

No. 688,756.

Patented Dec. 10, 1901.

J. W. TRIPP.
EXPANSION BOLT.

(Application filed May 24, 1900. Renewed Nov. 1, 1901.)

(No Model.)

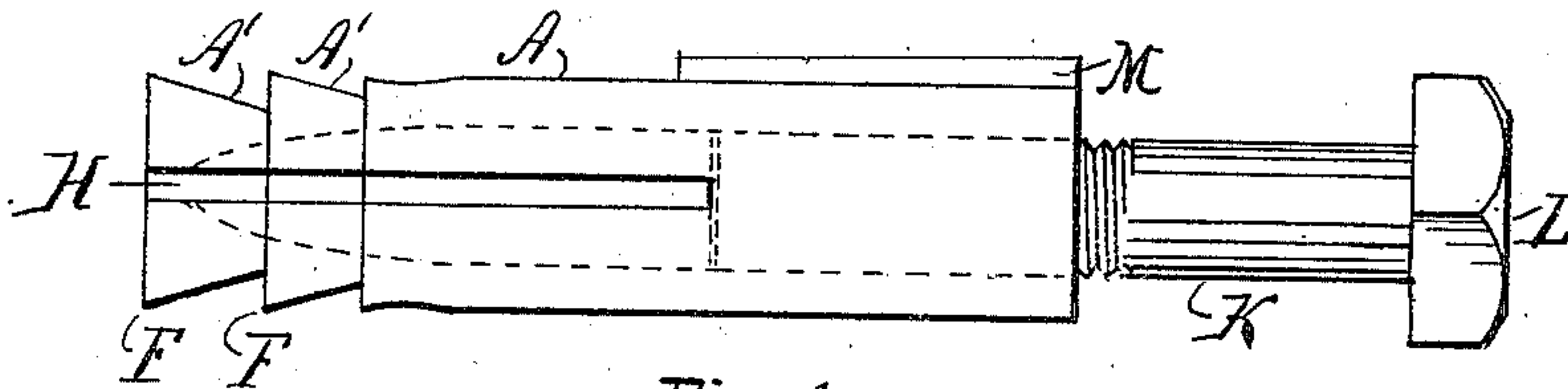


Fig. 1.

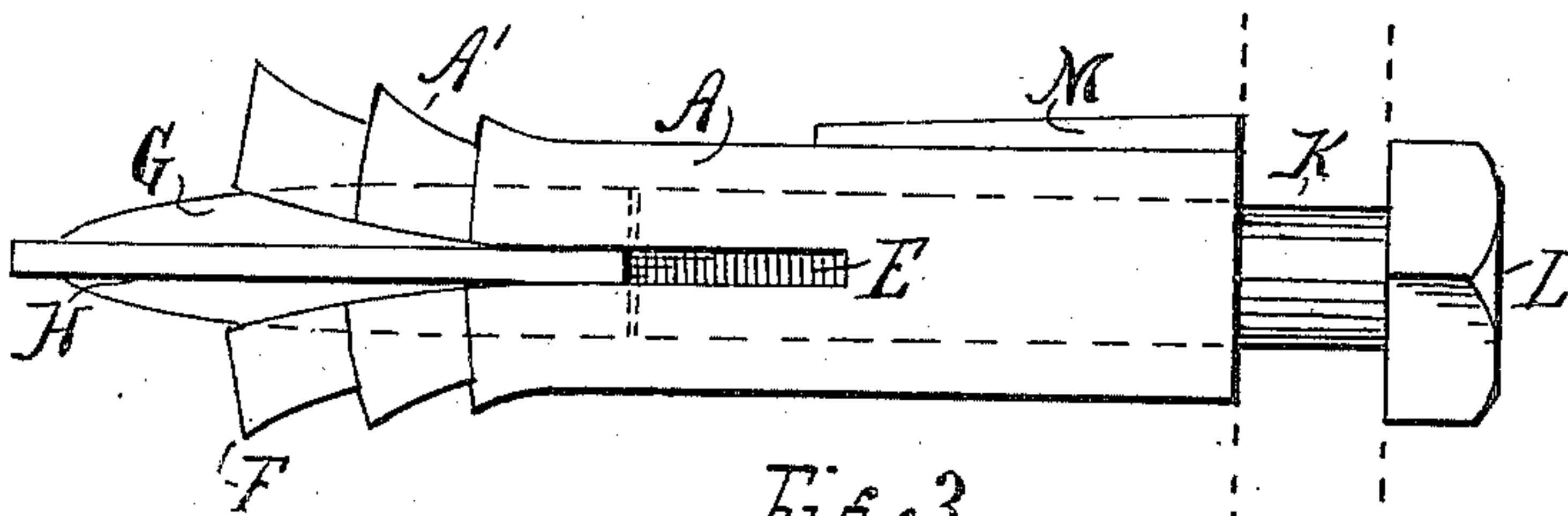


Fig. 3.

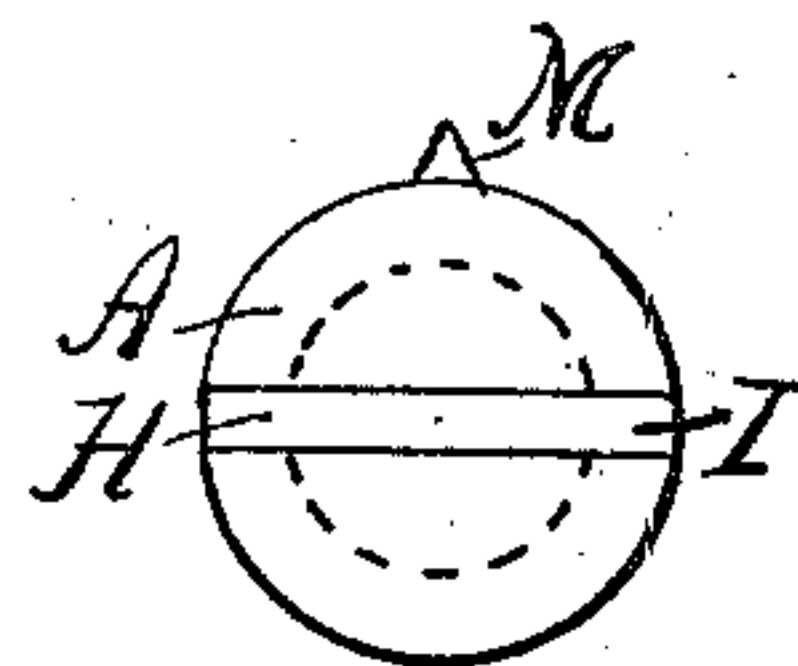


Fig. 2.

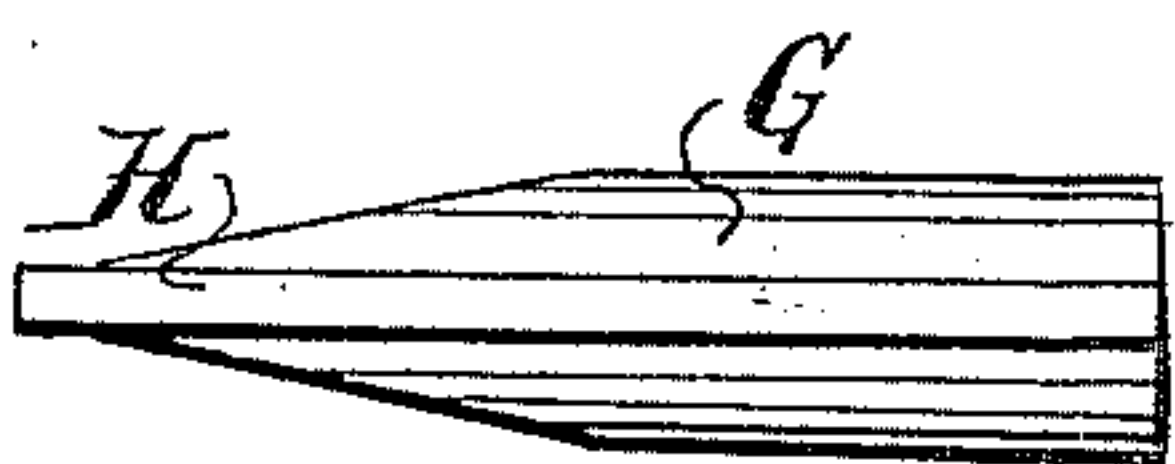


Fig. 5.



Fig. 6.

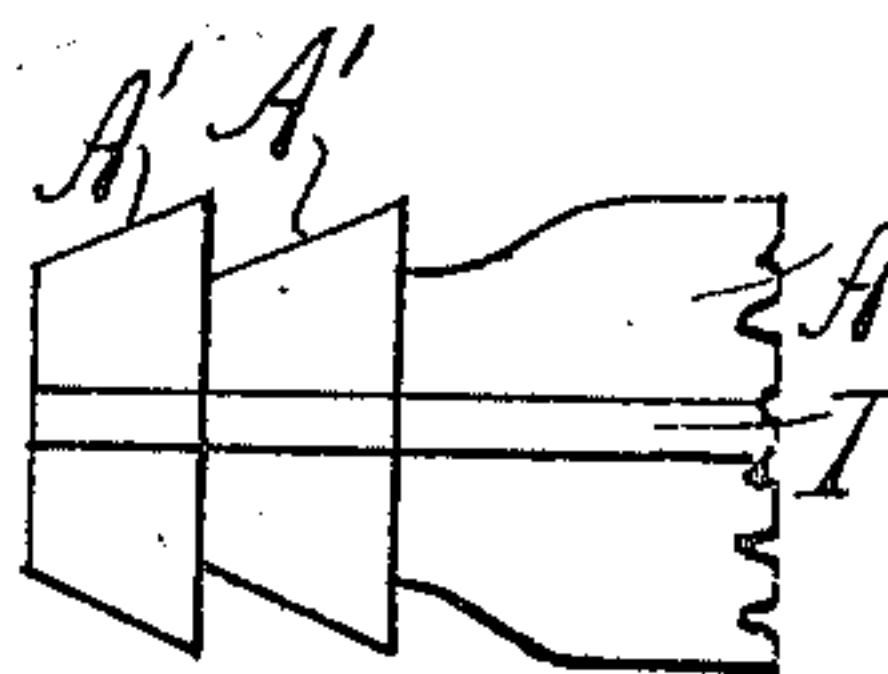


Fig. 10.

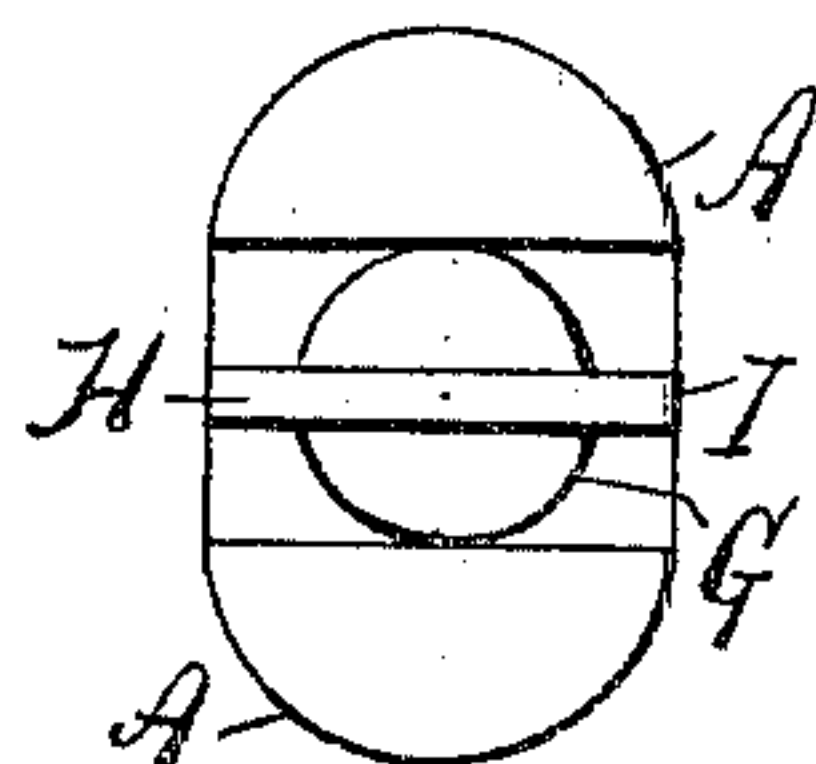


Fig. 4.

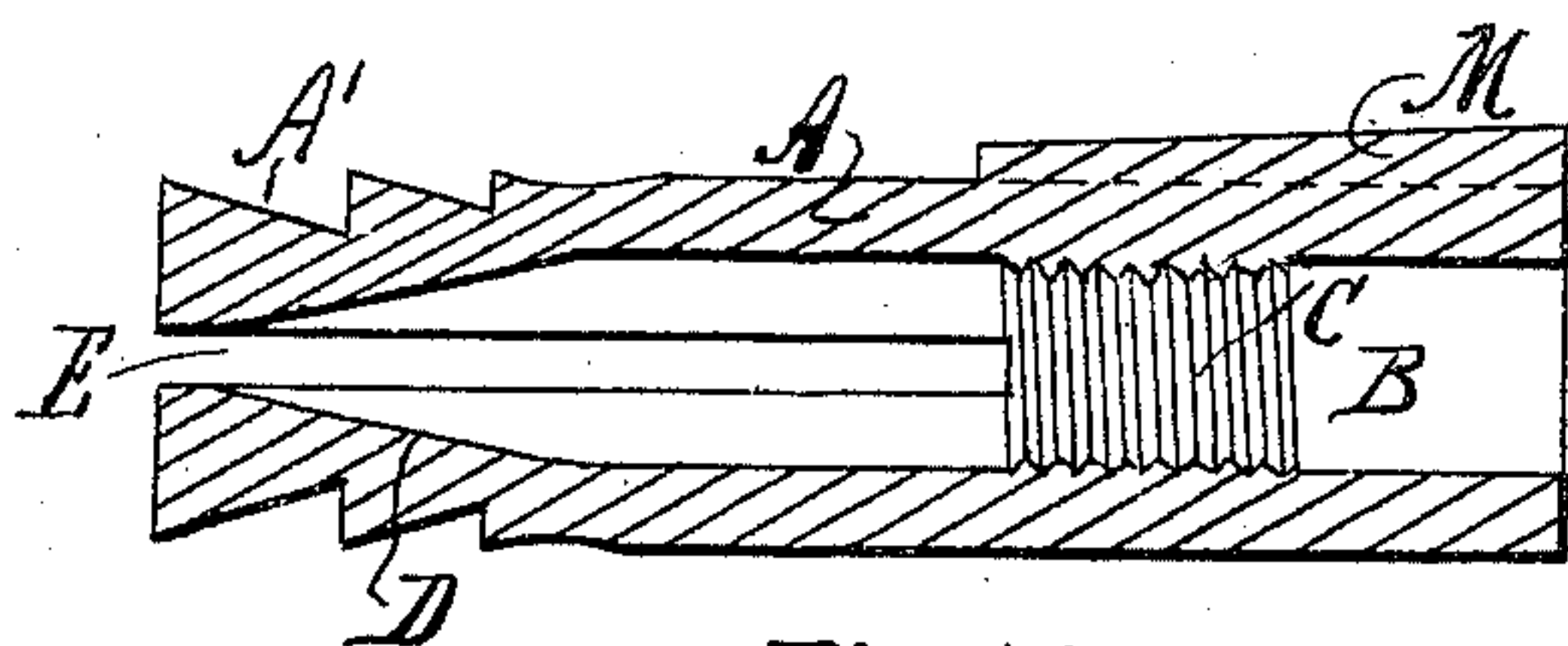


Fig. 7.

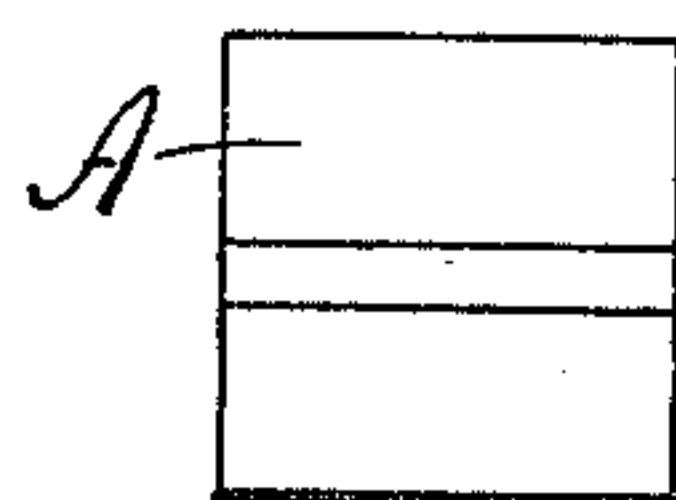


Fig. 8.

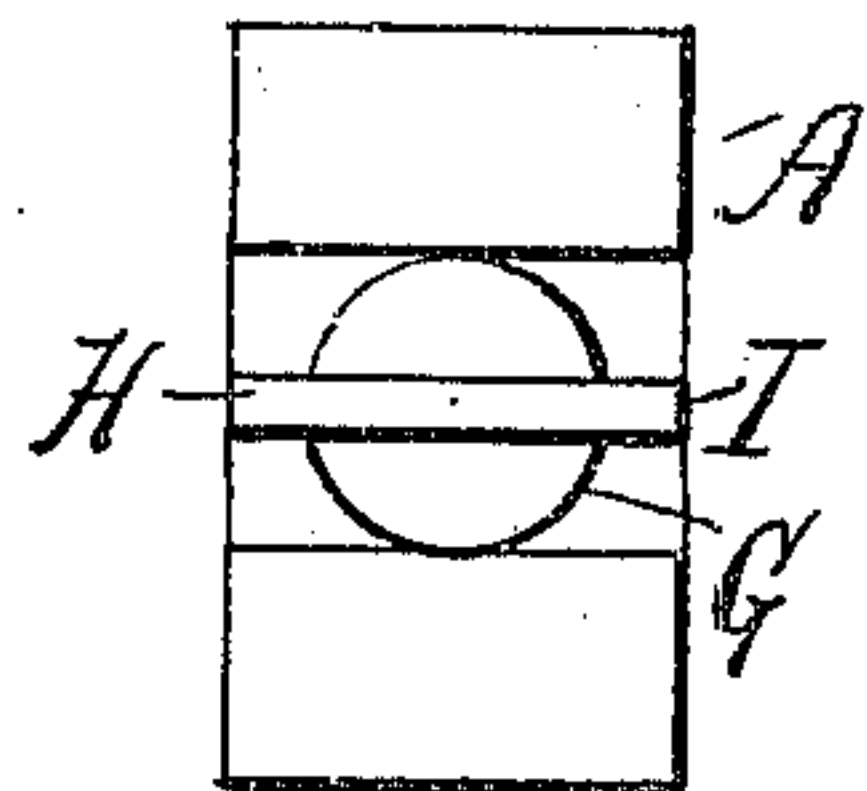


Fig. 9.

Witnesses.
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EXPANSION-BOLT.

SPECIFICATION forming part of Letters Patent No. 688,756, dated December 10, 1901.

Application filed May 24, 1900. Renewed November 1, 1901. Serial No. 80,817. (No model.)

To all whom it may concern:

Be it known that I, JACOB W. TRIPP, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Expansion-Bolt, of which the following is a specification.

My invention relates to bolts for driving into brick or stone work especially and which by certain formation and mechanism become barbed to prevent a too-ready withdrawal; and it consists of a bolt comprising three parts which united constitute a whole. The first part consists of a tubular shell or casing having a threaded interior at one end, into which is threaded a drive-screw having a bolt-head exteriorly. At the other end of the shell is inserted or otherwise placed a block of certain and suitable shape to fill up the bore in the shell. These three parts compose the bolt complete. The shell is formed with longitudinal slots toward one end, and the expansion-block is formed with lateral flanges extending into the slots of the shell. The interior end of the drive-screw impinges against the heel or inner end of the expansion-block and when turned drives it forward, effectuating the creation of barbs, all as hereinafter more fully described, and pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 represents in elevation the bolt complete ready for insertion in a wall. Fig. 2 represents in elevation the penetrating or expansive end of the bolt. Fig. 3 represents in elevation the bolt complete as expanded, the expansion-block forced outward. The dotted lines within Figs. 1, 2, and 3 indicate the bore of the shell interior. Fig. 4 represents in elevation the end shown in Fig. 2, but expanded. Fig. 5 represents in elevation the expansion-block alone. Fig. 6 represents in elevation the inner end or heel of the expansion-block. Fig. 7 is a longitudinal section of the shell (casing or bushing) alone. Fig. 8 represents in elevation an end face analogous to that of Fig. 2 modified into a rectangular form. Fig. 9 shows the end of Fig. 8 as expanded. Fig. 10 shows in elevation a modification in the barb end of the shell.

In the drawings, A indicates the shell or casing. It is formed with a hollow center B,

threaded part way, as at C, and closing nearly together, as at D, after the manner shown in Fig. 7, so that at one end the tube nearly closes up with a gradual incline, rendering the metal thicker at that end. At that same end also lateral slots, splits, or longitudinal openings are formed, crossing the end of the shell and extending a suitable distance along toward the midway of the length of the shell, as shown at E, Fig. 7. At that same end also the outside of the shell is indented, grooved, or molded after the manner shown at F, Fig. 1, the surface of which indentations is inclined.

G indicates a block of metal, shaped as shown in Figs. 5 and 6, with lateral flanges H and I, and having its surface formed to fit the hollow of the shell, and toward one end the rounded parts inclining toward the end, after the manner of a wedge, to fit the inner inclined surface of the shell at that end when in the shell, the flanges of the block set into the slot E or opening of the shell, as shown in Figs. 1, 2, and 8. This described end of the shell in which the block G is fitted is the end to enter a wall or similar place where destined for use. The block G at one end is wedge-shaped, and the surface interior of the bore in the shell at the same end is formed to fit it at the same angle.

K indicates the bolt proper or drive-screw. It is of the common form and having the usual bolt-head, as at L. In use the inner end of the bolt impinges against the heel of the expansion-block and as it is screwed inward forces outwardly the wedge-shaped block, which, as the meeting inner face of the shell fits and is shaped closely thereto, forces the shell approximately into the condition shown in Figs. 3, 4, and 9, and as that end of the shell is molded with inclines, as at A', barbs are constituted, effectually securing the shell from withdrawal from the wall. The shell may thus be rigidly placed and the bolt or drive-screw removed therefrom to admit of the adjusting of the article desired to fasten to the wall and the shell tapped gently in to suit thickness. The bolt may then be replaced and screwed up, rendering all taut and complete.

At M is a projecting rib to prevent the shell revolving within the wall.

What I claim is—

1. A combination expansion-bolt of three parts—to wit: first, a tubular shell interiorly threaded midway, part way, and toward and at the expansion end formed with two oppositely-arranged slotted openings longitudinally; second, an expansion block or plug inserted or otherwise placed within the bore of the non-threaded portion of the shell fitting thereto and formed with two oppositely-arranged lateral flanges fitting into the longitudinal slots of the shell; third, a drive-screw or bolt fitted into the threaded portion of the shell with its interior end impinging against the inner end of the expansion block or plug and adapted to drive outwardly the block when operated, essentially as set forth.

2. The hollow shell split longitudinally at one end by lateral openings as slots, the in-

terior bore contracting conically toward the slotted end and containing a closely-fitting plug as a wedge with side projections, as flanges fitting the slots of the shell and preventing rotary movement as set forth.

3. An expansion-shell having its interior bore or hollow a smoothed surface for a distance within its mouth to receive the bolt in direct line to the threaded portion thereof, a threaded portion midway to carry the bolt forward when rotated and a conically-formed section fitted with a close-fitting conical plug and all adapted for operation essentially as set forth.

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Witnesses:

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