

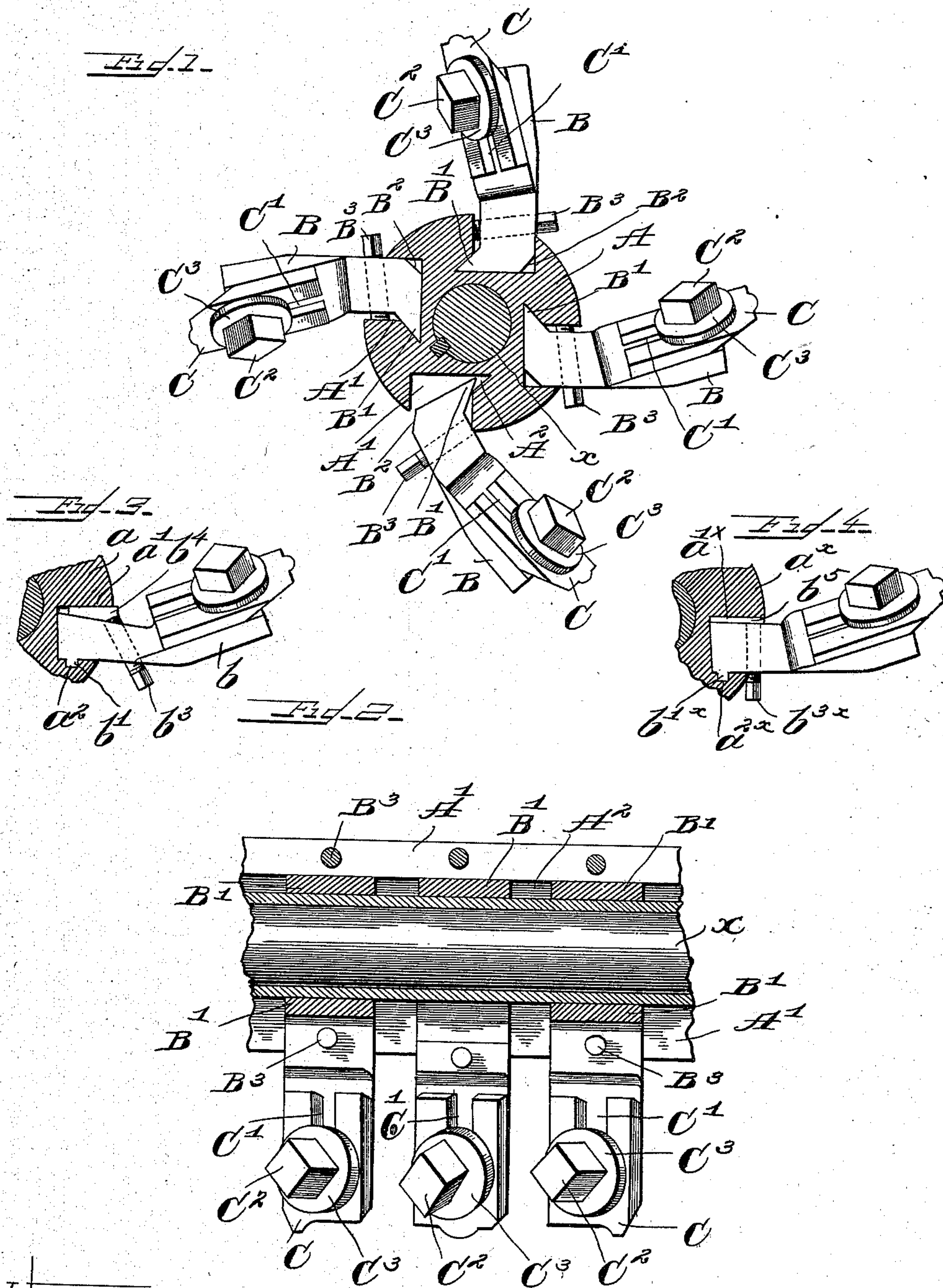
No. 723,207.

PATENTED MAR. 17, 1903.

M. W. MATTISON.
ROTARY CUTTER HEAD.

APPLICATION FILED DEC. 27, 1902.

NO MODEL.



Witnesses—

G. A. Paikewschmidt
Geo. L. Chindahl

Inventor—

M. W. Mattison
By Luther L. Miller
Att'y—

UNITED STATES PATENT OFFICE.

MAGNUS W. MATTISON, OF BELOIT, WISCONSIN.

ROTARY CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 723,207, dated March 17, 1903.

Application filed December 27, 1902. Serial No. 136,810. (No model.)

To all whom it may concern:

Be it known that I, MAGNUS W. MATTISON, a citizen of the United States, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Rotary Cutter-Heads, of which the following is a specification.

One of the objects of my invention is to produce a rotary cutter-head that may be made of any desired length and in which the cutting-knives may be readily inserted and removed.

A further object of the invention is the production of a cutter-head embodying the other and further improvements to be hereinafter described.

In the accompanying drawings, Figure 1 is a transverse section through a cutter-head embodying my invention, taken on dotted line 1 1 of Fig. 2. Fig. 2 is a fragmental sectional view through the cutter-head, taken on dotted line 2 2 of Fig. 1. Figs. 3 and 4 are fragmental views of modified forms.

This cutter-head is adapted for use upon machines for molding, turning, or shaping wood and other materials. The hub or body portion A of the cutter-head, which may be of any desired length, is secured in any suitable manner upon the mandrel or spindle of the machine. In this hub, and parallel with the longitudinal axis thereof, I form a number of grooves or recesses A'—in this particular instance four in number—which grooves are substantially rectangular in cross-section, one wall of each of said grooves being formed on the radius of said hub and the opposite parallel wall consequently being less in height than said radial wall. At one side (in the principal embodiment herein shown at the radial side) the lower portion of the side wall of each of these grooves A' is undercut, forming the channel A², for a purpose which will hereinafter appear.

Knife-holders B are adapted to be secured at their inner ends within the grooves A', the inner end of each of said knife-holders being provided with a toe or projection B', adapted to fit within the channel A². Opposite to the toe B' the inner end of each knife-holder B is chamfered or cut away at B² to permit the insertion of said holder into the groove A' at any point in the length of said groove. It

will thus be apparent that the knife-holder need not be inserted at the end of the groove A' and slid to its proper place, but may be introduced into the groove at the desired point, as clearly shown by the lower knife-holder in Fig. 1. To fix the knife-holder B firmly in position within the groove A', I provide the set-screw B³, extending through a suitable screw-threaded opening in the body of the holder and adapted to bear against the radial wall of the groove. Tightening the set-screw B³ rocks the knife-holder rearward, clamping the toe B' firmly within the channel A² and preventing any movement of the holder with relation to the hub A.

In Fig. 3 I have shown a slight modification of the means for securing the knife-holders in place. In this construction the rear wall of the groove a' in the hub a is provided with a channel a² and the adjacent side of the knife-holder b with a coinciding rib b'. To lock said rib within the channel a², a wedge-shape block b⁴ is placed between the radial side wall of the groove a' and the adjacent side of the knife-holder, which block is arranged to be forced toward the bottom of the groove a' by the set-screw b³. When the block b⁴ is tightly wedged between the knife-holder b and the side wall of the groove a', the rib b' is locked within the channel a² and the knife-holder is held from rearward pivotal movement with relation to the hub a.

In the modified construction illustrated in Fig. 4 the rear wall of the groove a'^x in the hub a^x is provided with a channel a^{2x} and the adjacent side of the knife-holder b^x with a coinciding rib b'^x, as in the construction shown in Fig. 3. A filler-block b⁵ is inserted between the radial wall of the groove a'^x and the adjacent side of the knife-holder, against which block the set-screw b^{3x} is arranged to bear. When the set-screw b^{3x} is tightened down upon the filler-block b⁵, the rib b'^x is firmly held within the channel a^{2x}, preventing any movement of the knife-holder with relation to the hub a^x.

To the outer end of each of the knife-holders is secured a knife C, which knife is provided with an elongated slot C' to receive a bolt C² for securing the knife to its holder, a washer C³ being inserted between the head of the bolt and said knife. The cutting edges

of these knives, as will be readily understood, may be of any conformation that is adapted to produce in operation the desired cut.

5 It is clear that various changes might be made in that embodiment of my invention which is shown herein without departing from the spirit and scope thereof. I therefore desire to have it understood that I do
10 not limit myself to the precise construction herein set forth.

I claim as my invention—

1. In a rotary cutter-head, in combination, a hub provided in its periphery with a groove;
15 a knife-holder having an inner end adapted to be inserted into the groove at any point in the length of said groove; and means for locking the inner end of said knife-holder within said groove.

20 2. In a rotary cutter-head, in combination, a hub provided in its periphery with a groove substantially rectangular in cross-section; a knife-holder having an inner end adapted to be inserted into the groove at any point in
25 the length of said groove; and means for locking the inner end of said knife-holder within said groove.

3. In a rotary cutter-head, in combination, a hub provided in its periphery with a longitudinal groove having a channel in one of its
30 side walls; a knife-holder having an inner end adapted to be inserted into the groove at any point in the length of said groove, and provided with a projection adapted to enter said
35 channel; and means for locking said projection within said channel.

4. In a rotary cutter-head, in combination, a hub provided in its periphery with a groove having a channel in one of its side walls; a
40 knife-holder having an inner end provided with a toe adapted to lie in said channel, the side of the knife-holder opposite to said toe being cut away; and means for locking said toe within said channel.

45 5. In a rotary cutter-head, in combination, a hub provided in its periphery with a longitudinal groove having a channel in one of its

side walls; a knife-holder having an inner end provided with a toe adapted to lie in said channel, the side of the knife-holder opposite
50 to said toe being cut away to permit the insertion of said holder into said groove at any point in the length of said groove; and a set-screw extending through said knife-holder and bearing against one of the side walls of
55 said groove, to lock said toe within said channel.

6. In a rotary cutter-head, in combination, a hub provided in its periphery with a longitudinal groove, one side of which is provided
60 with an undercut portion; a knife-holder adapted to be inserted into the groove at any point in the length of said groove, and having a projecting portion adapted to project into the undercut portion of the groove; and
65 means for forcing said projecting portion of the knife-holder toward the undercut side of the groove.

7. In a rotary cutter-head, in combination, a hub provided in its periphery with a groove,
70 one side of which is provided with an undercut portion; a knife-holder adapted to lie in the groove and having a projecting portion adapted to project into the undercut portion of the groove, the side of the knife-holder op-
75 posite to said projecting portion being cut away; and means for forcing said projecting portion of the knife-holder toward the undercut side of the groove.

8. In a rotary cutter-head, in combination, 80 a hub provided in its periphery with a groove having a channel in one of its side walls; a knife-holder adapted to lie in the groove and having a toe adapted to lie in said channel, the side of the knife-holder opposite to said
85 toe being cut away; and a set-screw extending through said knife-holder and bearing against the channeled side wall of the groove, to force said toe toward said channel.

MAGNUS W. MATTISON.

Witnesses:

JOHN C. ROOD,
CHAS. CLEOPHOS.