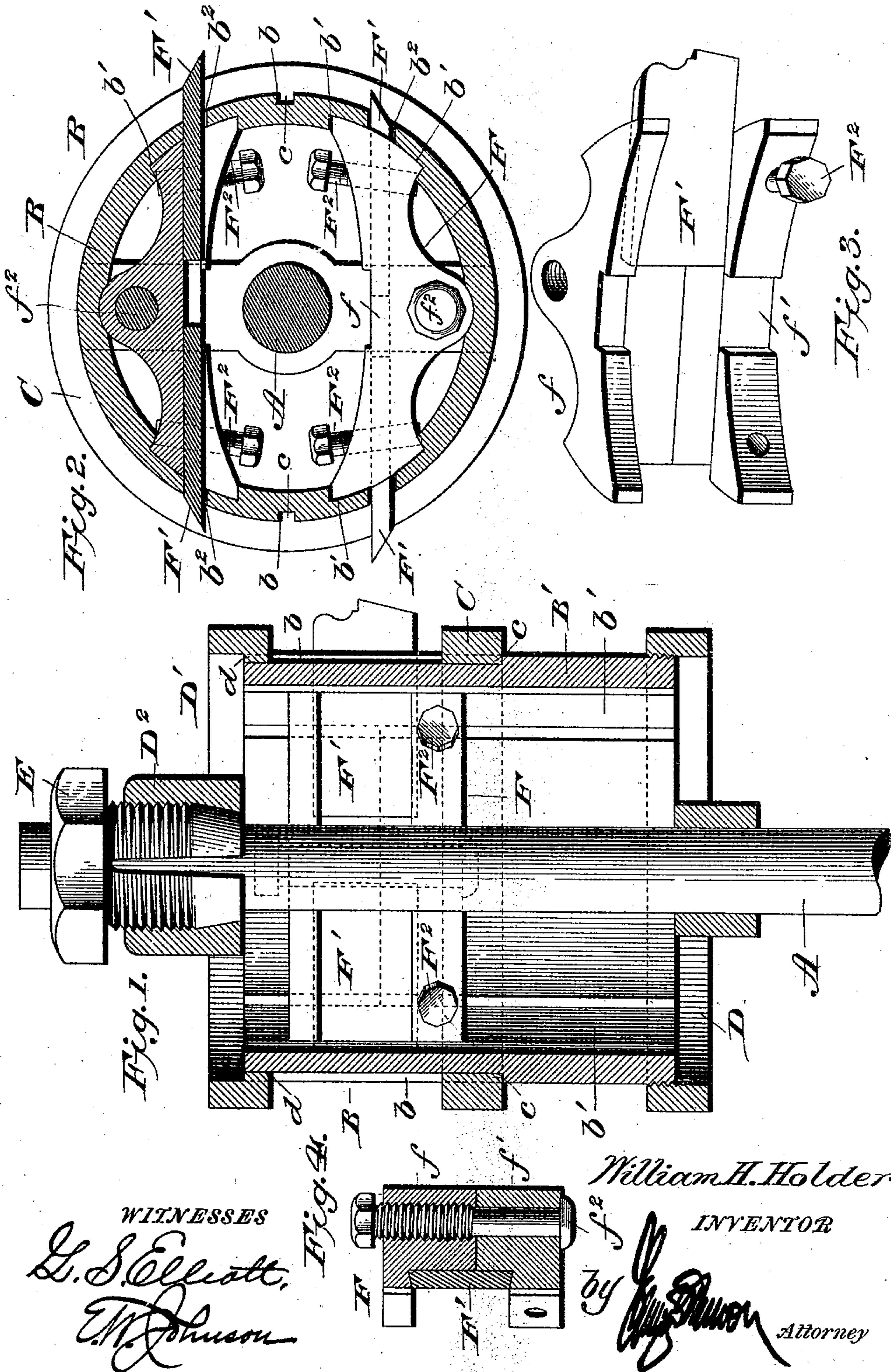


(No Model.)

W. H. HOLDER.
CUTTER HEAD.

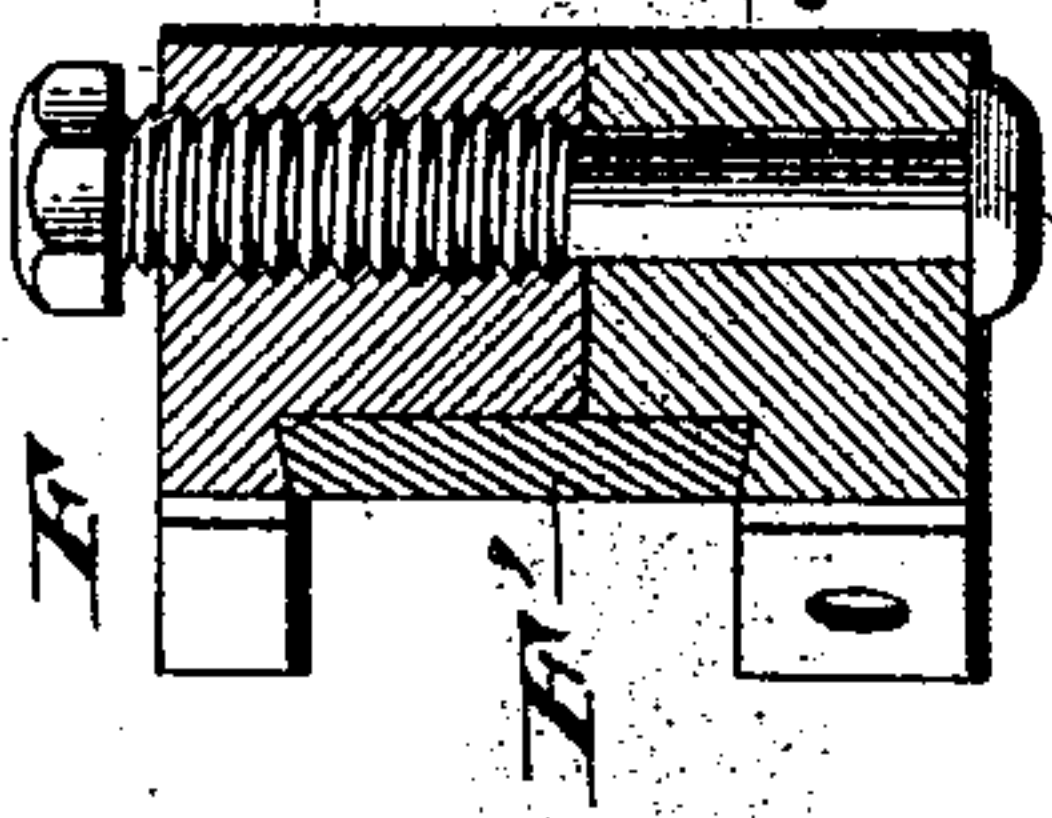
No. 549,361.

Patented Nov. 5, 1895.



WITNESSES
L. S. Elliott,
E. W. Johnson

Fig. 4.



William H. Holder
INVENTOR

by *[Signature]* Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. HOLDER, OF SCRANTON, PENNSYLVANIA.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 549,361, dated November 5, 1895.

Application filed May 25, 1895. Serial No. 550,644. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HOLDER, a citizen of the United States of America, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Cutter-Heads; and I do hereby 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a cutter-head of improved construction, the cutter being of cylindrical form and the bit-holders secured within the same so that they may be adjusted longitudinally, said bit-holders having means for adjusting the bits thereon; such a cutter-head being adapted for molding machines or shapers, and the construction is such that the bits may be used when the cutter is rotated either to the right or to the left.

The invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of a cutter-head constructed in accordance with my invention. Fig. 2 is a transverse sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of one of the bit-holders detached; and Fig. 4 is a sectional view through the center of one of the bit-holders, the section being taken on the line 4 4 of Fig. 2.

The cutter is adapted to be used on wood-working-machinery in planing, matching, or molding machines, or such machines in which rotary cutters are usually employed.

A designates the shaft to which the cutter-head is secured, and this shaft may occupy with relation to the bed of the machine either a vertical or horizontal position, according to the character of the machine.

The cutter-head B is mounted on the shaft A and is made up in part of a cylinder B', said cylinder having grooves *b* in its outer face which do not extend the full length of the cyl-

inder. The inner portion of the cylinder is provided with recesses *b'*, the edges of which may be slightly undercut, as shown. The cylinder is also provided with longitudinal slots *b*², through which the bits pass.

C designates a reinforcing-ring which encircles the cylinder B' and is provided with inwardly-projecting lugs *c*, which engage the grooves *b* when the ring is placed upon the cylinder.

D designates one of the cylinder heads or caps, the rim of which is connected to the hub by arms, and the interior of the rim is threaded to engage threads formed on one end of the cylinder B'. The other end of the cylinder carries a head or cap D', and the rim of this cap is formed with inwardly-projecting lugs *d*, which lie in the grooves *b*, the arms being connected to a hub D², which is provided with a conical portion, and above said conical portion with screw-threads for the reception of a hollow clamping-bolt E, said clamping-bolt having a suitable head and a threaded portion which terminates in a cone. The bolt is bifurcated or split, as shown, so that when driven or screwed home upon the shaft or spindle A it will hold the head or cap D' securely in place, it being understood that the hub of the other head or cap bears against a suitable collar secured to the shaft or spindle.

F designates the bit-holders, which are each adapted to carry a pair of bits or cutters F', said bits being adapted to be projected beyond the periphery of the cylinder through the slots therein. The bit-holders are made up of two parts, which when brought together provide a dovetailed recess between which the bits are clamped, and the parts *f* and *f'* are clamped together by means of a center-bolt *f*², said bolt passing through apertures in said parts and being provided with a suitable tightening and adjusting nut. The outer edges of the bit-holders are of such configuration that they will lie within the dovetailed recesses *b'* of the cylinder, and the ends fitting in these dovetailed recesses will give rigidity to the cylinder, which rigidity is further increased by the set-screws F², which pass through the sections of the bit-holders and impinge against the inner side of the cylinder. When the set-screws F² are loosened, the bit-holders may be adjusted longitudi-

2
nally within the cylinder, and by properly manipulating the nuts on the bolts f^2 the bits can be slid in and out. When the bolts F^2 are tightened, the expansion of the cylinder
5 caused by such tightening will cause the ring to snugly fit the cylinder.

A cutter-head constructed as hereinbefore described permits the longitudinal adjustment of the bit-holders and the inward and
10 outward movement of the bits. The cylinder at back of slots may have suitable gage-marks for determining the height of the cutter-bits. It will also be noted that the bits can be reversed in their holders. When the cutter-
15 head is placed upon the spindle it revolves in the direction of the arrow in Fig. 2, one of the bits in the holder being projected while the other is retracted. The ring and caps not only serve to reinforce the cylinder and pro-
20 vide an extremely rigid cutter-head, which insures good work, but also provide spaces which permit the cutter-head to clear itself of shavings. It will also be noted that all the adjusting-bolts are within the cylinder.

25 In dressing lumber a pair of these cutter-heads may be used adjacent to each other, one set operating to the right and the other to the left. The head is designed principally for irregular work upon shapers with same
30 knives or cutters and setting as is used on molder or straight work. One cutter may have both ends the desired shape right and left, thus saving two sets of cutters.

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

1. A cutter-head comprising a cylinder having longitudinal recesses on its inner side and longitudinal slots opening into said recesses,
40 bit-holders located within the cylinder so that the ends thereof will engage the longitudinal recesses, the bit-holders carrying bits which project through the slots in the cylinder, and means for locking the bit-holders, substan-
45 tially as shown and for the purpose set forth.

2. In a cutter-head, the combination, of a cylinder having longitudinal undercut recesses on its inner side and longitudinal slots opening into said recesses, two-part bit-hold-
50 ers located entirely within the cylinder and having ends which are shaped to engage the undercut recesses, bits carried by the bit-hold-

ers so as to project through the longitudinal slots, and locking-bolts carried by the bit-holders so that the ends of said bolts will im-
55 ping against the inner side of the cylinder, substantially as shown and for the purpose set forth.

3. In a cutter-head, the combination, of a cylinder having heads which project beyond
60 the periphery thereof, means for causing the heads to rigidly engage the shaft or spindle upon which the cutter-head is mounted, the cylinder being provided with slots through which the bits or cutters pass and with longi-
65 tudinal recesses on its inner side, together with bit-holders positioned on one side of the center of the cylinder for engagement with opposing recesses, and clamping-bolts carried by the bit-holders said clamping-bolts
70 bearing against the inner side of the cylinder, substantially as shown and for the purpose set forth.

4. The combination in a rotary cutter-head, of a cylinder having heads and means for at-
75 taching the same to a shaft or spindle, the cylinder having longitudinal recesses on its inner side, together with two-part bit-holders with dovetailed ends which enter the recesses on the inner side of the cylinder, and bolts
80 carried by the bit-holders said bolts bearing against the inner side of the cylinder to cause a rigid engagement of the bit-holders there-
with, for the purpose set forth.

5. In a rotary cutter-head, the combina-
85 tion, of a cylinder provided with longitudinal recesses b' and grooves b , heads which engage with the ends of the cylinder and a ring C having lugs c which engage the grooves b , together with two-part bit-holders which are
90 longitudinally recessed to receive the bits, a bolt and nut for clamping the parts of the bit-holder together, the bit-holders also having bolts F^2 for retaining them in position by bearing against the inner side of the cylin-
95 der, the parts being organized substantially as shown and for the purpose set forth.

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

WILLIAM H. HOLDER.

Witnesses:

ANDREW SMITH,
W. O. BRECK.