

J. D. CONEY,
 REINFORCING EXTENSION CHUCK FOR POLISHING DEVICES.
 APPLICATION FILED AUG. 22, 1910.

987,959.

Patented Mar. 28, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

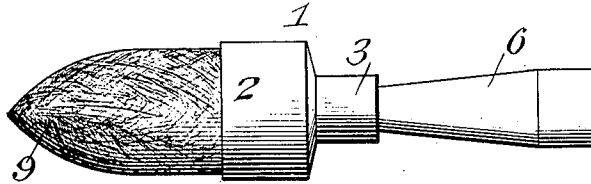


Fig. 2.

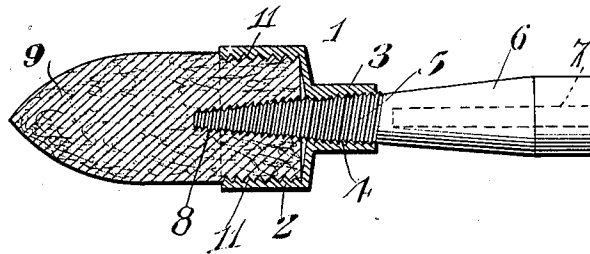


Fig. 3.

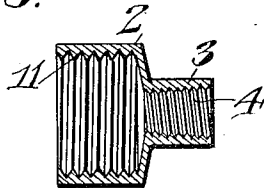


Fig. 4.

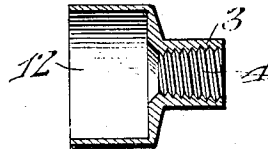
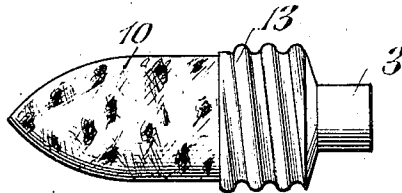


Fig. 5.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6.

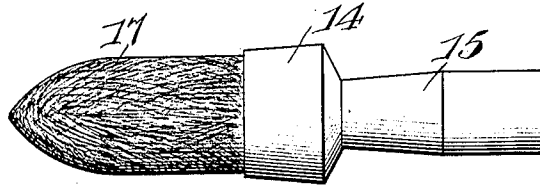


Fig. 7.

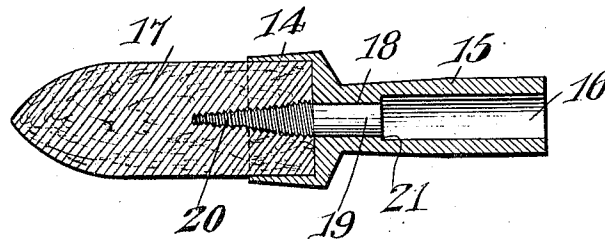
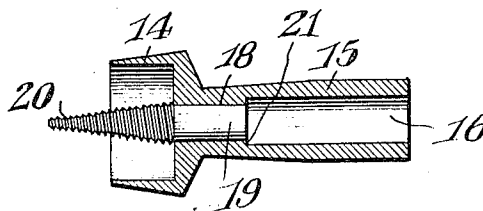


Fig. 8.



WITNESSES

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JESSE D. CONEY, OF WILLIAMSPORT, PENNSYLVANIA.

REINFORCING EXTENSION-CHUCK FOR POLISHING DEVICES.

987,959.

Specification of Letters Patent.

Patented Mar. 28, 1911.

Application filed August 22, 1910. Serial No. 578,386.

To all whom it may concern:

Be it known that I, JESSE D. CONEY, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Reinforcing Extension-Chuck for Polishing Devices, of which the following is a specification.

The invention relates to a reinforcing extension chuck for felt and cork polishing cones, and other polishing devices, such as brush wheels.

The object of the present invention is to provide a simple, inexpensive and efficient reinforcing extension chuck for use on dental and jewelers' lathes for holding felt and cork polishing cones and other polishing devices, and adapted to tightly hold a polishing cone of felt, cork, or other material, and of reinforcing and preventing a cork or other polishing cone from breaking out at the sides.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a side elevation of an extension chuck, constructed in accordance with this invention and shown applied to a conical chuck and a felt polishing cone. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a sectional view of the extension chuck. Fig. 4 is a similar view, showing another form of the extension chuck, the cup-shaped socket having a smooth interior. Fig. 5 is a side elevation, illustrating another form of the invention, the cup-shaped socket being provided with threads formed by pressing or stamping the metal. Fig. 6 is a side elevation of a reinforcing extension chuck, illustrating still

another form of the invention in which the cup-shaped socket is equipped with an extended tubular stem, adapted to fit on a lathe spindle or mandrel. Fig. 7 is a longitudinal sectional view of the same. Fig. 8 is a similar view, the polishing cone being detached.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the embodiment of the invention illustrated in Figs. 1 to 4 inclusive of the accompanying drawings, 1 designates a reinforcing extension chuck, comprising in its construction a cup-shaped socket 2 and a tubular shank or stem 3, extending from the bottom of the cup-shaped socket and having a conical bore or opening 4, communicating with the socket and threaded to engage conical threads 5 of a cone chuck or chuck member 6. The chuck 6 is tubular and has a longitudinal bore or socket 7, illustrated in dotted lines in Fig. 2 of the drawings. The cone chuck is designed to be mounted on a lathe spindle in the usual manner, and its threaded conical portion 5 engages the interior threads of the tubular shank 3 and extends through the cup-shaped socket and projects beyond the same, as clearly shown in Fig. 2 of the drawings. The projecting tapered portion of the chuck member is adapted to engage an opening 8 in a round attaching portion of a polishing cone or head 9 of solid material, and when screwed into the same draws the polishing cone or device into the cup-shaped socket and expands the said cone within the socket and holds the former tightly in place. The polishing head is adapted to be forced as a unit within the circular cup-shaped socket, and the threads of the tapered chuck member also operate to force the polishing head out of the socket, when it is desired to remove the said polishing head, which may be quickly applied to and detached from the chuck. In Figs. 1 and 2 a felt polishing cone is shown, and in Fig. 5 a cork polishing cone is illustrated. The cup-shaped socket is adapted to form a collar or band around the

attaching portion of the polishing cone, and it will prevent a cone of cork or other material from breaking out at the sides, which break out frequently occurs when a cork polishing cone is screwed on a plain conical chuck.

The cup-shaped socket 2 is provided with interior screw threads 11 for engaging the felt cone 9, but a plain cup-shaped socket 12 may be employed, as illustrated in Fig. 4 of the drawings, and the threads of the socket may be stamped or pressed into the collar or cylindrical wall of the socket, as shown at 13 in Fig. 5 of the drawings. The threads employed will of course be either right hand or left hand to correspond with a left hand or right hand lathe, so that the rotary motion of the lathe spindle will operate to tighten and not unscrew the threaded parts. The reinforcing extension chuck may also be employed for holding brush wheels and various other polishing devices, designed for polishing rubber, metal, or other material with pumice, chalk, emery, or other abrading or polishing material, and having a hub or shank portion adapted to fit in the cup-shaped socket and being engaged by the tapered projecting portion of the chuck.

In the embodiment of the invention illustrated in Figs. 6 to 8 inclusive, the cup-shaped socket 14 is cylindrical and is provided with an extended tubular stem 15, adapted to fit on the spindle or mandrel of a lathe in the usual manner, and the longitudinal bore or opening 16 may be either smooth or threaded to suit the character of such spindle or mandrel. The cup-shaped socket is adapted to receive a polishing cone 17 of any suitable material, or other polishing device, and the bore of the stem 15 has a reduced front portion 18 in which is secured a smooth shank 19 of a tapered threaded chuck member 20, extending from the center of the bottom of the cup-shaped socket and projecting outwardly beyond the same similar to the threaded portion of the chuck member 6 heretofore described. The spindle receiving portion of the bore 16 is of greater diameter than the shank of the chuck member 20, and a shoulder 21 is formed at the inner end of the reduced portion 18 of the bore. The shank 19 may be secured within the tubular stem 15 in any desired manner, and the projecting tapered portion is adapted to screw into the polishing device 17, and it operates to draw the latter into the cup-shaped socket and to expand the polishing device within the same, whereby the polishing device is tightly held in the chuck and is reinforced and prevented from splitting or breaking out at the sides.

Although in Figs. 6 to 8 inclusive I have illustrated the tapered chuck member 20 threaded and the interior of the cup-shaped

socket smooth, yet it will be apparent that both parts may be threaded, or the socket may be interiorly threaded and the tapered projecting portion left smooth. Also my invention contemplates the making of both portions smooth if desired.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A device of the class described including a reinforcing extension chuck having a tubular socket, a polishing device of solid material having a round inner portion adapted to be forced as a unit within the tubular socket, and an outwardly tapered chuck member projecting from the bottom of the socket and arranged to extend into the polishing head to expand the same within the socket.

2. A device of the class described including a reinforcing extension chuck having a circular tubular socket and provided with an opening, a polishing head consisting of a single piece of solid material and having a round inner portion adapted to be forced as a unit within the circular socket, and a chuck member secured within the opening of the extension chuck and having a tapered portion and engaging the polishing head.

3. A device of the class described including a reinforcing extension chuck consisting of a substantially cup-shaped tubular socket of circular form, a polishing head of solid material having an inner attaching portion adapted to be forced as a unit within the circular socket, and an outwardly tapered threaded chuck member extending from the bottom of the socket and embedded in the attaching portion of the polishing head to expand the same against the walls of the socket, the latter preventing the solid material from breaking.

4. A device of the class described including a reinforcing extension chuck consisting of a substantially cup-shaped circular socket and a tubular stem, a polishing head of solid material adapted to be forced as a unit within the circular socket, and a chuck member secured within the tubular stem of the extension chuck and having a tapered portion extending from the bottom of the socket and engaging the polishing head.

5. A device of the class described including a reinforcing extension chuck consisting of a cylindrical socket adapted to receive a polishing head of solid material and to have the same forced as a unit within it, a tubular stem extending from the socket, and a chuck member secured within the said tubular stem and having a tapered portion extending outwardly from the socket and projecting beyond the same.

6. A device of the class described including a reinforcing extension chuck consisting of a substantially cup-shaped circular socket

adapted to receive and have forced within it
a detachable polishing head of solid ma-
terial and having an opening in its bottom,
and a tubular stem or shank rigid with and
5 extending from the bottom of the socket at
the opening thereof.

In testimony, that I claim the foregoing

as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

JESSE D. CONEY.

Witnesses:

EDITH L. BROWN,

FRANCES P. SMITH.