May 5, 1931. H. S. WALTHERS ET AL 1,803,741

CUTTER HEAD

Filed April 12, 1930

Fig. 1

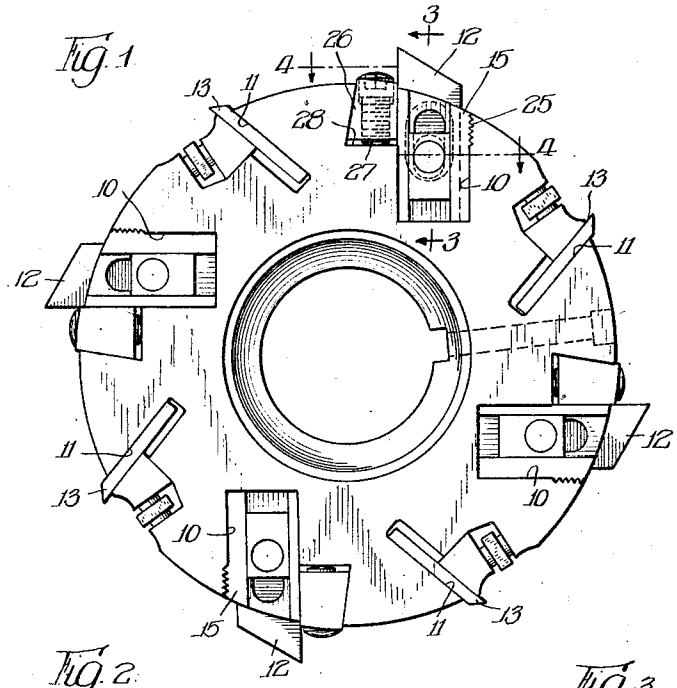


Fig. 2

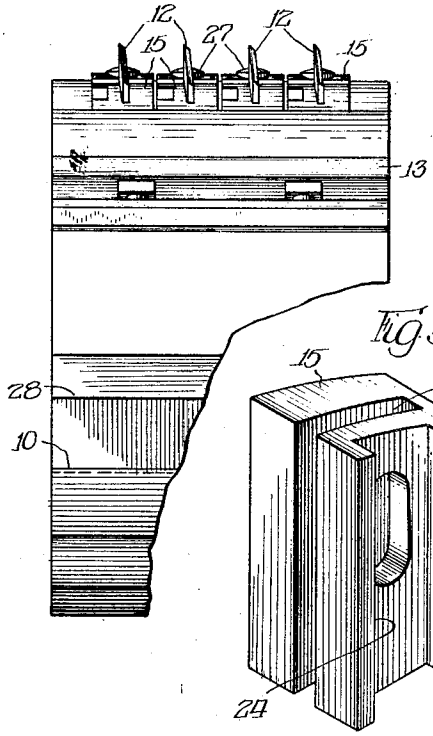


Fig. 3

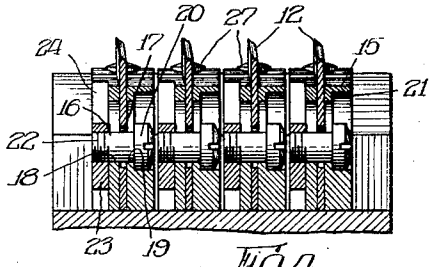


Fig. 4

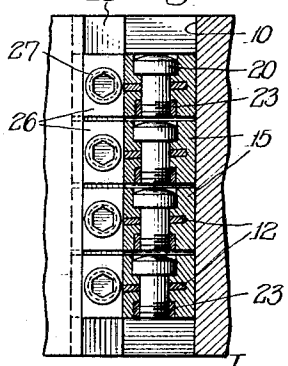


Fig. 5

Inventors:
Harry S Walthers,
Victor E. Martin,
By Cresmer, Frost & Warden Attys

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UNITED STATES PATENT OFFICE

HARRY S. WALTHERS AND VICTOR E. MARTIN, OF BELOIT, WISCONSIN, ASSIGNORS TO YATES-AMERICAN MACHINE COMPANY, OF BELOIT, WISCONSIN, A CORPORATION OF DELAWARE

CUTTER HEAD

Application filed April 12, 1930. Serial No. 443,654.

The present invention pertains in a general way to the cutting instrumentalities used in wood working machines, and has to do particularly with the way in which the thin splitting or grooving knives are held in transverse rows in the heads.

One of the primary objects of the invention is to provide an improved splitter knife holder which will afford a firm support for the knife and will permit the position of the latter to be easily adjusted in a direction crosswise of the head independently of other knives in the same row.

Other objects and advantages of the invention will be evident upon a full understanding of the construction, arrangement and operation of the improved holder.

In order that the invention may be readily understood, one form thereof is presented herein, but it will of course be understood that such form is intended merely for the purpose of exemplification and that the invention is susceptible of embodiment in other structurally modified forms coming equally within the scope of the appended claims:

In the accompanying drawings:

Fig. 1 is an end view of a cutter head equipped with four transverse rows of splitter knives mounted in accordance with the invention;

Fig. 2 is a fragmentary face view of the head;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is another sectional view taken on the line 4—4 of Fig. 1; and

Fig. 5 is a perspective view of one of the knife holders.

The cutter head shown in the drawing is provided with two sets of transversely extending grooves 10 and 11. Each of the grooves 10 contains a row of splitter knives 12, while each of the grooves 11, which are arranged in alternation with the grooves 10, contains a profile knife 13. The present invention—which has to do only with the splitter knives 12—is concerned with the way in which such knives are held in the head.

Each of the knives 12 is relatively long and thin and is positioned in a slot 14 in an individual holder 15. The holder 15 is elongated and of rectangular cross-section, as shown in Fig. 5, and is arranged on end in the groove 10 with the slot 14, which extends longitudinally and is slightly canted, positioned at the front of the holder. The slot 14 is of about the same width as the knife and is of such depth as to allow the holder to be easily compressed on the knife. The knife is clamped in the holder by a bolt 16 which extends through an opening 17 in the knife and through openings 18 and 19 in the sides of the holder. The bolt has a filister head 20 which seats in a recess 21 in one side of the holder and has a screw-threaded end 22 which screws into a rectangular nut 23 which seats non-rotatably in a groove 24 in the other side of the holder. The openings 17, 18 and 19, the recess 21 and the groove 24 are all preferably elongated in the direction of projection of the knife from the holder, whereby to facilitate endwise adjustment of the knife with respect to the holder.

Each of the holders 15 is provided on the upper portion of the back thereof with a number of corrugations 25 which are adapted to interfit with corresponding corrugations on the rear wall of the groove 10. The outer portion of the front wall of the groove 10 is spaced a considerable distance from the opposed portions of the front faces of the holders and is arranged in outwardly converging relation to the rear wall.

Each of the holders 15 has associated therewith an individual wedge block 26 which is of about the same width as the holder and conforms substantially to the space in the groove in front of the outer portion of the holder. The block 26 is provided with a socket head screw 27 which is in screw-threaded engagement therewith and bears against the elevated bottom 28 of the front portion of the groove. When the screw 27 is turned inwardly it engages with the surface 28 and forces the block 26 outwardly, causing the latter to wedge rearwardly against the holder and lock the latter firmly in proper position in the groove 10.

We claim:

1. In combination, a cutter head having a

transversely extending groove, a row of elongated holders arranged in upright positions in the groove and provided with longitudinally extending slots in the front faces thereof, elongated knives positioned in the slots in the holders with the cutting ends of the knives projecting from the outer ends of the holders, means for clamping the sides of the holders laterally against the contained knives, and separate means for clamping the holders in the groove.

2. In combination, a cutter head having a transversely extending groove, a row of elongated holders arranged in upright positions in the groove and provided with longitudinally extending slots in the front faces thereof, elongated knives positioned in the slots in the holders with the cutting ends of the knives projecting from the outer ends of the holders, means for clamping the sides of the holders laterally against the contained knives, and separate means for clamping the holders in the groove, said last mentioned clamping means being disposed against the slotted front faces of the holders.

3. In combination, a cutter head having a transversely extending groove therein, an elongated holder of generally rectangular cross section arranged in an upright position in the groove and having a longitudinally extending slot in the front face thereof, an elongated knife of substantially the same cross section as the slot occupying the latter and projecting outwardly from the outer end of the holder, a bolt and nut assembly extending laterally through the holder with the end portions of the assembly set into recesses in the sides of the holder for clamping the knife in the holder, and an expansion member positioned in the groove in the head against the slotted front face of the holder for wedging the latter against the rear face of the groove.

In witness whereof we have hereunto subscribed our names.

HARRY S. WALTHERS.
VICTOR E. MARTIN.