2,721,429

GENERATOR WRENCH AND COLLET ASSEMBLY

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Application March 2, 1954, Serial No. 413,572

5 Claims. (Cl. 51—217)

This invention relates to accessories for machine tools, and in particular a barrel wrench for use on a tailstock of a lens generator and a collet assembly including a cylinder having slots in the wall providing lens gripping jaws, with an aligning pin therein and with a spacer and nut positioned on the collet and adapted to be actuated by the wrench for actuating the jaws into gripping relation with a lens or the like clamped in the jaws.

The purpose of this invention is to provide a wrench and collet assembly wherein the collet is actuated to grip and release objects extended therein by the wrench.

Various types of wrenches have been provided for tightening the outside of the grinding chamber of a generator and particularly of the tailstock thereof however, conventional wrenches for this purpose require special attachments and other elements for applying the gripping jaws to the work or tool holding element of the tailstock. With this thought in mind this invention contemplates a cylindrical or barrel type wrench having a handle extended from one end and having projections on the opposite end, a nut having notches positioned to receive the projections of the wrench, a split collet on which the nut and wrench are positioned, and a spacer positioned between the nut and beveled surface of a rim at the ends of the gripping jaws of the collet.

The object of this invention is, therefore, to provide a combination barrel type wrench and collet assembly that is adapted to be used on a tailstock of a grinder or other machine tool for retaining work in operative position on said tailstock.

Another object of the invention is to provide a combination wrench and collet assembly that is adapted to be used on a tailstock of a grinder without changing the tailstock or other parts of the grinder.

A further object of the invention is to provide an improved combination barrel type wrench and collet assembly for use on a tailstock of a grinder in which the wrench and collet assembly are of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a collet having a cylindrical casing with a threaded stud extended from one end and with radially disposed slots extended through walls thereof whereby gripping jaws are provided in the end opposite to that from which the threaded stud extends, a barrel type wrench adapted to be used on said collet, a nut threaded on the outer surface of the split cylindrical section of the casing and a ring having a beveled surface at one end providing a spacer positioned around the jaws of the collet.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein:

Figure 1 is a side elevational view showing a tailstock positioned on a bed carried by and extended from a grinder.

Figure 2 is a longitudinal section through the wrench and collet assembly taken on line 2—2 of Fig. 3.

Figure 3 is an end elevational view looking toward the expanding rim or ends of the jaws of the collet.

Figure 4 is a side elevational view of the wrench and collet assembly, similar to that shown in Fig. 1 with the parts shown on an enlarged scale.

Figure 5 is an end elevational view showing the collet.

Figure 6 is a view of the wrench looking toward the end of the barrel or hub thereof on which the projections that coat with the nut of the collet assembly are positioned.

Referring now to the drawing wherein like reference characters denote corresponding parts the lens generating collet and wrench assembly of this invention includes a cylindrical wall extended from a head 10 with radially disposed slots 11 extended through the wall providing gripping jaws 12, 13, 14, and 15, a threaded stud 16 extended from a stem 17 extended from the back of the collet and carried by the head 10, a spacer 18 extended around the jaws, a nut 19 threaded on the jaws and a wrench having a cylindrical socket 20 with projections 21 extended from an edge 22 and a handle 23 extended from one side of the end opposite to that from which the projections extend.

The head 10 is provided with notches 24 that are positioned to receive a wrench for mounting the collet on a tailstock, such as the tailstock 25 and the jaw 13 is provided with an aligning pin 26 that is positioned diametrically opposite or straight across the center from the opening 27 that extends through the jaw 14, providing a drain hole for a coolant or lubricant.

As illustrated in Figure 2 the jaws are provided with inwardly extended rims 28 upon which the aligning pin is positioned, and the ends are provided with lips 29 thereby providing jaws for holding the body of a lens or object to be generated.

The outer surfaces of the jaws are provided with beveled sections 31 and the end of the spacer 18 is provided with an annular beveled surface 32 that is adapted to coat with the surfaces 31 to contract the jaws as the nut 19 drives the spacer toward the jaws.

With the parts formed in this manner the stud 16 of the collet or chuck is threaded into the tailstock of a lens grinder or generator and with the lens positioned in the collet or chuck the jaws 29 are contracted by turning the nut 19, with the wrench formed with the socket 20 and the handle 23. By the same means the nut may be backed up to release the gripping jaws whereby the lens may be released therefrom.

It will be understood that modifications, within the scope of the appended claims, may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. A lens generator wrench and collet assembly comprising a cylinder having radially disposed slots therein providing a plurality of jaws, and having a head with a threaded stud extended therefrom in the end opposite to the end on which the jaws are positioned, said jaws having lens gripping elements on extended ends thereof, means on the outer surface of the cylinder for contracting the jaws, and a wrench for actuating the contracting means.

2. A lens generator wrench and collet assembly comprising a cylinder having radially disposed slots therein providing a plurality of jaws, and having a head with a threaded stud extended therefrom in the end opposite to the end on which the jaws are positioned, said jaws having lens gripping elements on extended ends and lugs with beveled ends on the outer surfaces, a spacing ring extended around the jaws and having a beveled end positioned to coat with the beveled surfaces of the lugs of the jaws, a nut threaded on the outer surfaces of
the jaws and positioned to coact with the spacing ring,
and a wrench having a socket and a handle positioned
with the socket on the cylinder, and the socket being
provided with means for rotating the nut.

3. A lens generator wrench and collet assembly com-
prising a cylinder having radially disposed slots therein
providing a plurality of jaws, and having a head with a
threaded stud extended therefrom in the end opposite
to the end on which the jaws are positioned, said jaws
having lens gripping elements on extended ends and 10
beveled surfaces thereon, a spacer extended around the
jaws and having a beveled end positioned to coact with
the beveled surfaces of the jaws, a nut threaded on the
outer surfaces of the jaws and positioned to coact with
the spacer, and a wrench having a socket and a handle,
the socket being provided with means for rotating the
nut, and an aligning pin positioned in one of said jaws.

4. A lens generator wrench and collet assembly com-
prising a cylinder having radially disposed slots there-
in providing a plurality of jaws, and having a head with
a threaded stud extended therefrom in the end opposite
to the end on which the jaws are positioned, said jaws
having lens gripping elements on extended ends and
beveled outer surfaces, a spacing ring extended around
the jaws and having a beveled end positioned to coact
with the beveled surfaces of the jaws, a nut having
notches therein threaded on the jaws, and a wrench hav-
ing a socket with projections positioned to coact with
the notches of the nut positioned on the cylinder and
having a handle extended therefrom.

5. A lens generator wrench and collet assembly com-
prising a cylinder having radially disposed slots therein
providing a plurality of jaws, and having a head with
notches therein and having a threaded stud extended
therefrom in the end opposite to the end on which the
jaws are positioned, said jaws having lens gripping ele-
ments on extended ends thereof, means on the outer
surface of the cylinder for contracting the jaws, and a
wrench having a socket with projections positioned to
coact with the jaw contracting means on the cylinder
and having a handle extended therefrom.

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