(No Model.)

2 Sheets—Sheet 1.

E. S. GLOVER.

TOOL HOLDER.

No. 438,150. Patented Oct. 14, 1890.

Fig. 1.

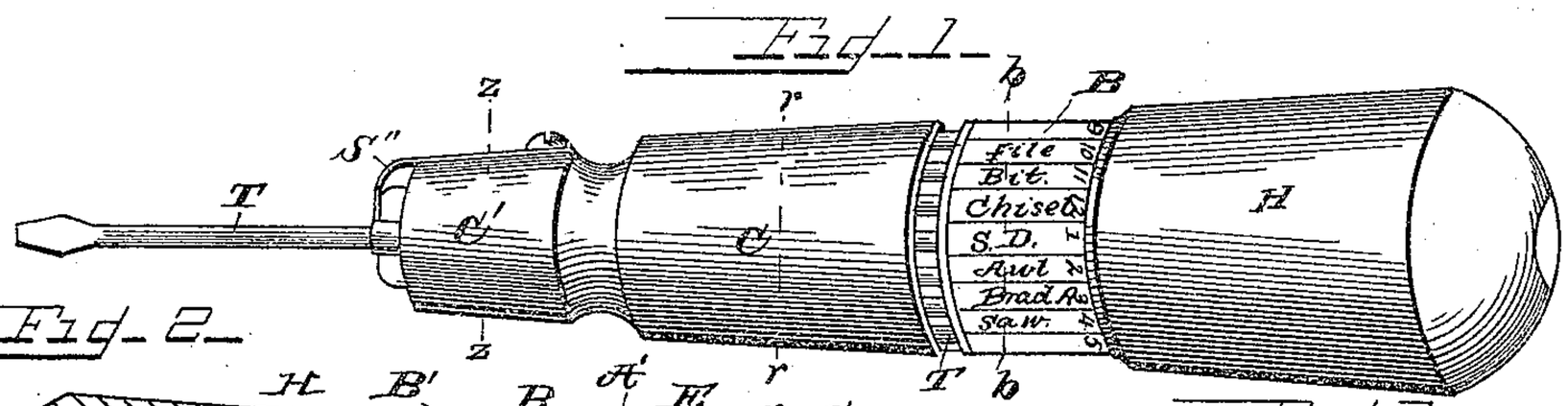


Fig. 2.

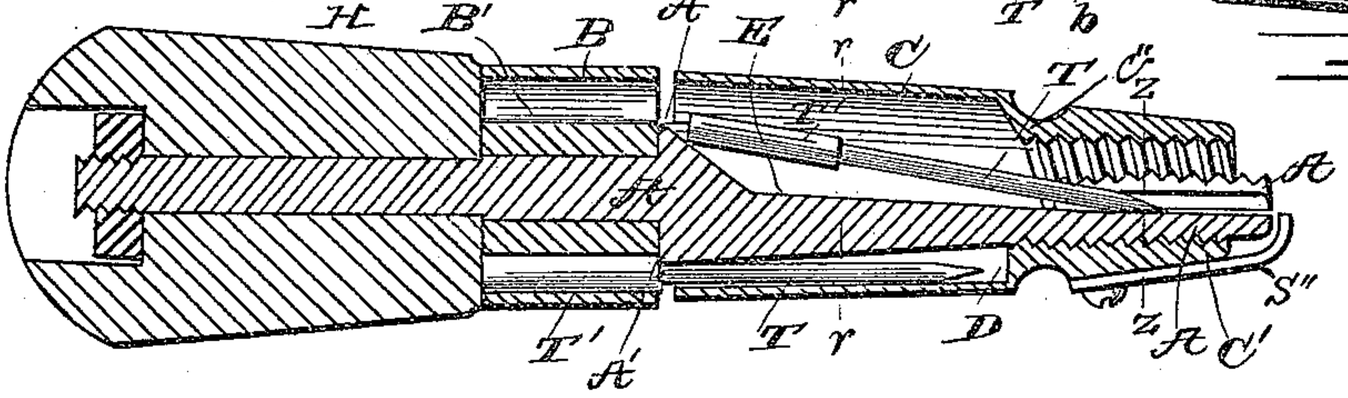


Fig. 3.

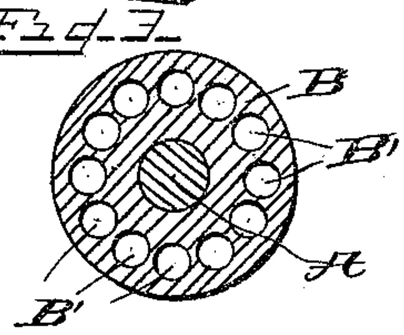


Fig. 5.

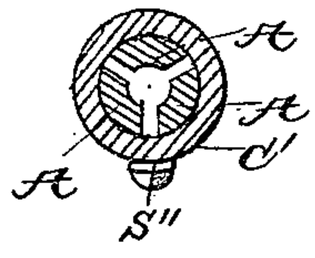


Fig. 4.

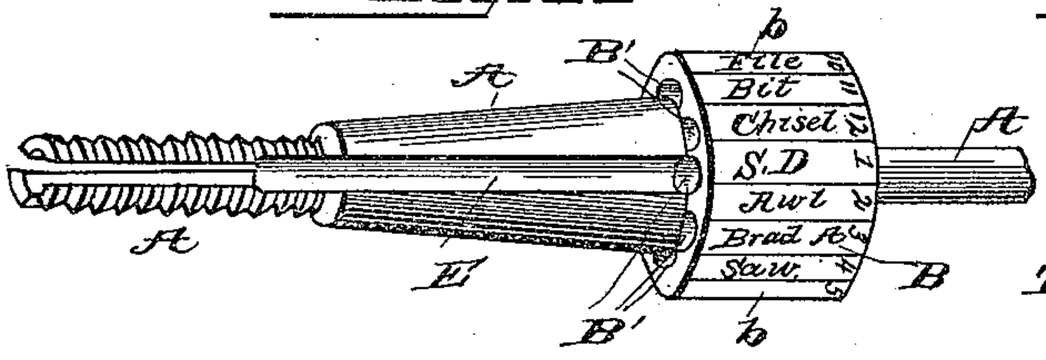


Fig. 6.

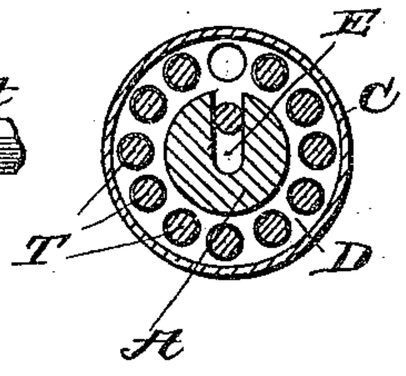


Fig. 7.

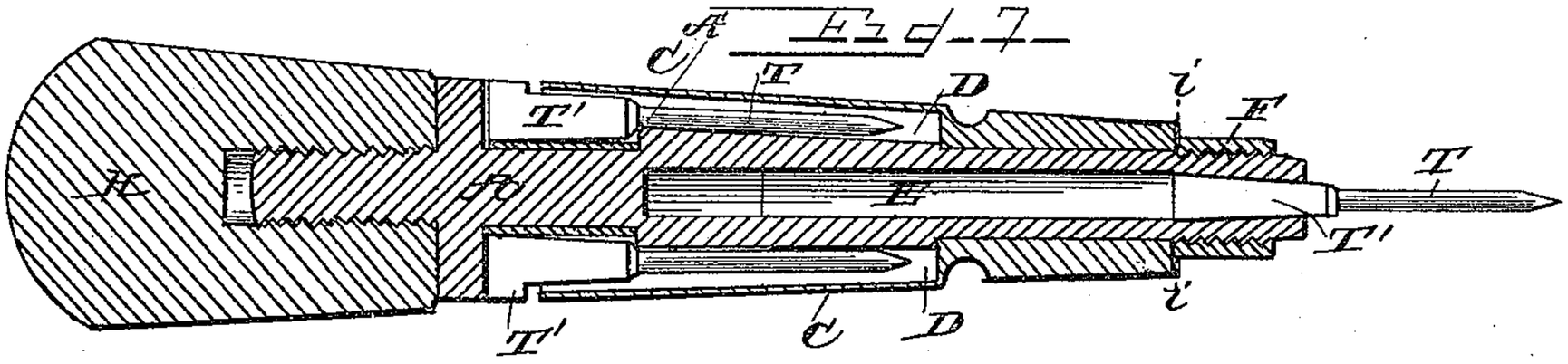


Fig. 8.

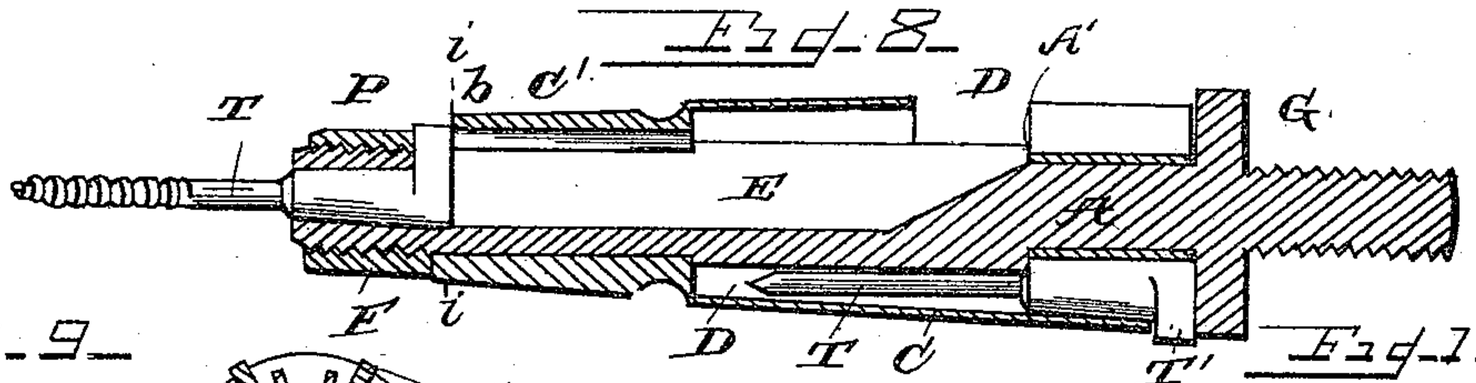


Fig. 9.

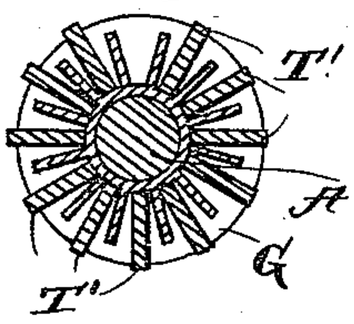


Fig. 11.

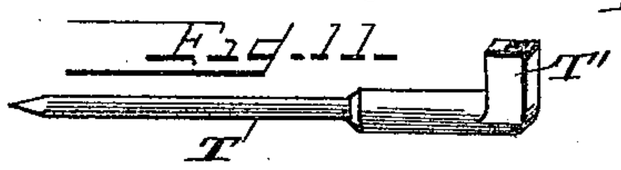
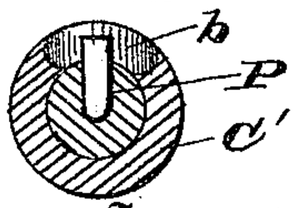


Fig. 10.



Witnesses

L. A. Taubenschmidt,

O. S. Fellows.

Inventor

Eli S. Glover,

By Attorney Martin Austcalf.

(No Model.)

2 Sheets—Sheet 2.

E. S. GLOVER.

TOOL HOLDER.

No. 438,150. Patented Oct. 14, 1890.

Fig. 12.

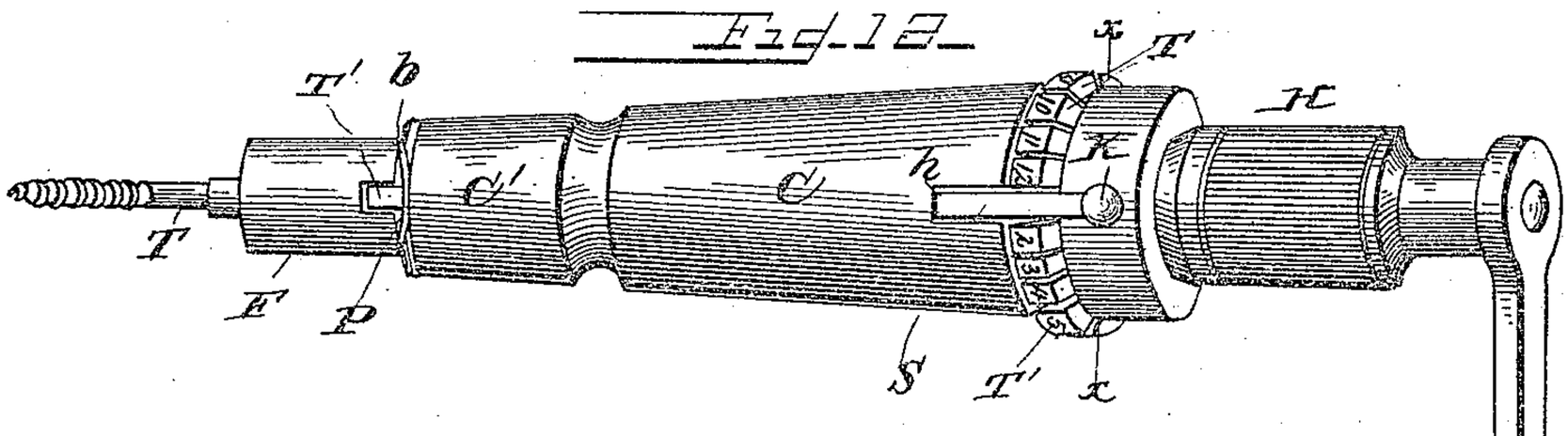


Fig. 13.

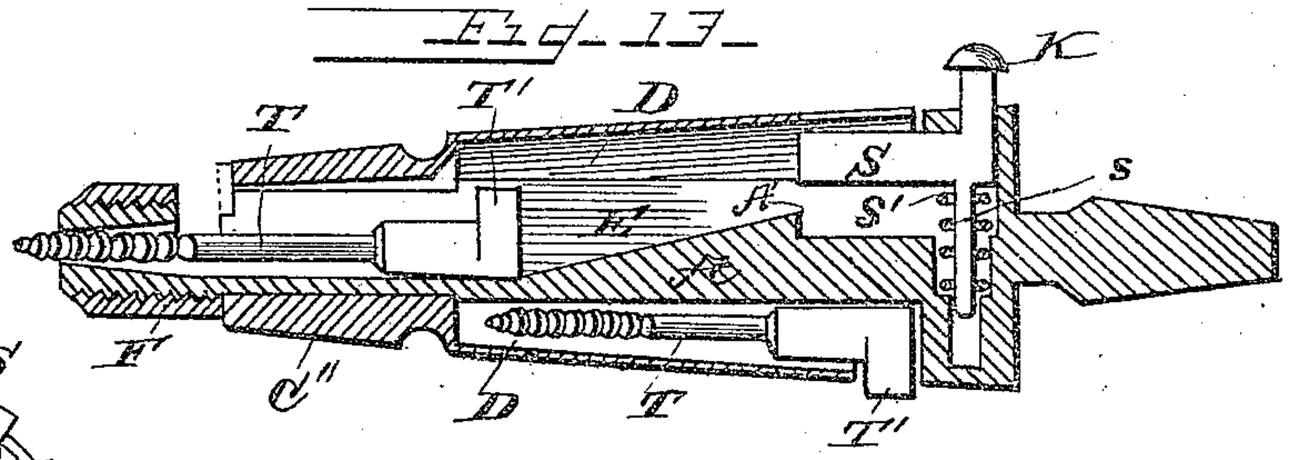


Fig. 14.

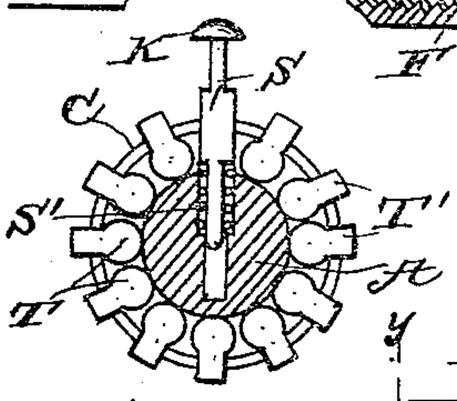


Fig. 15.

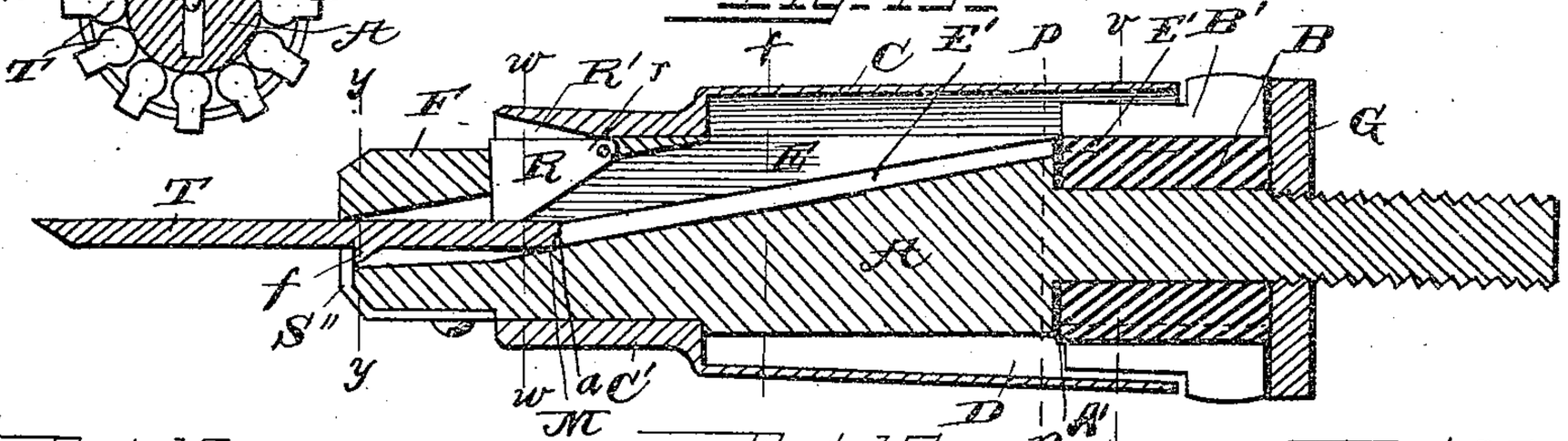


Fig. 16.

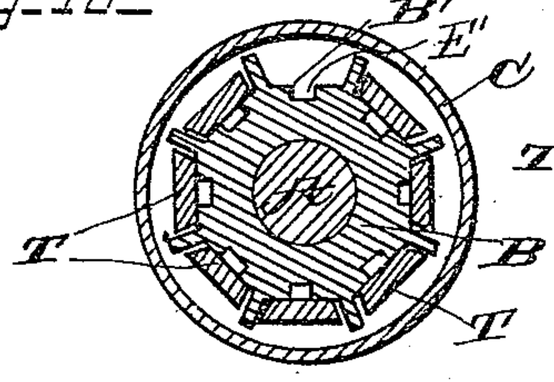


Fig. 18.

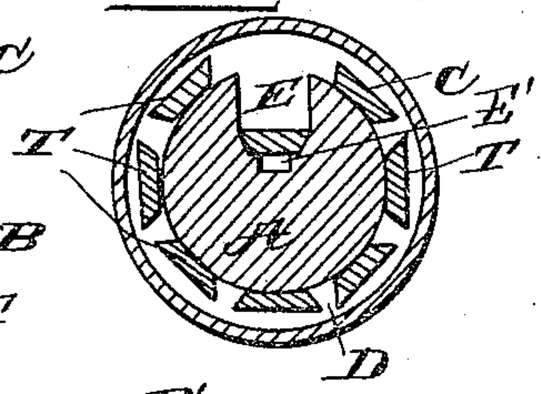


Fig. 17.

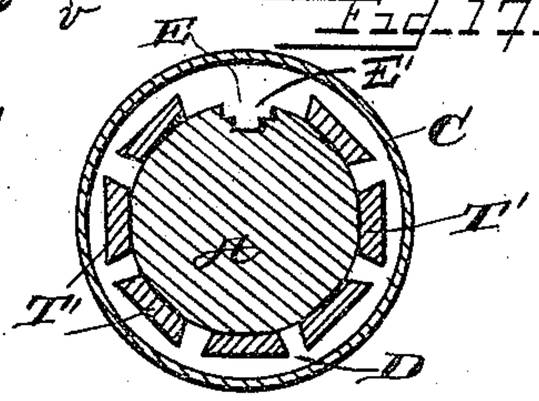


Fig. 19.

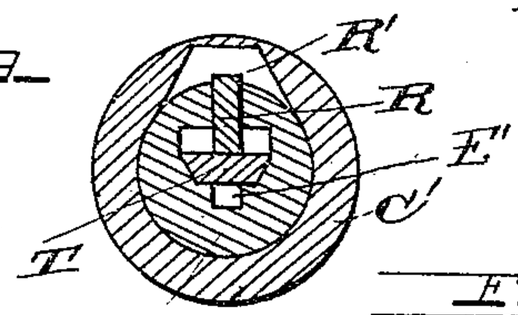


Fig. 20.

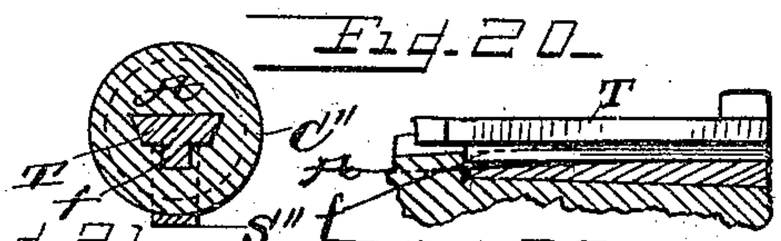


Fig. 21.

Fig. 22.

Witnesses

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Inventor

Eli S. Glover.

By Attorney Martin Mutcalf.

UNITED STATES PATENT OFFICE.

ELI SHELDON GLOVER, OF BATTLE CREEK, MICHIGAN.

TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 438,150, dated October 14, 1890.

Application filed February 26, 1890. Serial No. 341,903. (No model.)

To all whom it may concern:

Be it known that I, ELI SHELDON GLOVER, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Tool-Holders, of which the following is a specification, reference being had to the drawings forming part thereof, and wherein like letters and figures of reference designate similar parts in all the views.

The object of this invention is to provide a tool holder or magazine of sufficiently varied form and size to conveniently hold and protect from injury and loss a considerable number of tools, as of gravers' awls, &c., any one of which may be brought into proper position for instant use automatically and without removal from the tool-holder.

This desideratum I accomplish by means of varied modifications of a revolving cylinder and engaging-shaft adapted to the various forms of tools employed, and wherein a series of tools are held secure from injury, and any one selected can be instantly projected downward from its magazine in the body of the holder to its proper position for use without disturbing any other one of the series on a plan precisely similar to the projection of the loaded cartridge from the chamber or magazine of the revolving fire-arms now in use.

Figure 1 represents my tool-holder with a tool in position ready for use. Fig. 2 is a longitudinal section of the same, one of the tools being shown at rest in the magazine and another in its passage to or from the lower end of the holder. Fig. 3 represents a cross-section thereof, drawn on line *b b*, Fig. 1. Fig. 4 is the main frame or central shaft of the holder with its tool-engaging magazine detached. Figs. 5 and 6 are cross-sections drawn, respectively, on line *z z* and *v v* of Fig. 1. Fig. 7 is a longitudinal section showing another form of my novel tool-holder; and Fig. 8 is a sectional view of the same, drawn at a right angle to that shown in Fig. 7. Figs. 9 and 10 are cross-sections showing this form, drawn, respectively, on lines *j j* and *i i*, Figs. 7 and 8. Fig. 11 is the tool T, provided with enlarged and shouldered shank adapted to this form of my invention. Fig. 12 represents another modification of my novel tool-holder with a joiner's "bit" or tool in position adapted for use in connection with the bit-brace in common use. Fig. 13 shows this modification of my invention in longitudinal section; and Fig. 14 is a cross-section thereof, drawn on line *x x*, Fig. 12. Fig. 15 represents yet another modification of my invention in longitudinal section; and Figs. 16, 17, 18, 19, and 20 show cross-sections of the same, respectively drawn on lines *v v*, F F, *f f*, *w w*, and *y y* of Fig. 15. Fig. 21 is a plan view of a modified form of the tool. Fig. 22 is a side view of a further modified form of tool, the same being shown in position in the magazine, which is shown in section.

For convenience in describing my invention, I will herein designate that end of my tool-holder which is designed to be grasped by the operator as the "upper" end, and that end thereof through which the tool projects when in operative position the "lower" end, and those ends of the several parts which face the said upper end of the tool-holder will be termed the "upper" ends thereof, and those ends thereof which face the lower end of the tool-holder will be termed the "lower" ends. In other words, the tool-holder in the following description is to be considered as in its vertical operative position.

Referring to the several views of the drawings, A represents the central shaft or main frame of the tool-holder, and is provided at its top with a suitable screw or other shank for removably attaching the operating-handle H or brace H′, and situated suitably below on the shaft A is a revolving multiple tool chamber or magazine B, the office of which is precisely similar to that of the cylinder of the well-known revolving fire-arms, the shanks of a series of different tools being substituted for the uniform cartridges of said fire-arms.

The main shaft A is provided with a longitudinal channel E of a size and form adapted to the series of tool-shanks employed in that specific tool-holder, said channel registering at its upper end with the chambers B′ of the revolving magazine B, and thence inclining inward to about the center of the tool-holder.

In the form of my invention shown in Figs. 1 to 6, inclusive, the shoulder T′ of the tool in actual use rests on a shoulder C″, formed

within the holder at the upper end of the clutch C′, which rigidly holds said tool in position, while the shoulders of the tools in the magazine B rest on the outer edge of the shoulder A′, formed on the shaft A immediately above the beveled or inclined portion thereof, said shoulder being of such size as to project slightly over the openings in the magazine B, as shown best in Fig. 4. The clutch C′, above referred to, is of the ordinary "three-cleft" variety, which being well known in the art need not be particularly described herein. It is shown best in Figs. 2 and 5.

C is a removable sleeve, made to loosely slide and revolve on the shaft A toward the bottom thereof, while its upper end is of larger inside diameter than the outside of shaft A, to form an annular chamber D, within which the tools in reserve are ranged around said central shaft, being there held and protected from injury.

In Figs. 7, 8, 9, 10, and 11 is shown a modification of my tool-holder, in which I dispense with the cleft-clutch, Fig. 5, and substitute a grip, wherein a circular cam *b* and slot *p* grasp the right-angled outwardly-bent end of the tool-shank and securely lock the tool T in position for use. (See Figs. 8, 10, 11, and 13.) In this form of my invention the indicating-numbers 1, 2, 3, &c., may be stamped directly on the flush faces of the bent end of the tools, as seen in Figs. 11 and 12, instead of on the outside of the revolving magazine, Figs. 1 and 4.

Referring now more particularly to Figs. 12, 13, and 14 of the drawings, S represents a stop provided on its outer side with a thumb-knob *k* and its opposite side having a laterally-projecting stud and spiral spring S′, the office of which is to supply the place of the tool in use for the time being, as a convenience in this form of my invention, wherein the separate divisions of the revolving cylinder are dispensed with.

Yet another modification of my invention may be employed, wherein a series of chisels or tools of considerable width may be profitably used, as seen in Figs. 15, 16, 17, 18, 19, 20, and 21.

A latch R, pivoted near its outermost end *r* and about midway of the bottom portion C′ of the sleeve C, swings outwardly within a recess R′ of the sleeve and when said recess is opposite said latch, permitting the tool being employed to drop back into the handle and another one to take its place, and serves for a firm lock for the chisel or other wide tool that may be employed when said recess does not register with the recess within which the latch is pivoted. The upper or shank end of the tool in use engages with a slightly-beveled edge of the shaft A, Fig. 15. When this form of chisel or tool is used, I prefer to construct a plain tool, like that shown in Fig. 21, provided with a spur or tooth *t* for engagement with the outermost circular top A′ of the central shaft A when the tools are at rest in the magazine, and with the stop S″ at the bottom extremity of the holder when the tool is doing its work, and said spur is received by a supplemental longitudinal recess E′, formed in the shaft A and magazine B and communicating with said recess E.

Instead of forming the shank portion of the chisel or tool with a spur, it may be constructed with a rib of substantially the same length as the chamber B, as shown in Fig. 22.

Many other modifications of my novel tool-holder will suggest themselves to those skilled in the art to which this invention appertains, and it is not deemed fitting to further point them out here.

To charge the magazine with tools, the sleeve may be removed by unscrewing it in the construction shown in Figs. 1 to 5, by unscrewing the nut F in the constructions shown in Figs. 7 to 14, or by removing the stop S″ in the construction shown in Figs. 15 to 20, said removal of the sleeve leaving the shaft and magazine entirely uncovered; or said magazine may be charged without removing the sleeve by holding the holder in an inverted position, introducing a tool at the open end of the holder and rotating the magazine until one of its chambers registers with the groove in the shaft A, when said tool will drop by gravity into said chamber, and repeating this operation until all the chambers have been filled.

The mode of using my novel invention may be easily read and understood from the foregoing and inspection of the drawings, and is as follows: With the implement properly charged and inverted or held bottom upward, the magazine B is rotated until the tool desired for use registers with the longitudinal channel E, as indicated by the several numerals 1, 2, 3, &c., when the position of the holder is reversed, by which means the tool thus selected is left free to fall by its gravity to a proper position for actual use, and where it is securely held and locked by simply tightening the screw-clutch, Figs. 2 and 5, or by giving a slight rotary turn to the locking-sleeve C′, Figs. 7, 8, 10, 12, 13, and 15.

The tool in use may be instantly and practically automatically returned to the magazine-chamber by reversal of the process described, or any other member of the series of tools exchanged, as is evident.

When using the form shown in Figs. 12 and 13, the thumb-knob *k* must be pressed inward, in order to unlock the magazine-chamber, of which the stop S constitutes the door, until the desired tool is brought around to register with the longitudinal channel E, as already seen, when the the holder is inverted and the knob released, whereby the door is closed, and the stop S performs the function of maintaining separation and control of each and every tool of the series as effectually as the same thing is done by the division-walls of the rotating cylinder in that form of tool-holder, and when a momentary use for any particular tool is wanted it is instantly

reached by the release of the one and practically the automatic substitution of the other, in the manner hereinbefore pointed out.

Obviously the incidental advantage accruing from the use of my novel tool-holder consists in its perfect adaptability for using tools of even greater dimensions than carried by the magazine by simply having the shanks of such or of any tool of suitable size and shape for engagement with the holder without in any manner disturbing the contents of the magazine.

Having thus fully described and illustrated my invention and pointed out its more important uses, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a tool-holder, the combination, with a handle and central shaft having a longitudinal channel, of a tool-magazine at one end of said shaft, a tool-clutch at the opposite end of said shaft, and a sleeve surrounding said shaft.

2. A tool-holder consisting of a handle, a central shaft having a longitudinal channel, a revolving tool-magazine, an external movable sleeve, and a terminal clamping device, all arranged, combined, and operating substantially as shown and described.

3. A tool-holder consisting of a central shaft having a longitudinal channel, a tool-magazine, a movable inclosing-sleeve of greater inside diameter than the diameter of said shaft, whereby a central portion of said tool-holder is provided with an annular chamber, and clamping means at the lower end of said tool-holder, all arranged and operating substantially as described.

4. The combination, with a series of tools, each having a projection, of a magazine for said tools, a central shaft having a longitudinal channel extending downward from said magazine, and an inclosing-sleeve so arranged as to expose indicating letters or figures on the tools or magazine.

5. The combination, with a series of tools, each having a projection, of a magazine for said tools, a central shaft having a longitudinal channel extending to the lower end of the holder from said magazine, projections at or near the lower end of the holder to be engaged by the projection of the tool in operative position, a movable inclosing-sleeve so arranged with respect to the magazine and tools therein as to expose indicating letters or figures on said magazine or tools, and clamping means at the lower end of the holder, all substantially as described, and for the purposes specified.

6. In a tool-holder, the combination, with a revolving tool-magazine and a central shaft having a beveled side, a reduced extremity, and a shoulder between said beveled side and reduced extremity, of an inclosing movable sleeve having a recess R′ at its lower end, and a pivoted latch at the lower end of said shaft, all substantially as described, and for the purposes specified.

7. The combination, with a series of tools, each having a projection, a revolving tool-magazine and a central shaft having longitudinal channels and a shoulder between said channels, of an inclosing revolving sleeve having a recess R′ at its lower end and a pivoted latch R adjacent to said recess, all substantially as described, and for the purposes specified.

8. The combination, with a series of tools, each having a projection, of a central shaft having a shoulder at its upper end and a longitudinal channel, a revolving tool-magazine immediately above said shoulder on the shaft, an inclosing-sleeve of greater inside diameter than the diameter of said shaft, and clamping means at the lower end of the tool-holder, all substantially as shown and described.

In witness that I claim the foregoing I hereunto set my signature in the presence of two witnesses.

ELI SHELDON GLOVER.

Witnesses:

STEVEN S. HULBERT,

GEO. W. MECHEM.