Jan. 20, 1925. 1,523,766

A. GRAY

ADJUSTABLE FINGER FOR POLISHING PRECIOUS STONES

Filed Jan. 8, 1923

Fig. 1.

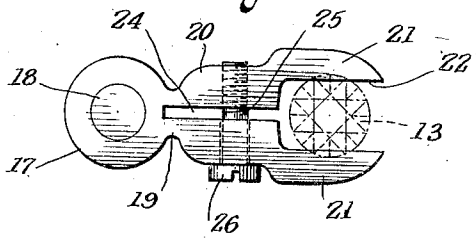


Fig. 2.

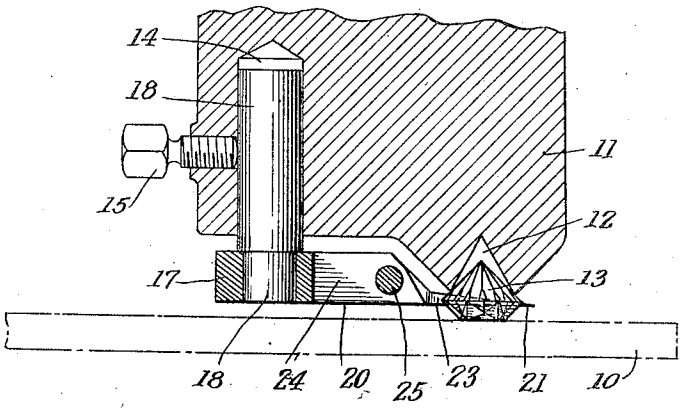
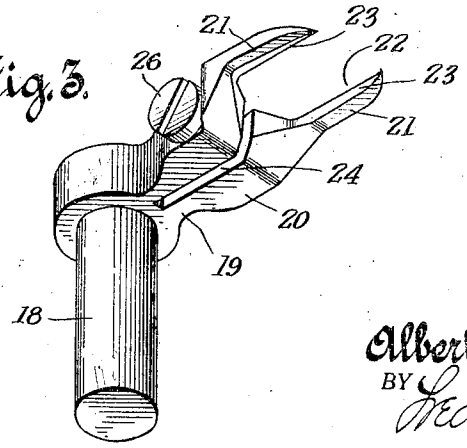


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT GRAY, OF NEWARK, NEW JERSEY.

ADJUSTABLE FINGER FOR POLISHING PRECIOUS STONES.

Application filed January 8, 1923. Serial No. 611,226.

To all whom it may concern:

Be it known that I, ALBERT GRAY, a citizen of the United States, residing in the city of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Adjustable Fingers for Polishing Precious Stones, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it pertains to make, construct, and use the same, reference being had to the accompanying drawing, and to numerals of reference marked thereon, forming a part of this specification.

This invention relates to adjustable fingers for polishing diamonds and precious stones, used in connection with what is known as the dop, to hold the diamond or precious stone against the wheel, which is usually rotated at a high speed in a horizontal plane.

The stones are firmly secured, by means of solder or the like, in a proper position in the dop, or in a stone holder adapted to be secured to the dop, to expose the proper surface to be ground or polished. Great care is usually exercised in properly positioning the stone to be ground or polished in the dop or holder and to prevent the same from accidental separation therefrom during the grinding or polishing operation.

The object of this invention is to provide an exceedingly inexpensive, simple and efficient adjustable clamping finger to be used in connection with a dop or holder which may be so adjusted with relation to the stone, as to protect the same during the grinding and polishing operation from accidental separation and loss, to an irreducible minimum.

Heretofore fingers of a non-adjustable nature have been employed in connection with dops to prevent accidental separating of the stones and consequent loss of the same.

The fingers hitherto employed have been found objectionable for the reason that large numbers thereof had to be kept on hand to accommodate stones of varying dimensions, and it required considerable time to select the desired finger for a particular sized stone.

To avoid the foregoing objections and produce a device for accomplishing the same results in a more effective manner and without material loss of time is then the main purpose of the invention, the same being attained by the novel construction and arrangement of parts hereinafter described and shown in the accompanying drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a bottom plan view of an embodiment of the invention.

Figure 2 is a side view of the same, showing the application.

Figure 3 is a perspective view looking from the upper side of the finger.

In Fig. 2 of the drawing the broken lines at the bottom indicate a lapping disc or "skive" 10 and a form of dop or holder is designated by the numeral 11, the same containing a conical depression 12 in its projecting lower face suited to receive a portion of the stone 13 to be ground, it being understood that the dop is adjustable with reference to the disc.

The dop also contains a bore 14, parallel with the axes of the cavity 12, in its main portion and a set screw 15 is provided to hold articles entered in the bore.

The invention comprises a finger made from a flat plate having a circular hub 17 in which is rigidly fixed a cylindrical stem 18.

Joined to the hub by a relatively narrow neck 19 is the body portion 20 and extending outwardly therefrom are prongs 21 reduced in thickness and projecting at their outer edges beyond the profile of the body.

Between the prongs is an open space 22, its confines being bevelled sharply as at 23 from the upper side, the bottoms being level and in the same plane as the body and hub elements, the space 22 being receptive of the stone 13.

A slot 24 extending from the space 22 into the margin of the hub, separates the body into two distinct portions, allowing the prongs 21 to move limitedly towards or from each other, thus enabling the stone to be firmly grasped irrespective of minor variations in its size.

The body 20 is drilled transversely to receive a clamp screw 25, threaded into one of its elements, its head 26 impinging against the outer side surface of the other element, in such manner that the two parts are caused to approach each other when the screw is set up tightly, thereby causing contraction of the prongs, and, as will be understood, upon slackening the screw, the resili-

ence of the metal, forming the finger, will return the parts to their original position.

From the foregoing it will be seen that an adjustable spring finger has been disclosed that will positively grip a stone and hold it in position to be operated upon by the lap in a safe and secure manner.

Having thus described my invention, and set forth the manner of its application and use, what I claim as new and desire to secure by Letters Patent, is:—

1. A finger for polishing and grinding precious stones comprising in combination with a dop, of a spring element constituting a pair of spaced jaws suited to engage a stone, means for forcing said jaws towards each other, and a stem fixed in said element adjustably engageable in said dop.

2. The combination of a dop having a lower projecting face provided with a conical seat therein adapted to receive a portion of a stone to be operated upon, and a bore parallel to the seat, with a holder for the stone comprising a stem adapted to be adjustably held in the bore of said dop, a finger body provided with a hub for the reception of said stem, and resilient prongs extending in spaced relation from said body reduced in thickness towards their outer ends, and bevelled to form a space receptive of a stone, and an adjusting screw entering said body for accommodating the space between said prongs to the reception of stones of varying dimensions and allowing a return of the parts into their original positions upon the slackening of said screw.

This specification signed and witnessed this fifth day of January, 1923.

ALBERT GRAY.

Witnesses:

FREDK. C. FISCHER,

RICHARD GRAY.