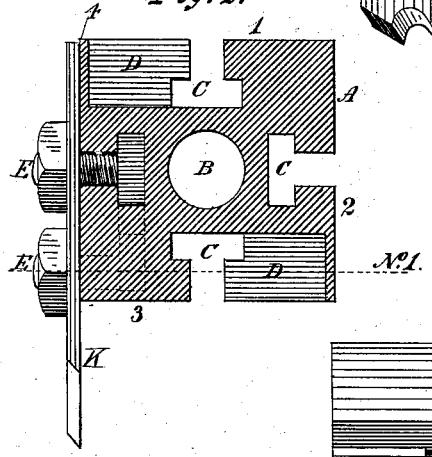


Fig. 4.

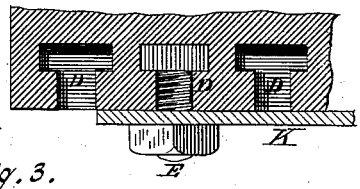
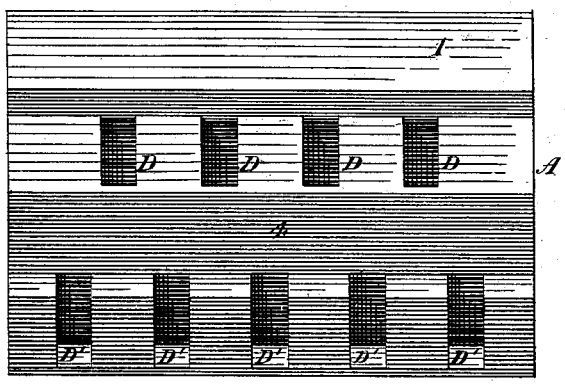


Fig. 3.



Witnesses: Charles Lemcke. Charles F. Jenkins

Edward K. Jenkins, Inventor, by his attys Alex. Selkirk

UNITED STATES PATENT OFFICE.

EDWARD K. JENKINS, OF ALBANY, NEW YORK.

CUTTER-HEAD FOR MOLDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 259,692, dated June 20, 1882.

Application filed October 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD K. JENKINS, a citizen of the United States, and a resident of the city and county of Albany, and State of New York, have invented certain new and useful Improvements in Cutter-Heads for Molding-Machines, of which the following is a specification.

My invention relates to improvements in cutter-heads of molding-machines in which T-shaped slots are arranged transverse to the length of the cutter-head and adapted to receive the body and head of an attaching-bolt operated in conjunction with a T-shaped slot arranged parallel with the axis of the cutter-head, and also adapted to receive the body and head of another attaching-bolt.

The object of my invention is to provide means by which the knives or bits of cutter-heads of planing and molding cutting-machines will be securely held at two points in their length, in which one point of attachment and binding of the knife to the head will be on a line radial from the axis of the head and the other point of attachment will be at a distance forward of a line drawn parallel with the axis and through the first-mentioned point of attachment and toward the outer edge of the side of the head the knife is applied to, so that the knife will be held at two points in its length, in which one point will be rearward in the body of the knife and the other forward in the same and near to the more projected cutting-edge portion of the knife, instead of in the same line with the rearward point of attachment, as heretofore had, thereby holding the knife from springing up from the cutter-head and holding it from trembling. I attain this object by means of the devices illustrated in the accompanying drawings, in which similar letters of reference indicate like parts throughout the several views.

Figure 1 represents a perspective view of my improved cutter-head. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a corner plan view of the same; and Fig. 4 is a sectional view of the transverse slots, taken at line No. 1 in Fig. 2.

The cutter-head A is made of metal and with a rectangular or squared form, and is provided with a central bore, B, for mounting said head on a rotating shaft. (Not shown.)

Made in the sides 1, 2, 3, and 4 are longitudinal T-shaped slots C C C C, which slots extend from end to end of said head and are parallel with the axis of the cutter. All the above devices—that is to say, the rectangular or squared form cutter, bore B, and longitudinal T-shaped slots—are old.

My improvement consists in providing said head, having longitudinal slots C, with transverse T-shaped slots, formed and arranged substantially as follows: In the sides 1 and 3, which are opposite to each other, are made transverse slots D, which slots are T-shaped in form, as shown in Fig. 4, and correspond in both size and form with the longitudinal slots C, and extend in one direction from slots C, with which they communicate, as shown in Fig. 2, to near the edges of said sides, as shown in side 1, Figs. 1 and 3, and in sides 1 and 3 in Fig. 2. In said sides 1 and 3 the said transverse slots are so arranged as to correspond in size and number each with the other, so that each said opposing side will balance with the other.

In sides 2 and 4, which are opposite each other and transverse to sides 1 and 3, are made transverse T-shaped slots D′, which slots are similar to the transverse slots D made with sides 1 and 3, above described. The said transverse slots D′ in sides 2 and 4 are made to correspond in both size and number in each said side, so that the said opposing sides will balance each with the other, the same as sides 1 and 3 balance with each other.

In each of the two opposite sides, as in sides 1 and 3, I make an even and the same number of slots D, and in each of the transverse sides and in sides 2 and 4 are made an odd and the same number of said slots D′, so that the slots in each of the two opposite sides will be arranged staggering or dodging those in the transverse sides, as shown in Fig. 3.

Attaching-bolts E, provided with screw-threaded nuts, and made with strong square heads and with form corresponding with the form of the longitudinal slots C and transverse slots D D′, and adapted to nicely fit and move in the same, are employed to attach the cutting knives K or bits to the head.

Though but one knife is shown in the drawings, yet it will be readily understood by the trade that two knives, each of the same form

and weight, are employed and attached to opposite sides of the head, so that the head will be balanced.

The knives K are each provided with slots *s* and *s'*, made in its body portion rearward of the cutting-edge. The said slots are each made with a width equal to the diameter of the attaching-bolts E, and receive the outwardly-projecting portion of the same, as shown, and are made at a distance apart corresponding with the extension of distance between the transverse slots in the head.

One of the slots—as slot *s*—is made with a greater extension of length than the other slot, *s'*.

In knives for cutting moldings the longest slot *s* is made in the portion of the body of the knife which extends rearward from the more projected portion of the cutting-edge of the same, as illustrated in Fig. 1.

It will be readily understood that the attaching-bolts will each nicely fit and work in each and all the slots made.

The manner in which the above-described parts operate is as follows: Into one of the transverse slots, as may be selected, made on each side of two opposite sides—as 1 and 3 or 2 and 4 of the head—is introduced an attaching-bolt, E, and a second attaching-bolt, E, is introduced into the longitudinal slot made in the same sides. The knives—a pair of like knives—are then placed in position, one on each of the opposite sides the attaching-bolts project from, with the attaching-bolts passing through slots *s s'*, as shown, when the nuts will be tightened down on the knives.

In cutter-heads of short length a less number of transverse slots may be employed—say one on each of the sides 1 and 3 and two in the transverse sides 2 and 4. In longer heads a greater number of transverse slots may be employed.

In some cases, when the design of the head is such as to present but two opposite faces for application of knives, the longitudinal slot C and transverse slots D will be made in the said two opposite sides or faces of such a head.

It will be readily understood that the number of transverse slots in the respective sides may be increased or lessened according to the length of the head. It will also be readily understood that by making the transverse slots on two sides—as 1 and 3—dodging the transverse slots in the transverse sides 2 and 4, the knives may be relatively adjusted longitudinally on the head in either direction on two opposite sides from the exact location the said knives would have when secured to the opposite transverse sides.

The new results arising from my improvements are that the knives will be held more firmly to the cutter-head and at two points on each side, each remote from the other; and that the more projected portion of the knife will be held from springing and the knife be held from trembling, while at the same time the use of a supplemental or binding piece is obviated.

Having described my invention, what I desire to claim and secure by Letters Patent is—

1. The combination and arrangement, with a cutter-head having longitudinal slots C and transversely-arranged slots D or D', made in opposite sides of said head, and attaching-bolts E E, adapted to fit in each said slots and hold with said head, of cutting knives or bits K, each provided with slots *s* and *s'*, whereby said knives or bits will be held at two points in their lengths on the faces of said cutter-head, substantially in the manner and for the purpose set forth.

2. The combination, with a cutter-head having longitudinal slots C made in its four sides and in its two opposite sides transverse slots D, connecting with slots C of said opposite sides, and transverse slots D', made in its transverse sides, relatively staggering or dodging the first-mentioned transverse slots and communicating with slots C in said transverse sides, of attaching-bolts E, adapted to work in all of said slots, and also with slots *s s'*, made in the knives or cutting-bits, whereby said knives or bits may each be attached to said head at two points in their lengths, and be adjusted on two sides longitudinally on said head in either direction, and be capable of a similar attachment and adjustment on the transverse sides of said head, with the knives and head balanced substantially as and for the purposes set forth.

EDWARD K. JENKINS.

Witnesses:
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