

W. HOULKER.  
CASK AND THE LIKE.  
APPLICATION FILED FEB. 18, 1909.

919,433.

Patented Apr. 27, 1909.

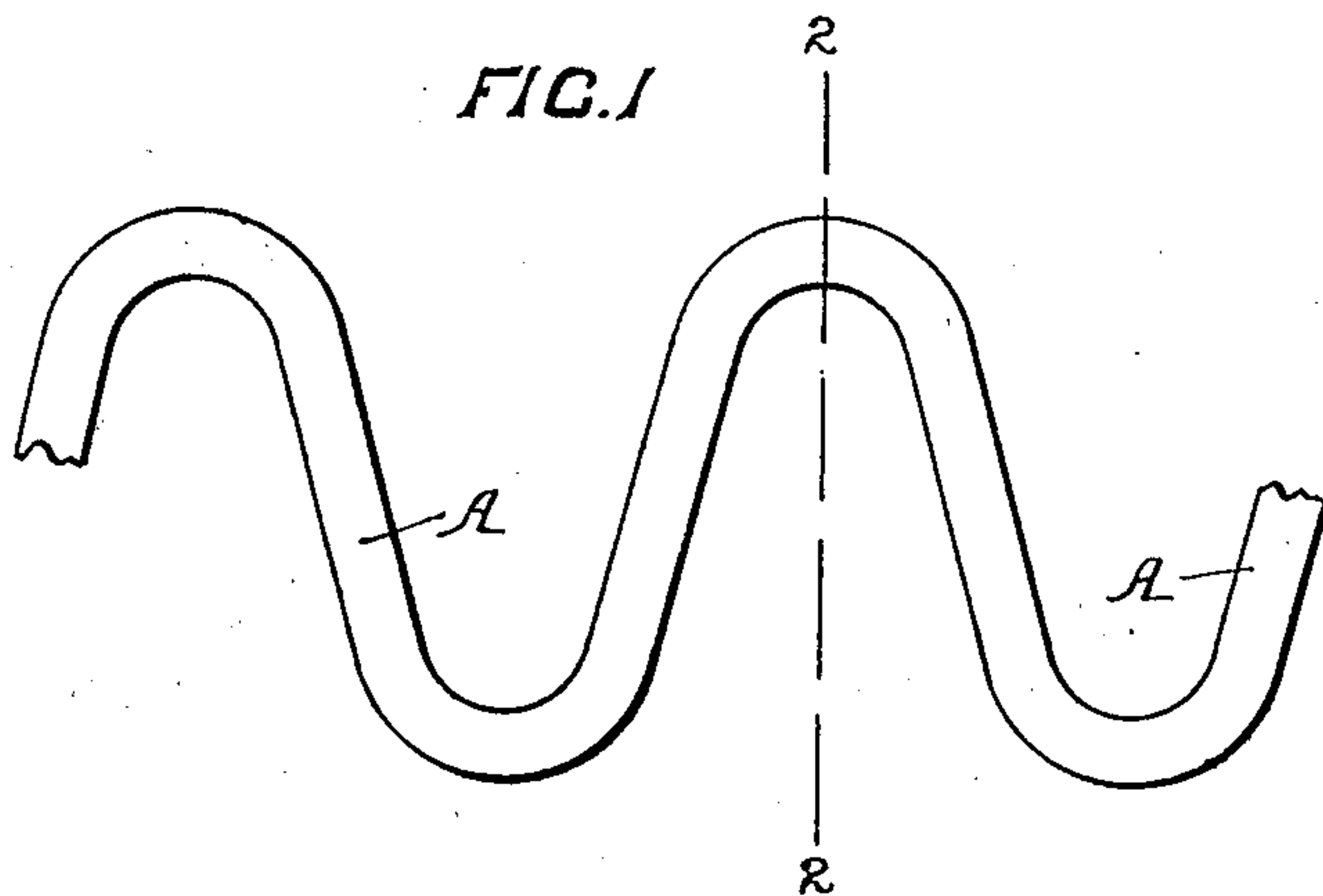


FIG. 2

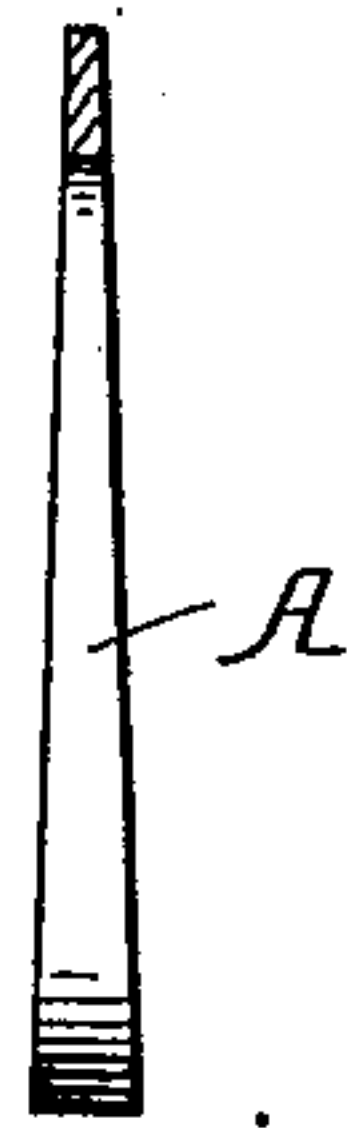


FIG. 3

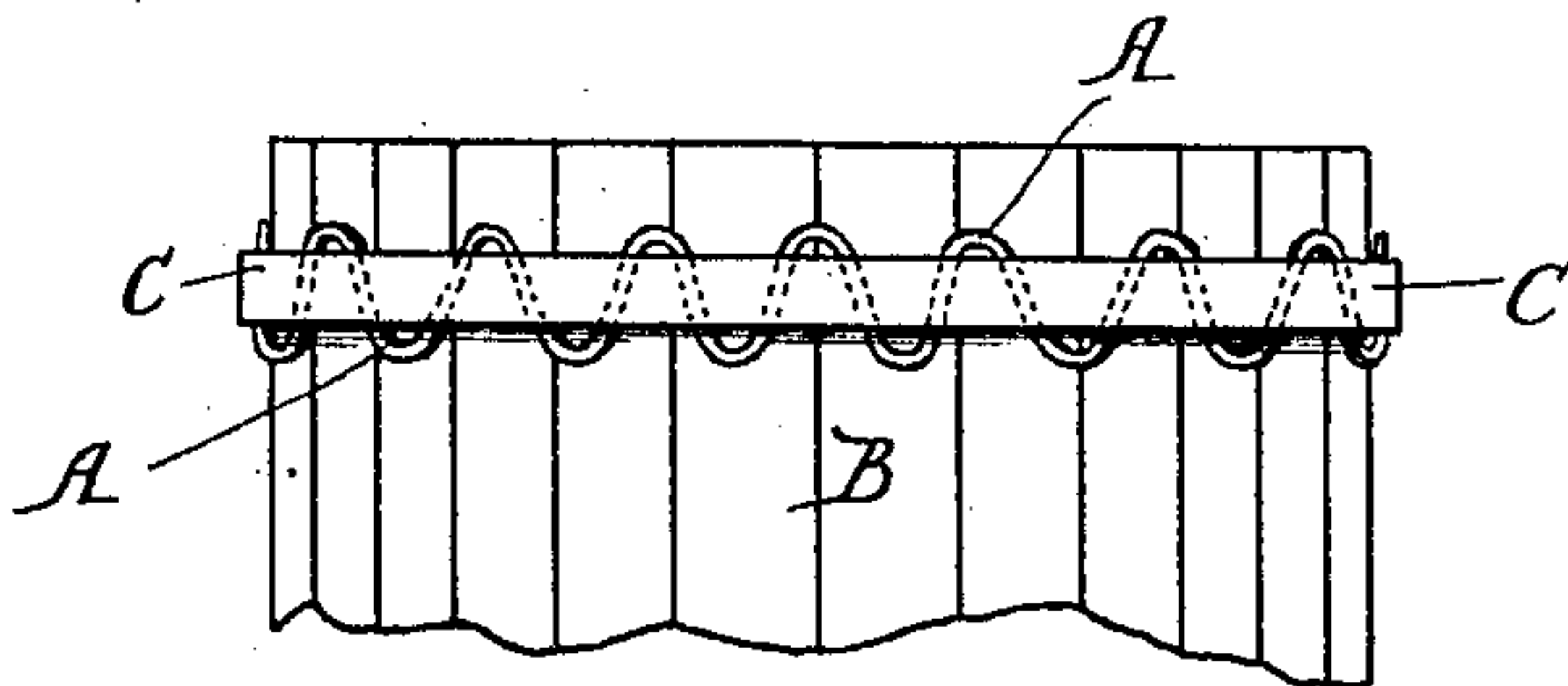


FIG. 4

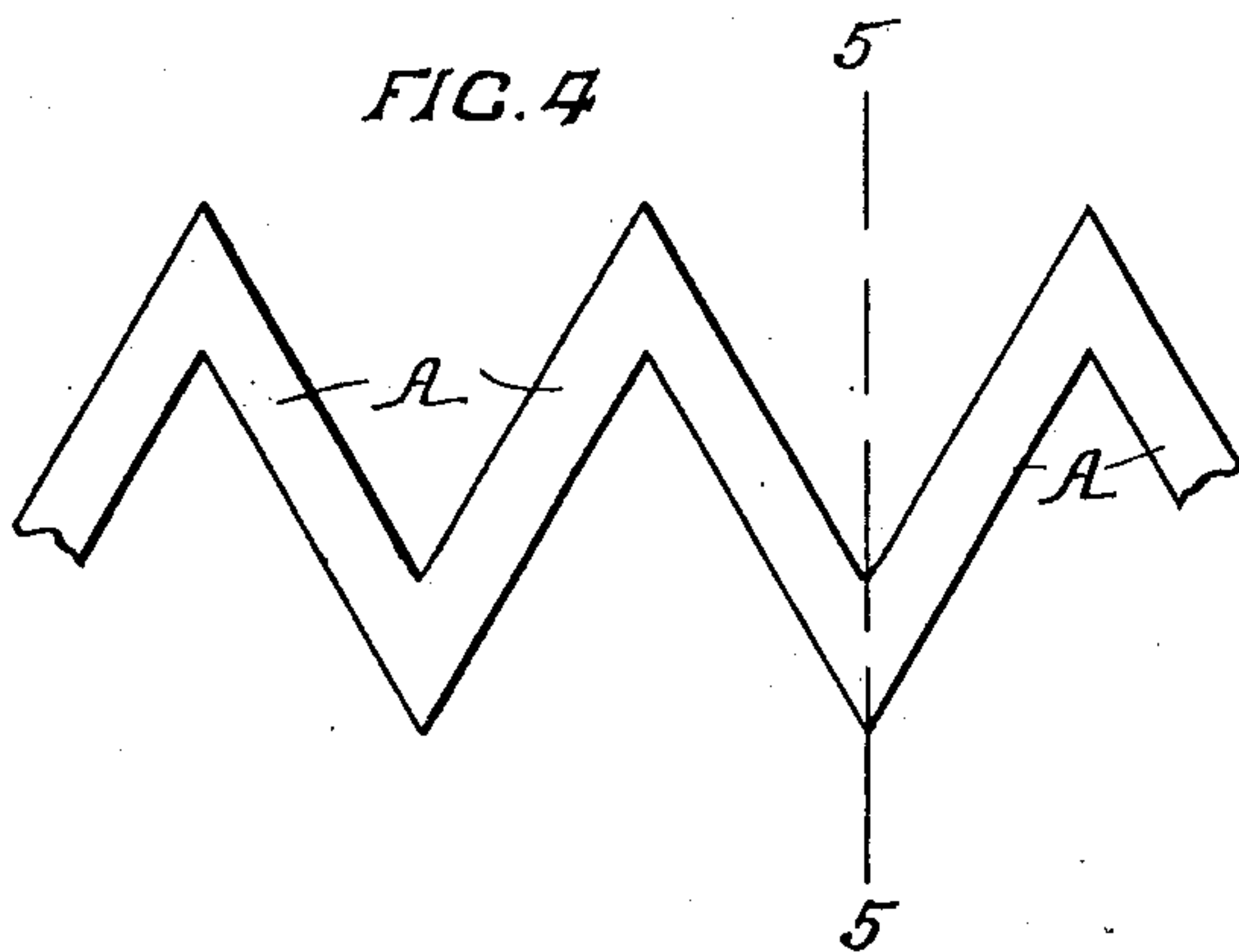
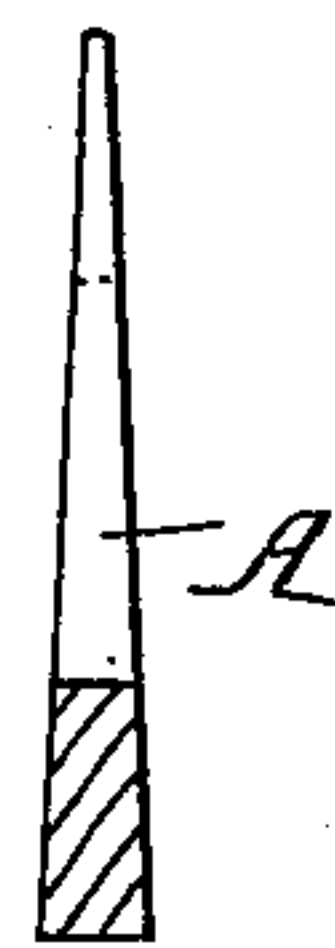


FIG. 5



WITNESSES,  
*H. H. Derrigan.*  
*John H. Storing.*

INVENTOR,  
WILLIAM HOULKER,  
by *Irvin Olden*  
Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM HOULKER, OF NELSON, NEW ZEALAND.

## CASK AND THE LIKE.

No. 919,433.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed February 18, 1909. Serial No. 478,725.

*To all whom it may concern:*

Be it known that I, WILLIAM HOULKER, a subject of the King of Great Britain, residing at Nelson, in the Dominion of New Zealand, have invented a new and useful Improvement in or Relating to Casks and the Like; and I do hereby declare the following to be a full, clear, and exact description of the same.

10 This invention has been designed in order to provide for the coopering of cylindrical casks and other like articles, such as vats or tubs, in an effective and quick manner.

At present it is the custom to construct 15 casks and other like articles with tapering sides, in order to provide for the hoops being jammed tightly around them, and this manner of construction entails a considerable waste of material in shaping the staves, and 20 a good deal of trouble in assembling and bending them into position. Moreover, by reason of this tapered shape, the cask requires more room for storage than if made truly cylindrical.

25 Hitherto, a satisfactory manner of coopering casks made in a cylindrical form has not been discovered by reason of the absence of any taper on which to jam the hoops. With this invention, such will be possible, and it 30 will, therefore, allow for the casks being made cylindrical, and thus obviate the waste and trouble before mentioned.

The invention consists in providing a ring adapted to be placed between the cask 35 periphery, and each hoop. This ring is formed with a taper extending from one edge to the other, so that when the hoop is placed on the thin edge, and driven down over the thickened part, it will cause such ring to 40 close in around the cask staves, and hold them tightly together in the usual way. In order that the ring may be able to give in with the varying diameters it will have to assume, it is formed preferably of a strip of 45 metal bent into a sinuous, zigzag or other approved form that will provide for it being thus contracted.

In the accompanying drawings:—Figure 1 is a side elevation of portion of the ring 50 formed of sinuous or crimped form. Fig. 2 is a cross section thereof, taken on the line

2—2 of Fig. 1. Fig. 3 is a view of an upper end of a cask, showing the manner of applying the invention, the ring and hoop being exaggerated in size relatively to the cask. 55 Figs. 4 and 5 are respectively side elevation and cross section of portion of a ring formed zigzag.

A, is the ring that is preferably formed in either of the ways shown in the drawings, by 60 means of a strip of suitable metal bent longitudinally into sinuous or zigzag form, and thus to provide for its diameter being contracted or expanded, as required. The ring may, however, be formed in any other ap- 65 proved way that will provide for this property. It is so shaped that it will form a taper from one edge to the other, as shown in Figs. 2 and 5 of the drawings.

In use, the ring will be placed around the 70 staves of the cask B (Fig. 3) and the hoop C then placed around the ring and driven down from the thinner edge of the ring on to the thicker part, thus causing the ring to tighten around the staves, and to draw their edges 75 together in the usual way, while the hoop and ring become jammed together upon the cask.

What I do claim as my invention, and desire to secure by Letters Patent, is,— 80

1. In casks and the like, the combination with each of the encircling hoops, of a ring of metal contractible and expansible in diameter, and of tapered thickness transversely across its width placed between the 85 cask, and such encircling hoop, substantially as specified.

2. In casks and the like, the combination with each of the encircling hoops, of a ring composed of a strip of metal bent longitudi- 90 nally into sinuous or crimped or zigzag form and of tapered thickness across the width of the ring, placed between the cask and such encircling hoop, substantially as specified.

In testimony whereof, I have signed this 95 specification in the presence of two subscribing witnesses.

WILLIAM HOULKER.

Witnesses:

F. ST. JOHN,  
JAMES HOULKER.