(No Model.)

S. J. SHIMER.

CUTTER HEAD.

No. 603,976. Patented May 10, 1898.

Fig. 3

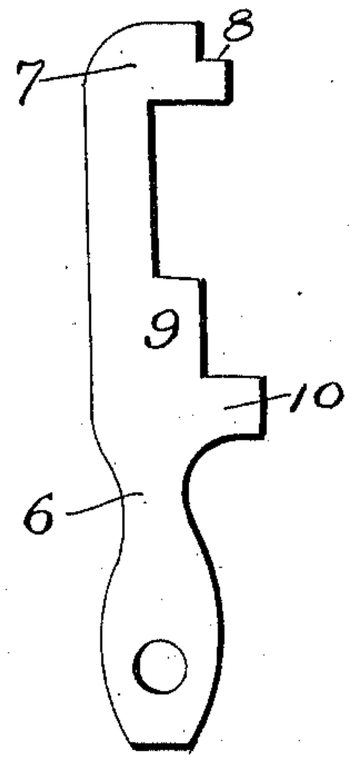

Fig. 1.

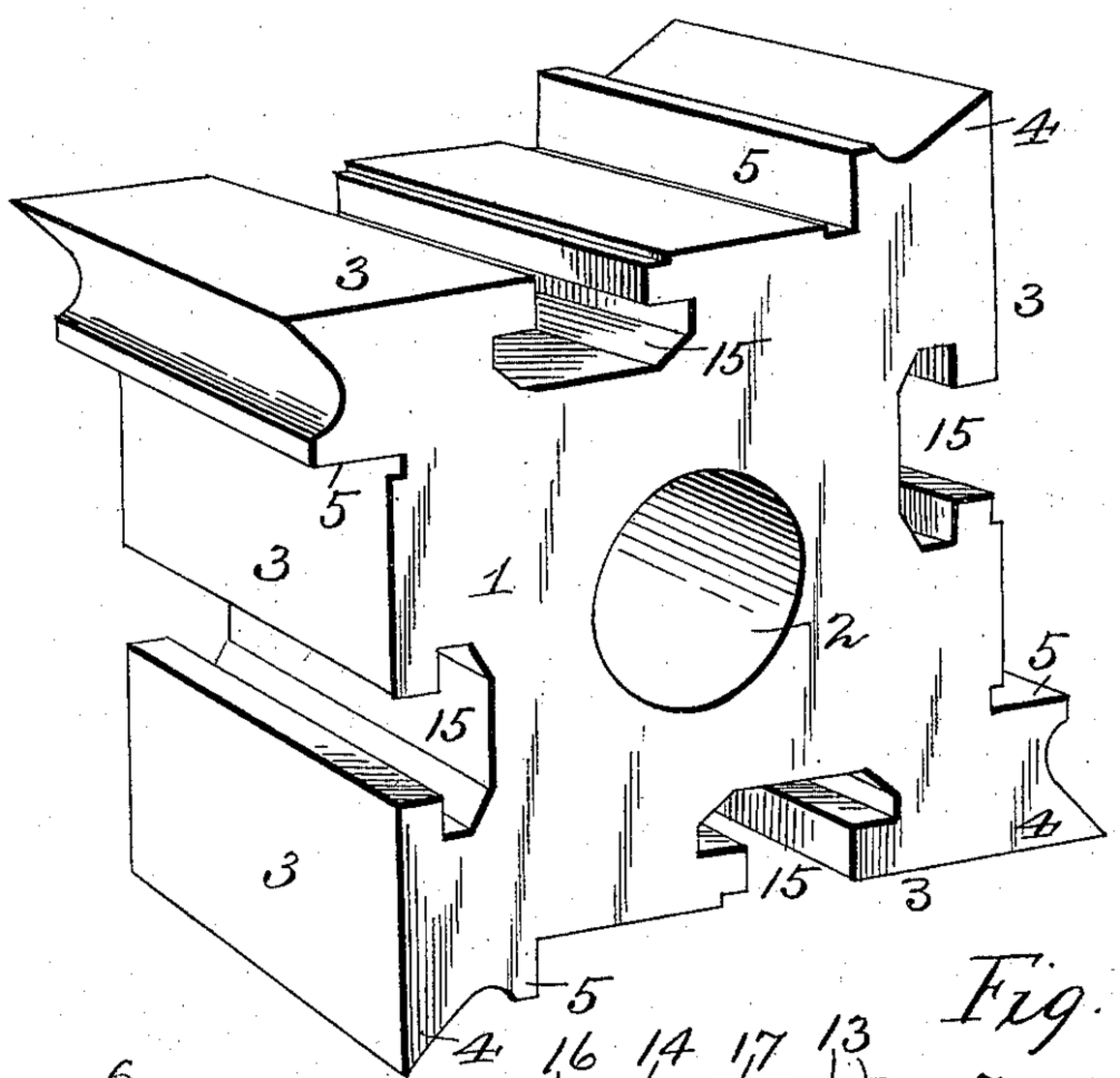

Fig. 2.

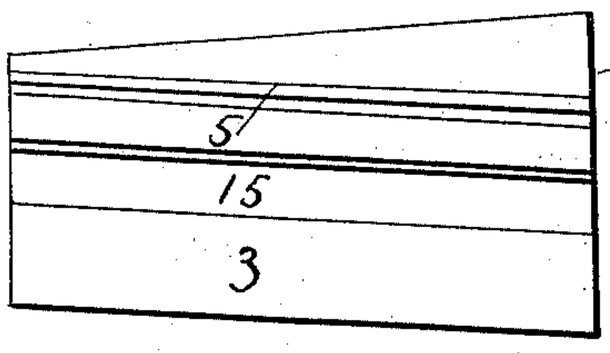

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL J. SHIMER, OF MILTON, PENNSYLVANIA.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 603,976, dated May 10, 1898.

Application filed October 4, 1897. Serial No. 654,044. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. SHIMER, a citizen of the United States, and a resident of Milton, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Trapezoidal Cutter-Heads; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to trapezoidal cutter-heads for woodworking-machines such as shown in the reissued Letters Patent granted to me the 29th day of June, 1897, Nos. 11,616 and 11,617, in which the sides are alternately arranged and alternately inclined inwardly and outwardly with respect to the axial line of the head. Such heads are formed with outwardly-projecting chip-breaks at the front ends of the knife-seats, which are also alternately arranged and alternately inclined with respect to the axial line of the head. In practice said chip-breaks wear away in the course of time and the knives require to be frequently sharpened, so that it is extremely difficult to adjust the knives or cutters so that the cutting edges will be in proper position with respect to the head. The object of the present invention is to provide an improved construction of such cutter-heads whereby a gage may be applied thereto to adjust the cutting edges of the knives.

The invention consists, essentially, in a trapezoidal cutter-head formed with shoulders which are parallel or coincident with the chip-breaks and which form abutments for a gage, as hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a square cutter-head constructed in accordance with my invention. Fig. 2 is a similar view of the same, showing a knife bolted thereto and a gage applied. Fig. 3 is an elevation showing the gage. Fig. 4 is a plan view, on a reduced scale, of the cutter-head.

In the said drawings the reference-numeral 1 designates a trapezoidal cutter-head formed with a central hole 2 for the passage of the spindle or mandrel by which it is rotated. This cutter-head is formed with four knife seats or faces 3, alternately arranged and alternately inclined with respect to the axial line of the head and each having a chip-break 4 at the front end, which chip-breaks project beyond the faces of the head. Near the rear end each of said seats or faces is formed with a longitudinal shoulder or straight-edge 5, parallel with the chip-break. These chip-breaks follow the lines of the head—that is to say, they are oblique to the plane of rotation and the shoulder in rear of each chip-break is parallel or coincident therewith.

The numeral 6 designates a gage which can be used in connection with the knife and cutter-head, comprising a metal plate cut away at one edge, forming an arm 7, having a notch 8 in its lower edge. Opposite this arm is a shoulder 9, and in rear thereof is a lug 10.

The numeral 12 designates the knives or cutters, formed at the rear ends with slots 13 for the passage of headed bolts 14, which engage with T-slots 15 in the head. The numerals 16 and 17 designate washers and nuts on said bolts.

In practice the knives are bolted loosely down upon their seats, so that they can be moved in and out in order to adjust them. The gage is then applied to the knife with the notch 8 in the arms 7 engaging with the shoulder or straight-edge 5. By now moving or adjusting the knife so that its cutting edge will contact with the lug 10 of the gage the proper position of the cutting edge with respect to the axial line of the head will be determined. As before stated, the chip-breaks are subject to wear; but the shoulder or straight-edge retains its shape or outline permanently.

It will be seen that the chip-breaks are not parallel with each other nor with the axial line of the head, so that the shoulder parallel with one chip-break will be at an angle to the next adjoining chip-break.

Having thus fully described my invention, what I claim is—

1. As an improved article, a trapezoidal cutter-head formed with knife seats or faces formed with chip-breaks, beveled on the under side and alternately arranged and alternately inclined with respect to the axial line of the head, the shoulders formed integral

with said head in rear of the chip-breaks and each shoulder parallel or coincident with the chip-break in front thereof, and extending from end to end of the head, forming an abutment for a gage, substantially as described.

2. As an improved article, a cutter-head formed with knife seats or faces extending from end to end of the head and each formed with a chip-break alternately arranged and alternately inclined inwardly and outwardly with respect to the axial line of the head, and said heads formed with T-slots intermediate the front and rear limits of the knife-seats, the longitudinal shoulders each of which is parallel or coincident with the chip-break in rear of which it is located, but at an angle to the next succeeding chip-break, and said shoulders integral with said head and extending from end to end thereof, forming abutments for a gage, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

SAMUEL J. SHIMER.

Witnesses:
W. H. BECK,
JOHN A. BECK.