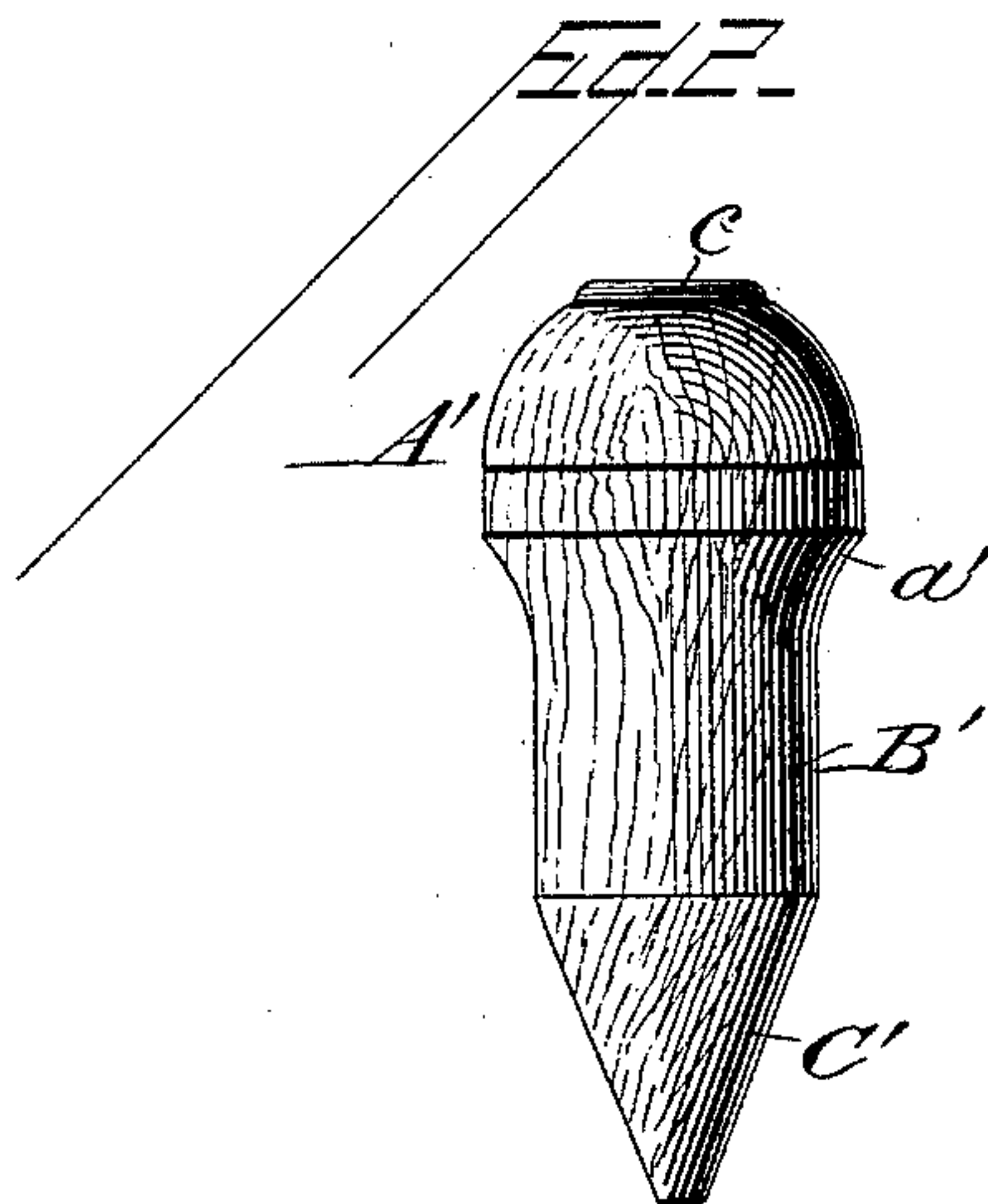
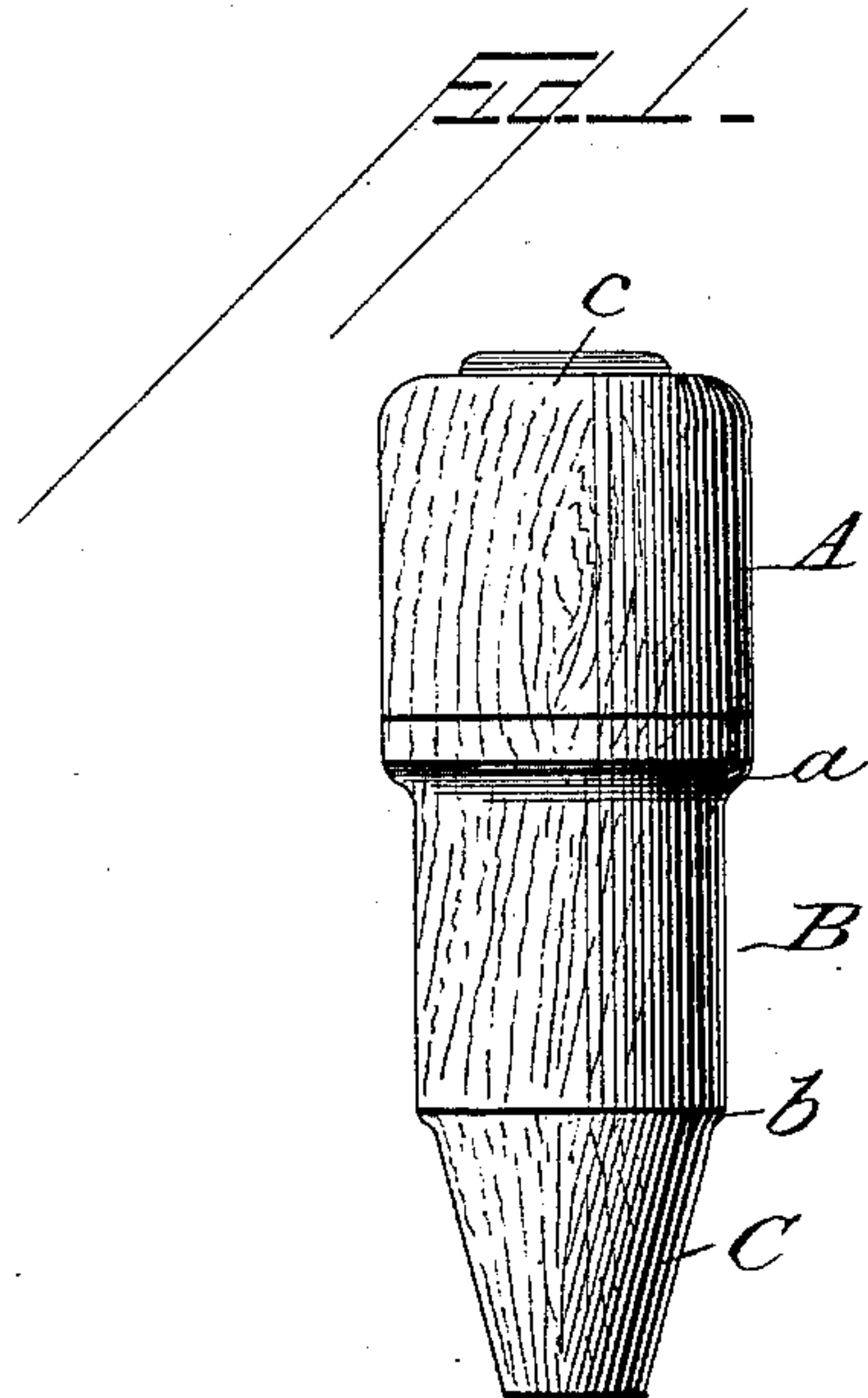


(No Model.)

F. I. LESSARD.
PIPE EXPANDING TOOL.

No. 424,800.

Patented Apr. 1, 1890.



Attest:
J. H. Schott
Chas. E. Parker.

Inventor
Frank I. Lessard
By John C. Parker, atty.

UNITED STATES PATENT OFFICE.

FRANK I. LESSARD, OF MANCHESTER, NEW HAMPSHIRE.

PIPE-EXPANDING TOOL.

SPECIFICATION forming part of Letters Patent No. 424,800, dated April 1, 1890.

Application filed December 10, 1889. Serial No. 333,228. (No model.)

To all whom it may concern:

Be it known that I, FRANK I. LESSARD, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Pipe-Expanding Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains, to make and use the same.

This invention relates to an improvement in tools or devices for expanding pipes, its particular and preferred use being that of expanding pipes for the purpose of constructing pipe joints or connections, it being specially employed in my improved pipe-joint found in my prior application for patent, filed October 3, 1889, Serial No. 325,820, and my other application filed of even date herewith; and the invention consists, essentially, in the tool, substantially as described, and in its peculiar shape and form, all of which will hereinafter be more fully set forth, and then claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a plan view of my improved expanding-tool for use in the construction of pipe-joints. Fig. 2 is a similar plan view of a slightly-modified form of the same.

In my improved pipe-joint shown and described in my applications hereinabove referred to it becomes necessary to expand or diametrically enlarge the end of the pipe, and this diametrical enlargement varies at different points, a portion of said pipe being enlarged to one diameter and a portion to another diameter. In order to accomplish this enlargement, a peculiarly-constructed tool adapted especially for this purpose becomes necessary, which tool is adapted to be forcibly inserted into the end of the pipe, and the result of this forcible insertion of the tool is to create in the pipe the enlargement sought for. The tool, therefore, must be properly constructed to shape the pipe in the desired manner. This "tool" or rounded "plugging device," as it may be termed, is preferably made of wood, although it may be made of iron or any other suitable metal, and it

serves, essentially, the purpose and function of a turn-pin.

In Fig. 1 I have shown the general form of my improved pipe-expanding tool. It will be seen that it varies in diameter throughout different portions of its length. The portion of largest diameter is lettered A, and is cylindrical in form and constitutes the handle portion, which is adapted to be grasped by the mechanic when the tool is being forced into the end of the lead pipe. This handle portion A is preferably furnished with a head *c*, adapted to receive the blows of the mallet or other instrument by which the expanding-tool is forced into the pipe.

B designates a section of the tool of less diameter than the handle portion A, there being a rounded shoulder *a* at the point where the diameter of the tool changes from the portion A to the portion B. The end section of the tool is lettered C. It is beveled, tapered, or inclined at a suitable angle. Between the beveled section C and the cylindrical section B is a shoulder *b*. This shoulder, *b*, however may be omitted, if desired, as shown in Fig. 2. The cylindrical section B may be of any suitable and desirable length, as also the tapered portion C, whose degree of bevel may vary, as desired, and whose length may be of any preferred extent.

In Fig. 2 I have shown a slightly-modified form of my improved pipe-expanding tool. In this form of the device the handle portion A' is cylindrical part way of its length, but is rounded toward the end, so as to be convex shaped, making it easy to handle and neat in appearance. It is provided, however, with the same head or protuberance *c* which receives the blows of the mallet or hammer. The cylindrical section B' is similar to the cylindrical section B in Fig. 1, said cylindrical section B' being less in diameter than the handle portion A'. The shoulder *a'* differs from the shoulder *a* in being sloping or beveled, so that the diameter of the handle portion A' diminishes gradually until it merges into the diameter of section B'. This shoulder *a'* therefore is slightly different from the shoulder *a* of the form shown in Fig. 1, said shoulder *a* being abrupt. In Fig. 2 the shoulder *b* is dispensed with and the tapered portion C'

joins directly onto the cylindrical portion B' without the intervention of the shoulder. The tapered portion C' runs to a smaller point than the tapered portion C of Fig. 1, so that
5 while the tapered portion of Fig. 1 is blunt, the tapered portion of Fig. 2 is comparatively sharp. These differences between the form in Fig. 2 and that in Fig. 1 are merely differences of degree, and do not involve any radical or substantial departure from one another
10 and may be considered in every way equivalents.

The tool thus described will be found of great value in expanding a lead or other pipe
15 and causing it to possess a corresponding shape to that of the tool.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The herein-described pipe-expanding tool, 20 consisting of the handle, the cylindrical section, a shoulder between the handle and said section, the tapered portion, and the shoulder between the tapered portion and the cylindrical section, as specified.

In testimony whereof I affix my signature in
25 presence of two witnesses.

FRANK I. LESSARD.

Witnesses:

JOHN A. RIDDLE,
B. P. CILLEY.