G. F. WILSON.

CUTTER HEAD.

APPLICATION FILED OCT. 30, 1908.

977,989.

Patented Dec. 6, 1910.

2 SHEETS—SHEET 1.

Fig 1.

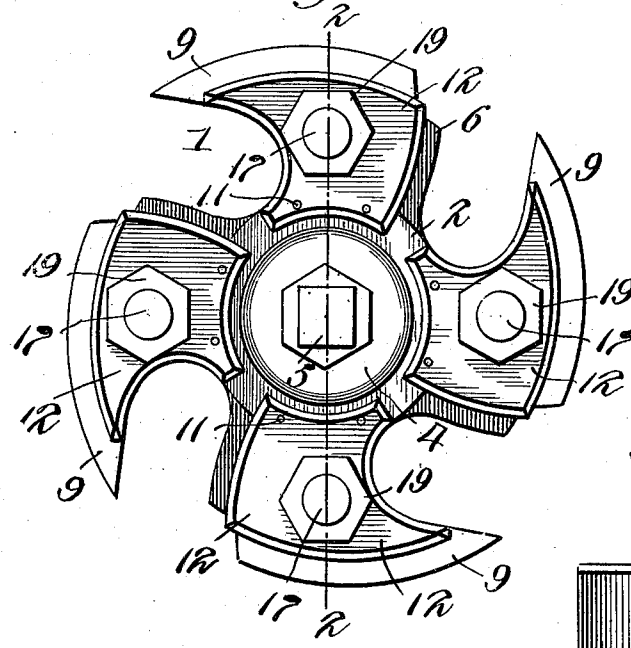


Fig 9

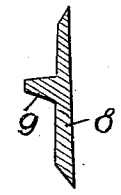


Fig 8

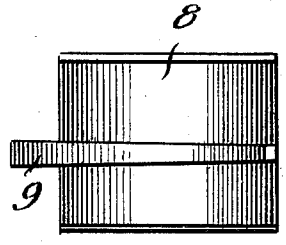


Fig 2.

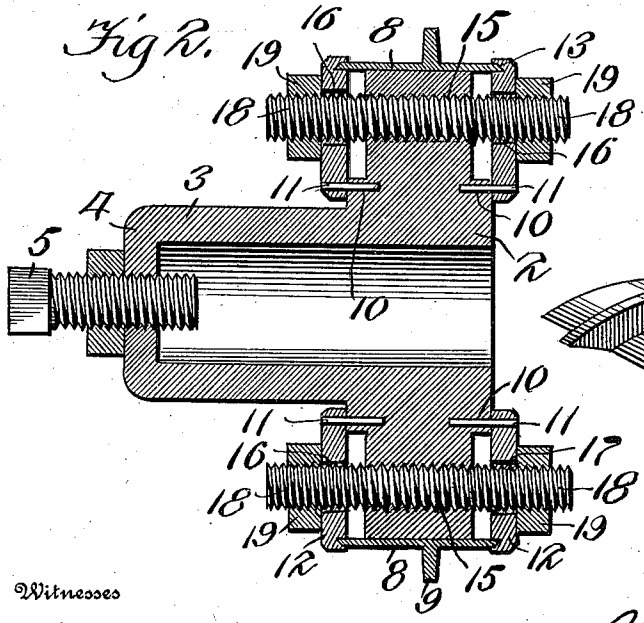
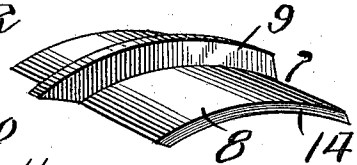


Fig 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig 4.

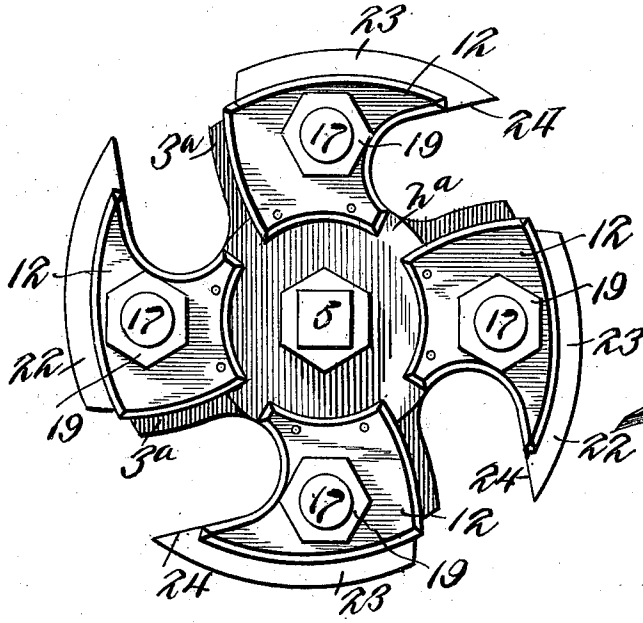
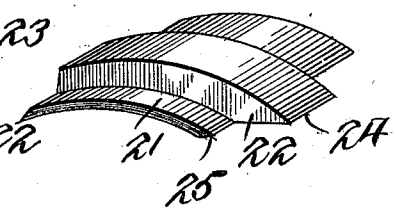


Fig 6



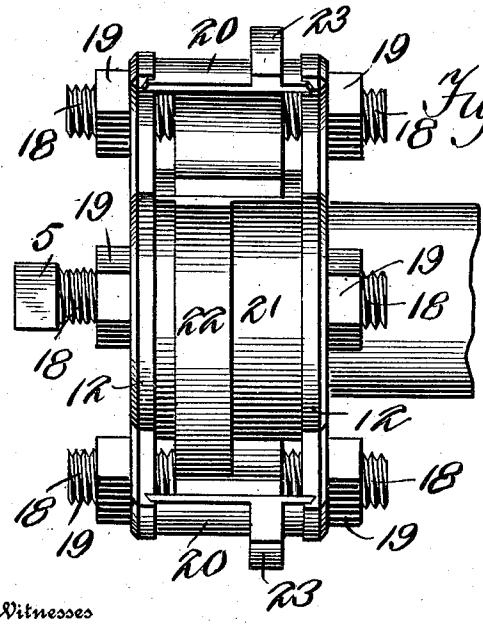


Fig 5.

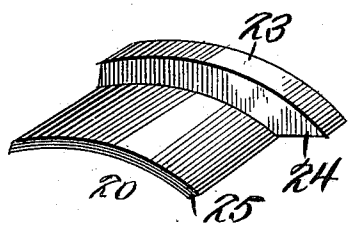


Fig 7.

Witnesses

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GEORGE F. WILSON, OF PFAFFTOWN, NORTH CAROLINA.

CUTTER-HEAD.

977,989. Specification of Letters Patent. Patented Dec. 6, 1910.

Application filed October 30, 1908. Serial No. 460,305.

To all whom it may concern:

Be it known that I, GEORGE F. WILSON, a citizen of the United States, residing at Pfafftown, in the county of Forsyth and State of North Carolina, have invented new and useful Improvements in Cutter-Heads, of which the following is a specification.

This invention relates to cutter heads, and has for an object to provide a device of this character which will include means so that the cutters can make a true and perfect cut without scratching the timber to be operated upon, and to provide simple and effective means for holding the cutters to the head or stock.

A further object of this invention is to provide a cutter head with simple and effective means for holding either cutters for forming the groove in timber or for forming the tongues, and to so construct the cutters that they will not bend or get out of alinement when the device is in operation.

Other objects and advantages will be apparent as the nature of the invention is better set forth, and it will be understood that changes within the scope of the claims may be resorted to 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 an end view of the cutter head the same being provided with cutters for forming a groove. Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1. Fig. 3 is a detail perspective view of one of the cutters. Fig. 4 is a view similar to Fig. 1, the head being provided with cutters adapted to form a tongue. Fig. 5 is an end view of the same. Fig. 6 is a detail perspective view of one of the cutters. Fig. 7 is a similar view of another of the cutters. Fig. 8 is a plan of the cutter shown in Fig. 6. Fig. 9 is a detail transverse section of one of the cutting bits.

Referring now more particularly to the drawings, there is shown a cutter head 1 comprising a stock or head 2 having at one side a hollow hub 3 adapted to receive a shaft as will be readily understood, and to adjustably mount the said head upon the shaft I provide the hub with a closed end 4 in which an adjusting screw 5 is adapted to work, and which may be effectively engaged with the shaft at the end thereof.

The head 2 is provided with radial arms 6, four being shown in the present instance, and as clearly illustrated, the outer faces of the said arms are curved, or in other words are of arcuate form adapted to receive correspondingly shaped cutters 7. Each cutter consists of a body plate 8 as shown in Figs. 1 and 3 of the drawings, and is provided with a cutting rib 9 which is also of arcuate form. Each arm is provided in its side faces with recesses or passages 10 adapted to receive inwardly extending dowel pins 11 carried by clamping plates 12 at the sides of each arm. The clamping plates upon their inner faces and adjacent to their outer edges have formed therein beveled grooves 13 disposed opposite to each other and receive correspondingly beveled ends 14 of the body plates 8. Each arm 6 has formed therein a passage 15, and the plates 12 are provided with passages 16 disposed in line with the passages 15. The passages 15 in the arm 6 have disposed therein threaded studs 17 which extend through the passages 16 formed in the plates 12, and the ends thus receiving clamping nuts 19 adapted to frictionally bind against the outer faces of the body plates 12 so that the plates 8 of the cutters 7 may be effectively clamped between the plates 12. The construction, as shown in Figs. 1 and 2 of the drawings, is such that the cutting ribs 9 are arranged in alinement with each other circumferentially of the cutter head and are thus adapted to form a groove as will be readily understood.

The form shown in Fig. 4 is substantially the same as that previously described and consists of a head 2^a having radial arms 3^a adapted to receive the clamping plates 12 as previously described. In this form of my invention the clamping plates are engaged with cutters 20 and 21, the latter having arcuate cutting bits 22, and the former having arcuate cutting bits 23 of less diameter than the bits 22, and the said bits 23 are disposed out of alinement with the bits 22 to form a space between the said bits. It will be seen that the cutters as shown in Figs. 4 and 5 are adapted for use in forming a tongue to engage in the groove cut by the previously described cutters shown in Figs. 1 and 2 of the drawings. By constructing the cutters of arcuate form it is obvious that when the device is in use strain will be

equally distributed to all parts of said cutter. The construction of the clamping plates 12 is such that the said cutters are securely held to the cutter head and may be conveniently and quickly removed when it is desired to insert new cutters as is obvious. It may be stated that one end of each bit is beveled as shown at 24, and the plates forming the said cutters are also beveled at each side of the bits as shown at 25.

The rib shown in Fig. 8 is substantially of wedge form in plan and thus provides a reduced back or rear end and an enlarged front end thus preventing binding of the said bits with the material while the latter is being cut.

Each plate 8 is of a tapering thickness throughout its width so that in cutting the plank it will be wider on one side than on the other, thereby causing the stock to fit perfectly on the surfaced side.

Having thus described the invention what is claimed as new, is:—

1. A cutter head having an annular series of bits each comprising a main body plate sharpened to form a knife edge at its front edge, each body plate being of an unequal thickness throughout its entire transverse area and formed with a rib having a forward cutting edge disposed in the same transverse plane with the forward cutting edge of the main body plate.

2. A cutter head having a plurality of radial arms, and bits mounted at the ends of the arms and each comprising a main body plate of tapering thickness throughout its width and sharpened at its forward edge and formed with an arcuate cutting rib whose forward edge is sharpened and disposed in line with the cutting edge of the said body plate.

3. A cutter head comprising a hub, a plurality of radial arms extending from the hub, threaded studs extending through the arms, clamping plates mounted at the sides of the arms, said studs being extended through the said clamping plates, clamping nuts mounted upon the studs for adjustment thereon and adapted for engagement with the clamping plates to move them toward each other, and bits operatively positioned between the clamping plates and located at the outer ends of the said arms.

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

GEORGE F. WILSON.

Witnesses:
GEORGE W. FLYNT,
W. LEE PFAFF.