

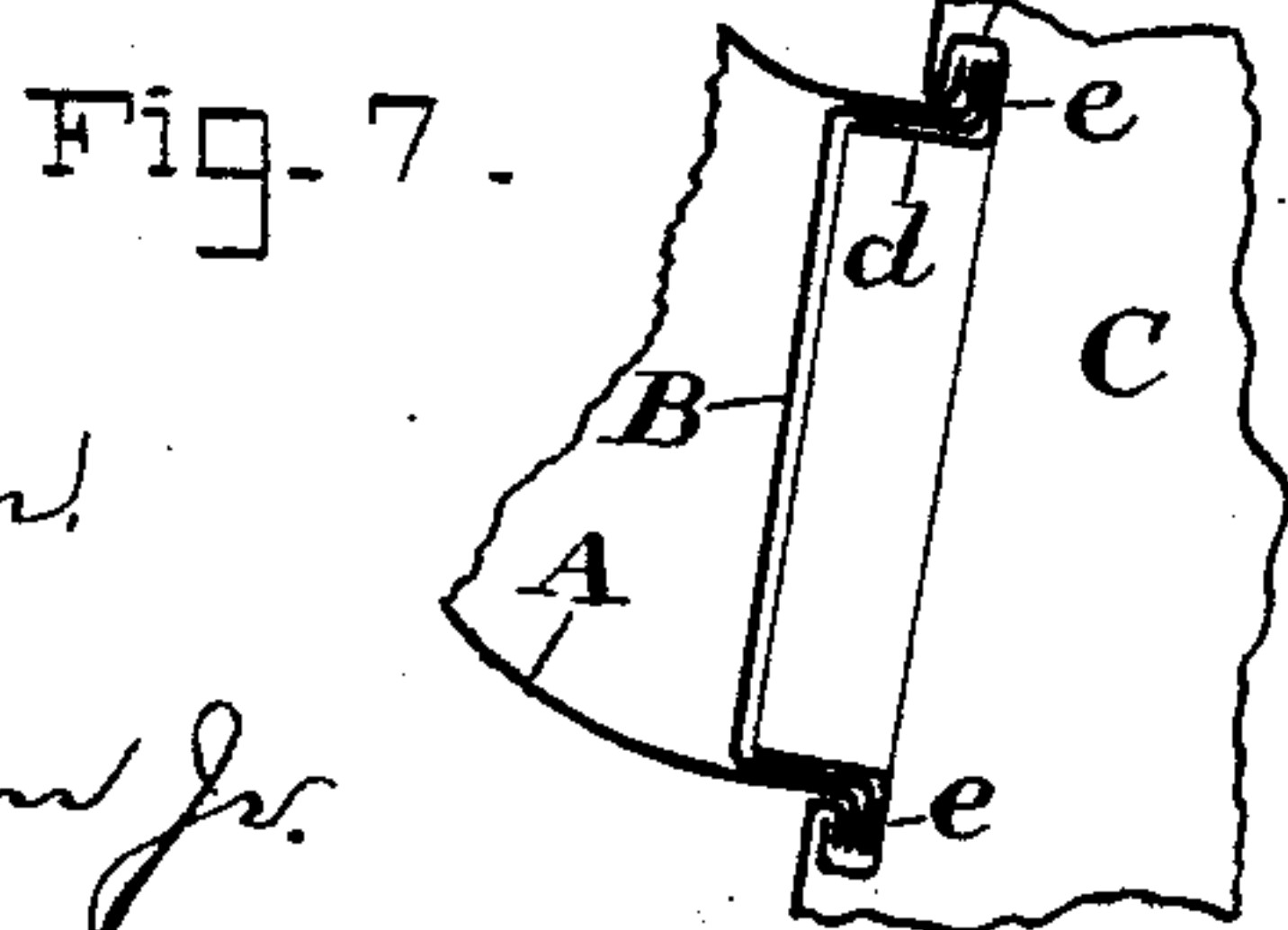
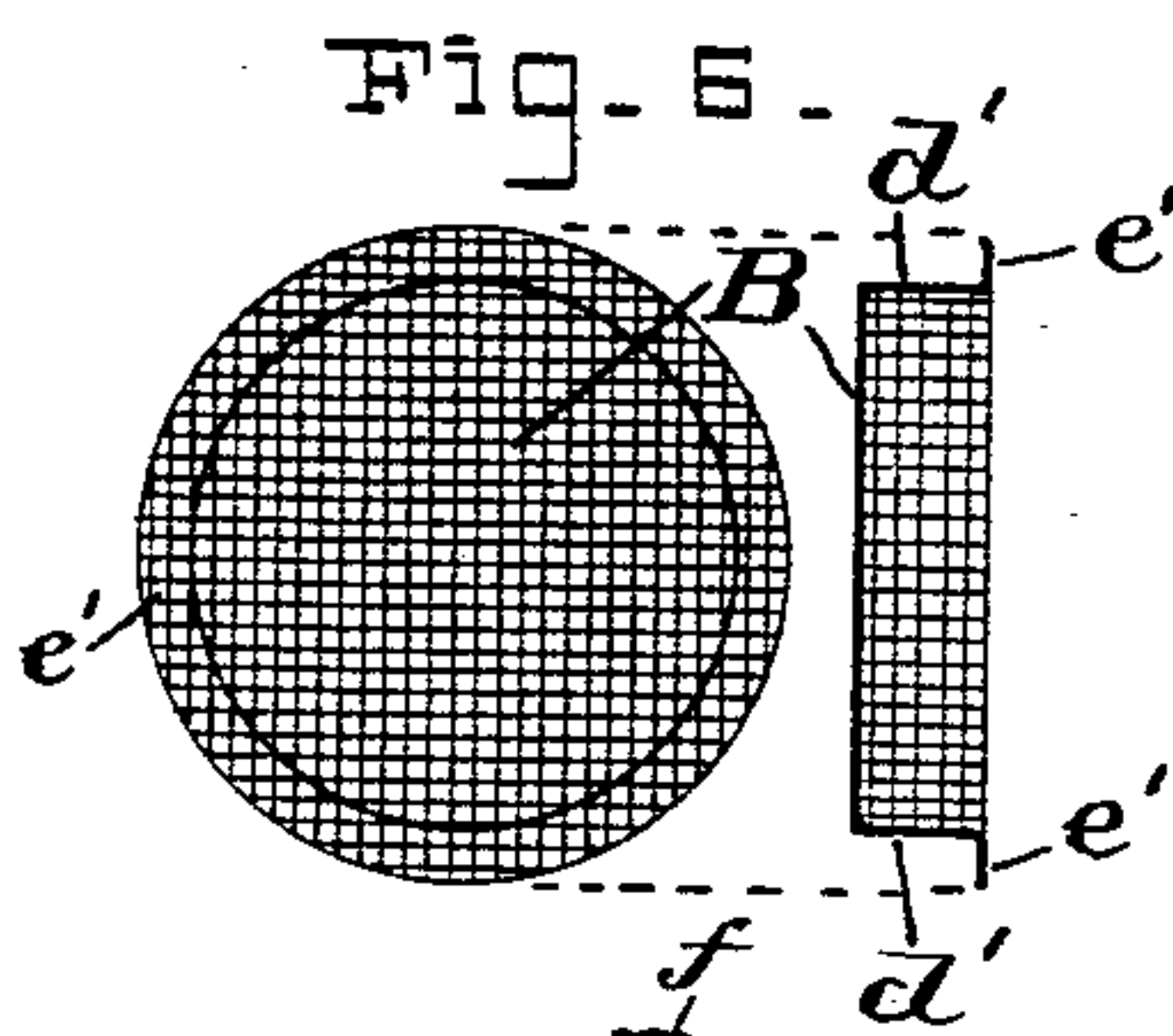
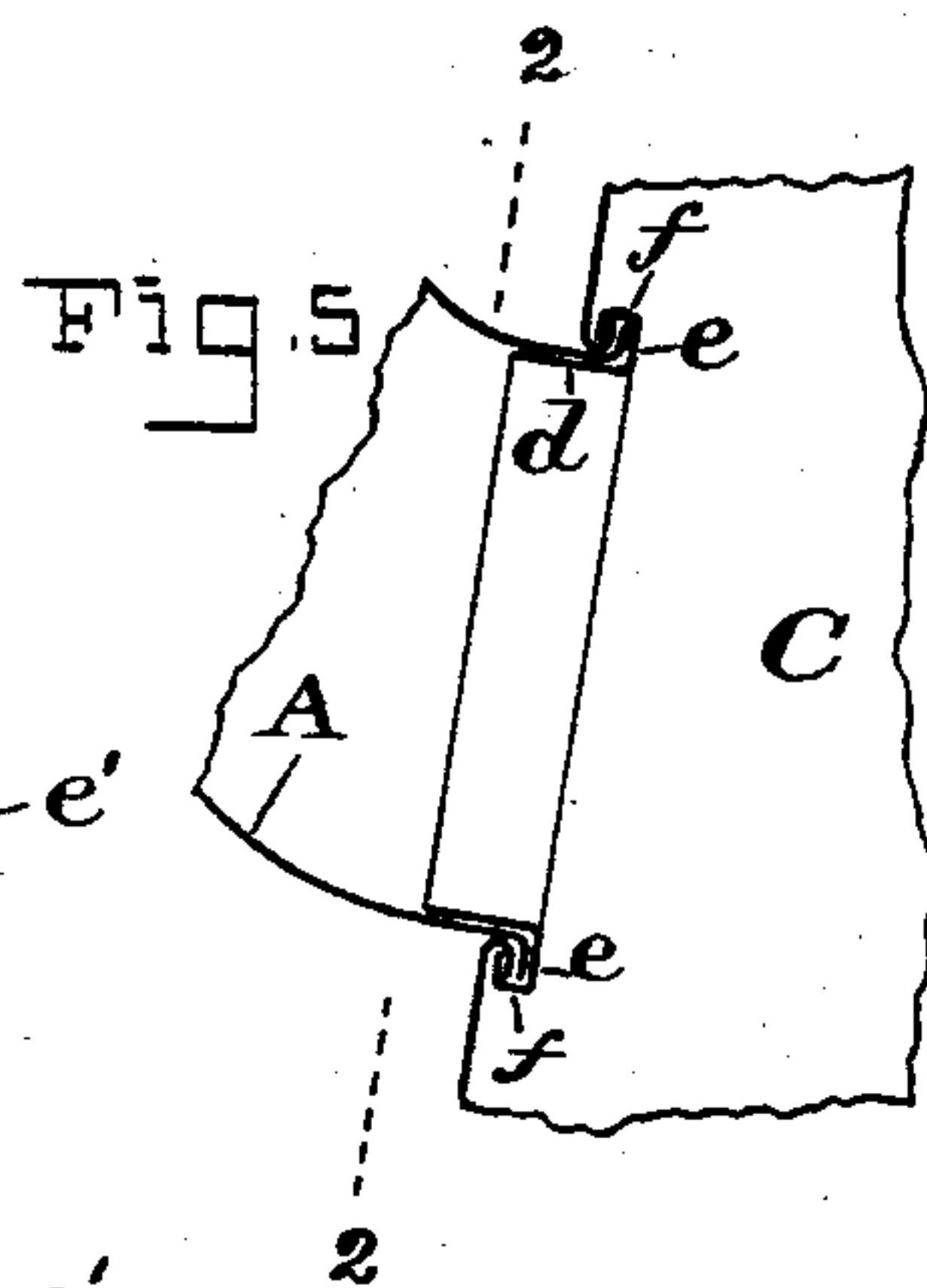
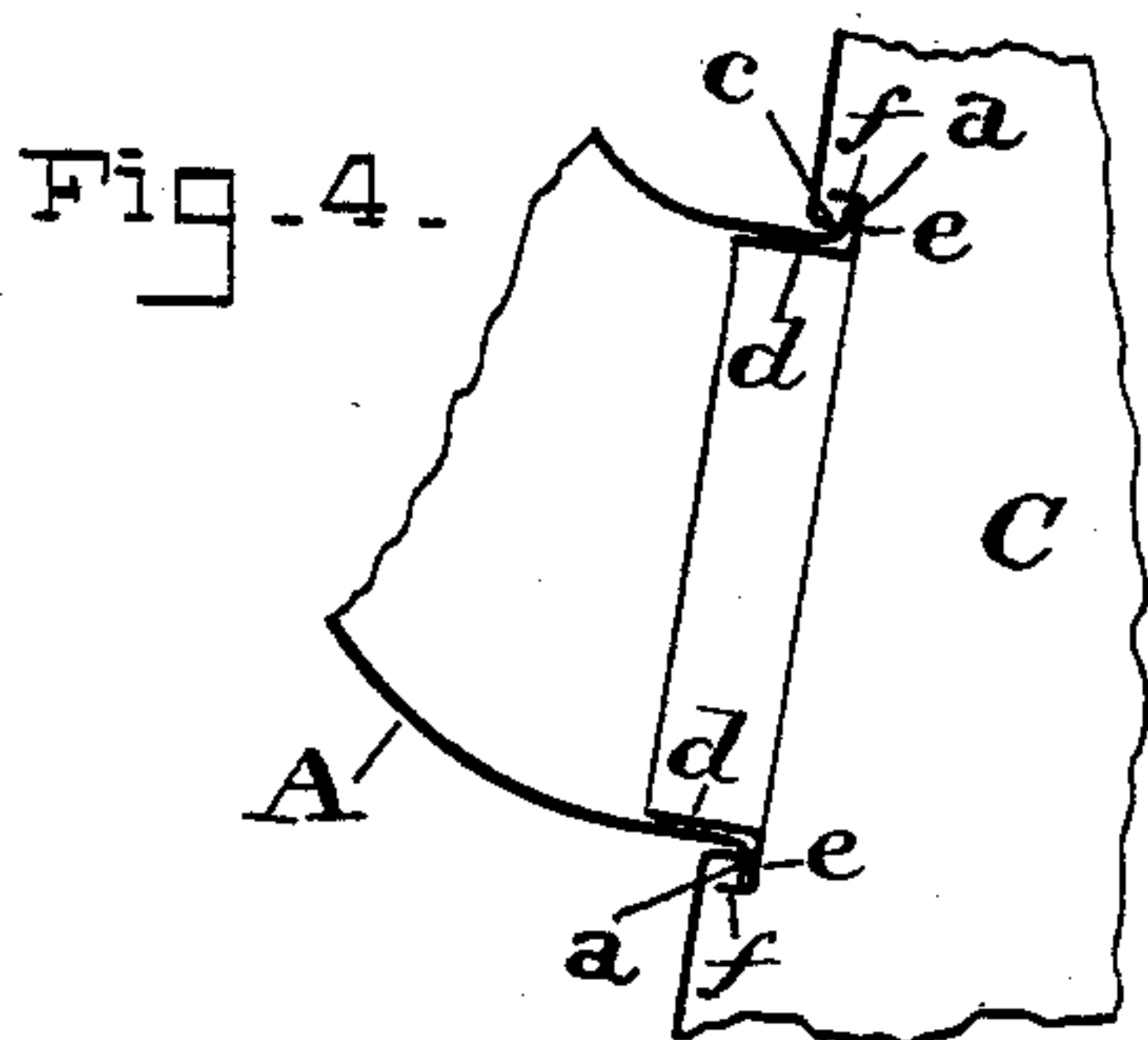
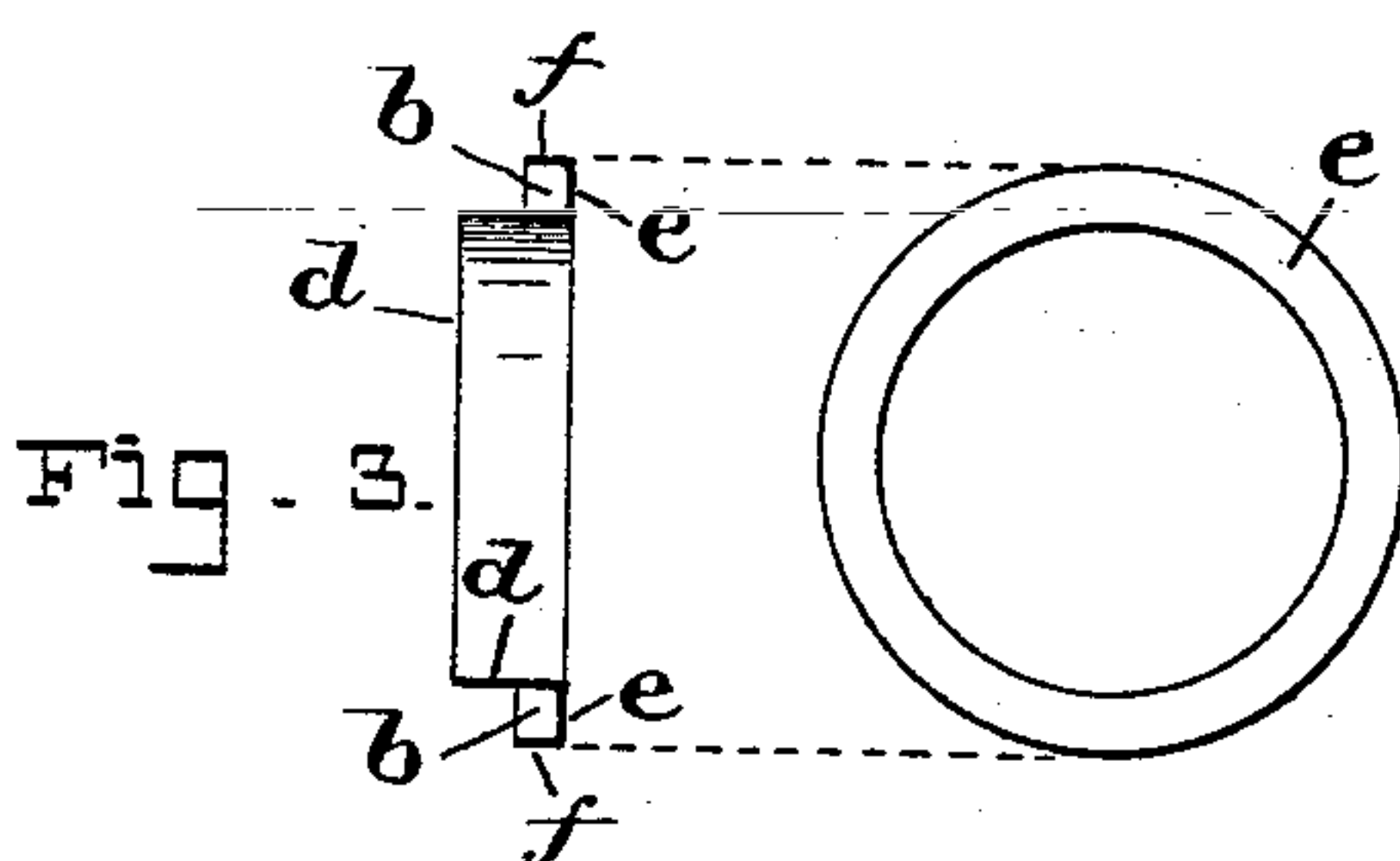
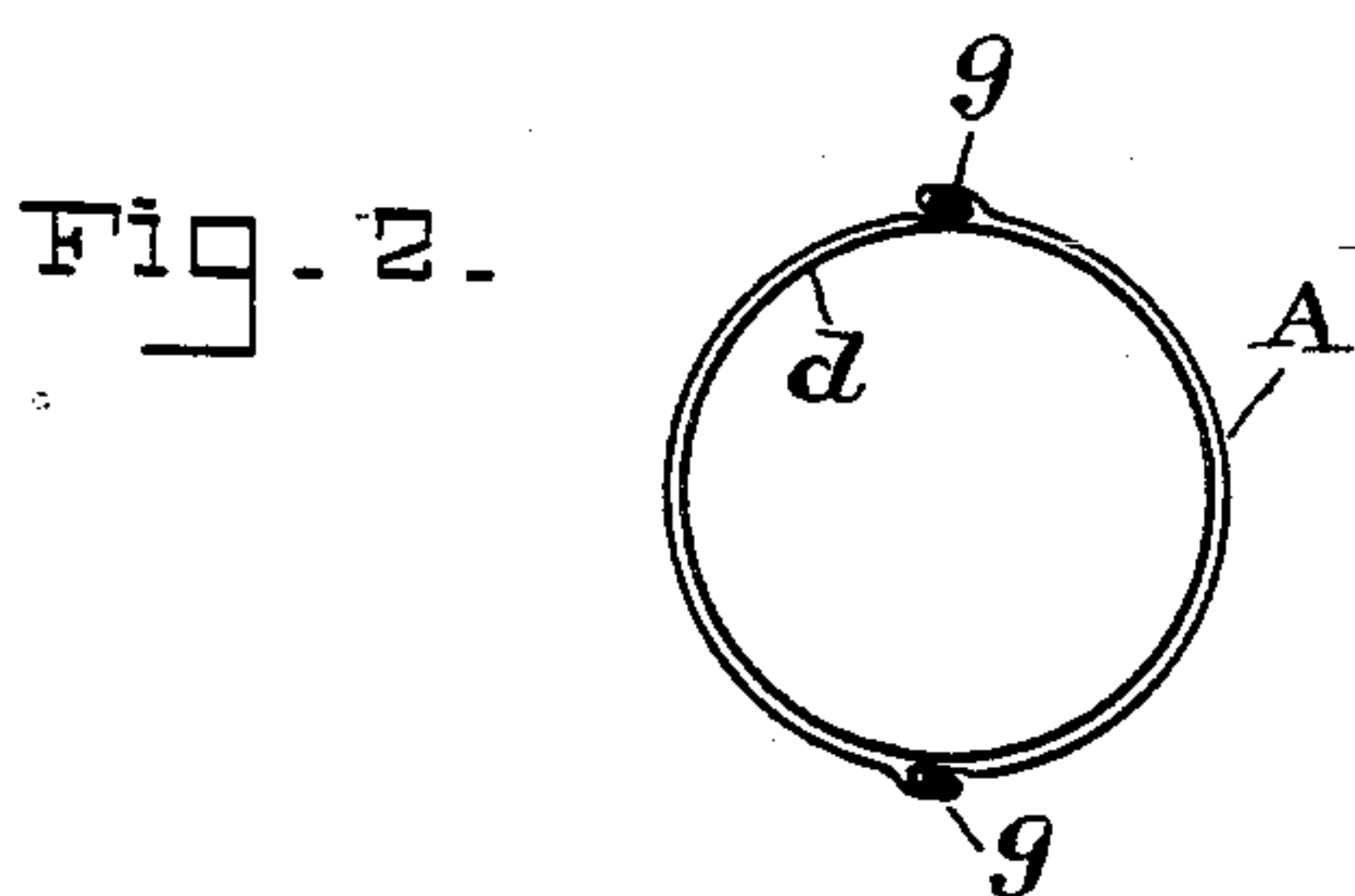
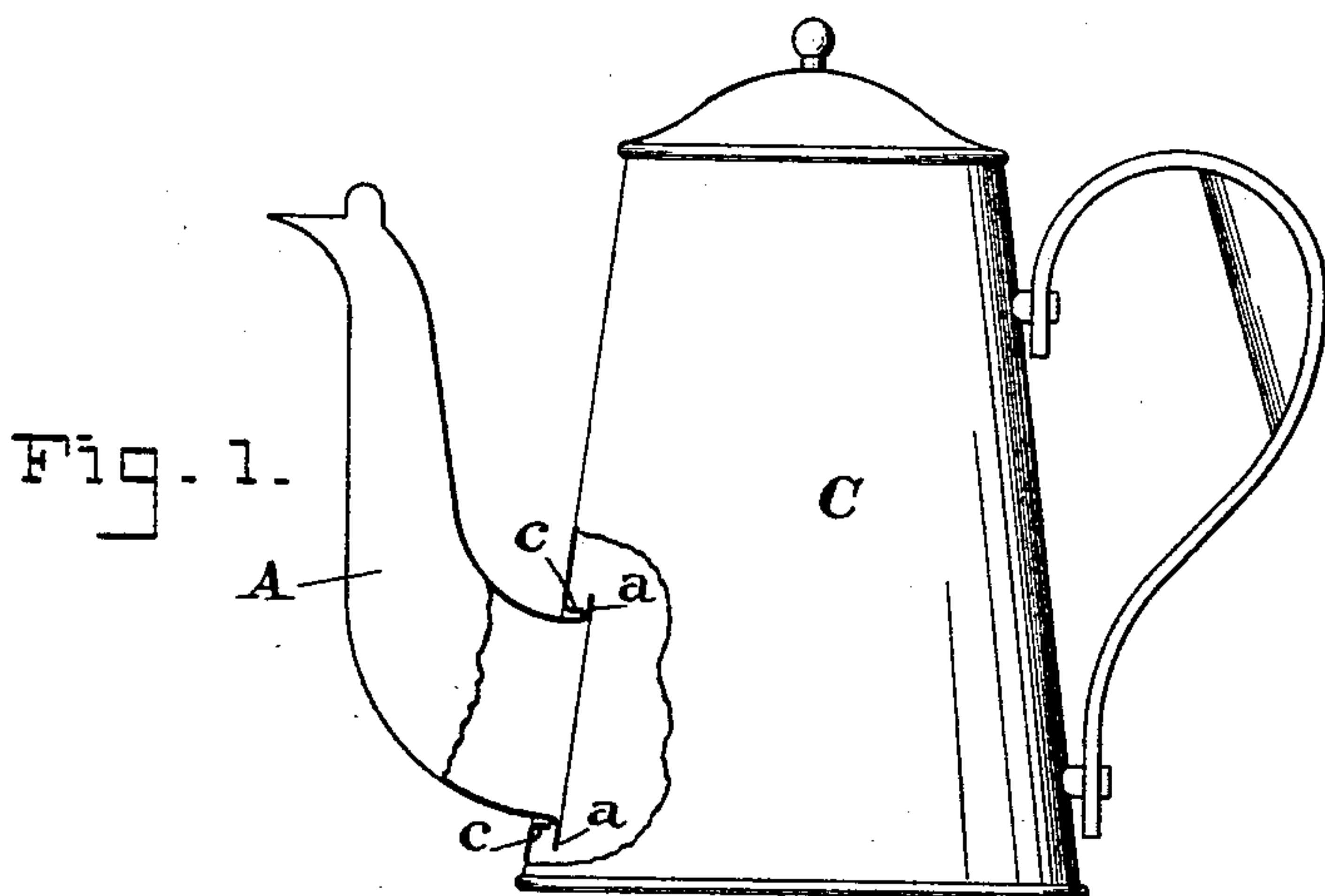
(No Model.)

G. W. KNAPP.

ATTACHING SPOUTS TO SHEET METAL VESSELS.

No. 520,235.

Patented May 22, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. KNAPP, OF BALTIMORE, MARYLAND.

## ATTACHING SPOUTS TO SHEET-METAL VESSELS.

SPECIFICATION forming part of Letters Patent No. 520,235, dated May 22, 1894.

Application filed February 26, 1894. Serial No. 501,527. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. KNAPP, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Attaching Spouts to Sheet-Metal Vessels, of which the following is a specification.

My invention relates to an improved construction in the attachment of spouts to pots, pails and similar sheet-metal vessels.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view of a coffee pot in section at the point where the spout is attached, and shows the spout in position, but with its base-flange and the flange around the opening in the condition they have previous to the spout's attachment. Fig. 2 is a section through the line 2—2 of Fig. 5. Fig. 3 shows two views of the clamping ring. Fig. 4 is a section showing the position of all the parts which form the joint, in readiness for closing. Fig. 5 is a section showing the appearance of the spout-joint parts in the finished article. Fig. 6 shows two views of a strainer that may be used in connection with the clamping ring. Fig. 7 is a section of the finished article wherein both a strainer and a clamping-ring are employed.

This is an improvement on the spout attachment shown and described in my Letters Patent No. 487,032, dated November 29, 1892.

The spout, A, is made of two halves which are united by two seams or joints, g, and is provided with a lateral base-flange, a; the body, C, of the vessel has an opening where the spout is attached, and the edge around this opening is first flanged inwardly, as at, c; the clamping-ring has primarily a tubular neck, d, and a ring-face, e, which has a lateral position with respect to the neck and is provided with a locking-flange, f, which is parallel with the said neck; this construction forms an annular groove, b, see Fig. 3.

In putting the parts together preparatory to securing the spout to the body, the small end of the spout is passed from the inside of the body, C, through the opening until the base-flange, a, of the spout comes in contact with the inward flange, c, of the body-opening, as shown in Fig. 1; the clamping-ring is then placed in position, see Figs. 2 and 4, so

that its neck projects in the base part of the spout and its annular groove, b, will encircle or take over the base-flange, a, of the spout and its locking-flange, f, will surround the inward flange, c, of the body-opening. The joint parts are all now in readiness to be closed or compressed together.

Suitable mechanism is now employed to close the joint parts,—in submitting to this operation the inward flange, c, of the body-opening is flared or turned out flat and parallel with the base-flange, a, of the spout, see Fig. 5, and the locking-flange, f, of the clamping-ring is crimped inward so as to hook or engage with the said flared flange, c, and when these parts are tightly compressed the joint is complete, and the entire joint formation is on the inside of the wall of the vessel and the plane of the body on the exterior around the spout is smooth and undisturbed.

In assembling the vessel-body, spout and clamping-ring, the first advantage that results from the peculiar tubular neck, d, of the clamping-ring is that when said neck is inserted tightly in the base-end of the spout, its frictional contact therewith serves to retain the ring in position, without any tool or other means to hold it, preliminary to bringing into action the mechanism which is necessary to close the joint-parts. The neck, d, being thus inserted in the base-end of the spout also serves to expand the base-end and keep the two seams, g, of the spout in proper position while the mechanism which closes the joint-parts is operating. The neck of the clamping ring projects far enough into the base-end of the spout to extend outward or beyond the line of the vessel-body, as shown in Figs. 4 and 5, and inside the spout laps over the two seams, g, as shown in Fig. 2; and thus at the points where the said two seams occur a slight longitudinal crevice is formed between the interior surface of the spout and said neck, d, which crevices are filled by the liquid enameling material which is employed to coat these vessels, or if enamel is not employed these crevices are filled with solder,—and thereby tight joints are made at and near the ends of the said spout-seams, g.

In the joint shown in Fig. 7, the clamping-ring and also a strainer are employed; the strainer like the clamping-ring is formed with



a dish,  $d'$ , corresponding to the neck,  $d$ , of the ring, a flange,  $e'$ , corresponding to the ring-face,  $e$ , and has a perforated center, B.

In applying strainers with the ring as here  
5 shown, after the base-flange of the spout has been brought into contact with the inward flange,  $c$ , of the body-opening, the strainer, B, is first placed in position so that its flange,  $e'$ , will take over the base-flange of the spout,  
10 and finally the clamping-ring is inserted as before described so that its locking-flange,  $f$ , will encircle the flanges of the spout, body-opening and strainer, and when said parts are clamped or compressed, in the manner  
15 before described, said locking-flange,  $f$ , will take between the inner wall of the body-opening and the inward lateral flange thereof as in the other case.

Either wire gauze or perforated sheet-metal  
20 may be used for the strainer.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

In a spouted vessel, the combination of a body provided with an opening having a con- 25 tinuous inward flared flange,  $c$ ; a spout constructed of halves united by seams,  $g$ , and having a base-flange,  $a$ , inside of the vessel and in contact with said flared flange; and a clamping-ring provided with an annular lock- 30 ing flange,  $f$ , which continuously encircles the said flanges of the body-opening and spout and having a tubular neck,  $d$ , which projects into the base of the spout beyond the line of the vessel-body and fits therein closely. 35

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

GEORGE W. KNAPP.

Witnesses:

CHAS. B. MANN, Jr.,  
C. CALVERT HINES.