

(No Model.)

J. F. ROSS.

COLLAR FOR SHEET METAL VESSELS.

No. 308,281.

Patented Nov. 18, 1884.

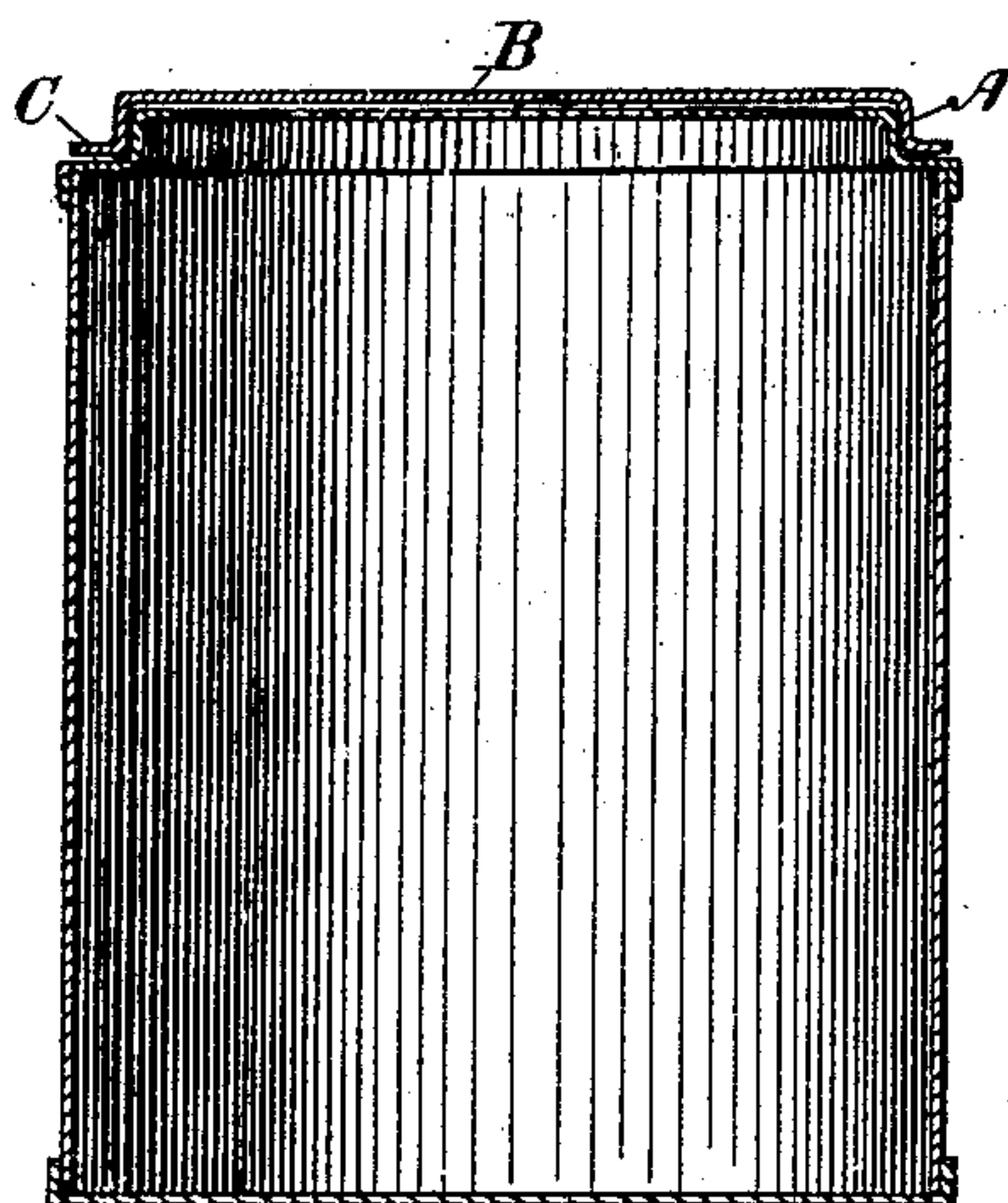


Fig. 1.

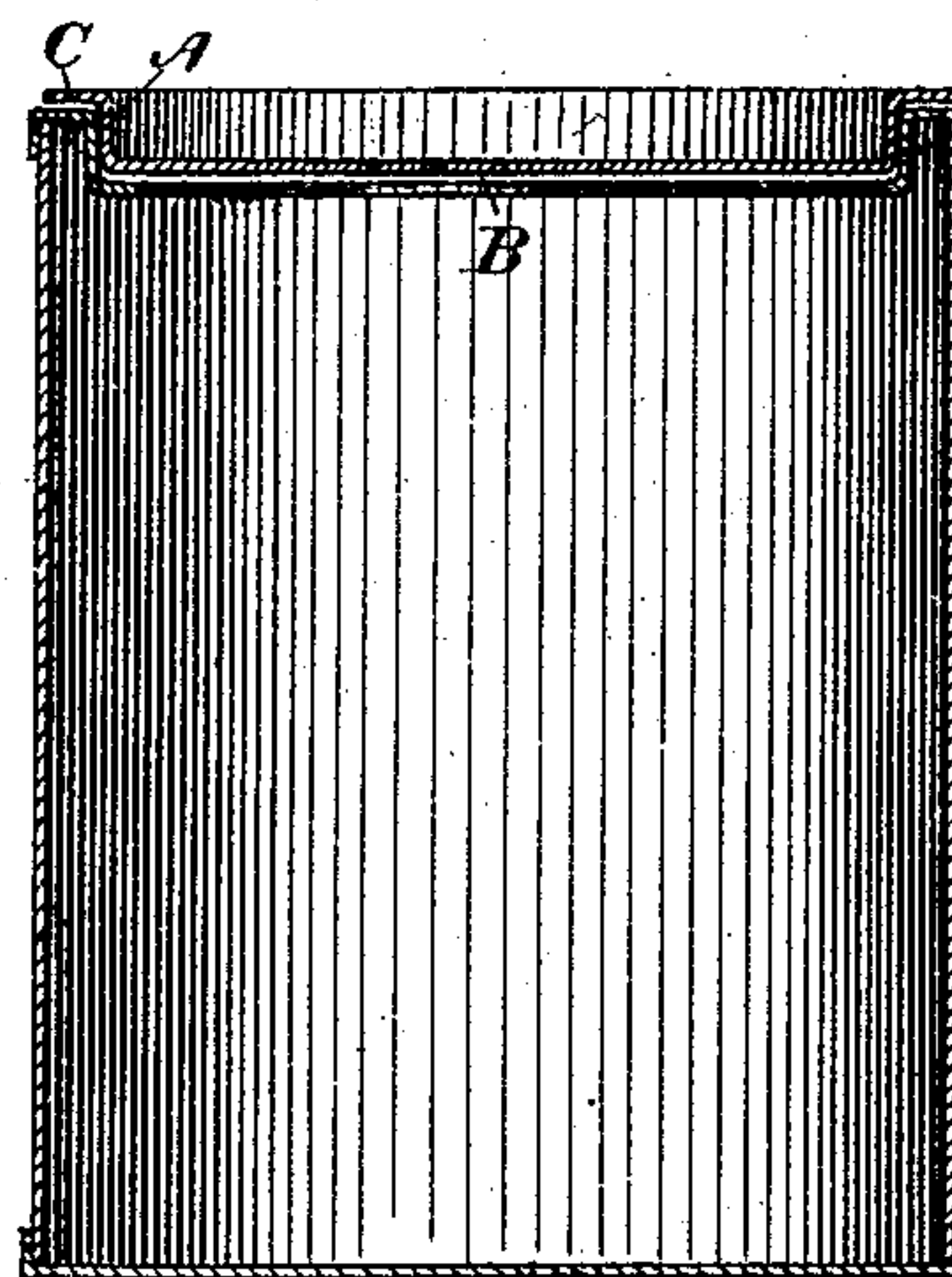


Fig. 2.

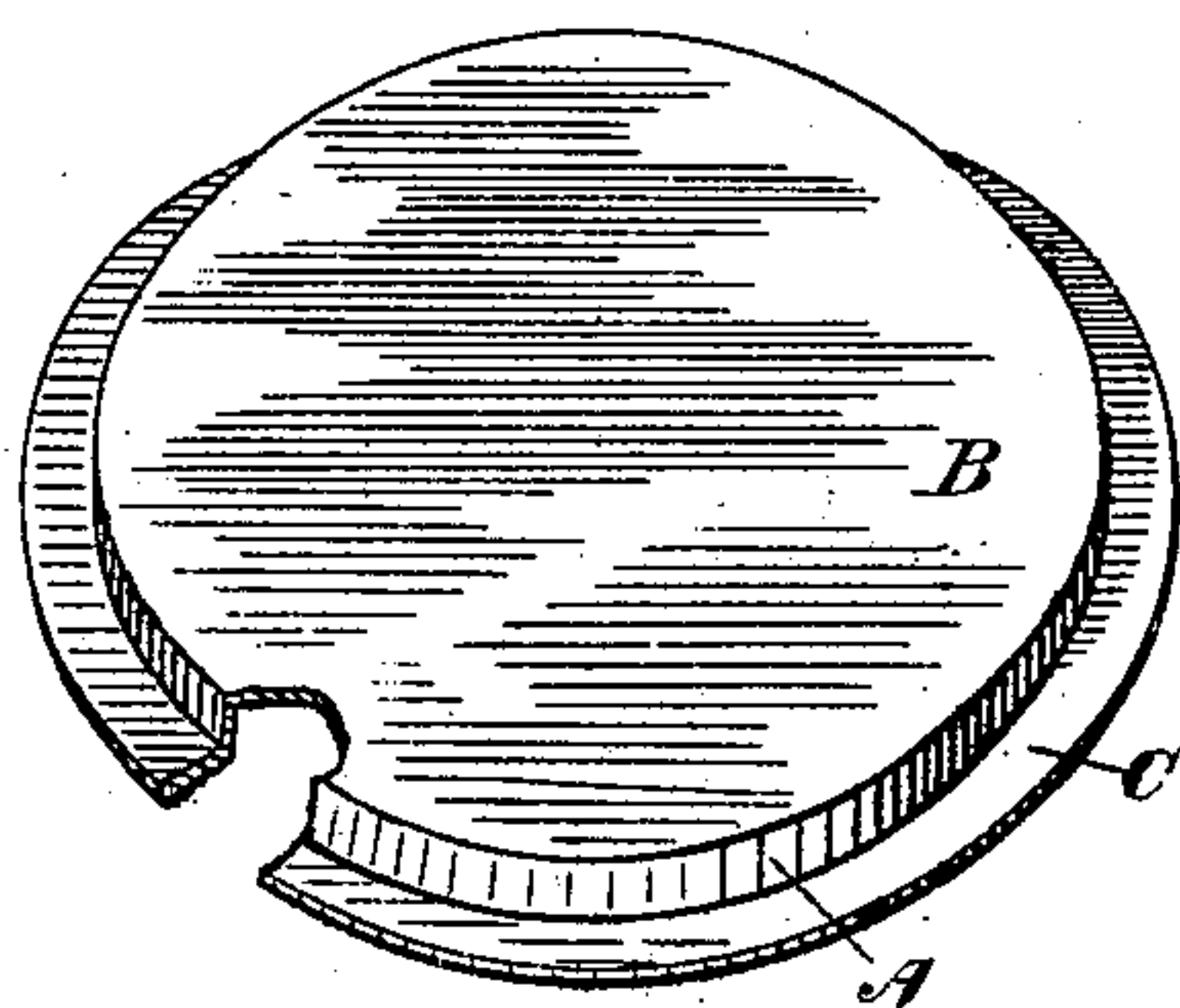


Fig. 3.

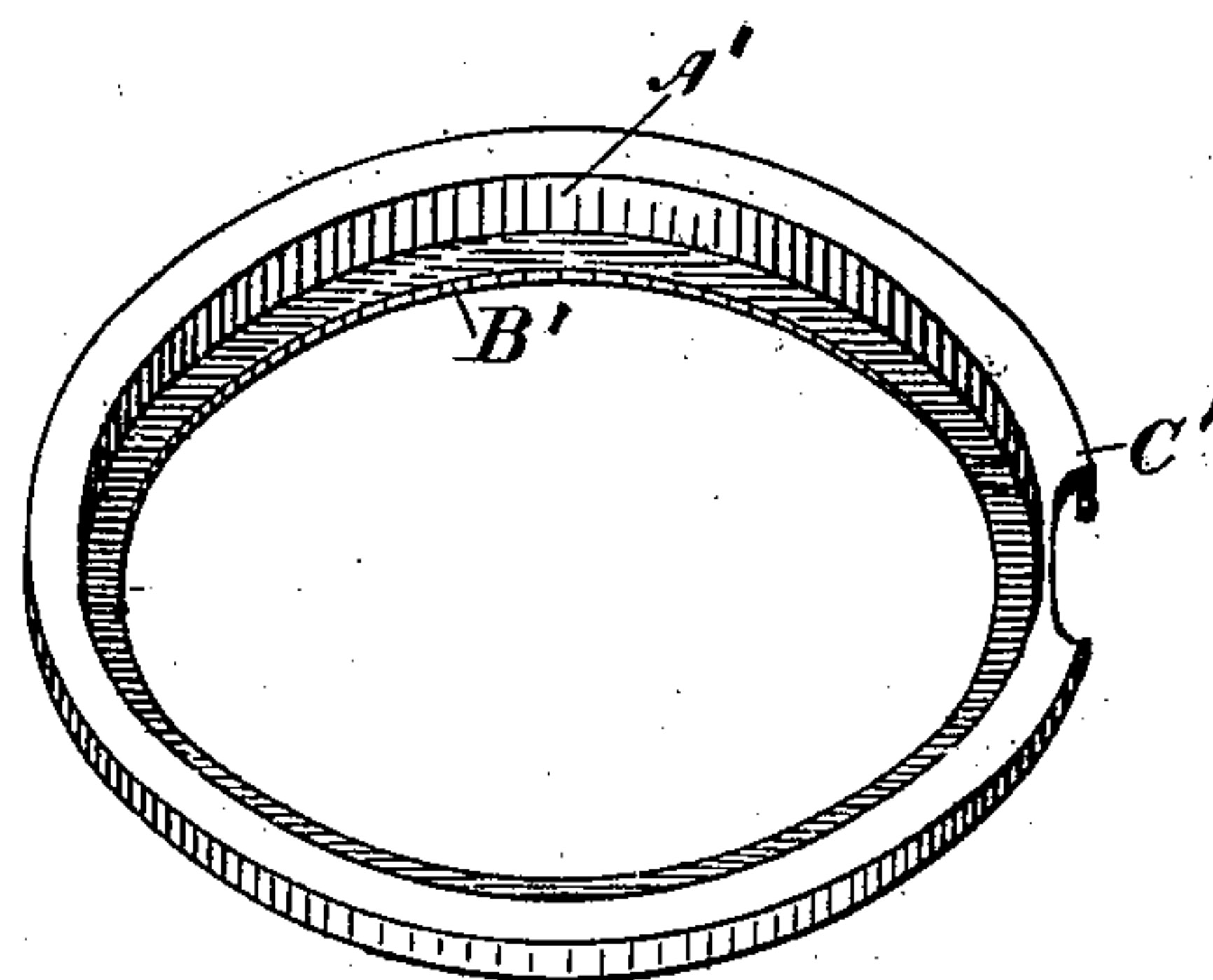


Fig. 4.

Witnesses.

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JOHN F. ROSS, OF TORONTO, ONTARIO, CANADA.

COLLAR FOR SHEET-METAL VESSELS.

SPECIFICATION forming part of Letters Patent No. 308,281, dated November 18, 1884.

Application filed August 7, 1884. (No model.) Patented in Canada August 16, 1884, No. 20,002.

To all whom it may concern:

Be it known that I, JOHN FORSTER ROSS, of the city of Toronto, in the county of York, in the Province of Ontario, manufacturing tin-smith, have invented a new and useful Sheet-Metal Plug for Metal Vessels or Packages; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of the invention is to design a plug, lid, or stopper for a metal case, which may be pressed or forced into position so as to hermetically seal the package or vessel without the necessity for introducing solder or other sealing substance; and it consists, essentially, of a sheet-metal disk stamped so as to form a dish having sides at about right angles to its bottom, and an outwardly-projecting flange around the top edge of the side so formed, in combination with a ring stamped into a form substantially corresponding inversely with that of the lid, and secured to the mouth of the package or vessel, the relative diameters of the sides of the lid and ring being such that under great pressure they may be compressed into or onto each other so as to form a tight joint between the two, substantially as hereinafter more particularly explained.

In the drawings the thickness of the metal forming the parts is exaggerated in order to better illustrate the invention.

Figure 1 is a sectional elevation of a package having the lid arranged to fit over the ring circling the mouth of the package. Fig. 2 is a similar view exhibiting the device when the lid is pressed into the ring. Fig. 3 is a perspective view, partially in section, of the lid. Fig. 4 is a perspective view of the ring, partially in section, employed in connection with the lid.

In Figs. 1 and 2 I purposely show the lid not pressed home, in order that the form of both the lid and the ring may be better understood.

As will be seen by Fig. 3, the lid consists of a sheet-metal disk stamped so as to form a dish having a wall, A, at about right angles to the bottom B, and an outwardly-projecting flange, C, around the top edge of the wall A. The ring shown in Fig. 4 corresponds in form, it will be seen, inversely with the form of the lid shown in Fig. 3, A' being its wall, and C' its

flange; but a portion of the bottom is cut away so as to leave an opening into the package, but leaving sufficient of it around the edge of the wall A' to form a flange, B', which serves as a strengthening flange for the wall A'.

It will thus be seen that in both the lid and the ring the walls A', which are called upon to withstand the strain caused by compressing one into the other, are so firmly braced by the form described that they cannot be expanded or contracted to any appreciable extent, consequently when the lid is pressed into or onto the ring, the joint formed between the two is absolutely tight, and no shaking or jarring would be sufficient to separate the two.

Another great advantage in the form of the lid here described is that a package provided with a ring formed in accordance with my invention, and having a lid correspondingly shaped, as described, may be hermetically and permanently sealed by simply pressing the lid into or onto the ring, it merely being necessary to provide means for pressing the lid into position, neither solder or its equivalent, nor skilled labor, being required for the purpose of effecting the seal. Moreover, as my cover cannot be united to the can without great pressure, it will be easily seen before the two are put into the press to unite them whether or not they are of the proper relative size to form a tight joint, and thus imperfect joints will be prevented.

It will be observed that the flanges to the walls on the lid and ring are arranged to fit closely to each other, and that the walls of the two sections are to be of such relative sizes that they cannot be fitted together without great pressure. This I consider of great importance, as, unless they were of this relative size, it would be impossible to produce a sufficiently tight joint.

I am aware of the Patent No. 123,837, in which a ring having an inclined wall is provided with a lid having a similarly-inclined wall; but make no claim to the invention shown therein, as with a ring and lid of that form a slight pressure would readily separate the lid from the ring, but with my arrangement this cannot be done.

I am also aware of Patent No. 83,849, and make no claim to the construction shown therein as forming part of my invention, as I deem

my invention as essentially different there-
from and an improvement thereon, inasmuch
as in the device above referred to a separate
locking device is necessary to hold the cover
5 securely in place, whereas mine, when once
pressed into place, needs no locking device to
keep it there.

I am also aware of the English Patent No.
1,301 of 1882, and make no claim to the con-
10 struction shown therein.

What I claim as my invention is—

A closure for a package consisting of two
sections, one forming a ring and the other a
15 lid, each section having a wall formed substan-
tially perpendicular, and a flange at right an-

gles thereto, the inner diameter of the receiv-
ing-section being sufficiently smaller than the
wall of the entering section to prevent the se-
curing of the two together without great press-
ure, whereby when the two are forced to- 20
gether under a proper pressure the inner
wall is slightly compressed and the outer
wall slightly expanded, and an air-tight joint
is formed, substantially as described.

JOHN F. ROSS.

Witnesses:

GEO. MARLIN RAE,

Of the city of Toronto, Notary Public.

CHARLES C. BALDWIN.