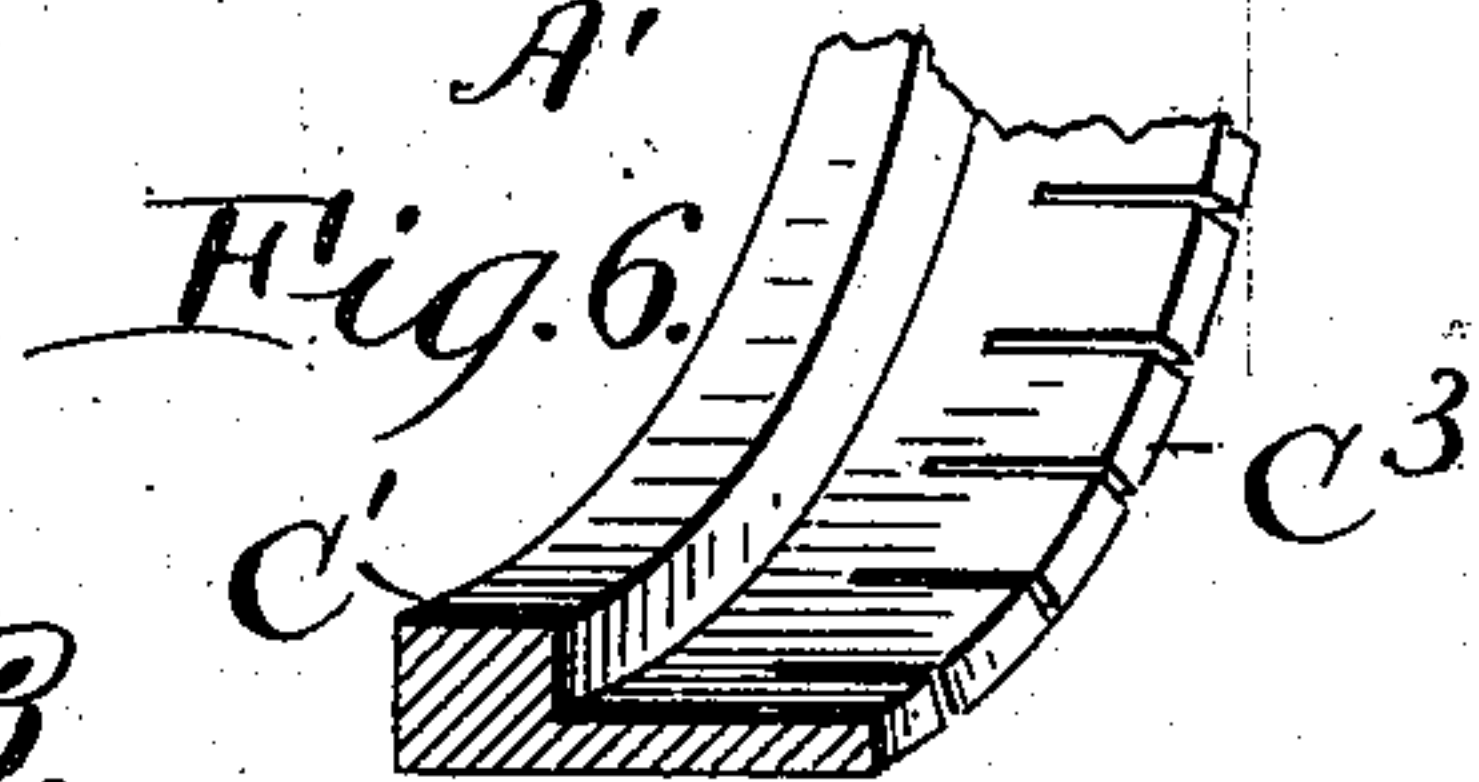
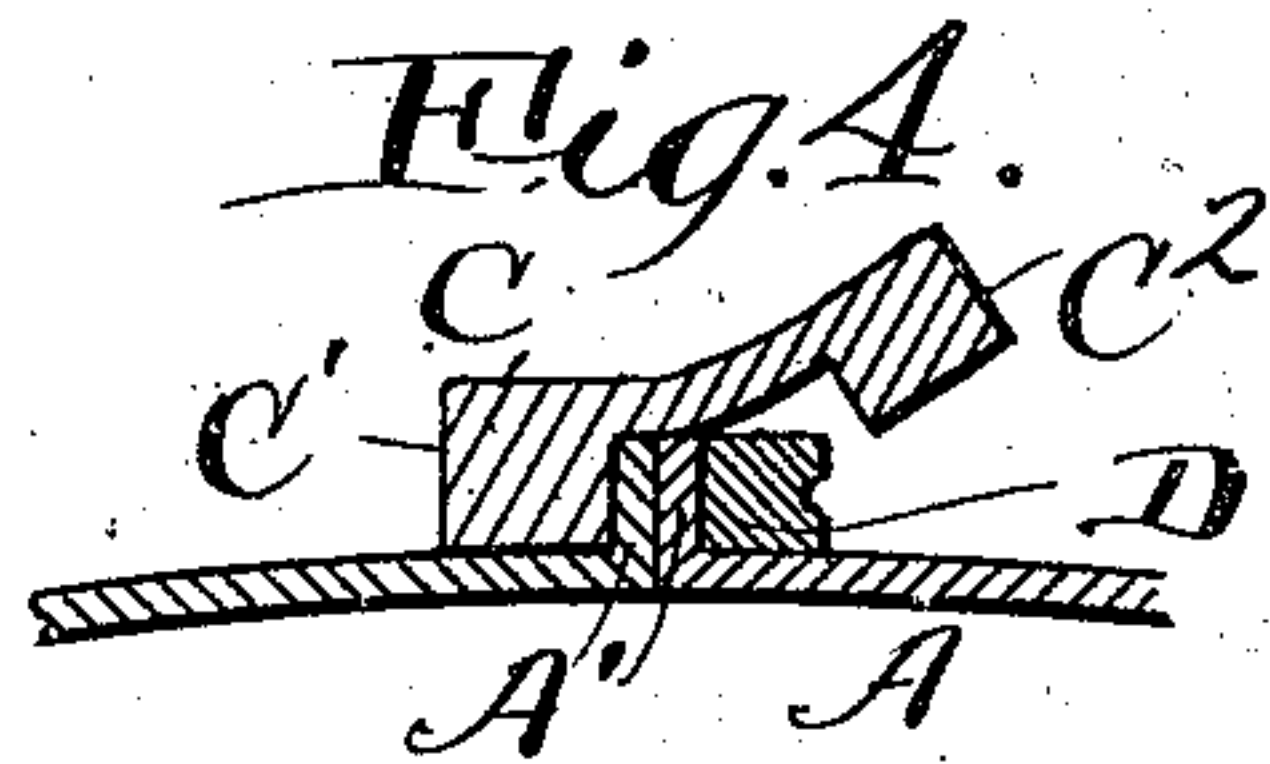
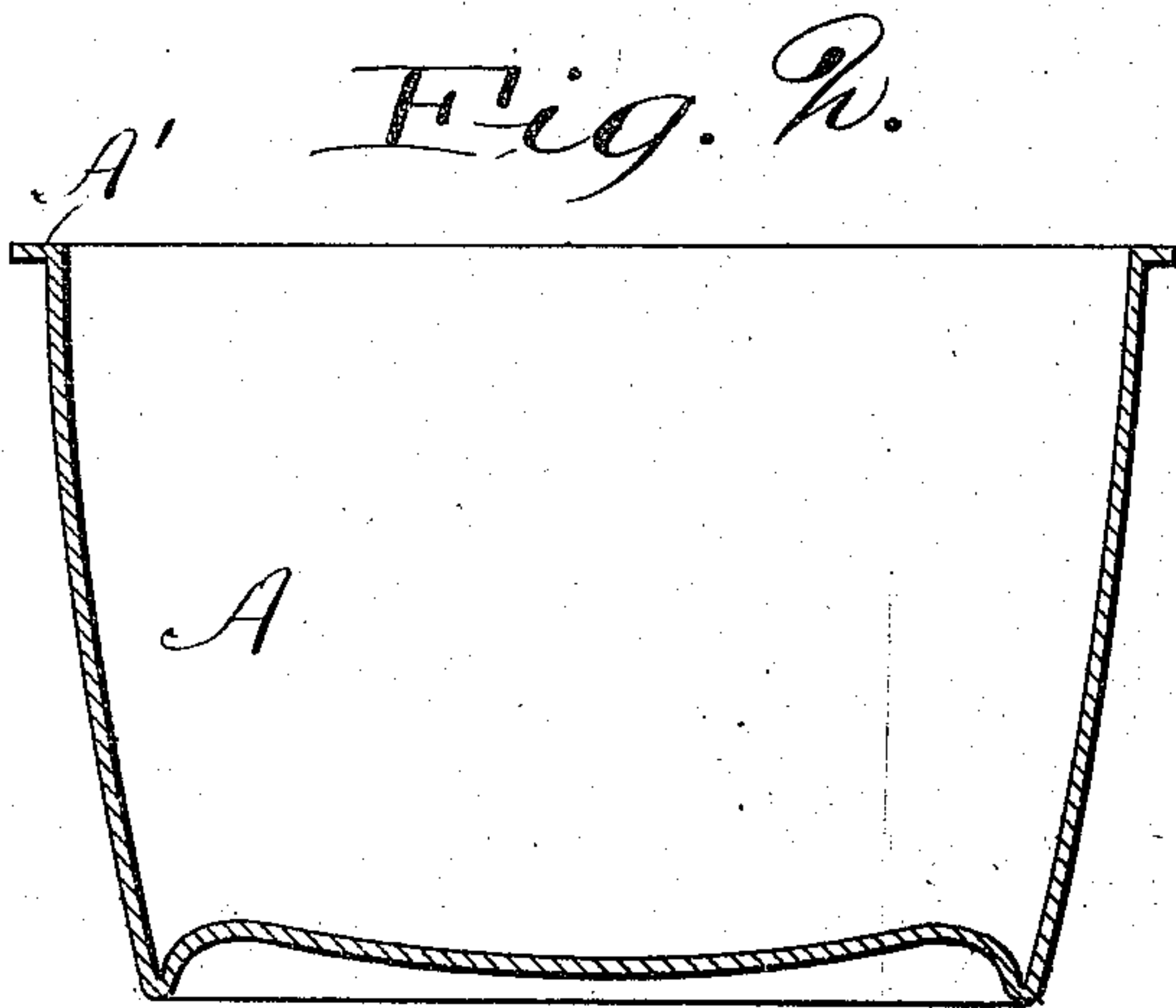
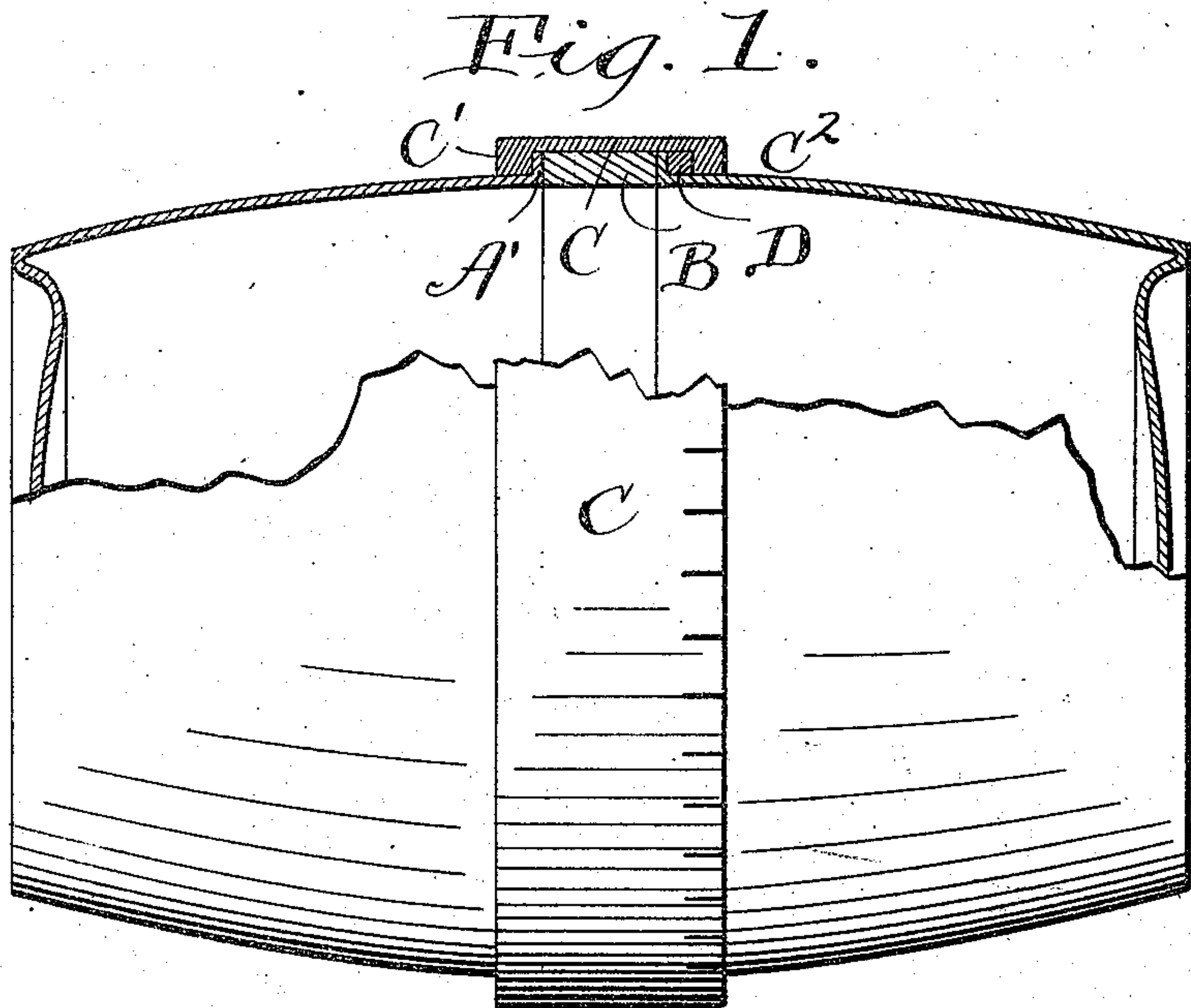


H. W. AVERY.  
METALLIC BARREL.  
APPLICATION FILED AUG. 1, 1906.

966,513.

Patented Aug. 9, 1910.



Witnesses.  
E. B. Gilchrist  
H. B. Sullivan

Inventor:  
Henry W. Avery  
by  
Thurston Woodcock  
attys.



# UNITED STATES PATENT OFFICE.

HENRY W. AVERY, OF CLEVELAND, OHIO, ASSIGNOR TO THE AVERY STAMPING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## METALLIC BARREL.

966,513.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed August 1, 1906. Serial No. 328,652.

*To all whom it may concern:*

Be it known that I, HENRY W. AVERY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Metallic Barrels, of which the following is a full, clear, and exact description.

The object of the present invention is to provide means for securing together the sections of a metallic barrel.

It is particularly designed to effect the securing together of barrel sections by metallic rings which may be cheaply made and easily applied, and which are, by reason of their particular construction, capable of securing a liquid-tight connection. Other advantages such as permitting an increased length of barrel of cheap construction and providing a rolling surface and tilting bearing will appear from the more detailed description to follow.

In the accompanying drawing, Figure 1 is a side elevation partly broken away, showing an embodiment of my invention. Fig. 2 is a vertical section of one of the barrel ends. Fig. 3 is a detail section showing a modification of securing band and also showing a modified form of packing ring,—the dotted lines indicating the position of the band when permanently applied. Fig. 4 is a detail sectional view showing the securing band of the form illustrated in Fig. 1 before it is secured in position,—the spacing ring shown in Fig. 1 being omitted. Fig. 5 is a detail section showing the form of securing band illustrated in Fig. 3, with the spacing ring omitted. Fig. 6 is a fragmentary perspective view showing the form of band illustrated in section in Figs. 3 and 5.

In carrying out my invention, I provide the sheet metal barrel sections A with circumferential flanges A' around their inner edges. These flanges may abut, as shown in Figs. 4 and 5, or they may be separated by a spacing ring B as shown in Figs. 1 and 3. This spacing ring may be of any suitable material, and is designed more particularly to serve the purpose of increasing the length of the barrels without involving any increase in the expense or difficulty of making deeper sheet metal sections,—which sections are drawn by a process the difficulty and expense

of which are greatly increased by an increased depth. Further, this spacing ring may be utilized for carrying the bung.

The securing band C, by which I hold the sections together whether the spacing ring be used or not, is provided during its manufacture with an inwardly turned flange C' on one side, of proper dimension to secure a close fit against the peripheral flange of one of the barrel sections. The other side or edge of the band C may also be provided with an inwardly directed flange C<sup>2</sup>, as shown in Figs. 1 and 4 for the purpose of embracing the peripheral flange on the other barrel section. When I provide the band with this second flange C<sup>2</sup>, it is, of course, necessary to have the edge bent backward or outward, as shown in Fig. 4, to such an extent as to enable the band to be slipped into position, after which the backward or outwardly bent edge is bent inward under heavy hydraulic pressure so that the flange thereon embraces and firmly holds the flange of the second barrel section. I have discovered that in order to properly bend the band in this manner and draw the several flanges together, it is necessary to kerf the edge having the flange C<sup>2</sup>, as shown in Fig. 1. By having the edge of the band kerfed as shown, the metal on being pressed inward and crowded so as to draw the barrel sections together, may be evenly pressed without buckling or breaking so as to form an absolutely liquid-tight joint. I have found that when a solid, continuous, metallic ring is bent or crowded in this manner, it is impossible to obtain a close engagement between it and the surface of the adjacent barrel flange or packing ring, since the metal bulges and buckles in spots. In order to prevent the possibility of leakage through these kerfs after the kerfed edge of the band is bent to its permanent position, I preferably provide a packing ring D designed to fit against the peripheral flange on the barrel section and to extend under the kerfs so that these kerfs shall not be continuous with the joints between metallic sections, thus avoiding the possibility of leakage through the joints and kerfs. This packing ring is, in some instances, provided with a groove along the side to permit it to give somewhat more readily underneath the powerful com-



pression which is applied to the metallic flange and permit it to crowd into the corners of the space which it occupies.

In the form of band which I have illustrated in Figs. 3, 5 and 6 I provide the band with but one flange C' during the process of manufacture and kerf the other edge C<sup>3</sup> which is extended so that it may be bent inward when applied to the barrel. As this edge C<sup>3</sup> is bent inward, the fingers formed by the kerfs, crowd together and draw the flanges of the barrel sections closely up against the abutting surface of the flange of the other barrel section or against the spacing ring B, when such ring is used, and these fingers will, by reason of the kerfs, be crowded into close engagement without buckling or breaking of the metal, thus creating a tight waterproof joint. When either form of band is used it is obvious that the spacing ring may be used equally well in either case.

By reason of the securing band having a broad, outer surface, it is possible to make the barrel of the ordinary shape tapered at both ends and yet provide it with a rolling surface such as is frequently attained in wooden barrels by the use of two hoops placed close to the center. This is of the greatest advantage in handling heavy materials for which such barrels are used. Further, the broad, flat band applied in this manner to barrels with tapered ends, provides a tilting bearing whereby the barrel may be easily turned over on one end.

The advantages of manufacture and mode of application are obvious to those skilled in the art, and it is not thought necessary to recite them in detail. It is further obvious that certain modifications in structure may be made without departing from the

spirit of my invention, and I desire to include these within the scope of my claims.

Having thus described my invention, I claim:

1. In a barrel, a pair of sections having outwardly extending flanges, an annular band having an inwardly extending flange along one edge fitted against the flange of one of the barrel sections, the other edge of the band being bent in against the flange of the other barrel section and kerfed at short intervals to such an extent as to be capable of bending inward without buckling.

2. In a barrel, a pair of sections having circumferential flanges at their proximate ends, an annular band having a flange along one edge fitted to the flange on one of the barrel sections, said band extended over and bent in against the flange on the other barrel section and kerfed so as to be capable of bending inward without buckling, and a packing ring interposed between said kerfed edge and the flange of the barrel section.

3. In a barrel, a pair of sections separated by a spacing ring, circumferential flanges on the ends of the sections which are adjacent to the spacing ring, a broad securing band extending across the spacing ring and overlapping the circumferential flanges on the barrel sections and having side flanges which hold the barrel sections together, said band having a substantially flat outer rolling surface and having one of its edges kerfed.

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

HENRY W. AVERY.

Witnesses:

E. B. GILCHRIST,  
H. R. SULLIVAN.