

No. 697,955.

Patented Apr. 15, 1902.

W. THOMPSON.

SOLDERLESS SIDE SEAM FOR TIN CANS OR OTHER METALLIC VESSELS.

(Application filed Oct. 18, 1901.)

(No Model.)

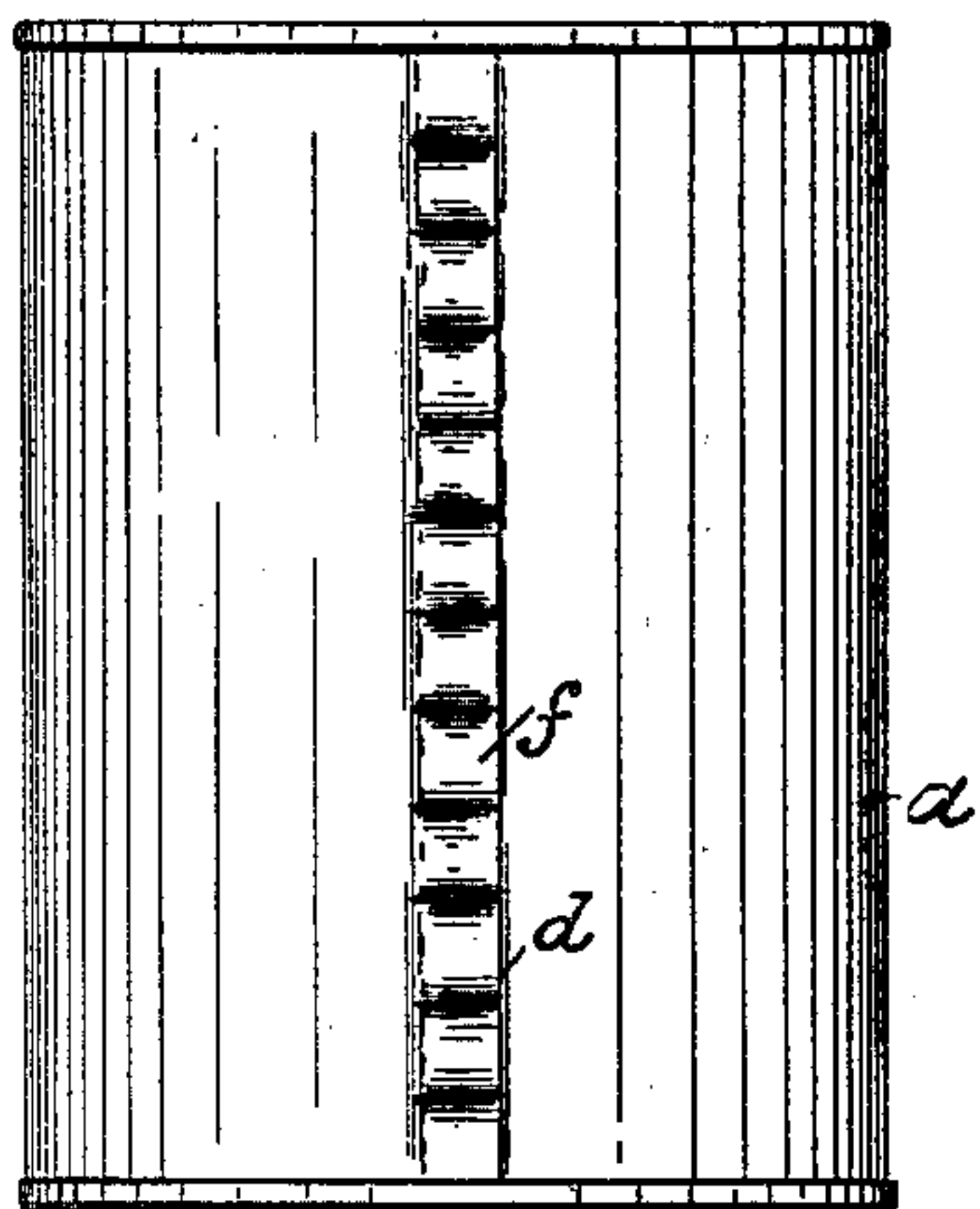


Fig. 1.

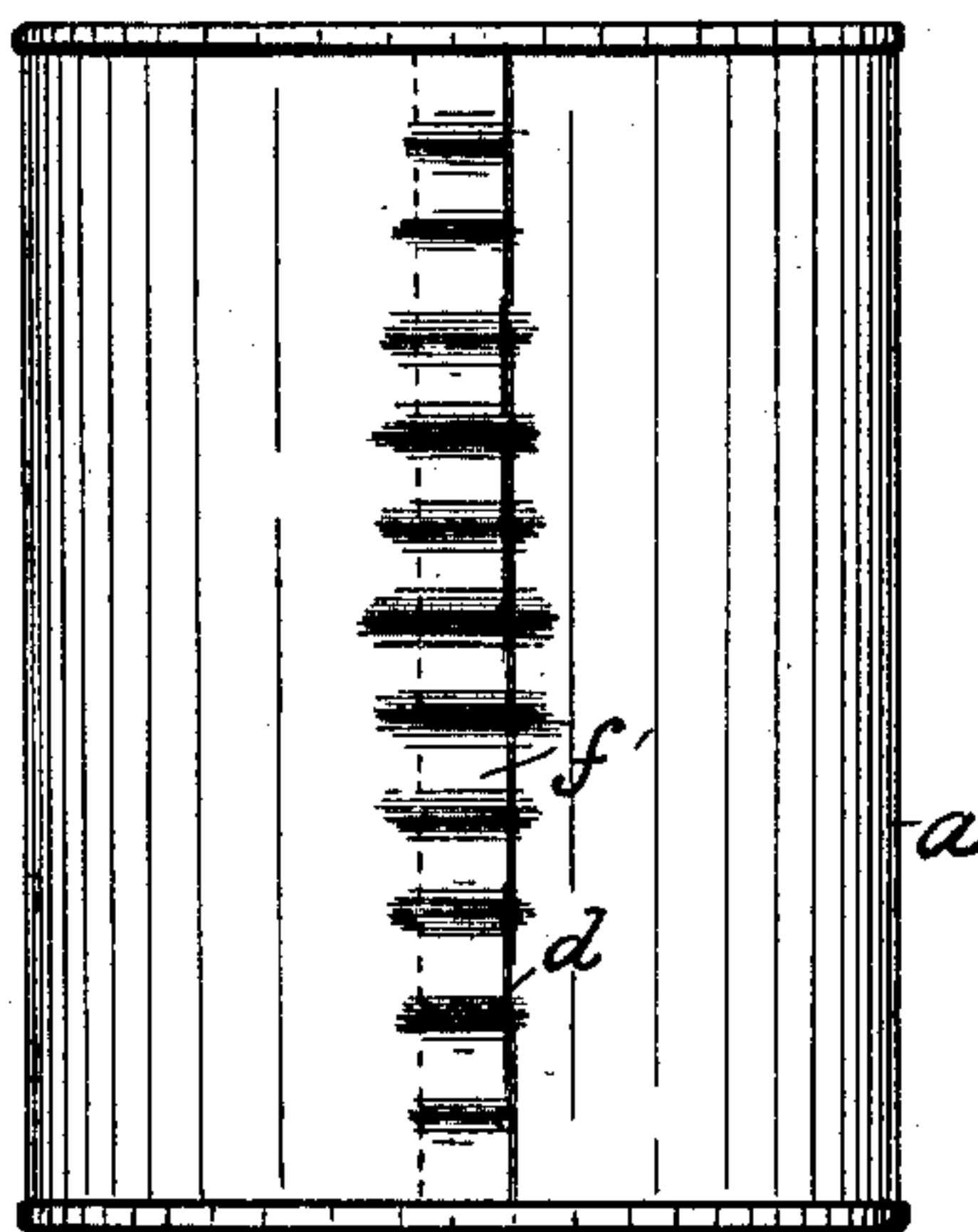


Fig. 2.

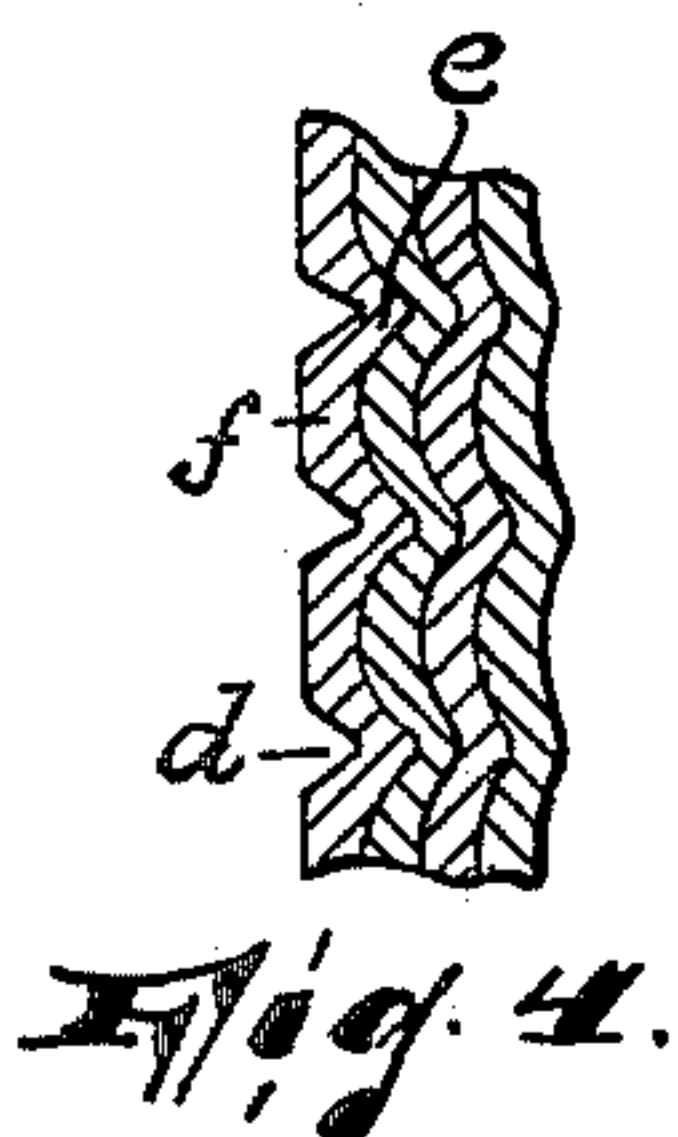


Fig. 4.

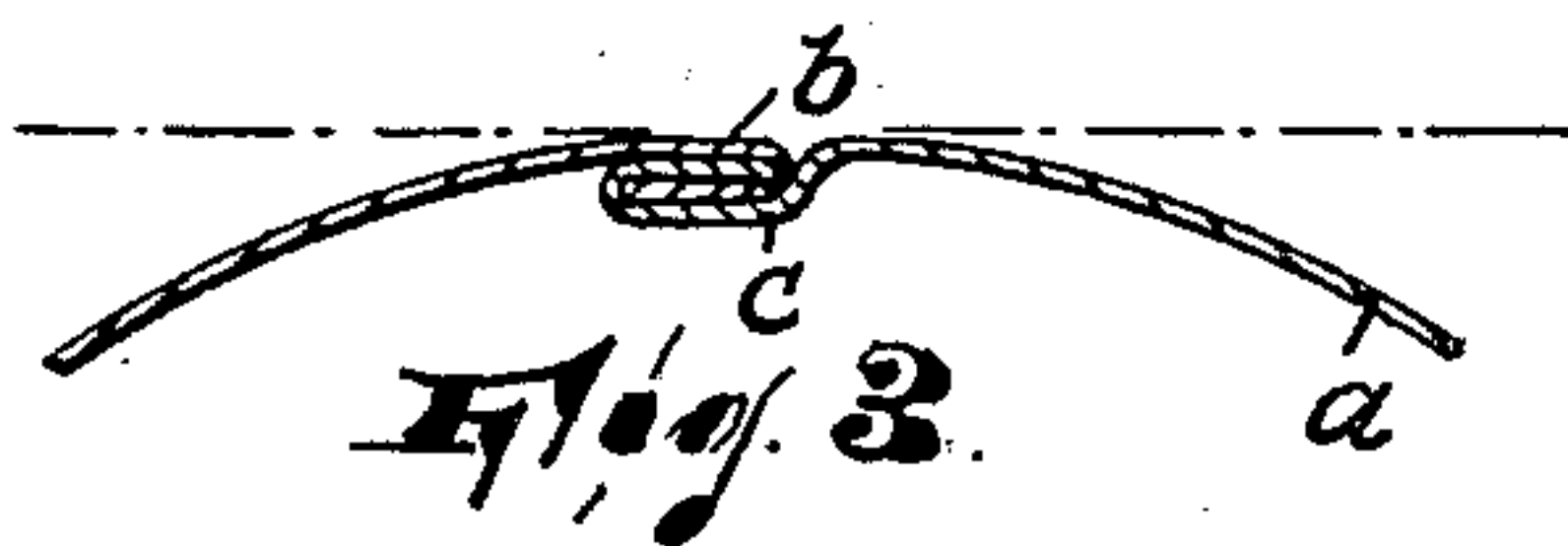


Fig. 3.

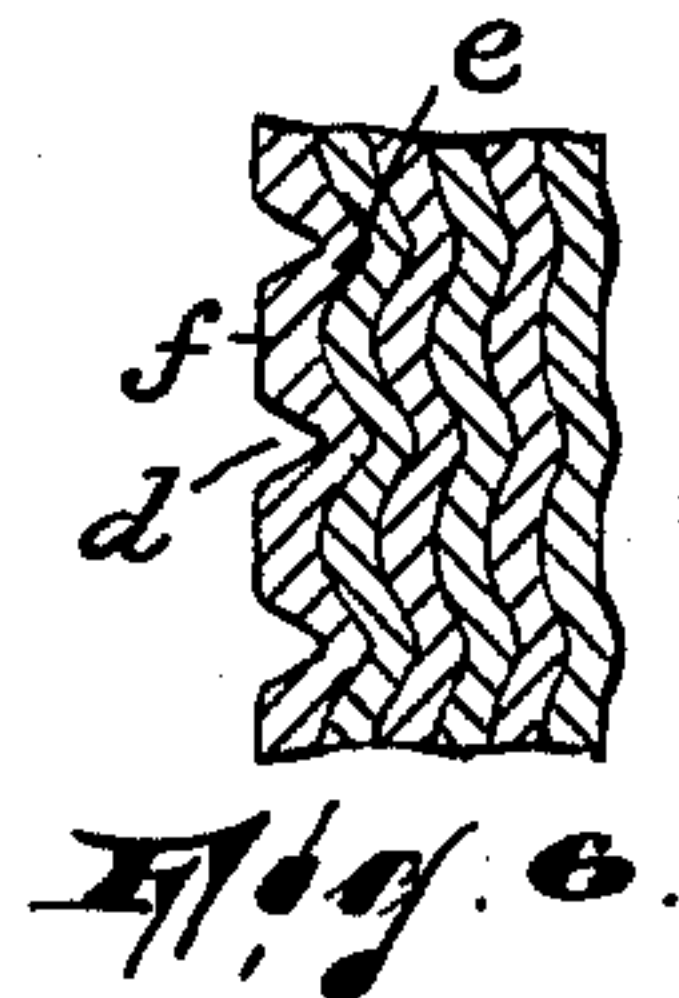


Fig. 6.



Fig. 7.

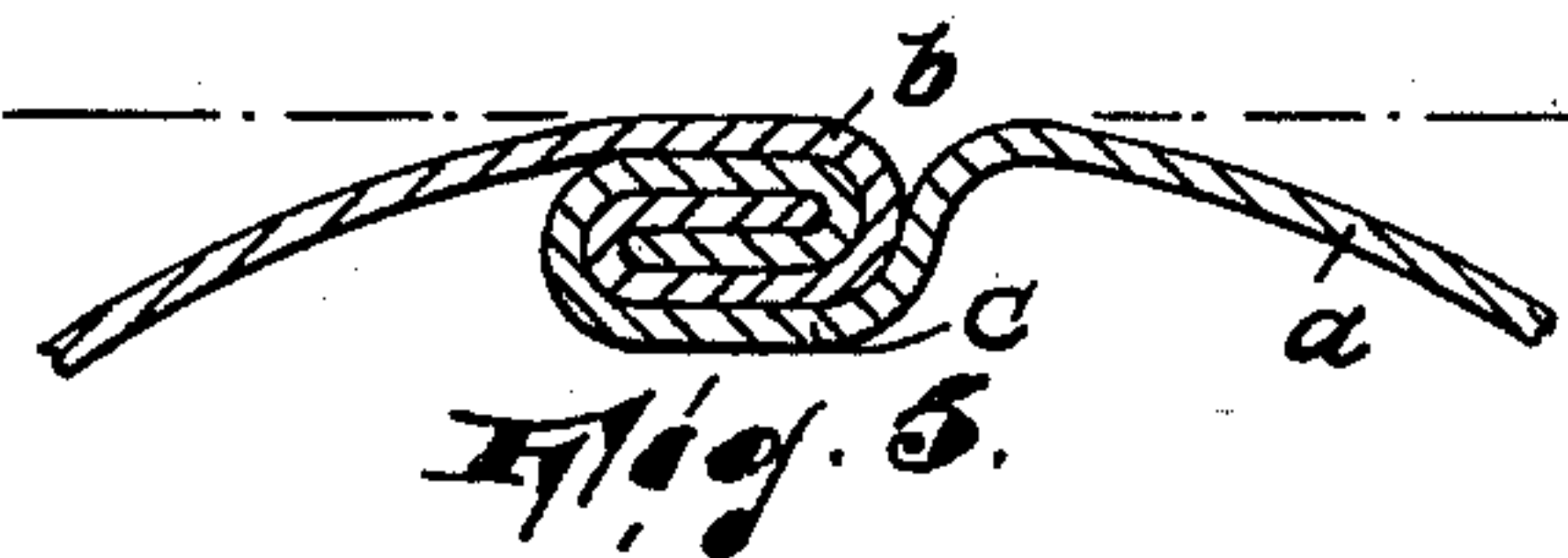


Fig. 5.

WITNESSES:

Wm. D. Bell.
Robert J. Pollitt

INVENTOR,

Walter Thompson

BY

Garthner & Howard,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WALTER THOMPSON, OF TORONTO, CANADA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PACKERS' SANITARY CAN COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SOLDERLESS SIDE SEAM FOR TIN CANS OR OTHER METALLIC VESSELS.

SPECIFICATION forming part of Letters Patent No. 697,955, dated April 15, 1902.

Application filed October 16, 1901. Serial No. 78,768. (No model.)

To all whom it may concern:

Be it known that I, WALTER THOMPSON, a subject of the King of England, residing in Toronto, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Solderless Side Seams for Tin Cans or other Metallic Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to the manufacture of tin cans, and it has reference particularly to the forming of the side seams or joints of tin cans.

Heretofore side seams for tin cans have been formed by soldering together the overlapping edges of the body portion of the can or by forming what is called a "lock-joint"—that is to say, a joint produced by bending the meeting edges of the metal toward each other and back upon themselves and then interlocking them. Even the lock-joint has in practice been soldered, by necessity, to prevent its leaking. Frequent attempts have been made to overcome the necessity of soldering, the joints being formed with various cross-sections, some having a number of plies and even having calking material—such as rubber, asbestos, paper, &c.—interposed. Other joints were produced in which a lock-joint, for instance, was provided with a series of corrugations; but such joints likewise proved impractical from a commercial standpoint as not being perfectly tight under great pressure. The weakness of all side seams or joints for tin cans lies principally in their tendency to unroll.

This invention therefore has for its object and consists in an improved form of solderless tin can constructed with a special view not only to rendering its rolled side seam hermetic, but positively proof against unrolling.

The invention will be found fully illus-

trated in the accompanying drawings, wherein—

Figures 1 and 2 are side views of cans having my improved side seams, Fig. 2 being a slight modification of Fig. 1. Fig. 3 is an enlarged horizontal sectional view of the joint as shown in Fig. 1; Fig. 4, an enlarged vertical section view thereof. Figs. 5 and 6 are enlarged horizontal and vertical sectional views, respectively, through a can side seam which is double rolled; and Fig. 7, a view similar to Fig. 3, illustrating a slight modification.

In said drawings, *a* designates a can, and *b* and *c* are the meeting edges of the cylindrical body portion thereof, said meeting edges being bent back upon themselves toward each other and interlocked, as shown in Fig. 3. As illustrated in Fig. 5, the seam or joint is formed in substantially the same manner, except that it consists of six thicknesses of metal instead of four. Preferably the joint or seam thus formed is flattened from the top to the bottom of the can, so that viewed in section it stands practically in a chord of the circular outline of the can, as illustrated by the dot-and-dash line, Fig. 3. The meeting edges of the body of the can being thus joined, a suitable tool is used to stamp in the metal a series of narrow elongated indentations, each extending transversely of the seam. The indentations should be relatively deep and acute, so that the effect is to produce a series of stout ribs *e*, projecting inwardly. Moreover, on stamping the indentations in the metal (which operation, it is to be observed, is effected against only one face of the metal) the result is rather to displace the metal immediately involved in the production of the rib, stretching it at that point, as it were. This is quite a different thing, it may be noted, from simply bending the metal of the joint in accordance with the aforementioned methods heretofore produced, for an operation such as that means to reduce the length of the joint-forming portion of the metal of the can, whereas this does not.

It being obvious that it is much more diffi-

cult to bend a piece of ribbed metal transversely of its ribs, it will be understood that the unrolling of a joint or seam of a can formed as above described will be practically impossible.

As illustrated in Fig. 2, where the indentations are shown as extending both sides of the joint into the metal of the body of the can, the perfect sealing and strengthening of the joint is even more enhanced.

The joint or seam illustrated in Fig. 7 is substantially the same as that of Fig. 3, with the exception that it is inwardly curved or channeled—that is to say, curved in a direction opposite to that of the body of the can—whereby additional strength is imparted to the joint.

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

1. A lock-joint for sheet-metal vessels having the portions of its metal at spaced intervals throughout the length and width of said joint indented and stretched, and thus displaced, transversely of said joint, to form transverse ribs.

2. A lock-joint for sheet-metal vessels pro-

vided with elongated transverse indentations arranged at right angles to the joint, each of said elongated indentations being curved inwardly.

3. A sheet-metal vessel having the meeting edges of its body portion interlocked with each other to form the side seam or joint, said seam or joint being provided with transverse elongated indentations and being curved or channeled inwardly in a longitudinal direction, said indentations being arranged at right angles to the joint substantially as described.

4. A sheet-metal vessel having the meeting edges of its body portion interlocked with each other to form the side seam or joint, said seam or joint being provided with a series of transverse elongated indentations increasing in length toward the center of the joint and extending into the body portion of the sheet-metal vessel, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of October, 1901.

WALTER THOMPSON.

Witnesses:

ALFRED GARTNER,
JAMES B. NEWTON.