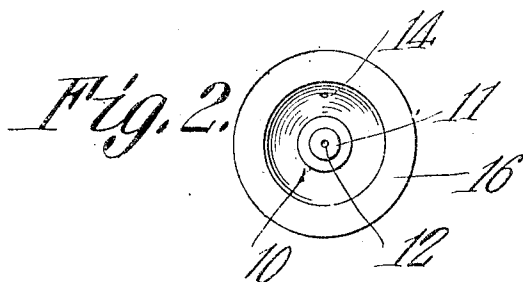
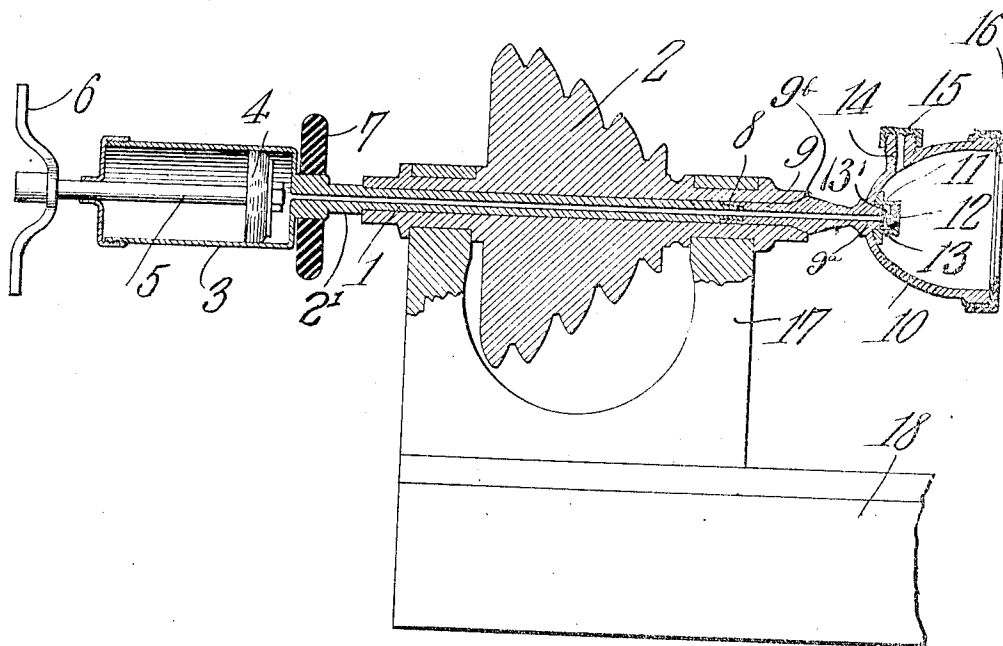


904,679.

D. A. BRUTON.
CHUCK.
APPLICATION FILED JUNE 4, 1907.

Patented Nov. 24, 1908.

Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVID A. BRUTON, OF CLARKSVILLE, TEXAS.

CHUCK.

No. 904,879.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed June 4, 1907. Serial No. 377,139.

To all whom it may concern:

Be it known that I, DAVID A. BRUTON, a citizen of the United States, residing at Clarksville, in the county of Red River and State of Texas, have invented a new and useful Chuck, of which the following is a specification.

This invention relates to chucks for use in connection with jewelers' lathes and it is more particularly designed for holding disks such as watch crystals, etc. during the treatment thereof. It has heretofore been customary to manufacture crystals in standard sizes but as certain sizes are rarely used they become "dead" stock because of the small demand for them. Then, too, it is sometimes impossible to fit a watch with a crystal of standard size and considerable difficulty is experienced in reducing the size of a crystal so that the same will be of the proper proportions.

The object of the present invention is to provide simple and efficient means whereby a crystal can be held securely in place and rapidly rotated whereby the periphery thereof can be ground so that the diameter of the crystal may be reduced. It therefore becomes possible when using a device such as embodied in the present invention to reduce the size of the crystal so as to fit any watch, thereby obviating the necessity of keeping in stock a large number of crystals of different sizes.

Another object of the invention is to provide a chuck and suction device used in connection therewith designed to be placed upon the market as an article of manufacture and to be readily substituted for the ordinary chuck and spindle used in connection with jewelers' lathes.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a longitudinal section through the device. Fig. 2 is an end view of the head of the chuck.

Referring to the figures by characters of reference, 1 and 9 designate the two sections of a tubular sectional spindle, the section 1 being provided with a screw-threaded nipple designed to engage one end of the section 9. An enlargement 2' is formed at one

end of the section 1, while another preferably frusto-conical enlargement 9^b is preferably formed upon the section 9 of the spindle. Section 1 of the spindle opens into a pump cylinder 3 provided with a valved piston 4, from which extends a rod 5 having a handle 6 at its outer end. A disk 7 is preferably secured upon the spindle section 1 close to the pump cylinder, and constitutes a grip whereby the device can be grasped in one hand during the reciprocation of the piston.

A cup 10 is arranged at the outer end of the spindle section 9 and has a nipple 9^a therein and extending around the inlet end of the passage within the section 9. This nipple is engaged by a housing 11, provided with an opening 12 which is normally closed by a valve 13, there being a spring 13' for holding the valve upon its seat. An annular bead 10^a is formed around the large or open end of the cup and is engaged by a ring 16 preferably formed of soft rubber and constituting a seal as hereinafter set forth. It will be noted by referring to Fig. 1 of the drawing that the inner edge of this gasket extends beyond the inner wall of the cup and is left unsupported. This is advantageous, as will be hereinafter explained. A vent 14 is formed on the wall of the cup and has a screw cap 15 mounted thereon and normally closing the same.

It is to be understood that the device herein described is designed to be sold to the trade as an article of manufacture, and when it is to be used upon a jeweler's lathe, the spindle ordinarily extending through the pulley 2 of the lathe, is removed, and the two sections 1 and 9 of the spindle forming a part of the present invention are separated, one section, 1, being inserted into one end of the passage within the pulley 2, while the other section 9, is inserted into the other end of the passage, said sections being screwed together by means of the nipple 8 after they have thus been inserted. The enlargements 2' and 9^b will coöperate with the adjoining portions of the pulley to prevent longitudinal movement of the tubular spindle within the pulley. After the device has been placed in a lathe in this manner it is ready for use. When it is desired to reduce the diameter of a watch crystal said crystal is placed against the rubber ring or gasket 16 and the pump piston 4 is then reciprocated. The air will be sucked from the vacuum cup 10

and its return to the cup will be prevented by the valve 13. A partial vacuum will thus be produced within the cup and the crystal will be held firmly upon the end thereof by air pressure. The pulley is then rotated in the usual manner and will cause the spindle to revolve therewith. During this rotation of the parts, a suitable grinding device, such as a rough glass or other material, is placed against the periphery of the crystal, so that the diameter of the said crystal will be quickly reduced. When the grinding operation has been completed the spindle section 9 is unscrewed from the spindle section 1 and the cup with the crystal adhering thereto is placed above the watch to which the crystal is to be secured, and as soon as the crystal has been placed in proper position on the watch the vacuum within the cup may be broken by partly unscrewing the cap 15. The cup can then be lifted from the crystal and re-secured to the spindle section 1. Not only is the device serviceable for holding the crystals in place while being ground or polished, but it can also be used for holding small grinding disks and other devices which it may be desired to rotate.

The device herein described can be con-

nected to an ordinary tapered chuck, which is a part of every jeweler's lathe, simply by drilling through the chuck so as to permit the spindle 1 to be inserted thereinto.

What is claimed is:—

1. An attachment for jewelers' lathes comprising a tubular spindle consisting of detachably connected sections, each of said sections having an enlargement thereon, a suction device connected to one of the sections, and a vacuum cup extending from the other section.

2. The combination with a tubular revolvable spindle having a vacuum-producing means connected thereto, of a vacuum-cup detachably connected to the spindle, and having a valved passage communicating with the tubular spindle and adapted, at the open end, for air-tight connection with the work, and having also a vent with means for opening and closing the same for destroying the vacuum produced within the cup.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DAVID A. BRUTON.

Witnesses:

E. M. BOWERS,
W. B. LOOK.