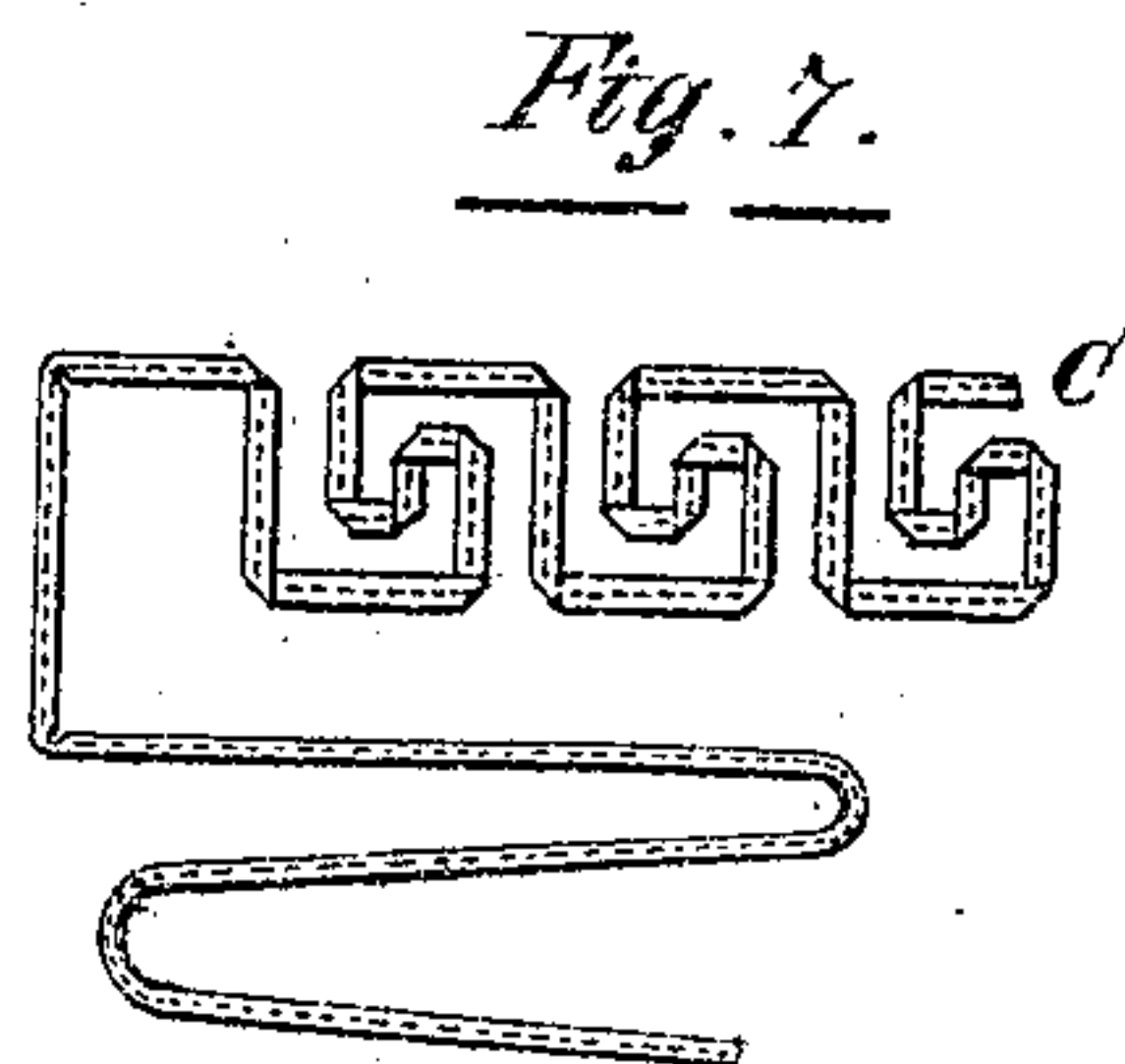
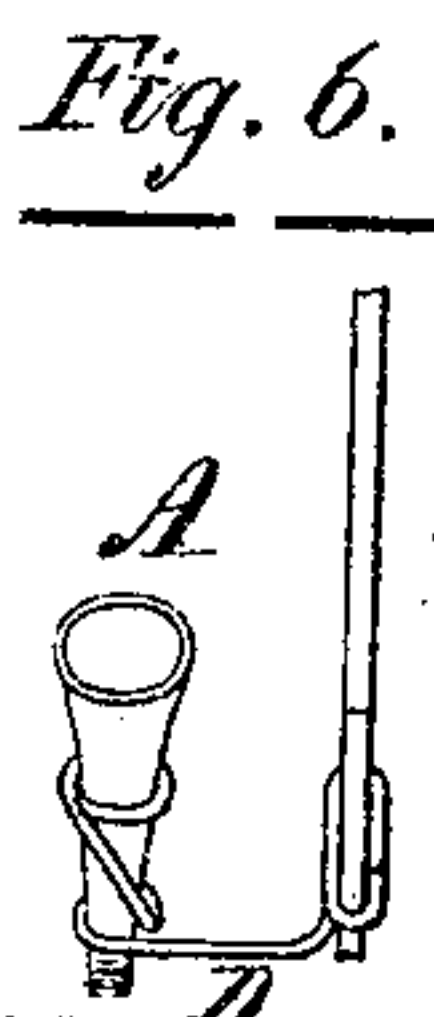
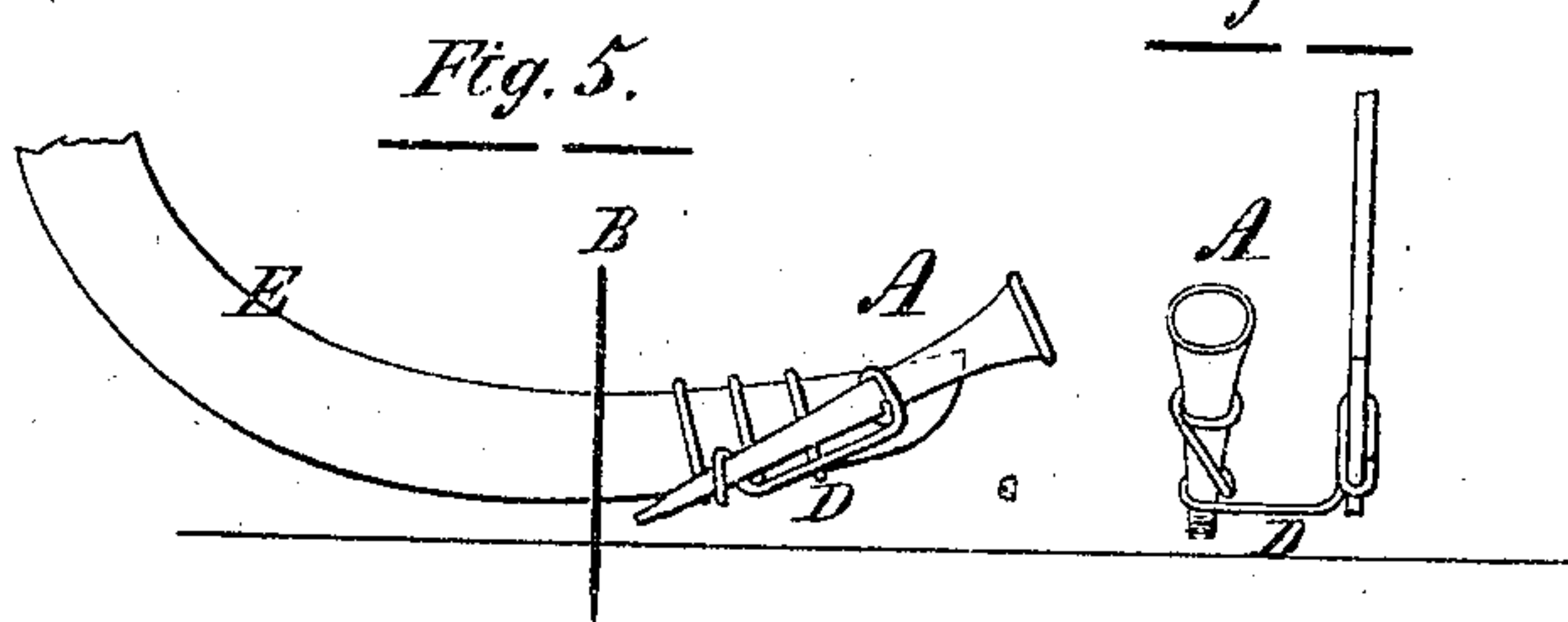
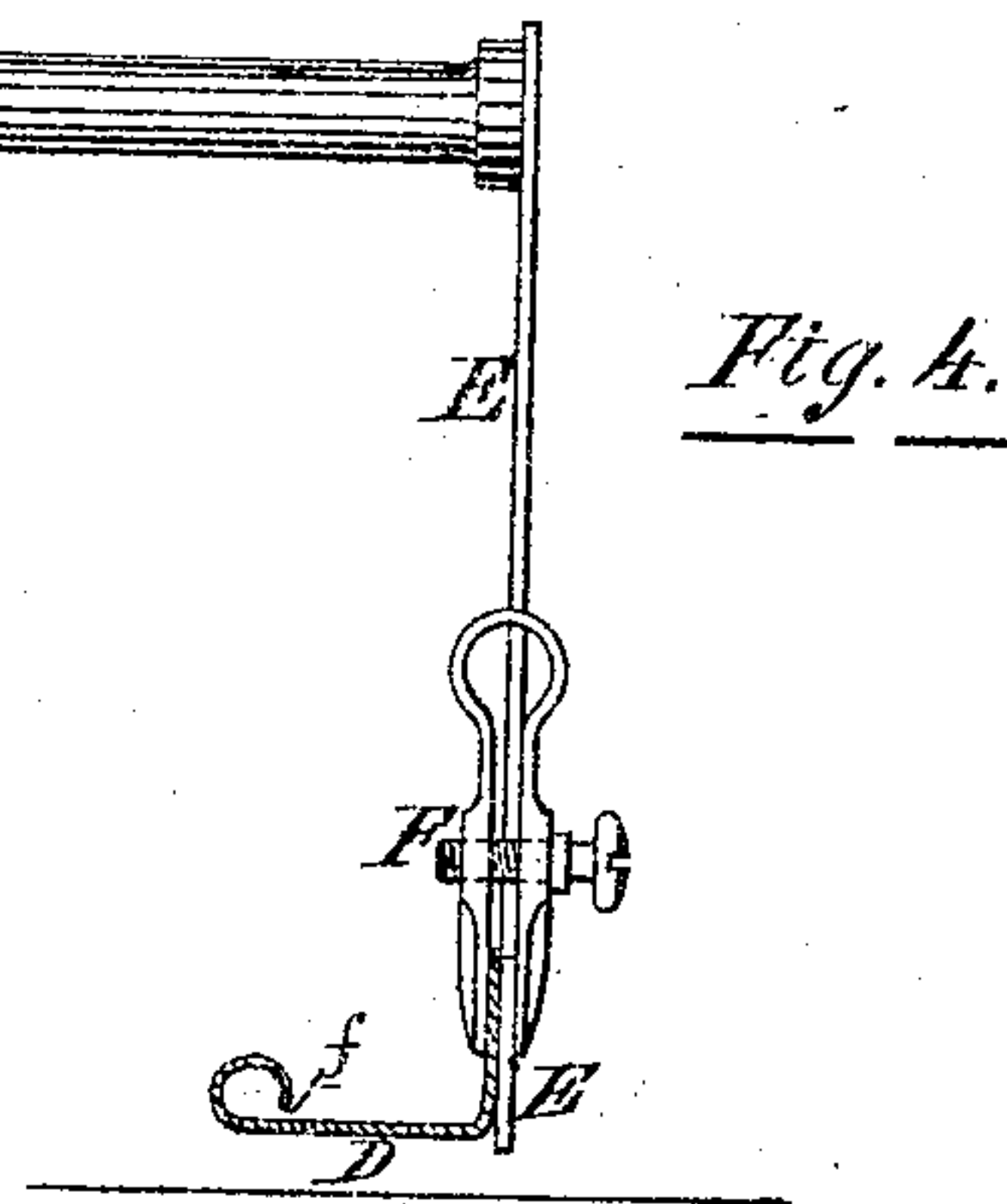
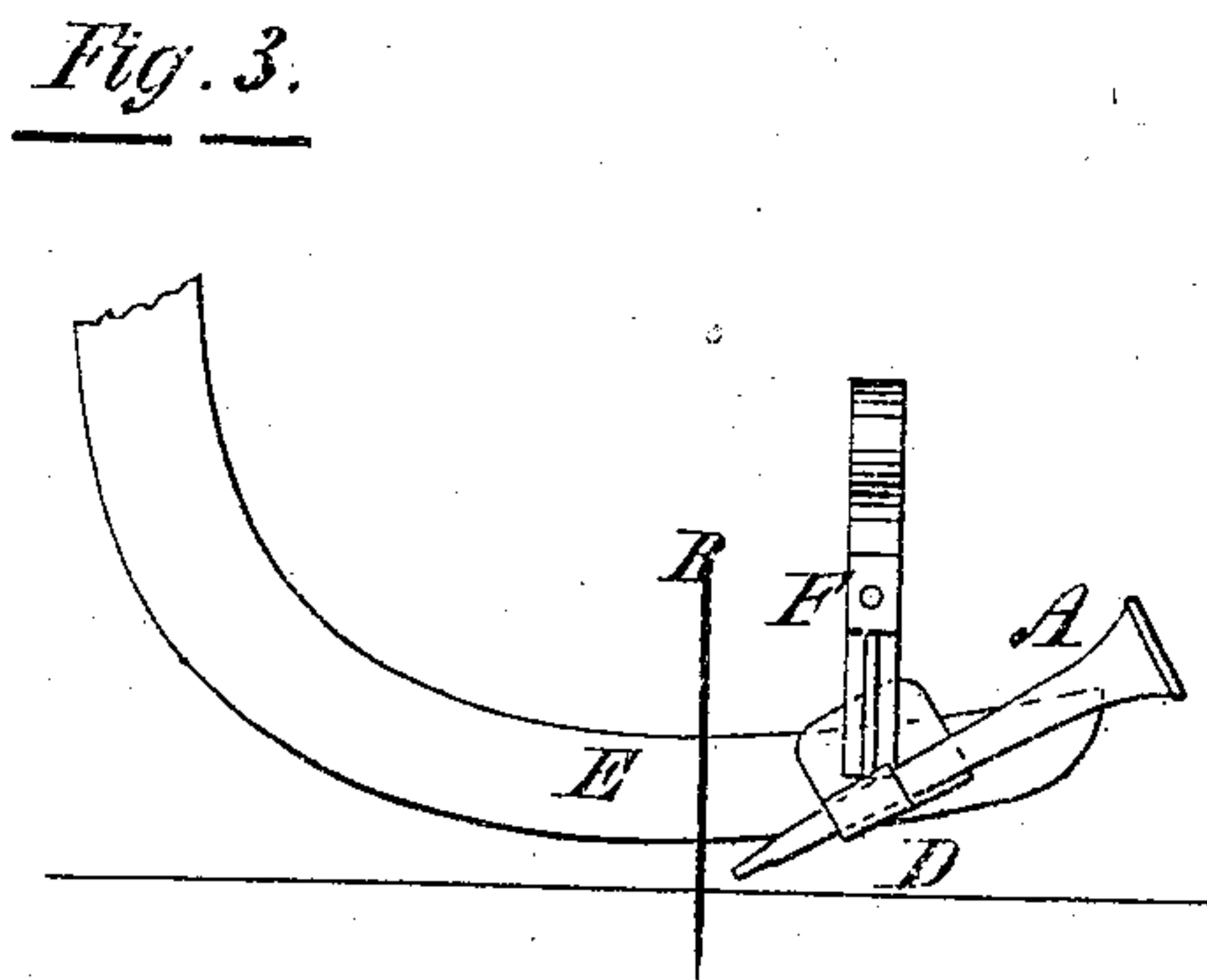
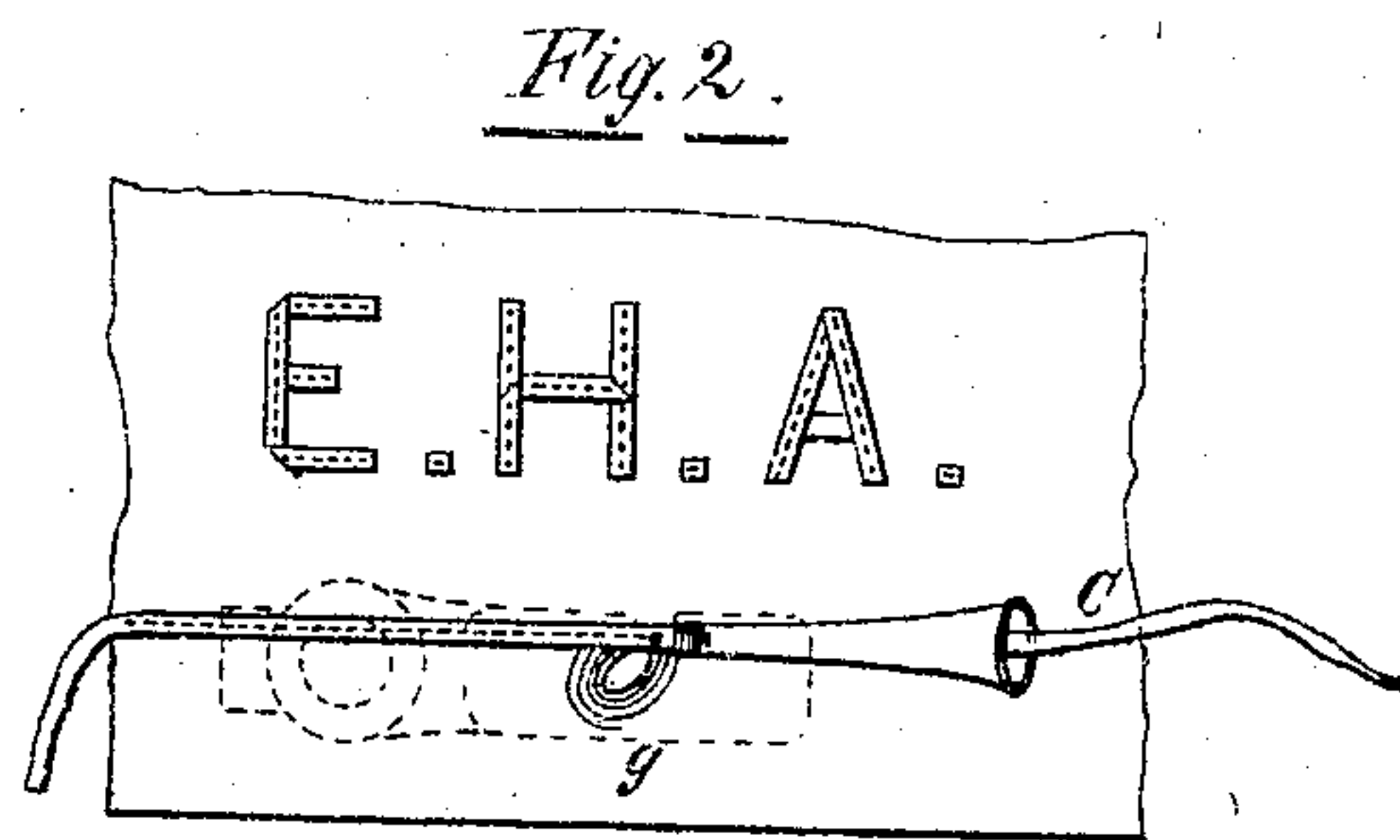
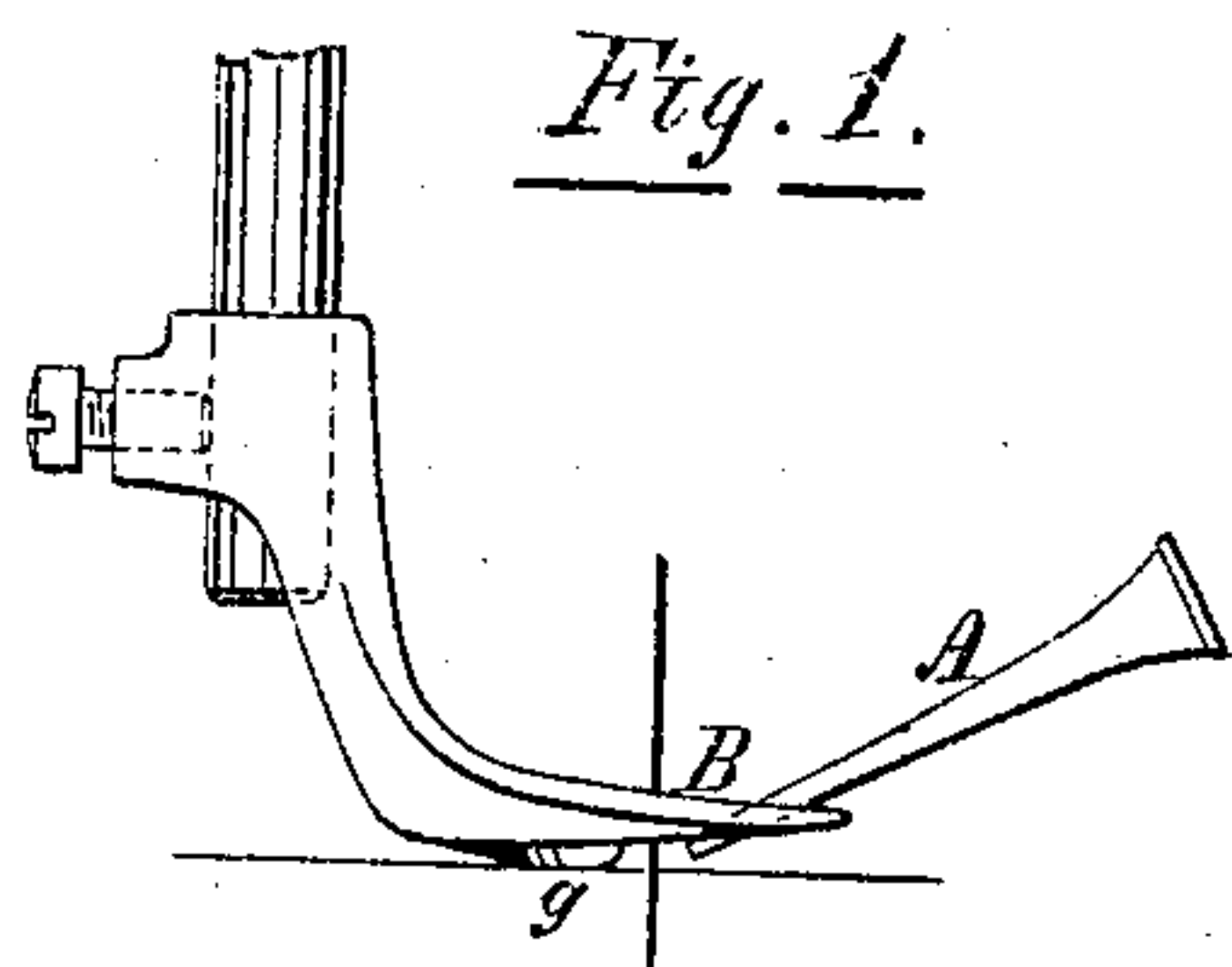


ELIZA H. ALEXANDER.

Braider for Sewing-Machines.

No. 136,354.

Patented March 4, 1873.



WITNESSES.

E. V. Eliot  
Boyd Eliot

Eliza H. Alexander  
INVENTOR.

# UNITED STATES PATENT OFFICE.

ELIZA H. ALEXANDER, OF NEW YORK, N. Y.

## IMPROVEMENT IN BRAIDERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 136,354, dated March 4, 1873.

*To all whom it may concern:*

Be it known that I, Mrs. ELIZA H. ALEXANDER, of the city, county, and State of New York, have invented certain Improvements in Braiders for Sewing-Machines, of which the following is a specification:

### *Nature and Object.*

This invention consists in the use of additional improvements upon braiders for sewing-machines, for which Letters Patent have already been allowed to me, in which there is a tube or guide for properly conducting the braid to the needle, and at the same time is capable of being turned over, so as to turn the braid over upon itself in forming an edge or corner; and these additional improvements consist in the use of a conical-shaped tube, the cross-section of which is a circle, except just at the point next to the needle, where it is slightly flattened to conform to a cross-section of the braid, said tube being held in a peculiarly-formed support or bracket, for holding it in working position upon the machine. The advantages of a conical tube, in contradistinction to the device in my previous application, are, that it requires but the slightest degree of withdrawal from its socket or bearing to permit its being turned over; and it can also be gradually turned over as stitch after stitch is taken; whereas in my previous invention no provision was made for turning it otherwise than directly upside down, and vice versa.

### *Drawing.*

Figure 1 is a side elevation of a presser-foot and the braiding-tube for a sewing-machine. Fig. 2 is a plan of same as seen from above, and shown as resting upon a piece of cloth and with the braid through the tube in full working position. Fig. 3 shows another method of mounting said braiding tube or guide in a holder which is attached to the quilting-guide of a sewing-machine. Fig. 4 is a view, at a right angle to Fig. 3, of the same devices. Fig. 5 shows another method of attaching said braiding-tube to the quilting-guide. Fig. 6 is an edge view of the same, and Fig. 7 is an illustrative diagram of braid-work to show the comparative advantages of the improved invention.

Where sewing-machines have holes inserted

through their presser-feet for guiding the braid or cord to the work this invention can be easily adapted by fitting a small conical tube, as at A, to stand in said hole of the presser-foot, having the small end of said tube extend to a point just in front of the needle, as at B, as plainly shown in Fig. 1. By directing the braid through said tube, as shown at C, Fig. 2, it will be conducted down upon the goods to be ornamented to the needle, when it will be sewed on, as desired. But in moving the goods around to form the desired configurations of the braided work it is often desirable to form angles, as shown at Fig. 7; and to do this the tube A, through which the braid is passing, is turned over one-half revolution, which turns the braid upside down, just as is done in hand-sewing, and thereby lays the braid upon itself flatly and forms a very smooth corner.

Said tubes A may be made of various sizes to suit the different widths of the braid, and are slightly flattened at their small ends to properly control the braid and insure its being turned, when desired; and they may be attached in various ways to the machine.

One of the most convenient and inexpensive methods is shown in Figs. 3 and 4, where the tube A is inserted in the curved end of a little bracket, as at D, said bracket being struck out of sheet metal, and having one end bent to fit around the tube, or nearly so, and the other bent at a right angle to fit against the vertical side of the quilting guide or gage, as at E, to which it may be easily fastened by a clamp, as at F, or in other convenient manner, and can thereby be easily adjusted to the exact point to direct the braid to the needle.

One other important advantage gained in the use of such a bracket is, that the curved end that holds the tube may be left slightly open, as shown in the section at Fig. 4, so that the tube may be withdrawn and the braid slipped out through said opening without the necessity of cutting it, as in the case of removing the work from the machine or introducing a different kind of braid, which may in turn be removed, and the other re-entered through the same opening or slot, as shown at f.

Another method of mounting said tubes is shown at Figs. 5 and 6, when a bracket is formed of wire to support the tube A, and may



be coiled around the quilting-guide, and thereby hold, by its elasticity as by a spring, the braiding-tube in proper position.

It is evident that said tube must direct the braid directly to the point where the needle and thread can enter it to fasten it upon the fabric; consequently, if the presser-foot of the machine is not adapted for such a guide or tube, one must be formed that will permit such proximity of the tube to the needle; and if a new foot is to be made, then, for those machines which have the "roughened surface" or feed-teeth all on one side of the needle, it will be found desirable to form said foot with a little boss of an oval shape, as at *g*, Fig. 1, and directly over the feed-teeth and inclined toward the needle, as best seen at *g*, Fig. 2, where the shading shows about the shape and location of said boss or raised spot on the under side of the foot.

This little boss so placed over the feed in such machines will be found of great advantage in guiding the work and permitting the fabric to be turned, and also in preventing the tearing off of the braid in close proximity to the needle.

It is also evident that such tubes may be mounted in various other methods from that described, and therefore I do not limit myself to the exact form here shown; but

I claim—

The conical and adjustable tube *A*, constructed substantially as described, and combined with the bracket *D* and a quilting or other guide, as and for the purposes set forth.

ELIZA H. ALEXANDER.

Witnesses:

E. N. ELIOT,  
BOYD ELIOT.