

J. J. W. ALEXANDER.
 ROTARY CUTTER HEAD.
 APPLICATION FILED JAN. 22, 1909.

971,812.

Patented Oct. 4, 1910.

2 SHEETS-SHEET 1.

FIG. 2.

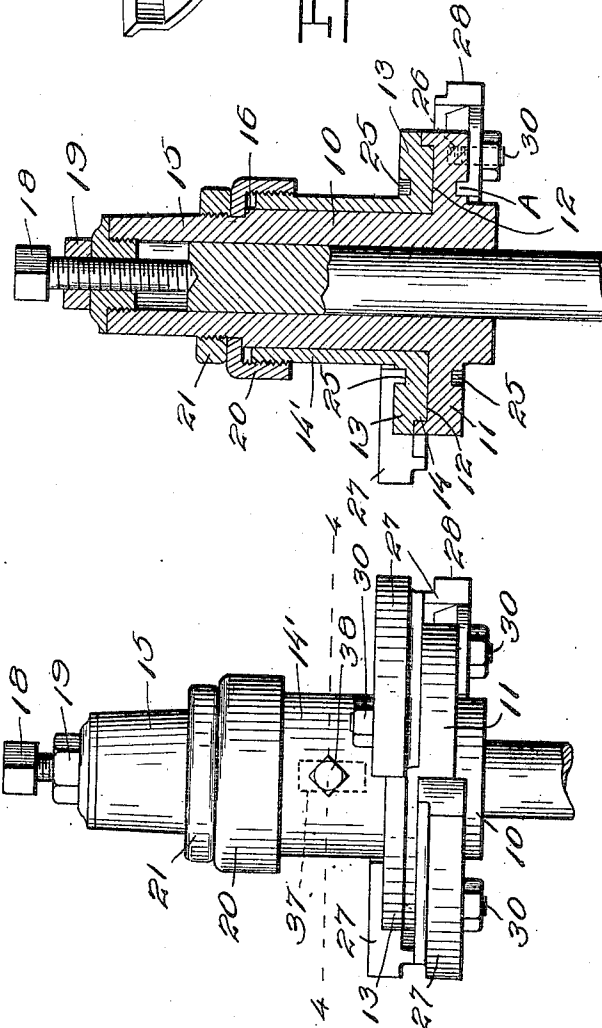


FIG. 1.

Witnesses
E. L. Chandler
E. L. Chandler

Inventor
J. J. W. Alexander

By *Woodward & Chandler*

Attorneys

J. J. W. ALEXANDER.
 ROTARY CUTTER HEAD.
 APPLICATION FILED JAN. 22, 1909.

971,812.

Patented Oct. 4, 1910.

2 SHEETS-SHEET 2.

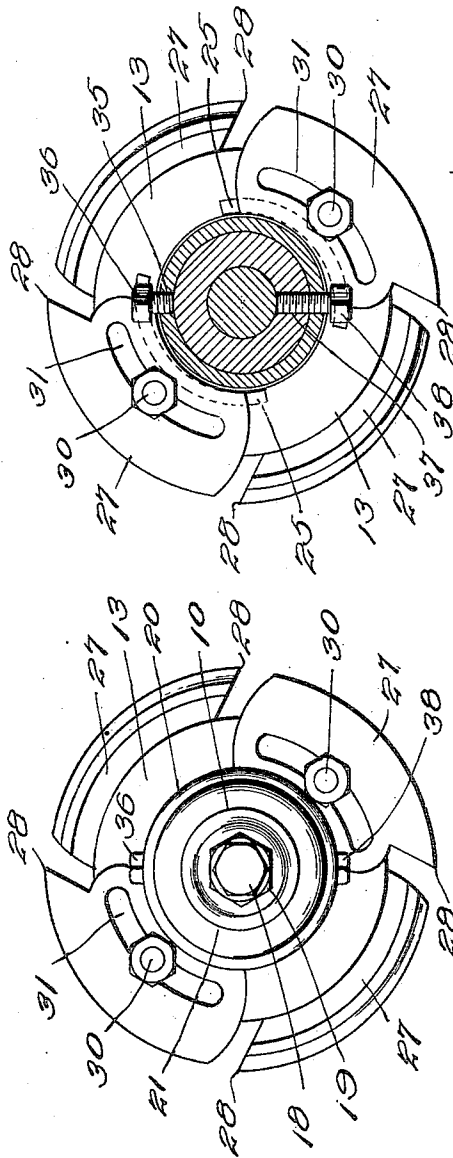


FIG. 4-

FIG. 2-

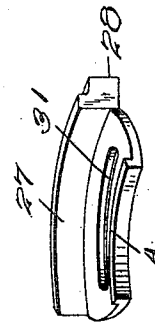
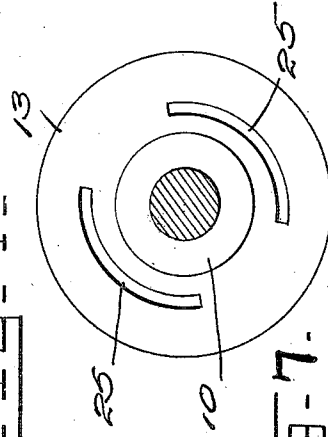


FIG. 5- FIG. 7-

Witnesses
E. L. Chandler
E. L. Chandler

Inventor
J. J. W. Alexander,

By *Woodward & Chandler*

Attorneys

UNITED STATES PATENT OFFICE.

JESSE J. W. ALEXANDER, OF RAYMOND, WASHINGTON.

ROTARY CUTTER-HEAD.

971,812.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed January 22, 1909. Serial No. 473,609.

To all whom it may concern:

Be it known that I, JESSE J. W. ALEXANDER, a citizen of the United States, residing at Raymond, in the county of Pacific and State of Washington, have invented certain new and useful Improvements in Rotary Cutter-Heads, of which the following is a specification.

This invention relates to planing tools, and more particularly to rotary cutter heads, and has for its object to provide such a device which is adaptable to use with various kinds of planing work, such as tongue and groove making, molding, and similar work.

A particular object of this invention is to provide a plurality of cutting edges of various shapes adapted for detachable engagement with the base portion of the invention.

Another object is to provide a means for adjusting opposite cutters to vary the width of a groove or other form to be cut.

Another object is to provide a novel and effective means for varying the depth of operation of the cutters.

Another object is to provide a central hub portion adapted for engagement with a spindle, or similar revoluble member, and having means for adjusting the position of the base member relatively longitudinally of the spindle.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims, and that any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side view of the device, Fig. 2 is a longitudinal sectional view of the device, Fig. 3 is a top view of the cutter of Fig. 2, Fig. 4 is a cross section on the line 4—4 of Fig. 1, Fig. 5 is a detail view of one of the cutter members adapted for forming tongues, Fig. 6 is a similar view of one of the cutter members adapted to form grooves, Fig. 7 is a reduced bottom view of the device with the cutters removed.

Referring to the drawings, there is shown a hub or sleeve 10 having a circular laterally extending collar 11 recessed on its inner

face as shown at 12 to receive a revoluble collar 13 engaged slidably over the hub and provided with a boss 14 adapted to engage within the recess 12. The collar 13 is provided with a sleeve portion 14' externally threaded and adapted for sliding engagement over the hub 10. The outer end 15 of the hub 10 is reduced, to form a shoulder 16, as shown, the reduced section being threaded adjacent to the shoulder.

The outer end of the hub 10 is interiorly threaded and there is engaged therein a bolt having a lock nut 19 engaged thereover, being adapted to impinge against a spindle within the hub for longitudinal adjustment of the hub thereon. A collar or nut 20 is engaged with the threaded portion of the beam 14' having a reduced opening at its outer side engaged revolubly over the portion 15 and the hub 10 and against the shoulder 16 for adjustment to vary the position of the member 13 longitudinally of the hub. A lock nut 21 is engaged with the threaded portion of the hub outwardly of the portion 16 for impingement against the nut 20 to secure it adjustably against movement. The outer face of the collar 11 and the inner face of the collar 13 are provided with a plurality of arcuate eccentric grooves 25, and adjacent threaded recesses 26, for a purpose to be subsequently indicated.

Secured adjustably upon the outer faces of the collars 11 and 13, there are cutter members 27, each comprising a segmental plate having an arcuate opening 31 therein, and provided at its inner edge with a lateral arcuate flange A adapted for close engagement in the groove 25 and having its opposite portion suitably shaped in cross section to produce the effect desired in planing. One end of the member 27 is beveled tangentially as shown, to produce a cutting edge 28. Bolts 30 are engaged through the slots 31 formed in the cutter members, being engaged in the recesses 26 to hold the cutter members adjustably on the respective members 13 and 11.

It will be seen that by the sliding adjustment of the members 27 in engagement with the slots 25 the distance of the cutting edge 28 from the axis of the hub may be varied as desired. It will be noted also that the position of the slots 25 presents the cutting edges of the members 27 outwardly of the rear end of the preceding member 27.

The member 13 is provided with a series

of threaded openings 35 therethrough. A set screw 36 is engaged through one of said openings to impinge against the hub 10 to hold the member 13 against rotation upon the hub. A longitudinally extending slot 37 is formed in the hub 10 beneath the opposite opening 35, the set screw 38 being engaged through the adjacent opening 35 to impinge against a spindle within the hub when in operative position.

It will be seen that a cutter is provided adapted to carry detachable cutter portions having cutting surfaces of various shapes adapted for various uses.

It will be seen that the point of engagement of the cutter members with a strip of lumber may be varied laterally by means of the set screw 18 at the outer end of the hub. The width of the tongues or grooves or other forms cut may be varied by actuation of the nut 20 in engagement with the sleeve 14'. The depth of operation of the cutter members 27 may be adjusted as indicated by means of the bolts 30.

What is claimed is:

1. A rotary cutter member comprising a hub portion adapted for detachable engagement with a spindle, means for adjusting the hub longitudinally of the spindle, said hub carrying an annular flange having a plurality of eccentric grooves in its outer side, a collar similar to the flange slidably engaged with the hub adjacent to the collar and having eccentric grooves thereon on the inner side oppositely of and extending in a common direction with the first mentioned grooves, oppositely disposed cutter members carried by the flange and collar, said members having longitudinally extending ribs slidably engaged in said grooves, means for securing the cutter members adjustably in the grooves, said slidable collar having a sleeve portion extending longitudinally of the hub, a threaded passage through the sleeve, a longitudinally extending slot being formed in the hub in registry with the pas-

sage, a bolt engaged through the passage and slot to engage a spindle within the hub and to hold the hub and sleeve against relative rotation, said sleeve being exteriorly threaded, said hub being reduced in diameter outwardly of the sleeve, and a nut threaded on the sleeve and having a restricted portion engaged with the shoulder for adjustment of the second named collar longitudinally of the hub.

2. A rotary cutter head comprising a hollow hub portion adapted for detachable engagement with a spindle, said hub carrying a flange having a plurality of eccentric grooves in its outer side, a revoluble collar slidably engaged upon the hub adjacent the flange and being of a similar size, said collar having eccentric grooves therein on its inner side oppositely of and extending in a common direction with the first mentioned grooves, means for securing the collar upon the hub adjustably against longitudinal movement thereon, said collar and flange having threaded recesses therein adjacent the grooves, oppositely disposed arcuate cutter members carried by the flange and collar, said cutters comprising a central web portion adapted to be disposed flatly against the flange or collar, an inwardly extending rib formed thereon and adapted to engage snugly in the eccentric grooves, said web portions projecting beyond the periphery of the flange and collar and carrying inwardly extending engaging portions extending laterally from the plane of the web portions, said web portion having a longitudinally extending slot therein, and headed bolts engaged in the threaded recesses for clamping engagement against the cutter members.

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

JESSE J. W. ALEXANDER.

Witnesses:

B. I. JONES,
FRANK GOGGIN.