

No. 681,459.

Patented Aug. 27, 1901.

W. W. PHILBRICK.
MATCHER HEAD.

(Application filed Nov. 10, 1900.)

(No Model.)

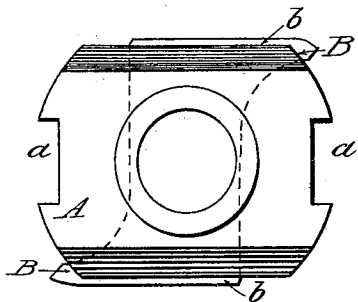


Fig. 2.

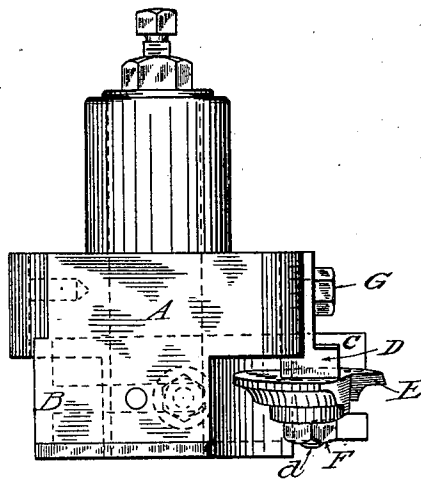


Fig. 1.

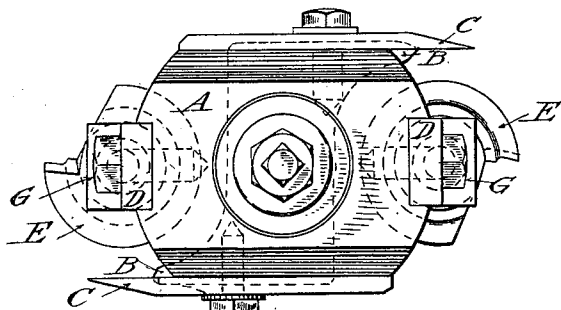


Fig. 3.

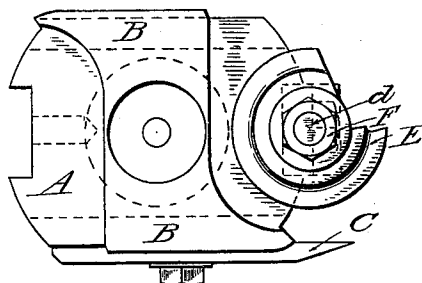


Fig. 4.

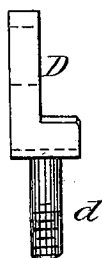


Fig. 5.

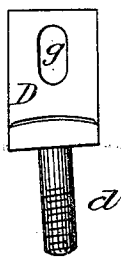


Fig. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WARREN W. PHILBRICK, OF SEATTLE, WASHINGTON.

MATCHER-HEAD.

SPECIFICATION forming part of Letters Patent No. 681,459, dated August 27, 1901.

Application filed November 10, 1900. Serial No. 36,041. (No model.)

To all whom it may concern:

Be it known that I, WARREN W. PHILBRICK, of Seattle, in the county of King and State of Washington, have invented a new and useful Improvement in Matcher-Heads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in matcher-heads for use in tonguing, grooving, rabbeting, jointing, or otherwise shaping the edges of boards or other lumber; and it more particularly relates to matcher-heads of the general type shown in my Patent No. 651,512, of June 12, 1900.

My invention is designed to provide a head of this type in which the metal is so distributed as to effectually balance the head and cause it to run steadier in operation; also, to provide for the use of cutting-bits of a relatively larger size on a given size of head, and also to facilitate the adjustment of the bits to form a tongue or groove of any desired thickness, width, or location. I attain these objects by certain novel features of construction, arrangement, and combination, all as hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of one of my improved heads with one bit and one cutter removed; Fig. 2, a plan view of the body of the head with both bits and cutters removed; Fig. 3, a plan view of the head complete; Fig. 4, a bottom or inverted plan of the head with one bit and one cutter removed; and Figs. 5 and 6, side and front views, respectively, of one of the bit-carriers.

The head shown in the drawings is provided with suitable bits and cutters for tonguing-work; but the head itself is adapted for use with cutters for various kinds of work, the particular form of bits and cutters forming no part of the present invention. This head consists of an integral body of metal reduced or cut away at its lower portion at opposite sides to form the two wings B, which extend at right angles to the length of the upper oblong portion A. These wings are provided with seats *b* for the jointing knives or

cutters C, which cut the vertical faces of the lumber above and below the tongue, as in my said patent. The upper portion A of the head has at each end an angular recess *a*, which forms a seat and guide for a bit-carrier D. This bit-carrier is an L-shaped piece, whose vertical arm is fitted to the recess *a* and whose horizontal arm is provided with an integral threaded stud *d*, upon which the circular bit E, which cuts the upper or lower face of the tongue, is seated and secured by a nut F. The lower face of this horizontal arm, which forms the seating-face for the bit, is inclined, as shown, to give the bit proper clearance, and the axis of the stud *d* is at right angles to the plane of this inclined face. The two bits are preferably of similar construction, but are seated reversely with respect to each other. The shape of the lower portion of the head, as above described, enables the bits E to extend back underneath the upper portion A, whereby a much larger bit can be used upon the same size of head. The bit-carriers are secured in the seats *a* by means of clamping-screws G, and their vertical arms are slotted at *g*, where these screws pass through them to permit of vertical adjustment. A suitable scale may be marked upon the head at the sides of the seats *a* to serve as a guide for the adjustment.

It will be noted that the metal of the head is so distributed relatively between the upper and lower portions of the head as not only to strengthen the head, but to also balance it and cause it to run steadily and without vibration.

The separate adjustment of the two bit-carriers enables the location of the tongue or groove with respect to the top and bottom surface of the lumber, as well as the thickness or width of the same, to be changed without changing the adjustment of the head on its spindle, since the cutting planes of the two bits can thereby not only be separated or approached to vary the thickness or width of a tongue or groove without changing the location of its center with respect to the surfaces of the lumber, but the cutting plane of either bit can be raised or lowered to any desired extent within the limits of adjustment. The bit-carriers may also be quickly removed and others substituted adapted for rabbet-

ing or other special work, with or without the jointing knives or cutters, or they may be removed altogether and the heads used for plane jointing. Various forms of jointing-

5 knives may of course be used.

I do not wish to be limited to the exact construction and arrangement of parts herein shown and described, as slight changes may be made therein without departing from my

10 invention as defined in the following claims.

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

1. In a matcher-head, the body consisting
15 of the upper portion formed with recesses at its ends, and the lower portion cut away or reduced at the ends to form opposite wings, jointing knives or cutters secured to said wings, bit-carriers adjustably secured in said
20 recesses, and cutting-bits secured to said carriers below and partly underneath said upper portion.

2. In a matcher-head, the combination with the body having the bit-seating recesses at
25 its ends, and the lower wings at right angles thereto, of the vertically-adjustable bit-carriers fitted to and secured in said recesses, the circular bits secured to said carriers, and the jointing-knives or cutters secured to the
30 said wings.

3. In a matcher-head, the combination of the integral body having recesses in the ends of its upper portion, and its lower portion reduced at each end to form the two lateral
35 wings, of the L-shaped bit-carriers adjustably secured in said recesses, and having

their horizontal arms formed at the under side with oblique bit-seating faces and integral studs extending at right angles to said faces, and jointing knives or cutters secured 40 to the said wings.

4. In a matcher-head, the body having the oblong upper portion, and the lower opposite wing portions, jointing-knives secured to the ends of said wing portions, the bit-carriers 45 adjustably secured to the ends of said upper portion, and the reversed cutting-bits secured to said carriers and lying partly underneath said upper portion in the plane of said wings. 50

5. In a matcher-head, the combination with the body having an overhanging upper portion, of bit-carriers adjustably secured to said overhanging portion and formed with depending integral bit-seating studs, and bits 55 seated and secured on said studs, said bits lying partially underneath said overhanging portion.

6. In a matcher-head, the combination with a body portion, of a bit-carrier adjustably secured thereto and formed on its under side with an inclined bit-seating face, an integral bit-stud projecting from the said face at right angles to the plane thereof, and a bit 60 seated and secured on said stud.

In testimony whereof I have affixed my signature in presence of two witnesses. 65

WARREN W. PHILBRICK.

Witnesses:

JOHN F. REED,

ARTHUR R. RUTHERFORD.