V. ROYLE.

CUTTER HOLDER FOR GRINDING ROUTING CUTTERS.

APPLICATION FILED NOV. 27, 1906.

930,695.

Patented Aug. 10, 1909.

Fig. 1.

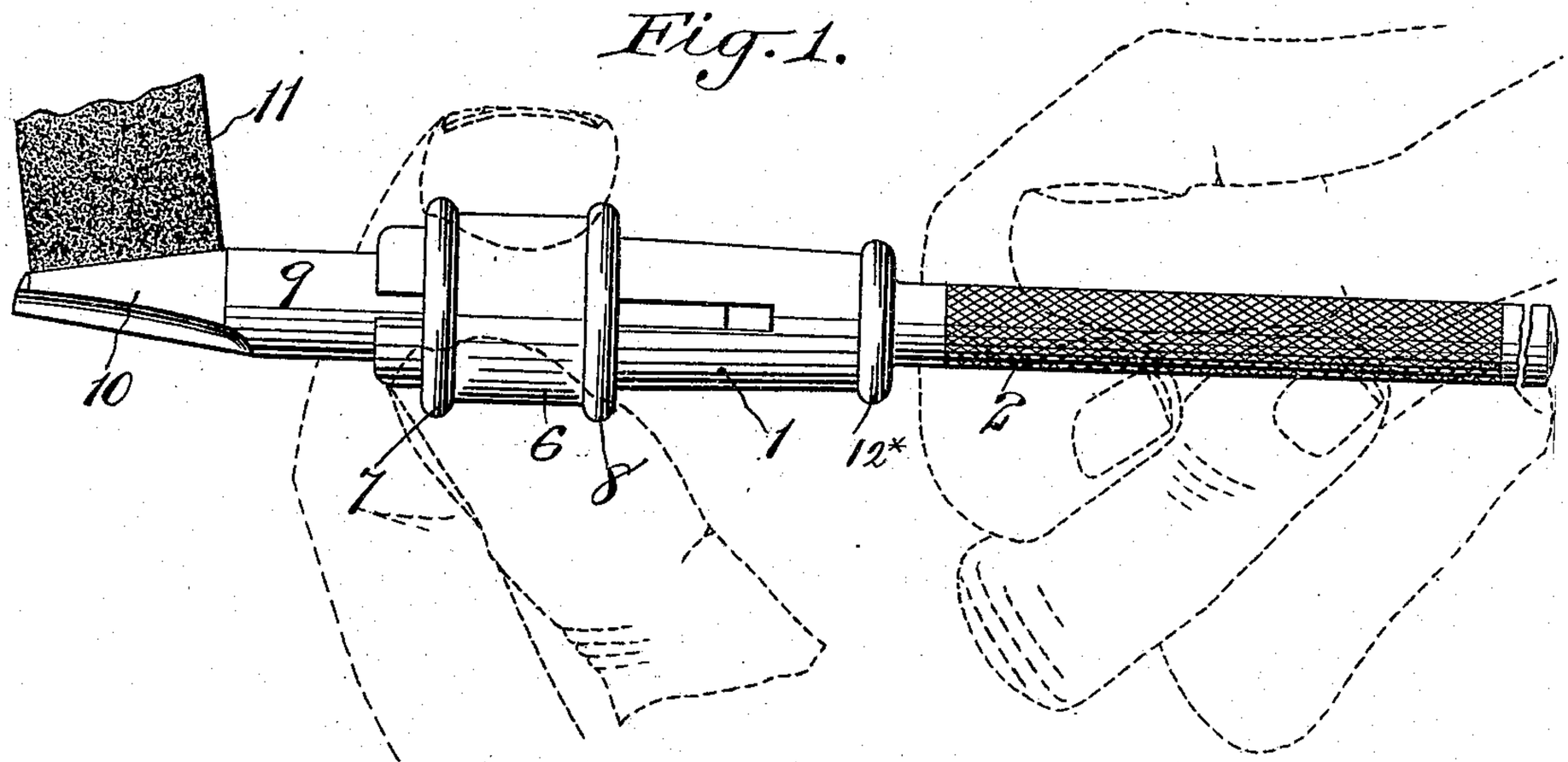


Fig. 2

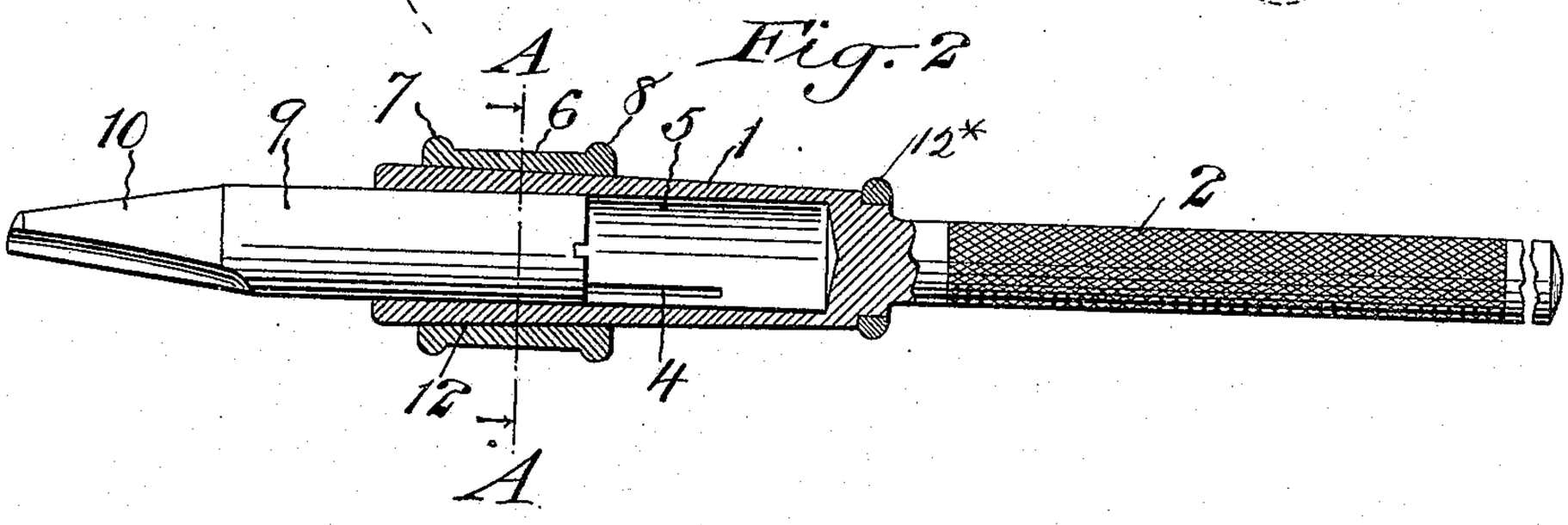


Fig. 3.

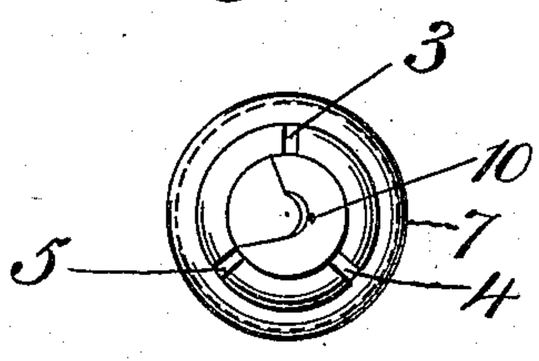
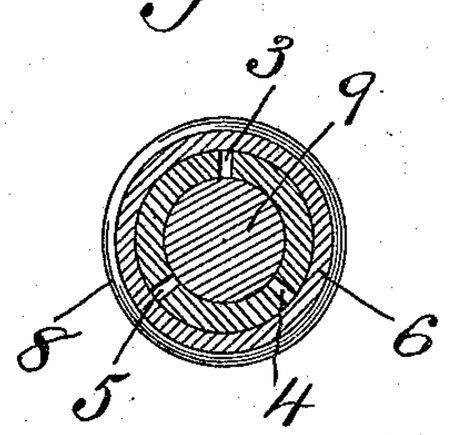


Fig. 4.



Witnesses:-

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CUTTER-HOLDER FOR GRINDING ROUTING-CUTTERS.

No. 930,695. Specification of Letters Patent. Patented Aug. 10, 1909.

Application filed November 27, 1906. Serial No. 345,384.

To all whom it may concern:

Be it known that I, VERNON ROYLE, a citizen of the United States, and resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Cutter-Holder for Grinding Routing-Cutters, of which the following is a specification.

My invention relates to a cutter holder for grinding routing cutters, with the object in view of providing a simple and effective holder for the use of the operator in holding the tapered end of the routing cutter in contact with the abrading wheel during the process of grinding.

In the accompanying drawings, Figure 1 is a view of the holder in side elevation as it appears in use, the position of the hands of the operator and the abrading wheel being indicated, Fig. 2 is a longitudinal section through the body of the holder, showing a cutter therein, Fig. 3 is an end view of the same, and Fig. 4 is a section in the plane of the line A—A of Fig. 2.

In grinding cutters intended for accurate and often delicate work such as the routing cutter used commonly in cutting plates for photo-engraving, it is of the greatest importance that the cutters be held truly against the abrading wheel and that they might be held in such a manner as to prevent what is commonly known as "chattering", viz; a succession of short skips along the face of the abrading wheel where a cutter is not firmly held. It is also important that the holder be as light and slender as is consistent with the firm grasp of the cutter in order that it may not impose additional labor on the operator to hold it suspended and that it may not interfere with a clear observation of the point of the cutter while being ground.

The holder consists of a tubular barrel portion 1 provided with a handle 2 extending from one end of the barrel, the wall of the barrel being slit at one or more places, in the present instance in three places, for the purpose of allowing it to expand and contract to a limited extent and a sliding clamp which is intended to force the split wall of the barrel into close holding contact with the shank of the cutter as it is slid from the handle toward the free open end of the barrel. The slits in the barrel are denoted by 3, 4, 5, and the body of the slide by 6. The slide is in the form of a sleeve and has its opposite ends provided with outwardly extending flanges 7 and 8, the surface of the body of the slide as well as the surface of the flanges being left smooth in order that it may be freely rotated between the fingers of the operator when held in the position shown in Fig. 1.

The handle 2 of the holder is preferably hatched or knurled, as shown, in order that the hand of the operator may secure a good grip for the purpose of rotating the holder and hence the tool back and forth to bring the tapered surface of the tool into contact with the face of the abrading wheel.

The tool is denoted as a whole by 9, its tapered face, which is to be ground, by 10, and an abrading wheel is indicated at 11.

In order to maintain the resiliency in the parts of the slitted barrel portion and to secure the handle firmly to the barrel portion and to further fit the sliding sleeve to the barrel in such a manner that it may accurately clamp the tool when slid forward without any tendency to slide out of holding adjustment, I prefer to make the holder, handle and barrel from one solid piece of steel, or other suitable metal, boring the barrel portion out and slitting its wall and reducing the bar to form the handle as this affords an opportunity of tapering the thickness of the wall of the barrel, making it thinner toward the handle portion and gradually thicker as it extends toward the free end of the barrel to produce the inward crowding effect on the parts of the slitted barrel when the slide is slid into position to clamp the tool. In order to keep the slide in extended contact with the exterior of the barrel throughout its sliding movement, I also taper the interior bore 12 of the slide to correspond to the taper of the exterior of the barrel 1.

In operation, the cutter having been placed in the barrel and the slide slid into clamping position, the holder is grasped by the handle, as shown in dotted lines, Fig. 1, and its forward end steadied between the thumb and forefinger which are placed in contact with the slide 6, as shown in dotted lines, Fig. 1, and with this to steady the tool and hold it pressed with the desired force against the abrading wheel 11, the holder may be rotated back and forth to grind the tapered portion of the cutter accurately to the extent desired.

The smaller diameter of the handle 2, compared with the greater diameter of the tool holding barrel and slide 6 facilitates the ro-

tation of the tool during the grinding and provides for holding it steady during the rotary movement, making the holder sensitive and providing for great delicacy of touch.

To prevent the slide 6 from displacement, the smaller end of the barrel 1 is provided with a collar 12.

What I claim is:—

A cutter holder for grinding routing cutters comprising a split, tool holding barrel having a handle formed integral with and projecting from one end of the barrel, the barrel being tapered toward the handle, and a slide for clamping the tool in the barrel, the said slide being provided with outwardly extending flanges and the barrel being provided with a stop at the handle end thereof to prevent the displacement of the slide.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 13th day of November, 1906.

VERNON ROYLE.

Witnesses:

VERNON E. ROYLE,

GEO. R. POWELL.