No. 866,880. PATENTED SEPT. 24, 1907.

A. A. OVERBAY.

CUTTER HEAD.

APPLICATION FILED JUNE 12, 1907.

2 SHEETS—SHEET 1.

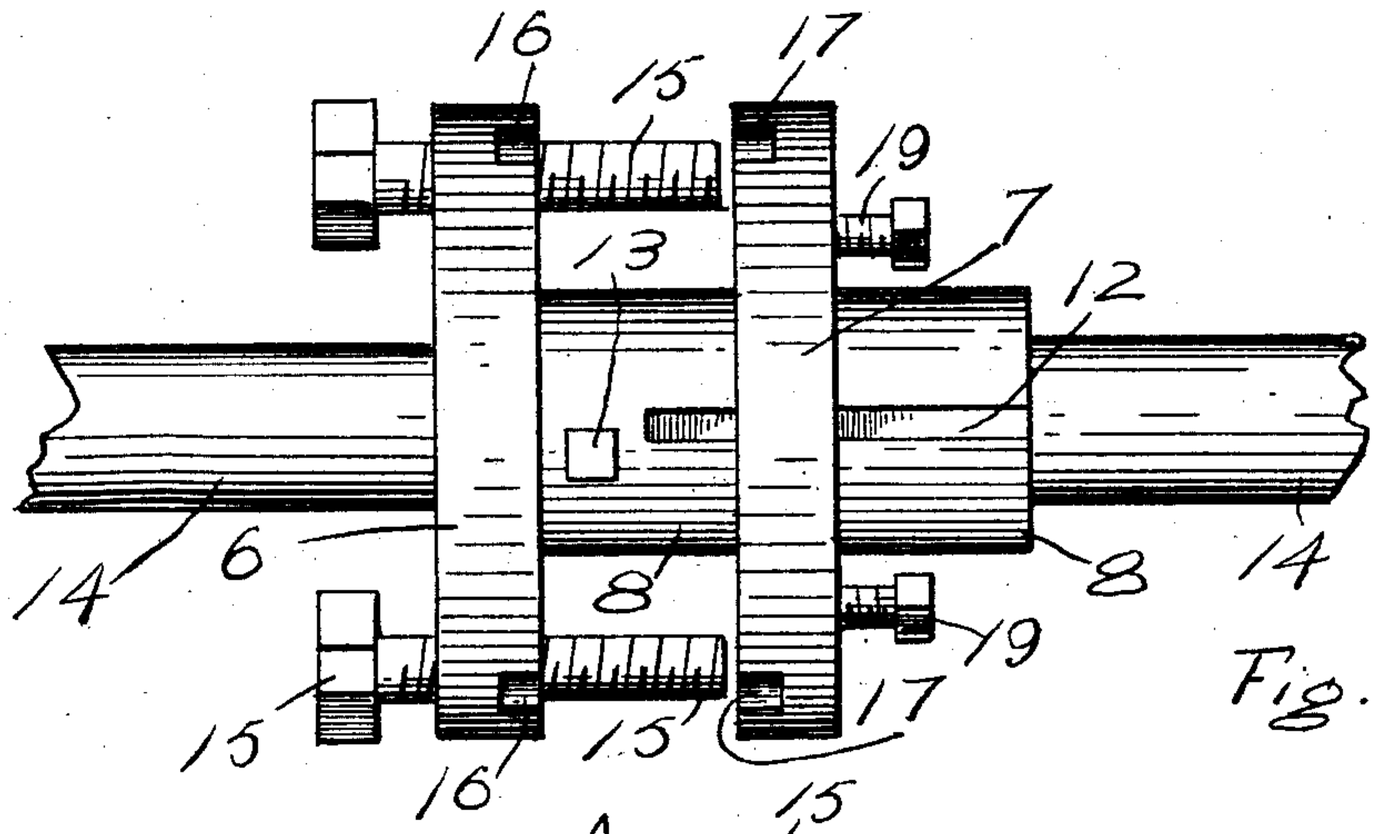

Fig. 1.

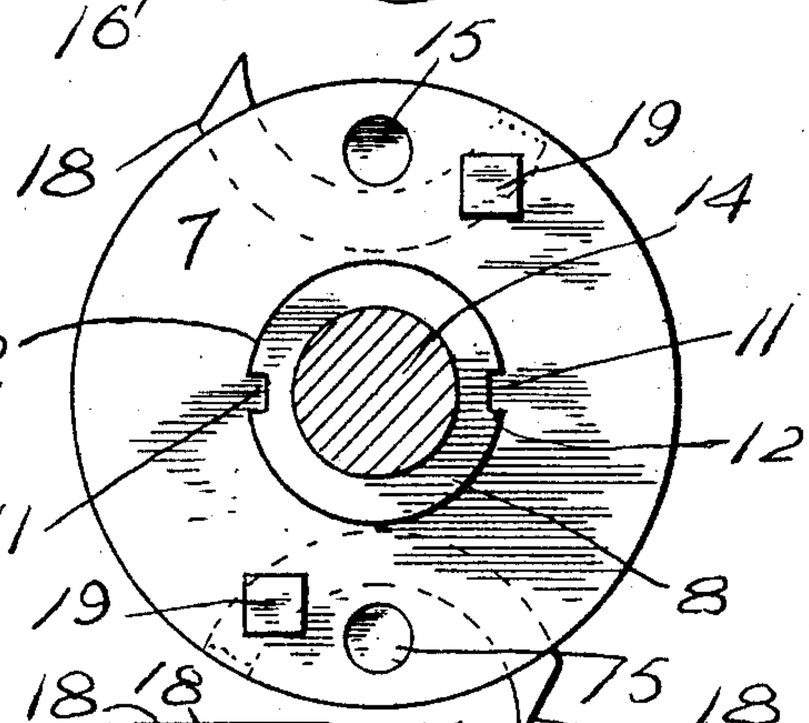

Fig. 2

Fig. 3

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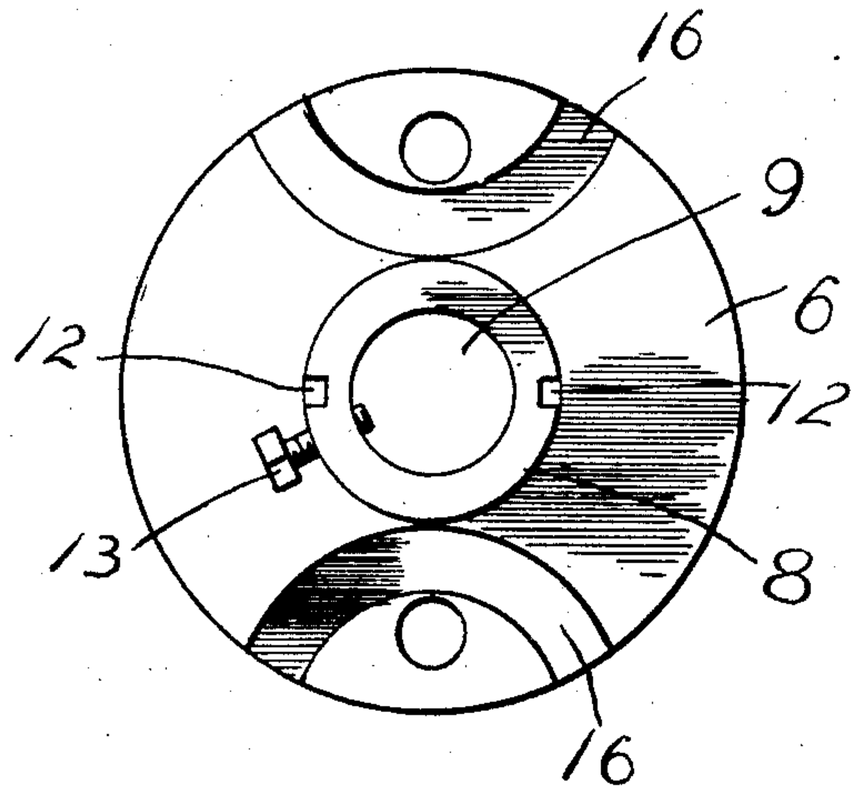

Fig. 4.

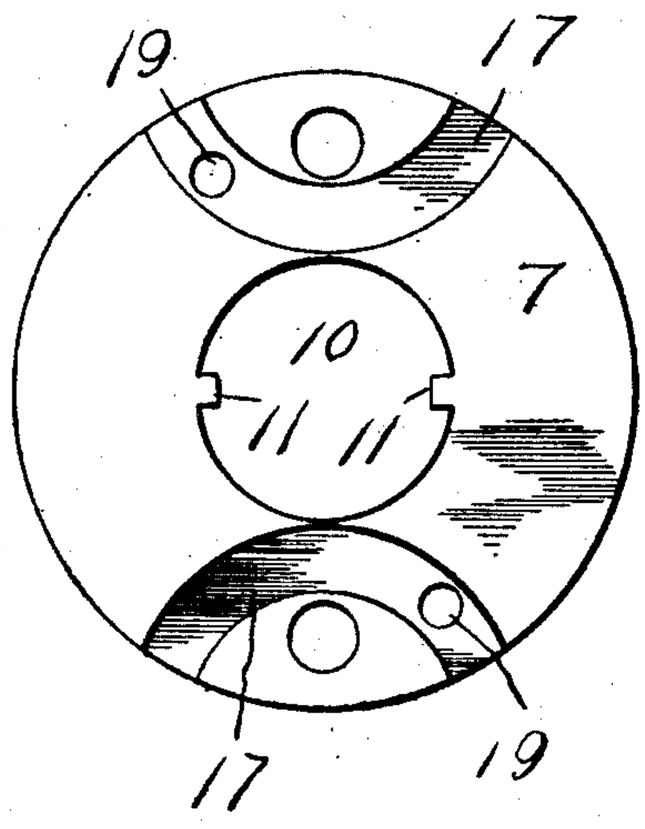

Fig. 5.

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UNITED STATES PATENT OFFICE.

ANDERS A. OVERBAY, OF CERES, VIRGINIA.

CUTTER-HEAD.

No. 866,880. Specification of Letters Patent. Patented Sept. 24, 1907.

Application filed June 12, 1907. Serial No. 378,613.

To all whom it may concern:

Be it known that I, ANDERS A. OVERBAY, a citizen of the United States, residing at Ceres, in the county of Bland, State of Virginia, 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.

This invention relates to cutter heads and has for its object to provide a device of this class which will be simple in construction and efficient in action and one in which the bits may be readily adjusted.

In the present forms of cutter heads, it is a common occurrence for the bits to fly out upon rapid rotation of the head by reason of the centrifugal force exerted upon them. I therefore have also for the object of my invention, a cutter head of such construction that it will be practically impossible for the bits to leave the head regardless of the speed of rotation of the head. To attain this object, I provide bits which are arcuate in form and which are clamped between two plates, there being curved slots formed in the plates for the reception of the edges of the bits.

In the accompanying drawings, Figure 1 is a side elevation of the head, Fig. 2 is an end view thereof, Fig. 3 is a vertical longitudinal sectional view through the head, Fig. 4 is a face view of one of the clamping plates, and, Fig. 5 is a similar view of the other plate.

In the drawings, the cutter head embodying my invention is shown as comprised of a pair of circular plates, one of which is indicated by the numeral 6 and the other by the numeral 7. Formed integral with the plate 6 and projecting axially therefrom is a hub 8 which is provided with a longitudinally extending bore 9. The plate 6 is provided with an opening which is of the same diameter as the bore and as a matter of fact forms a continuation thereof, and the plate 7 is also provided with an opening 10 which is formed axially thereof and is of sufficient diameter to exactly receive the hub 8. Formed at diametrically opposite points on the edge of the opening 10 are lugs 11 which seat in grooves 12 formed on opposite sides of the hub 8, the hub and the said plate 6 being in this manner held against rotary movement with respect to each other but being capable of adjustment longitudinally of the hub. It will thus be understood that the plates 6 and 7 are adjustable to and from each other. It is also to be understood that the head is to be fixed upon a rotary shaft by passing the shaft through the bore of the hub 8 and in order that the cutter may be held against movement upon the shaft, I have provided a set screw 13 which is engaged through the hub and impinges against the shaft. This shaft is indicated by the numeral 14.

In order that the adjustment of the plates to and from each other may be effected, a pair of bolts 15 are engaged through the two plates at diametrically opposite points and may be turned for the purpose stated. Formed in the opposing faces of the plates 6 and 7 are grooves 16 and 17 respectively, there being a pair of such grooves formed in each of the plates and the pairs in the two plates being directly opposed. These grooves are substantially semi-circular in form and open not only through the opposing faces of the blocks as stated above, but also through the peripheries of the plates. The edges of bits 18 are received in the opposing grooves of the two pairs and the cutting edge of each bit of course projects beyond the peripheries of the plates it being understood that the said bits may be adjusted so as to project to a greater or less degree beyond the said peripheries as stated. In order that the bits may be held after being adjusted, set screws 19 are engaged through the plate 7 and bear against the adjacent edges of the bits. By reason of the fact that these bits and the grooves in which their edges are received, are curved, there will be practically no tendency for the bits to fly from the head upon rapid rotation of the head and the set screws also aid in the performance of this function.

What is claimed is—

A cutter head comprising a pair of plates which are circular in form, one of the plates being provided with an axial opening, a hub formed integral with the other plate and projecting axially therefrom and through the opening in the first mentioned plate, the said hub being provided with longitudinally extending grooves, lugs formed upon the first mentioned plate at the edge of the opening therein and projecting into the grooves in the hub, whereby the first mentioned plate will be prevented from turning independently of the hub but will be adaptable of adjustment longitudinally thereof, adjusting screws engaged through the two plates upon opposite sides of the hub, the said plates being provided in their opposing faces with opposed semi-circular grooves which open through the peripheries of the respective plates, bits engaged at their edges in the grooves in the plates and having their cutting edges projecting beyond the peripheries of the plates, the said bits being adjustable in the grooves, and set screws engaged through one of the plates and bearing against the adjacent edges of the bits.

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

ANDERS A. OVERBAY.

Witnesses:
STUART FOGLESONG,
H. E. DUNCAN.