

No. 685,261.

Patented Oct. 29, 1901.

W. R. CRANE.
MECHANICAL TAMP.

(Application filed Mar. 18, 1901.)

(No Model.)

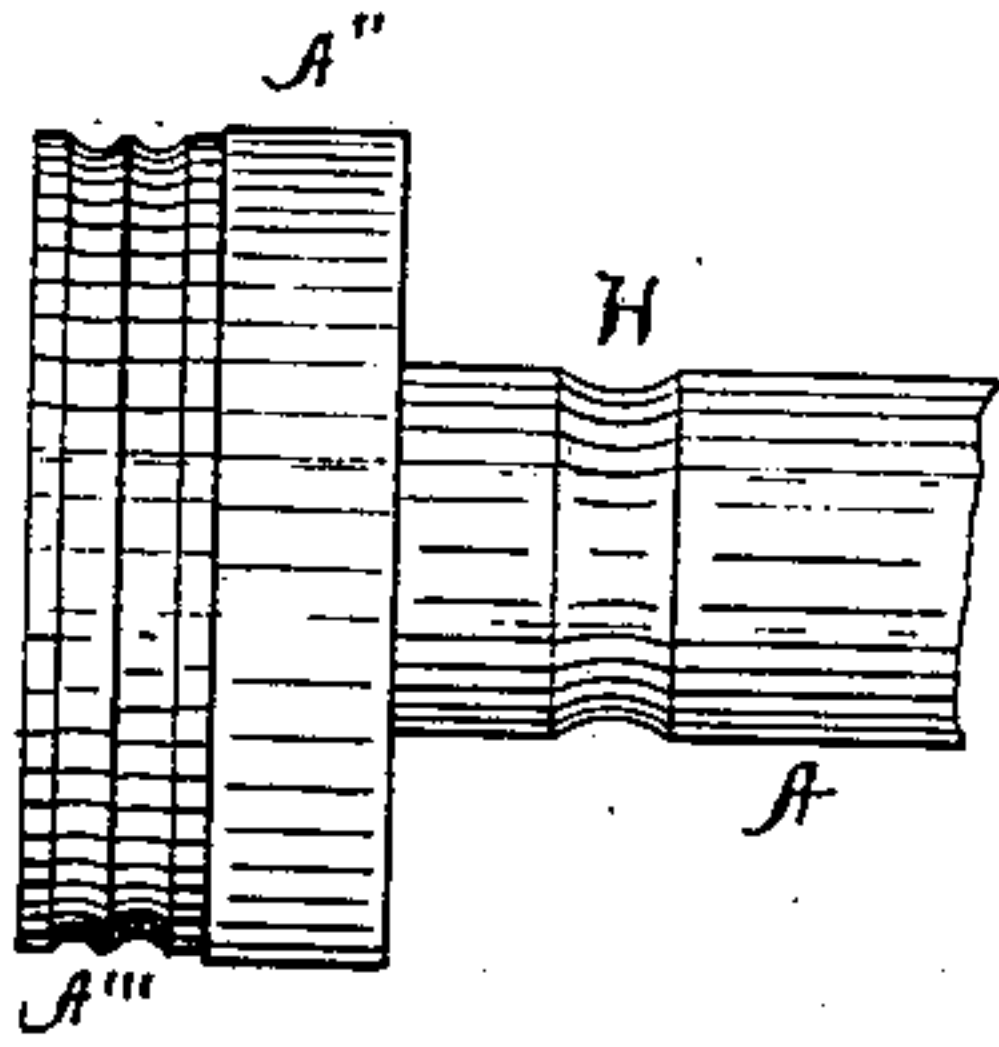


Fig. 5

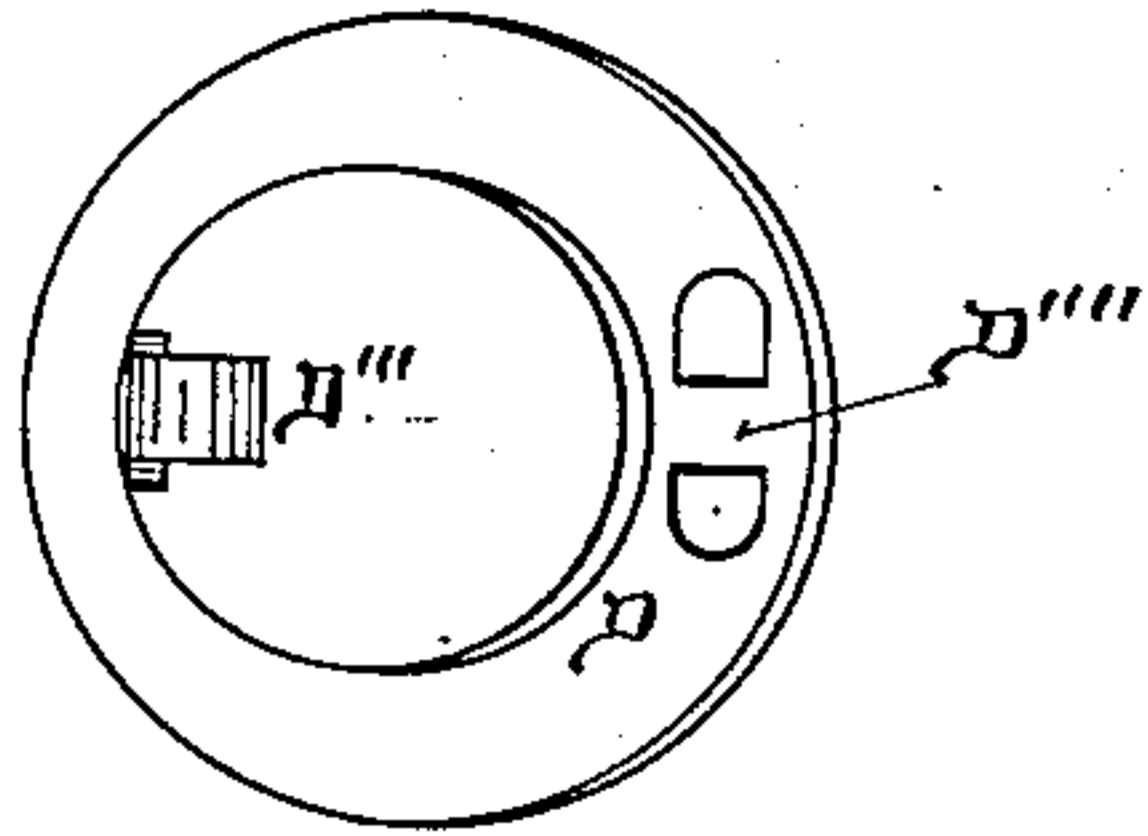
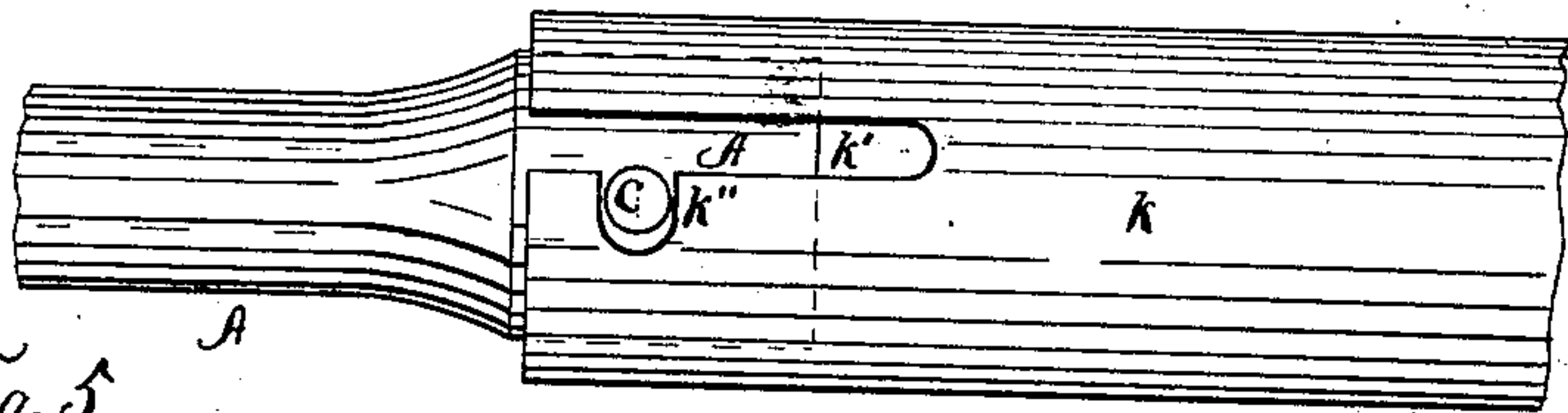


Fig. 4

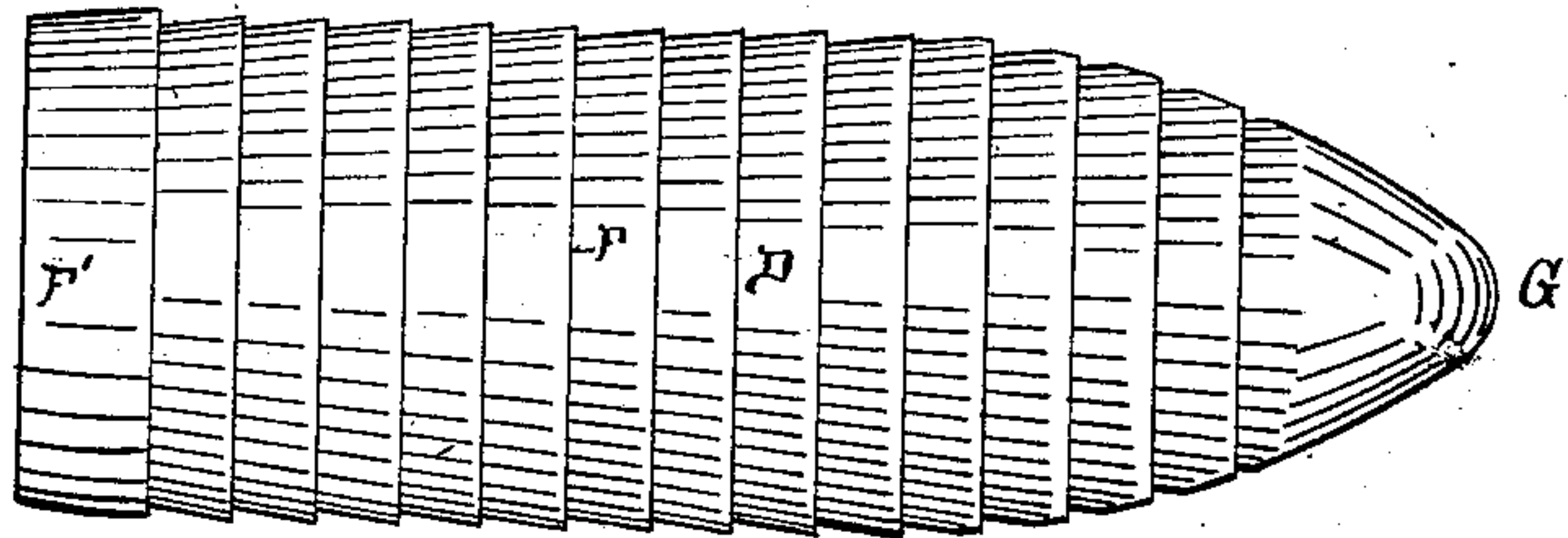


Fig. 3

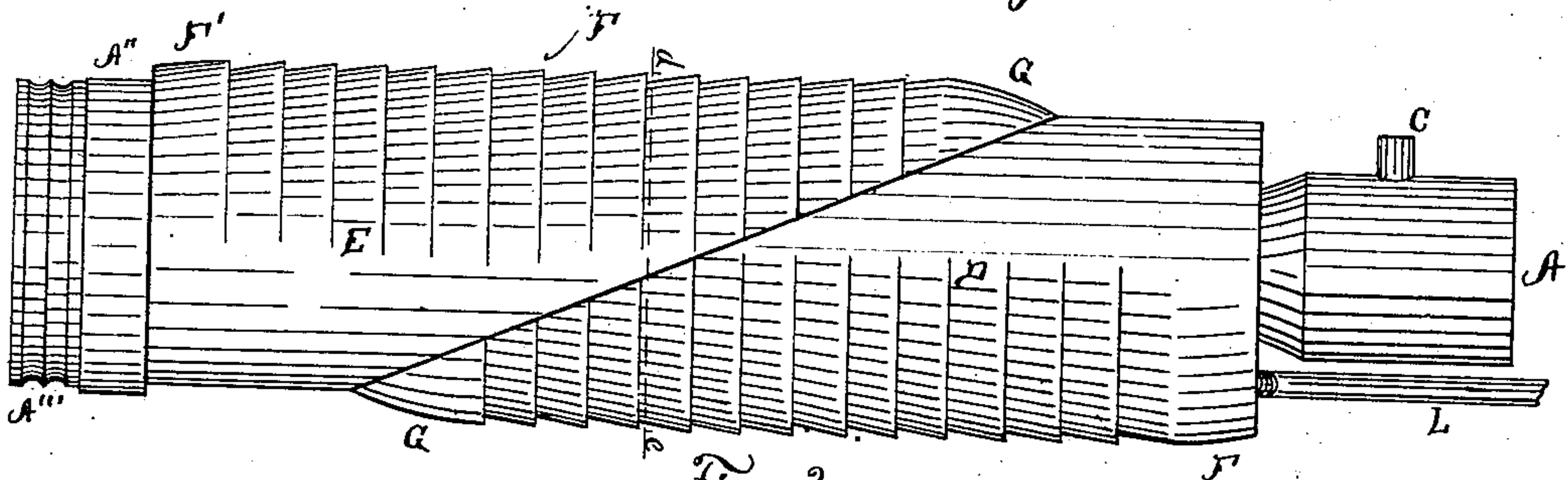


Fig. 2

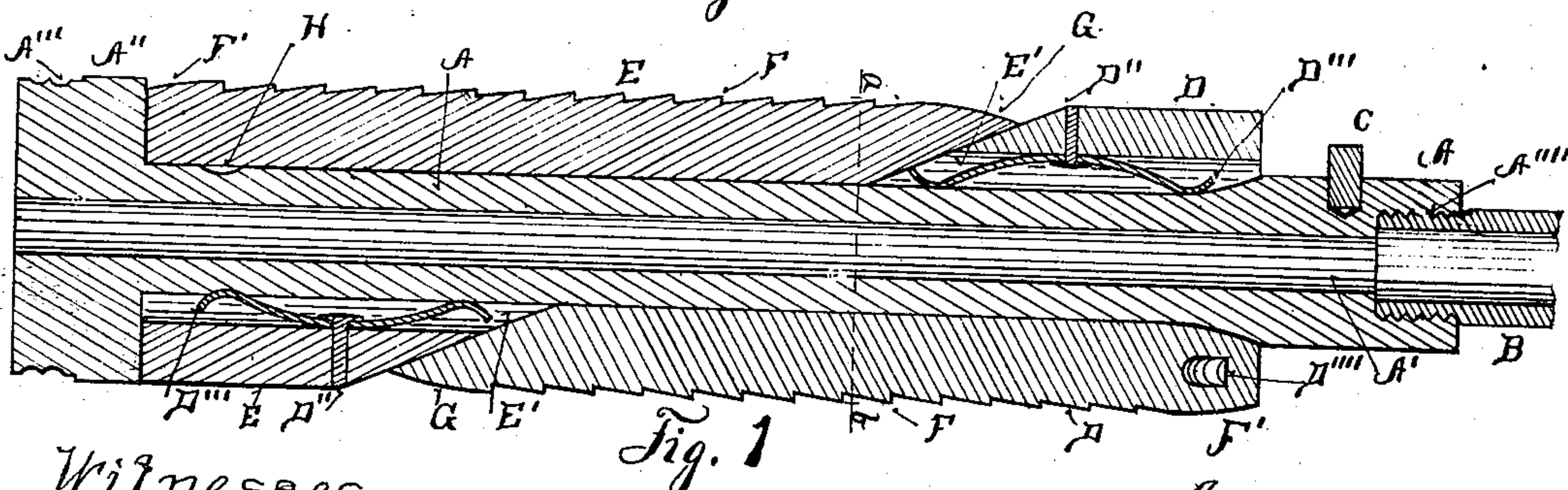


Fig. 1

Witnesses.

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UNITED STATES PATENT OFFICE.

WALTER R. CRANE, OF LAWRENCE, KANSAS.

MECHANICAL TAMP.

SPECIFICATION forming part of Letters Patent No. 685,261, dated October 29, 1901.

Application filed March 16, 1901. Serial No. 51,558. (No model.)

To all whom it may concern:

Be it known that I, WALTER R. CRANE, a citizen of the United States, residing at Lawrence, in the county of Douglas and State of Kansas, have invented new and useful Improvements in Mechanical Tamps, of which the following is a specification.

My invention relates to mechanical tamping devices, the mechanical appliance taking the place of the clay or other like substance with which charges of an explosive are ordinarily tamped or held in place.

The object of my invention is not only to economize in cost, but to eliminate, or at least reduce, the factor of danger that is so much a part of the tamping process. I attain these objects by the mechanism described, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section with the wedges in their primary position. Fig. 2 is a side view showing the wedges forced together as if filling a drilled hole. Fig. 3 is a detail of the wedge D. Fig. 4 is an end view of same, showing the position of the spring D''' and of the cored eye-pivot D'''; and Fig. 5 is a broken plan view of the stud A, showing the connection thereto of the gas-pipe guide-holder K.

Similar letters refer to similar parts throughout the several views.

The standard is preferably made of cast-steel. It consists of a headpiece A'' and a shank with an enlarged outer end A. Throughout its entire length is cored or drilled a hole A', large enough to freely pass the fuse through it. One or more grooves are cast or turned in the periphery of the head A'' of the shank, and also a threaded inset A''' in the enlarged end of the shank A for the purpose of securing thereto a gas-pipe B. Both of these points in construction will be referred to later on. A pin or set-screw C is inserted, as shown, in the large end of the shank A. Also a slight annular depression H is made in the body of the shank close to the head A''.

The wedges E D are cylindrical, with their long faces serrated, that they may more readily engage the walls of the drilled hole. The extreme points of the wedges, as shown at G G, are dubbed off, as are also the heels of the

serrated faces F' F', that the wedges may the more easily find and keep their positions in the drilled hole. The holes through the wedges, whereby they are held in position on the shank A, are eccentric as to the periphery, the said holes being sufficiently large to allow the head of the shank A to pass through them without interfering with the springs D''' D''', which are permanently attached in the recesses E' E' of the wedges D E by the rivets D'' D'', as shown in Fig. 1. In the outer end of the wedge D is the eye-pivot D''', which may be formed by a core or by casting a wire in the cored opening.

The several parts being constructed as described, the wedge E is slipped over the shank A, the end of the spring thereof, D''', finding a seat in the annular depression H, practically holding the said wedge in a correct position on the shank A. The obverse wedge D is then put in place, as shown, and the pin C driven or screwed into the shank. A wire L (see Fig. 2) may be hooked into the eye-pivot D''', and the tamp is ready for use.

In holes of any depth or when located overhead a suitable piece of gas-pipe, as shown at K, Fig. 5, is used for putting the tamp in place and for setting up the wedges. The end of the gas-pipe is slotted, as at K', that it may pass the pin C. At a proper distance from the end is the recess K'', which is used for engaging the pin C, so that the tamp may be put in position without disturbing the primary position of the wedges. Should the gas-pipe be called into use, the wire L is also attached, so that if through any cause the firing of the shot fail the wedge D may be pulled into its primary position and the tamp loosened from its bite, and by the aid of the gas-pipe K, which is made to engage the pin C, the tamp may be safely removed. The gas-pipe is also used to force the wedges to engage the walls of the drilled hole, the pin C escaping contact with the pipe through the slot K'.

Should the drilled hole be in rock that allowed the inflow of water, the charge of explosive is prepared in the usual manner, the fuse is passed through the fuse-hole A' of the tamp, and the open end of the charge made to incase the grooved portion A''' of the head

A", to which it is firmly fixed by a cord wrapped around it and tied, it being seen that the cord will sink into the grooves A"', thus practically uniting the charge and the
5 tamp in a sufficiently fixed manner. The fuse is then run through a gas-pipe B, of proper length, and the said gas-pipe is then screwed into the inset A''' of the shank A, thus securing the charge of explosive from
10 the invasion of water and allowing the use of the tamp.

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

15 1. In a mechanical tamp a standard substantially as shown, on which is placed two cylindrical wedges with serrated faces, the said wedges being held in place on the stand-

ard by springs and operated, substantially as shown, and for the purposes specified. 20

2. In a mechanical tamp the standard A, wedges D, E, springs D'', D''', pin C, in combination with the gas-pipes B, K, and wire L, substantially as shown and for the purposes specified. 25

3. In a mechanical tamp, the groove A''' of the head A'', in combination with the shank A, threaded inset A''', gas-pipe B, and cylindrical serrated wedges D, E, substantially as described and for the purposes specified. 30

In testimony whereof I have affixed my signature in presence of two witnesses.

WALTER R. CRANE.

Witnesses:

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WILLIS K. FOLKS.