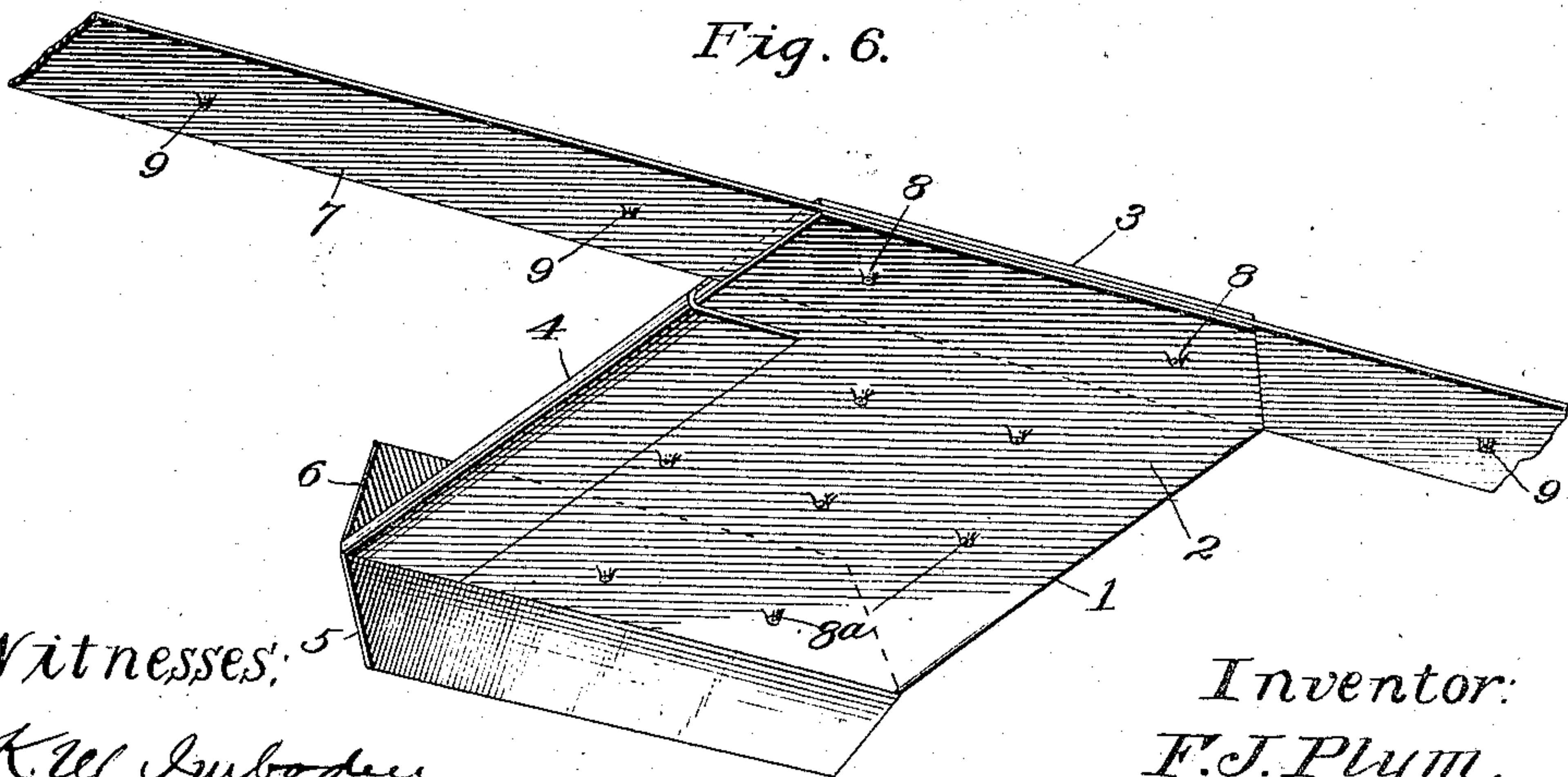
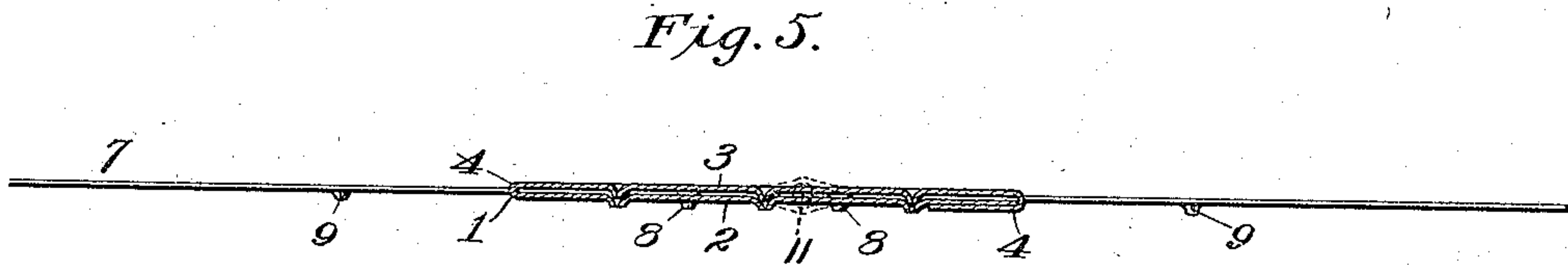
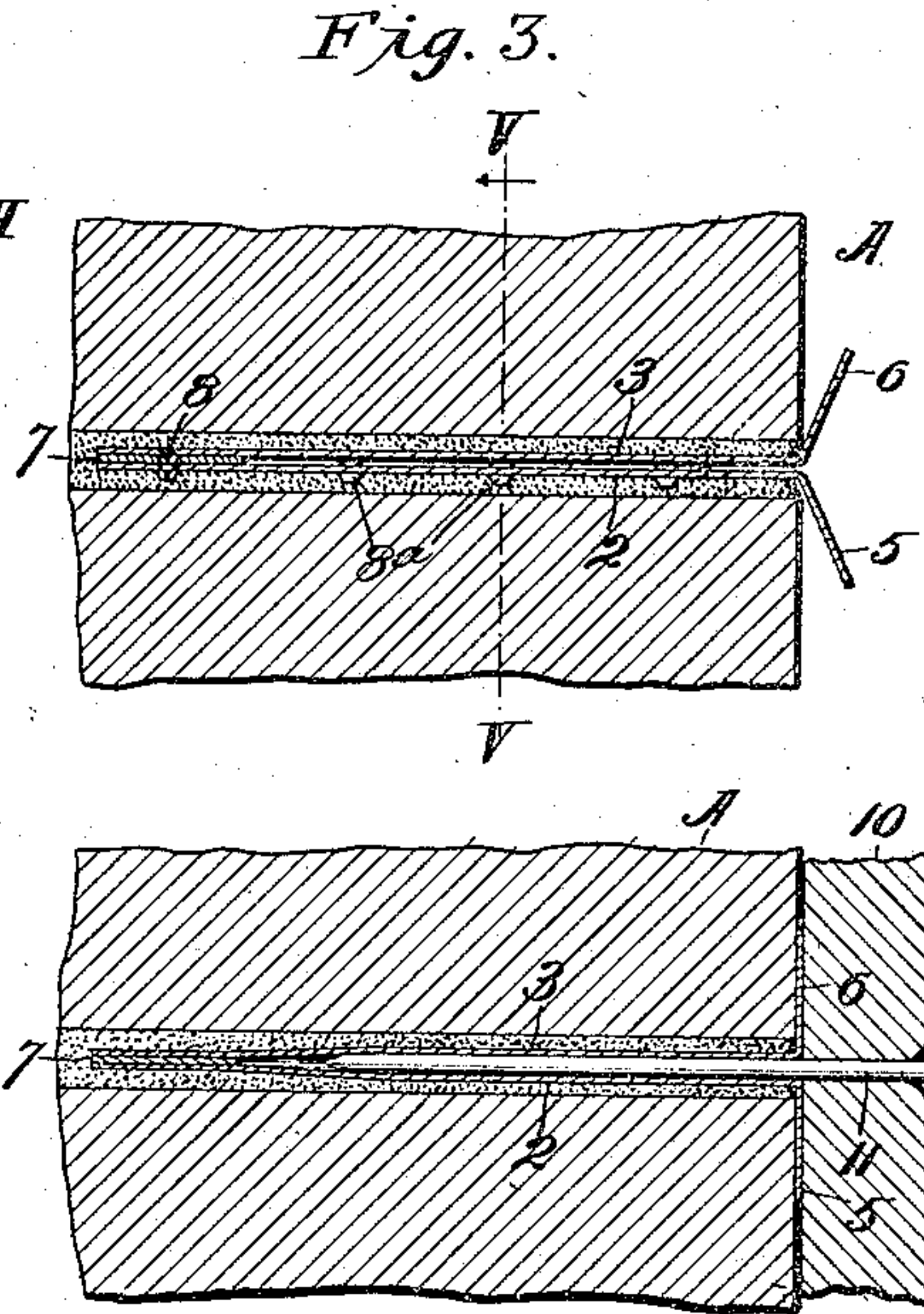
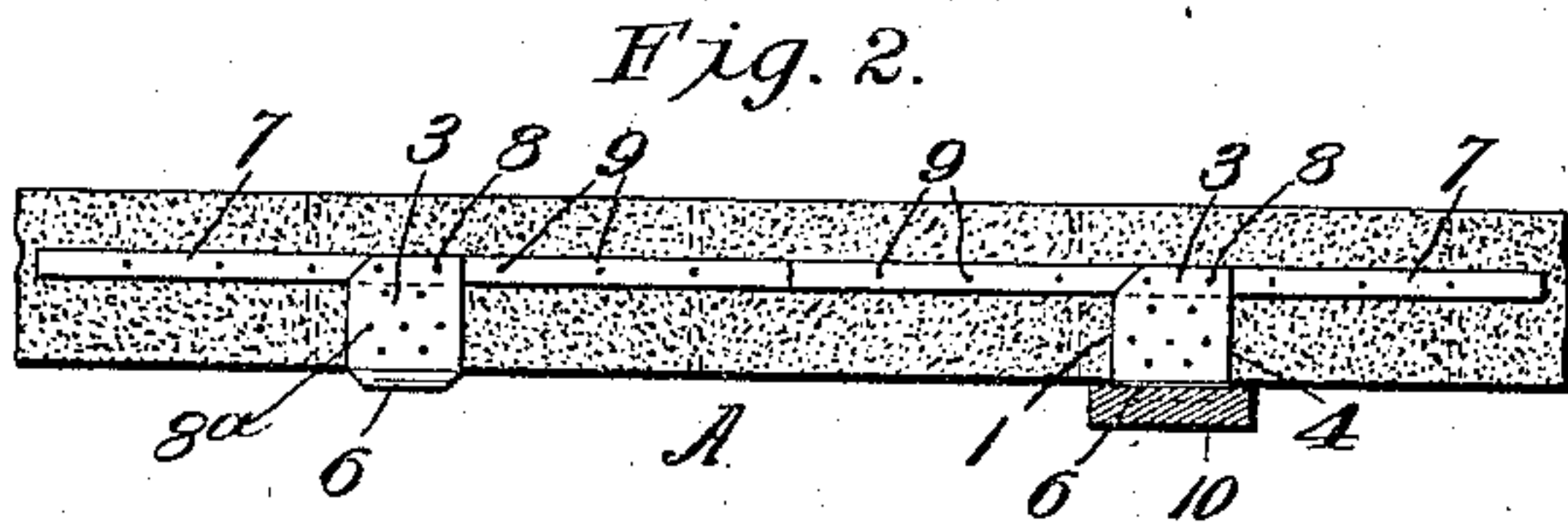
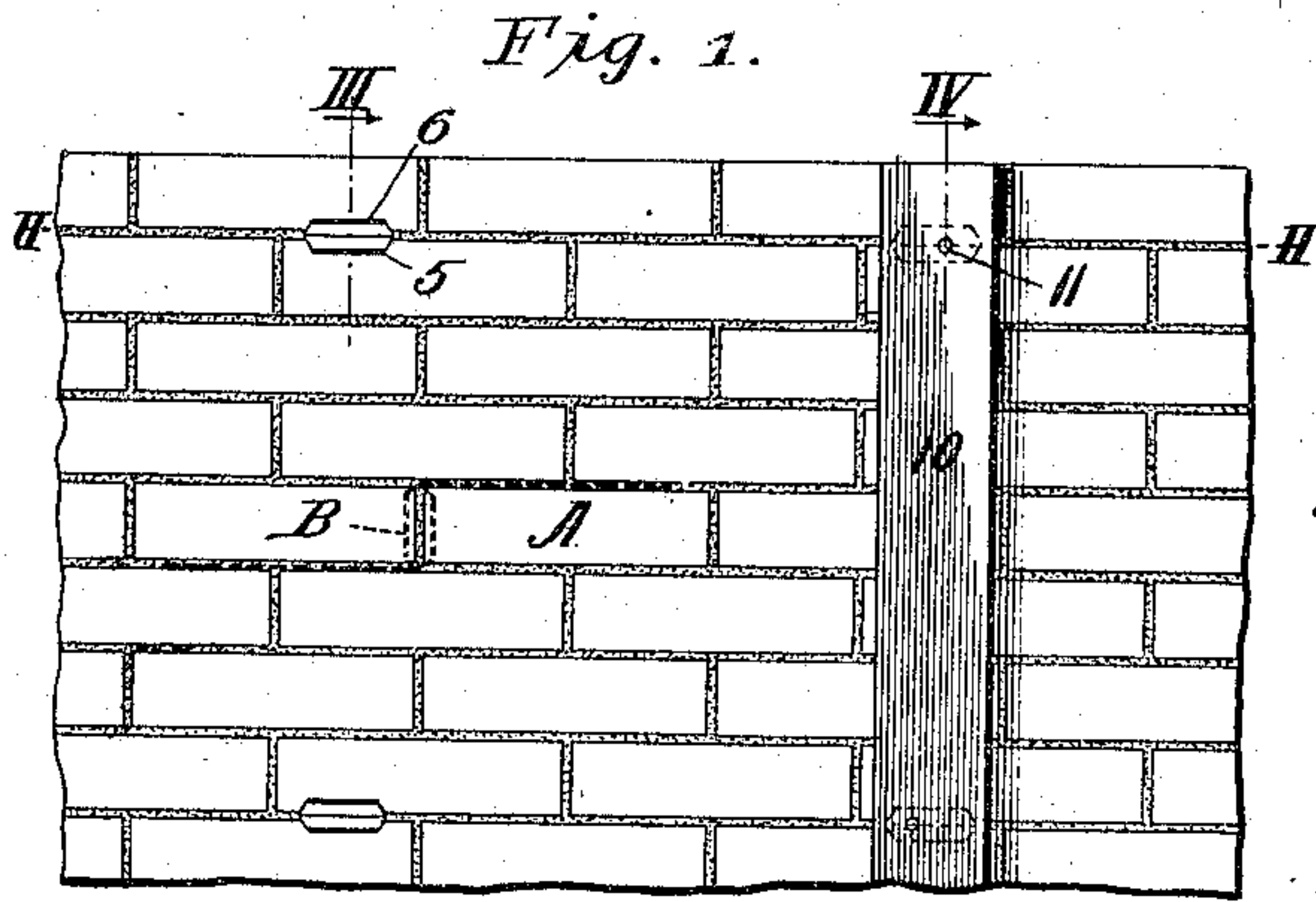


No. 855,129.

PATENTED MAY 28, 1907.

F. J. PLYM.
WALL PLUG.

APPLICATION FILED OCT. 21, 1905.



Witnesses: 5
K. L. Amboden,
H. C. Rodgers

Inventor:
F. J. Plym.

By, *George P. Thompson* atty.

UNITED STATES PATENT OFFICE.

FRANCIS J. PLYM, OF KANSAS CITY, MISSOURI.

WALL-PLUG.

No. 855,129.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed October 21, 1905. Serial No. 283,851.

To all whom it may concern:

Be it known that I, FRANCIS J. PLYM, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Wall-Plugs, of which the following is a specification.

This invention relates to wall-plugs for attaching furring, base-boards, molding, shelving, plate-rails and other parts of a structure to brick, stone and cement walls, and my object is to produce a device of this character which provides a secure nailing place for parts of the character above referred to, and which performs the function of a gage in insuring the disposition of the plugs in the wall according to standard spacing.

A further object is to provide a gage attachment for the plug which will enable the workmen—without the use of a rule or other measuring appliance,—to space the plugs at uniform distances less than standard spacing.

A still further object is to produce a gage attachment for engagement with the mortar at opposite sides of the plug to brace the latter and thereby increase the strength of its bond with the mortar.

With these general objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, represents a portion of a brick wall equipped with nail-receiving plugs embodying my invention, a furring strip being shown as secured to one vertically aligned set of said plugs. Fig. 2, is a horizontal section on the line II—II of Fig. 1. Fig. 3, is a full-sized section taken on the line III of Fig. 1. Fig. 4, is a similar section taken on the line IV of Fig. 1. Fig. 5, is a section on the line V—V of Fig. 3 with the mortar and brick omitted. Fig. 6, is a perspective view of the plug as viewed from the rear side.

In the said drawings, a sheet of any suitable material which combines flexibility with strength and durability, is bent at its middle as at 1, to provide the superposed plates 2 and 3, and one of said plates is provided with an extension 4, which is bent back upon said plate and upon the corresponding edge of the other plate so as to bind said plates rigidly together in order that they shall constitute

practically a flattened tube. Forward of the extension 4 the plates 2 and 3 are provided with lips 5 and 6 respectively, which lips normally diverge forwardly as shown most clearly in Fig. 3 for the purpose of facilitating the entrance of a nail between the plates as hereinafter referred to. Rearward of the extension a gage-strip 7 is attached to the plug, the preferred mode of attachment being to secure it between plates 2 and 3. One practical method of securing said gage strip to the plug is by punching holes through the plug and the interposed strip, this method having a further advantage in producing cavities in one side of the plug and protuberances 8 on the other side which cavities and protuberances provide a roughened surface which insures the establishment of a more rigid relation between the plug and the mortar in which it is embedded as hereinafter explained, it being further understood that the body of the plug will be likewise punctured as at 8^a. The gage strip 7 is sixteen inches long and is secured centrally to the tubular plug so that when two of the plugs are arranged in a wall A with contiguous ends of their gage strips abutting, the person in charge of the work will know that the plugs are disposed at the proper points to receive the furring strips hereinafter referred to.

The gage attachment, because of the fact that it projects laterally a considerable beyond each side of the plug and like the latter is embedded in the mortar, acts as an anchor or brace to guard against edgewise movement of the plug, as will be readily understood by reference to Fig. 2, and it will be further noted by reference to said figure that the abutment of said strips end to end will prevent the same from having any oscillatory or endwise movement in a horizontal plane other than directly forward or back, back movement obviously being impossible because of the lips 5 and 6 engaging the inner face of the wall. Forward movement is prevented by the adhesion between the mortar and the plug and is further prevented by the fact that the gage strips are completely surrounded by and embedded in the mortar. The roughened surfaces likewise present obstacles to the movement of the plug. The attachments are also roughened to aid in resisting movement of the plugs, this roughening being preferably produced by puncturing the strip. In this connection it should be stated that the markings on the strip are spaced

apart predetermined distances as shown at 9, and that said spaces represent two inches. The gage strips are thus marked because it is frequently found necessary to dispose the
 5 plugs at less than standard distances apart. When thus marked they can be spaced apart, say fourteen inches, without the necessity of measurement by the workmen simply bending back two inches on one of the strips of
 10 each horizontal series, or the two inches may be cut off or lapped.

To secure the furring strip in position, it is placed against vertically alined plugs as at 10, and the nail is driven through it and between the lips of the plug, said lips naturally
 15 tending to deflect the nail properly between the top and bottom of the plug. When the nail is driven home the strip is caused to press the lips flatly against the wall as shown in Figs. 2 and 4 most clearly. The nail is
 20 held in the plug by frictional contact therewith, which frictional engagement is accentuated by means of the roughened surface of the plug, and because of the fact that the two
 25 walls of the plug are bound together more or less tightly by the protuberances of one plate or wall engaging the cavities of the other; these engaging protuberances and cavities being produced as the result of driving a penetrating tool through the walls or plates.
 30

The plugs are preferably built into the wall at the time of the erection though it is obvious that they may be secured therein afterward and it is furthermore obvious that either
 35 the smooth type of nail shown or a roughened nail may be employed in securing the furring strips to the plug. It is furthermore obvious that these plugs may be used in the attachment of baseboards, molding, door frames,
 40 plate rails and in various other connections with which those skilled in the art of building are familiar.

When the plugs are to be used for securing parts horizontally to the wall, it is preferable
 45 to dispose the plugs vertically between the ends of adjacent bricks or units of the wall structure as shown in dotted lines at B in Fig. 1. When thus arranged it is obvious that the gage attachment if of greater length
 50 than the thickness of such units as it always should be if the units or bricks are less than sixteen inches in height, are bent horizontally so that one portion or arm shall overlie one of the bricks and the other portion or
 55 arm shall underlie the other brick or unit. The fact that the strips are of flexible metal of course permits of this disposition of the plug and it is desirable to arrange the latter

vertically for securing horizontal strips in place because it gives a wider range of nailing surface.

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

1. A flattened tubular wall plug provided with a flaring mouth and at its opposite end with one or more arms extending substantially parallel with and in the same direction as the long diameter of the mouth of the plug.

2. A flattened tubular wall plug provided with a flaring mouth and at its opposite end with one or more arms extending substantially parallel with and in the same direction as the long diameter of the mouth of the plug; said arms having their faces or wide sides roughened.

3. A flattened tubular wall plug provided with a flaring mouth and at its opposite end with one or more arms extending substantially parallel with and in the same direction as the long diameter of the mouth of the plug; said arms having punctures to produce cavities and protuberances on the opposite faces or wide sides thereof.

4. A flattened wall plug comprising a pair of superposed parts united at their side margins and provided at its front end with a flaring mouth, and a strip secured to the rear end of the plug and constituting an arm extending substantially parallel with and in the same direction as the long diameter of the mouth of the plug with its faces or wide sides parallel with the superposed parts forming the plug.

5. A flattened wall plug, comprising a plate bent to produce two substantially parallel sides or walls forming a comparatively long and narrow mouth, an extension at the free end of one of said sides or walls bent to overlap the opposite side of the free edge of the companion wall, flanges projecting in opposite directions from the ends of said walls, and a flat strip fitted and secured between the rear ends of said sides or walls and extending substantially parallel with and in the same direction as the long diameter of the mouth of the plug with its faces or wide sides parallel with the substantially parallel sides or walls of the plug.

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

FRANCIS J. PLYM.

Witnesses:

H. C. RODGERS,
 G. Y. THORPE.