A. DVORSKY.

SELF SHANK BUTTON BORING MACHINE.

APPLICATION FILED SEPT. 4, 1915.

1,175,347. Patented Mar. 14, 1916.

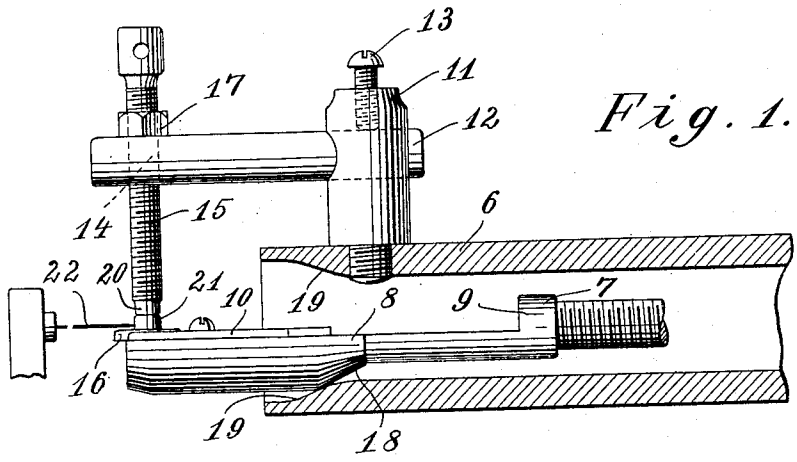


Fig. 1.

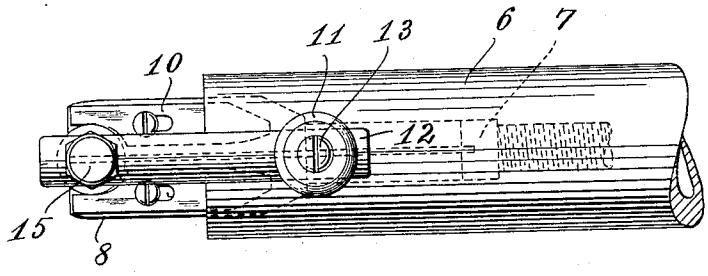


Fig. 2.

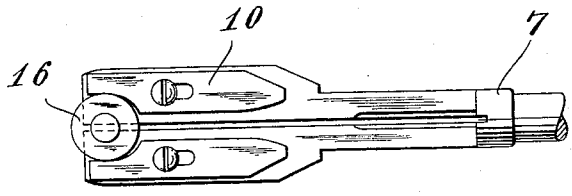


Fig. 3.

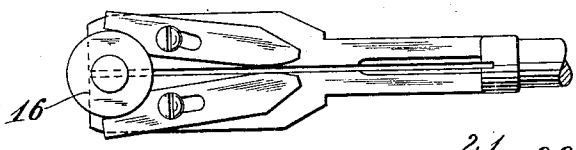


Fig. 4.

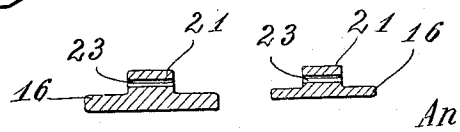


Fig. 5.

WITNESSES:

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SELF-SHANK-BUTTON-BORING MACHINE.

1,175,347. Specification of Letters Patent. Patented Mar. 14, 1916.

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To all whom it may concern:

Be it known that I, ANTON DVORSKY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Self-Shank-Button-Boring Machines, of which the following is a specification.

This invention relates to an improvement in button boring machines and has as its principal object to provide means whereby holes can be drilled in the shank of so-called "self-shank" buttons at a predetermined distance from the top of the shank whatever the height of the latter and the thickness of the head of the button may be.

A further object of the invention is to provide such means which are adjustable, so that the distance of the bore from the top of the shank may be regulated.

A still further object of the invention is to provide means of the character described, which may easily be installed on any ordinary button boring machine.

It is also the object of this invention to provide adjustable means in connection with the above said means for holding buttons of different sizes.

Reference will now be had to the accompanying drawing in which is illustrated one preferred form of embodiment of my invention and in which:—

Figure 1 is a partly sectional, partly elevational fragmentary view of my device in operation. Fig. 2 is a plan view of the same showing hidden parts in dotted lines. Figs. 3 and 4 are plan views of the chuck forming part of my device with different sizes of buttons held thereby, and Fig. 5 shows in cross section two buttons of different thickness of head and length of shank having the bore at the same distance from the top of the shank according to my invention.

Similar reference characters refer to similar parts throughout the several views.

Referring more particularly to the drawing, 6 is a fraction of a tubular spindle rigidly mounted on a button boring machine not shown in the drawing.

7 is a chuck, such as is used in ordinary button working machines, but having only two shanks, such as 8, whereas ordinary chucks have four of them. In my device the two upper shanks are cut away at 9 and only the two lower shanks remain. Also in the ordinary chucks the buttons are held in front of the chuck at right angles to the longitudinal axis thereof, whereas in my device they are laid horizontally on the upper surface of the chuck and held in position by a pair of adjustable blocks, such as 10. On top of the tube 6, I provide a standard 11 into which is journaled a horizontal bracket 12 and secured therein by a set screw 13.

The bracket 12 projects over the outer end of the chuck 8 and has a threaded bore 14 formed in it in which is mounted a threaded bolt 15 projecting right over the center of the button 16 held by the chuck. The distance of the lower end of the bolt 15 from the chuck may be regulated by turning the bolt and fixing it in the desired position by a counter nut 17.

In ordinary boring machines of this type, the chuck is operated by a spring controlled reciprocating movement in respect to the spindle, which is not indicated in the drawing, as it does not form part of the present invention. The reciprocating movement opens and closes the chuck by means of the wedge like action of the oblique surfaces 18 and 19 of the chuck and the spindle, respectively, as is obvious from the drawing.

In my invention the chuck is raised and lowered by this reciprocating action and the former movement is limited by the lower end 20 of the bolt 15 touching the top of the shank 21 of the button 16.

The drill 22 being always at the same height in respect to the spindle 6, it is evident that the bore 23 (Fig. 5) will always be made at the same distance from the top of the shank 21, whatever the thickness of the button be. By turning the bolt 15 this distance of the bore from the top of the shank of the button may be regulated to a certain extent, as will be necessary for meeting very great differences in the thickness of the buttons to be bored.

By shifting the bracket 12 forward and backward in the standard 11, the bolt 15 may be brought into vertical alinement with the center of buttons of various sizes.

It will be understood that while I have thus shown and described the preferred form of embodiment of my invention, I do not wish to be limited to its mechanical details but may resort to such alterations and modifications as come within the scope of the claims hereunto appended.

I claim:

1. In a machine for boring holes in self-shank buttons, the combination of a tubular spindle, a button-holding chuck mounted in said spindle, adapted to be reciprocated therein, means formed on said chuck and in said spindle, controlled by said reciprocating movement, for altering the position of said chuck in respect to the longitudinal axis of said spindle and means attached to said spindle coacting with the button held by said chuck for limiting the movement of the latter in respect to the longitudinal axis of said spindle.

2. In a machine for boring holes in self-shank buttons, the combination of a tubular spindle, a button-holding chuck mounted in said spindle, adapted to be reciprocated therein, means formed on said chuck and in said spindle, controlled by said reciprocating movement, for altering the position of said chuck in respect to the longitudinal axis of said spindle and adjustable means attached to said spindle coacting with the button held by said chuck for limiting the movement of the latter in respect to the longitudinal axis of said spindle.

3. In a machine for boring holes in self-shank buttons, the combination of a button-holding chuck mounted in a tube and adapted to be actuated therein both longitudinally and radially in respect to its longitudinal axis, an adjustable holder mounted on said tube and an adjustable member held by said holder, adapted to contact with the button held by said chuck and thereby limit the radial movement thereof, substantially as and for the purpose set forth.

ANTON DVORSKY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."