

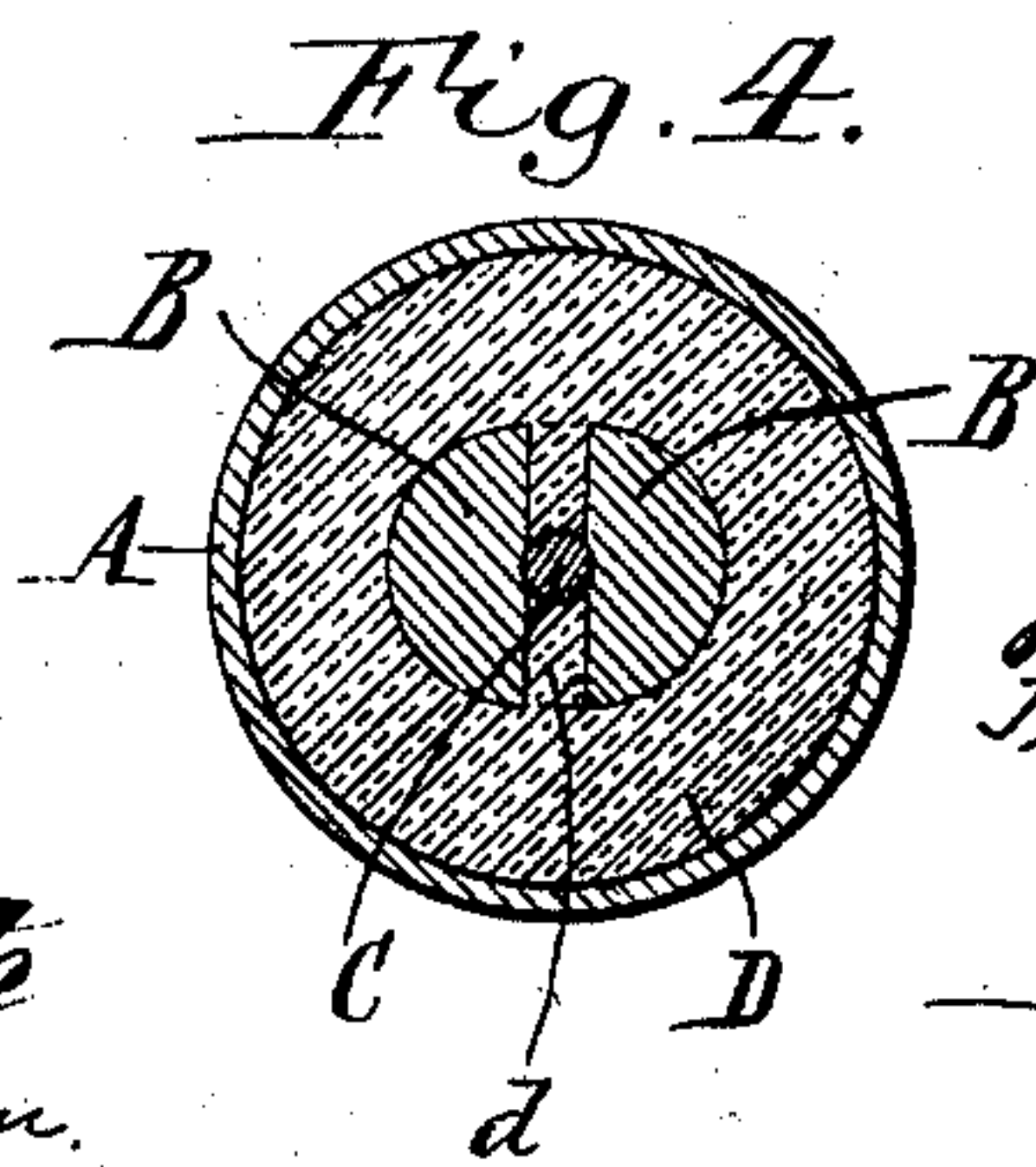
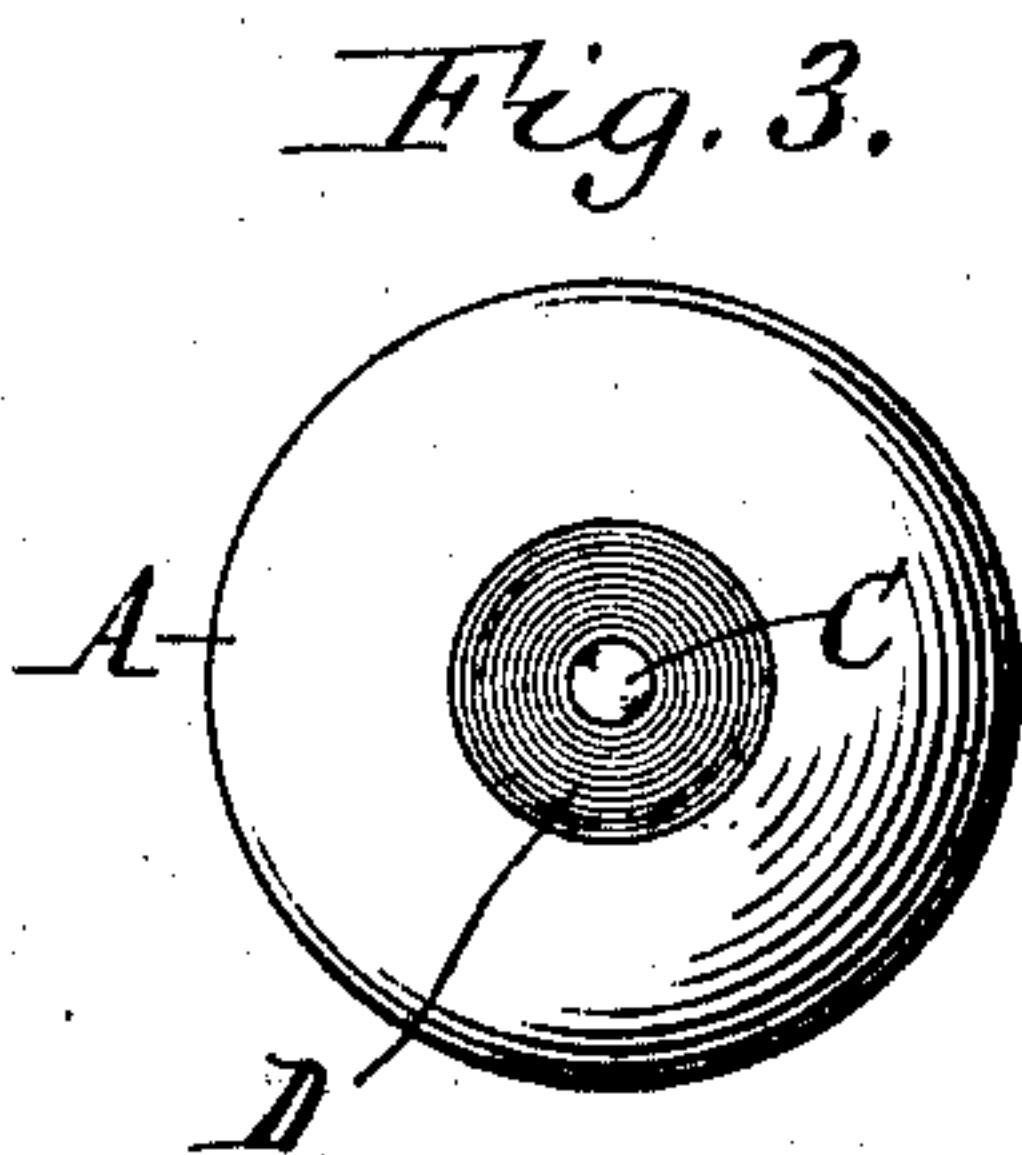
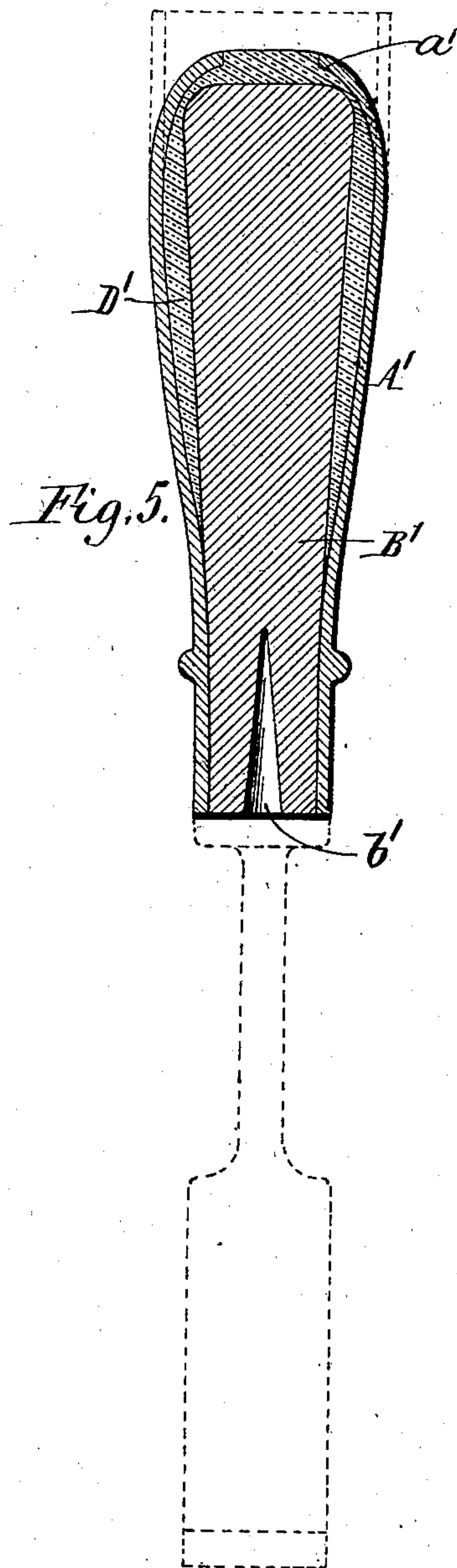
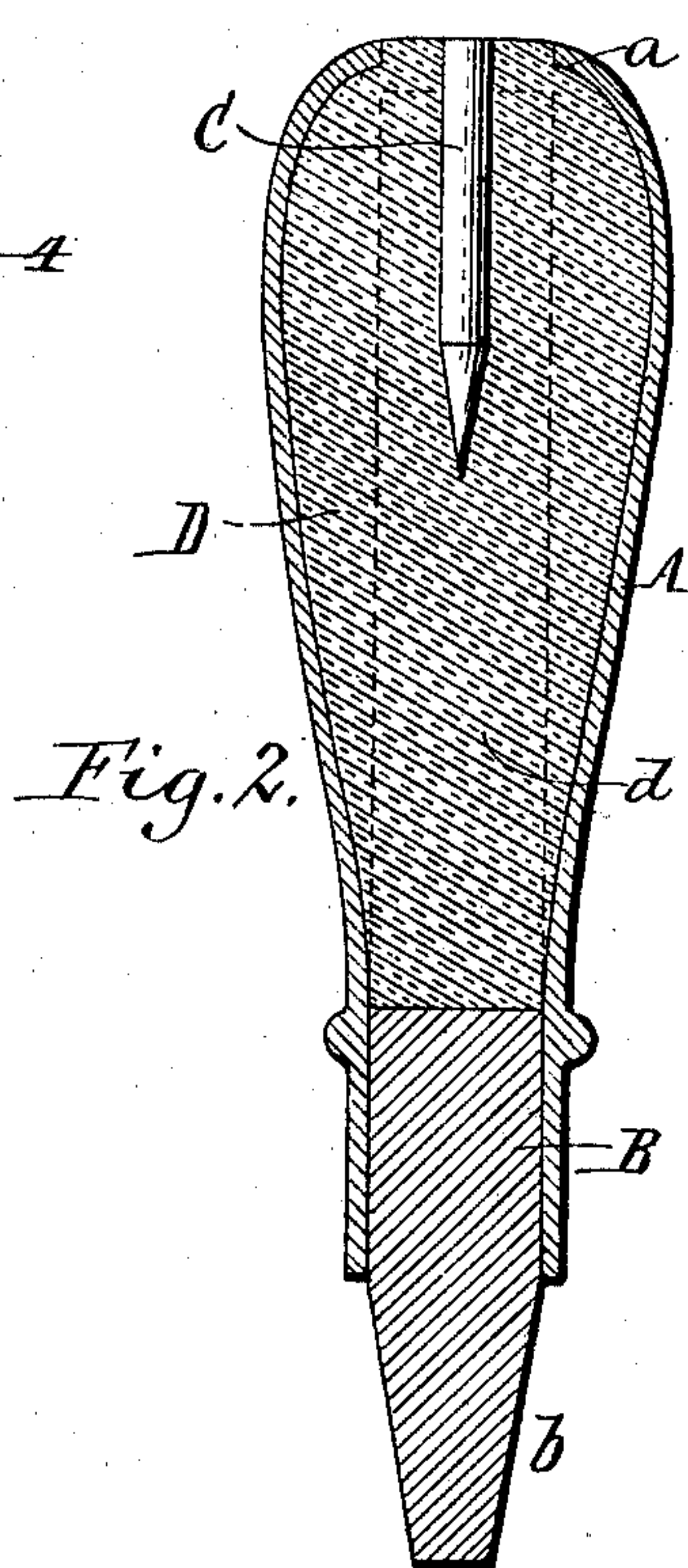
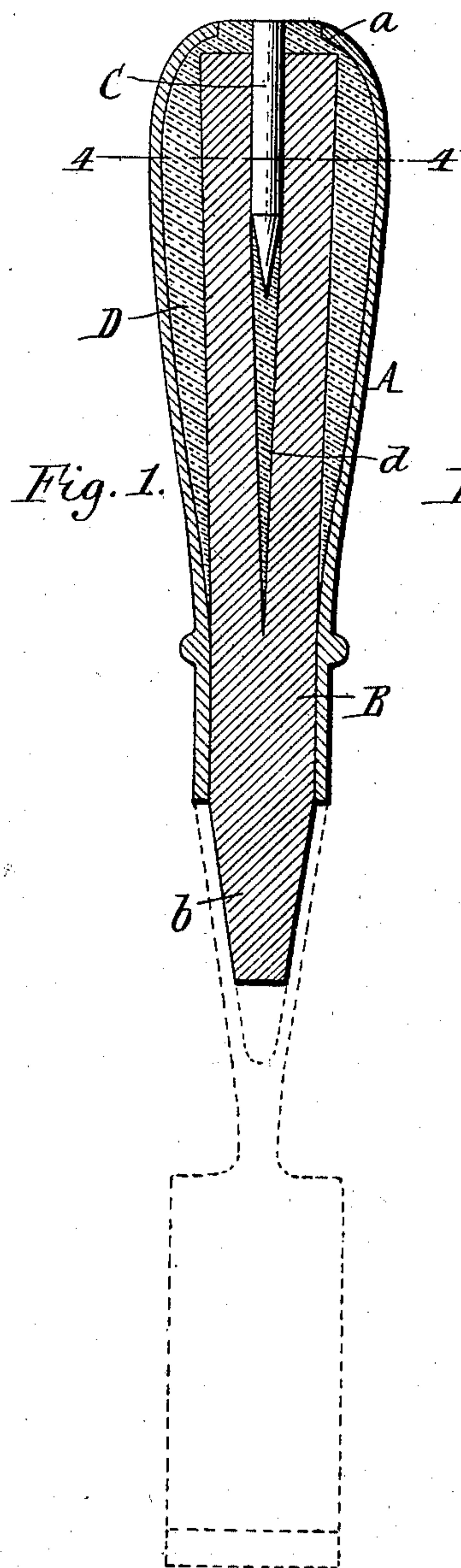
No. 702,190.

Patented June 10, 1902.

F. EWING.  
TOOL HANDLE.

(Application filed Aug. 2, 1901.)

(No Model.)



Witnesses:  
Louis H. Gratz  
Emma M. Graham.

Frederick Ewing,  
Inventor  
By Leyer & Popp,  
Attorneys.



# UNITED STATES PATENT OFFICE.

FREDERICK EWING, OF BUFFALO, NEW YORK, ASSIGNOR TO EWING  
SHINGLING CLAMP COMPANY, OF BUFFALO, NEW YORK.

## TOOL-HANDLE.

SPECIFICATION forming part of Letters Patent No. 702,190, dated June 10, 1902.

Application filed August 2, 1901. Serial No. 70,618. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK EWING, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Tool-Handles, of which the following is a specification.

The object of this invention is to produce a handle for tools which is very strong and durable and not liable to be destroyed by splitting, like the handles now in common use.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved tool-handle adapted for use with a socket-chisel. Fig. 2 is a longitudinal section thereof at right angles to Fig. 1. Fig. 3 is a top plan view thereof. Fig. 4 is a cross-section in line 4 4, Fig. 1. Fig. 5 is a longitudinal section showing a modification of my improved handle.

Like letters of reference refer to like parts in the several figures.

A, Figs. 1 to 4, represents a hollow metallic shell which forms the outer part or surface of the tool-handle and which may be of the usual round form and bulging near the middle to fit the hand of the operator. This shell is open at its upper and lower ends and is provided around the upper opening with an internal annular shoulder *a*.

B represents a core of wood or any other suitable material, which is fastened in the shell and to which the tool is attached. This core is preferably fitted snugly at its lower part into the lower opening of the shell, while the upper part of the core is separated from the adjacent part of the shell by an intervening space. The upper part of the core is split lengthwise, and when the core is in place its upper end terminates below the shoulder *a* around the upper opening of the shell.

C represents a wedge or pin which is driven between the two parts of the split core, from the upper end thereof, and whereby the split parts are separated, so that they extend underneath the shoulder *a*. The wedge is preferably driven flush with the upper end of the shell. The body of the core is preferably cylindrical, and its diameter is such that the same can be passed freely through the end openings of the shell; but when the core is spread by the wedge the core is wider than

said openings and cannot be removed from the shell through either of its openings.

D represents a filling which occupies the space between the core and the surrounding shell. This filling preferably consists of lead or any other suitable material, which is poured while in a molten state between the core and shell and over the top of the core flush with the upper end of the wedge and the shell. This filling renders the handle perfectly solid and securely holds the core in place in the shell. The filling also flows into the gap between the split part of the core and forms an integral key or anchor *d*, which connects the filling on opposite sides of the core through the latter, as shown in Figs. 1, 2, and 4, thereby positively preventing the shell and core from being displaced with reference to each other.

As shown in Fig. 5, the core B' is not split, but is solid and tapers from its upper end downwardly toward its lower end. This core is introduced into the shell A' through the upper end thereof, while the upper edge of the shell projects upwardly, as shown by dotted lines in Fig. 5. After the core has been introduced into the shell the upper edge of the same is turned inwardly, so as to form a shoulder *a'* on the shell, which overhangs the core, as shown by full lines, Fig. 5. The space between the core and shell is next filled with molten metal D', which latter when hardened produces a solid handle and holds the core securely against lengthwise movement in the shell.

For the purpose of fitting the handle to a tool having a socket, such as a socket-chisel, (shown in dotted lines in Fig. 1,) the lower end of the core is provided with a conical stud or shank *b*, which fits into the chisel-socket.

When fitting the handle on a tool having a tang, the stud *b* is cut off from the core, and an axial hole *b'* is bored into the lower end of the core for the reception of the tang, as shown in Fig. 5.

My improved composite handle is as readily attached to a tool as the ordinary wooden handle. It can be produced without material increase in cost and weight and avoids the annoyance and expense attending the



use of wooden handles, due to the frequent splitting of the latter.

I claim as my invention—

1. A tool-handle comprising an inclosing  
5 shell, a core arranged in the shell and hav-  
ing its upper end terminating within the  
same and separated therefrom by an inter-  
vening space, and a filling occupying said  
space and contained wholly within the shell,  
10 substantially as set forth.

2. A tool-handle comprising a shell which  
is open at its upper and lower ends, a core  
arranged in the shell and fitting at its lower  
end in the opening in the lower end of the  
15 shell while its upper part is separated from  
the surrounding shell by an intervening  
space, and a filling of molten material occu-  
pying said space, substantially as set forth.

3. A tool-handle comprising a shell, a core  
20 arranged in the shell and having its upper  
end split lengthwise, a wedge whereby the  
split parts of the core are separated, and a  
filling which occupies the space between the  
core and the surrounding shell, substantially  
25 as set forth.

4. A tool-handle comprising a shell which  
is open at its upper and lower ends and which  
has an internal shoulder around the opening  
in its upper end, a core arranged in the shell

and fitting at its lower end into the lower 30  
opening of the shell while its upper part is  
split lengthwise and terminates below said  
shoulder, a wedge whereby the split parts of  
the core are separated so as to extend under-  
neath said shoulder, and a filling which oc- 35  
cupies the space between the shell and the  
core, substantially as set forth.

5. A tool-handle comprising a shell which  
is open at its upper and lower ends and which  
has an internal shoulder around the opening 40  
in its upper end, a core arranged in the shell  
and fitting at its lower end into the lower  
opening of the shell while its upper part is  
split lengthwise and terminates below said  
shoulder, a wedge whereby the split parts of 45  
the core are separated so as to extend un-  
derneath said shoulder, and a filling which  
occupies the space between the shell and the  
core and which forms an integral key extend- 50  
ing throughout the split part of the core, sub-  
stantially as set forth.

Witness my hand this 27th day of July,  
1901.

FREDERICK EWING.

Witnesses:

CARL F. GEYER,  
THEO. L. POPP.