

(No Model.)

C. N. LEROY.

METALLIC CASING FOR SHIPMENT OF PETROLEUM.

No. 575,034.

Patented Jan. 12, 1897.

FIG. 1

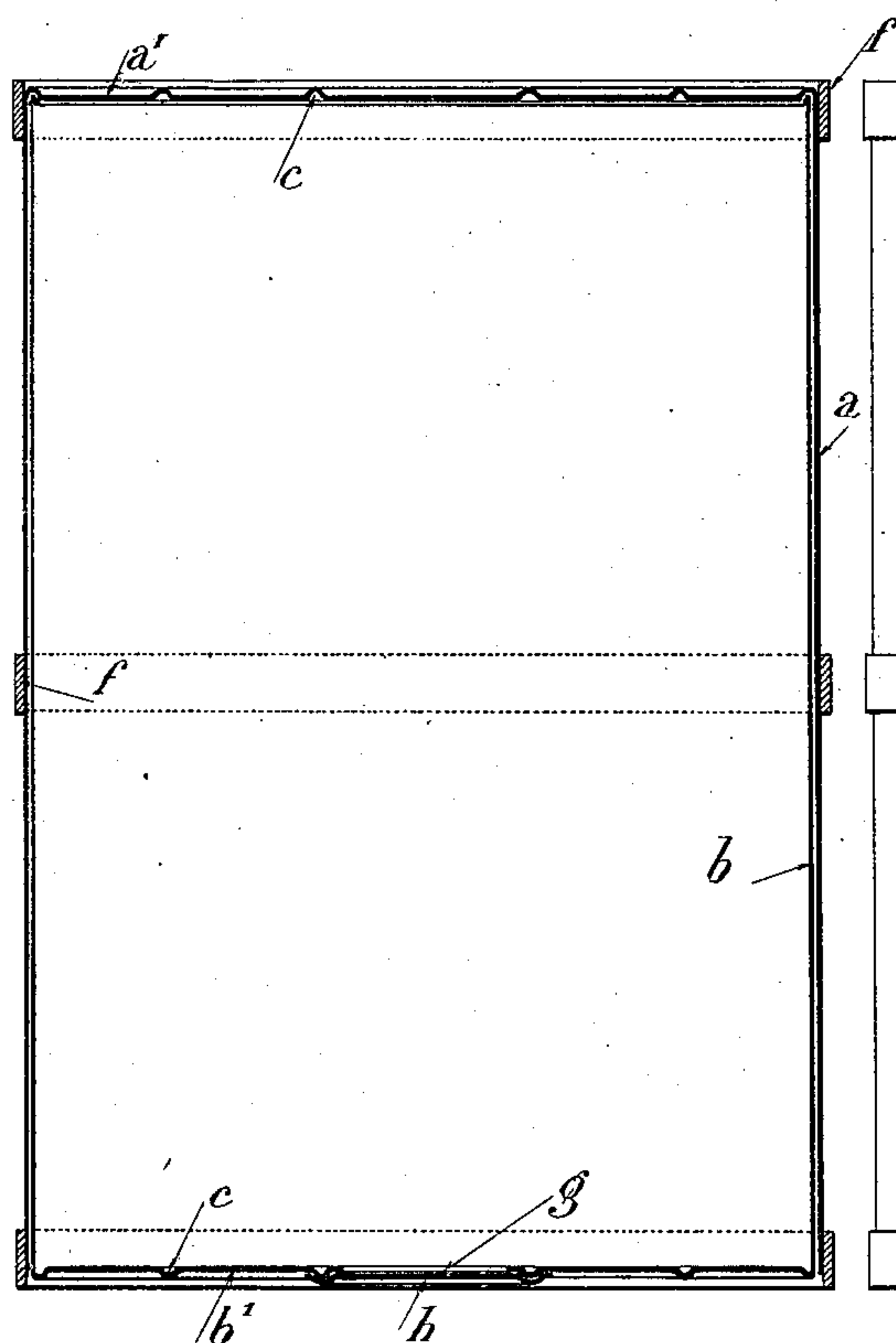


FIG. 2

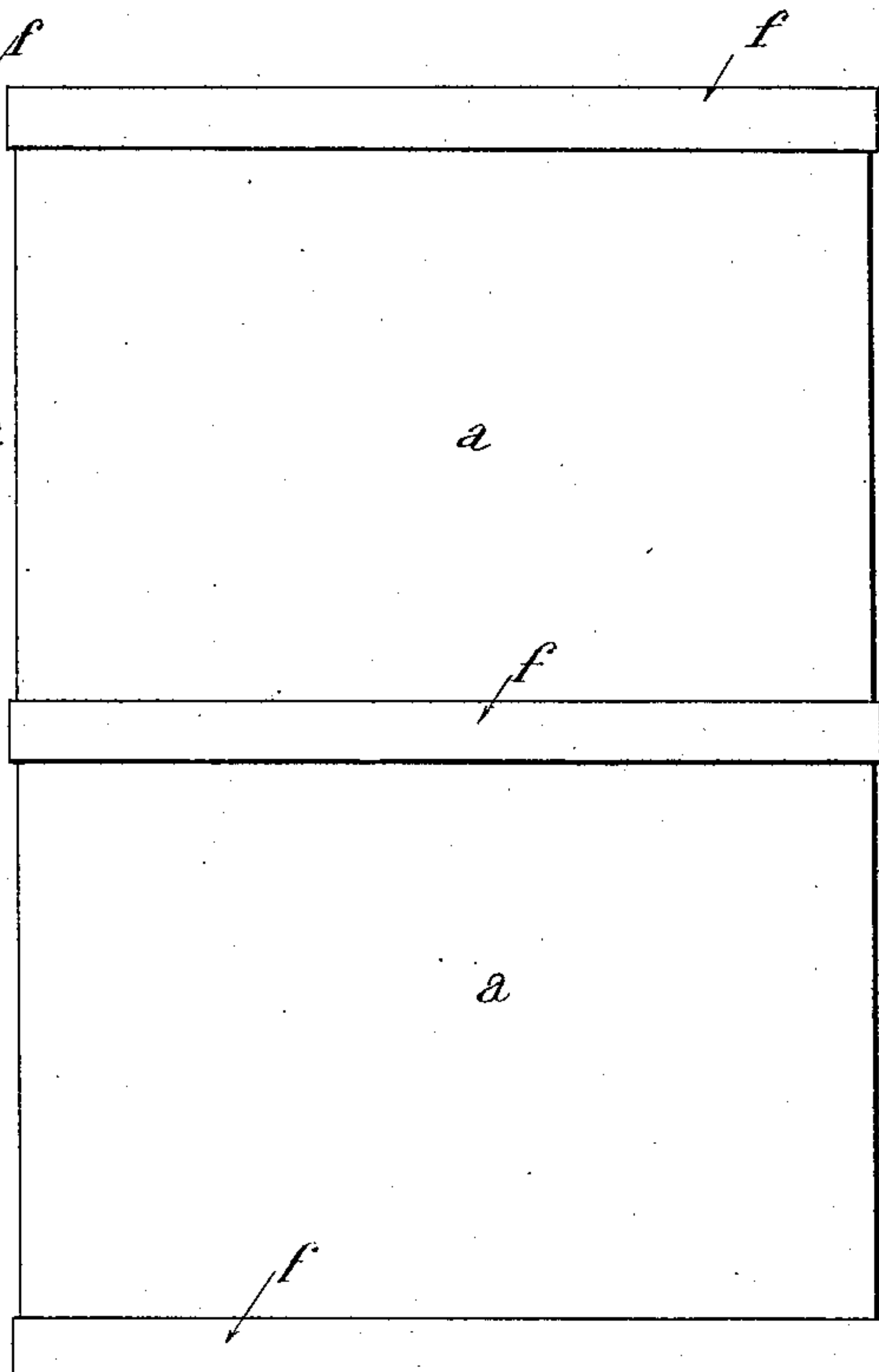


FIG. 3

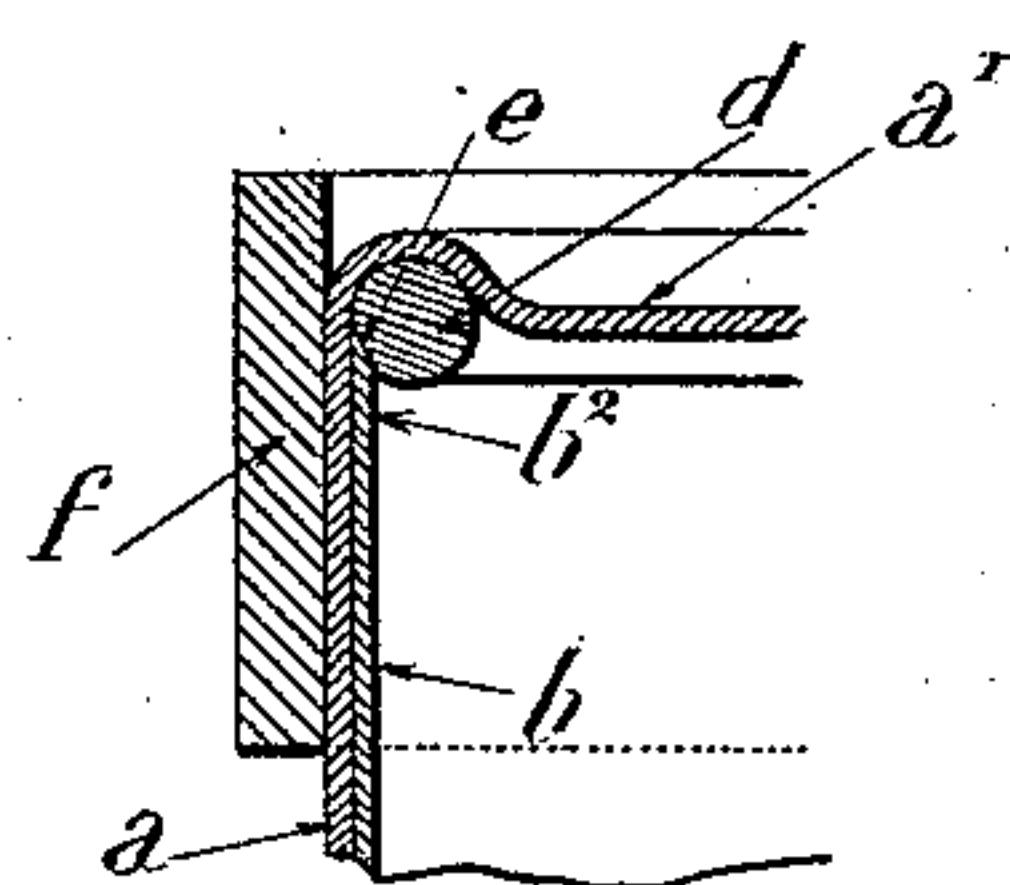


FIG. 4

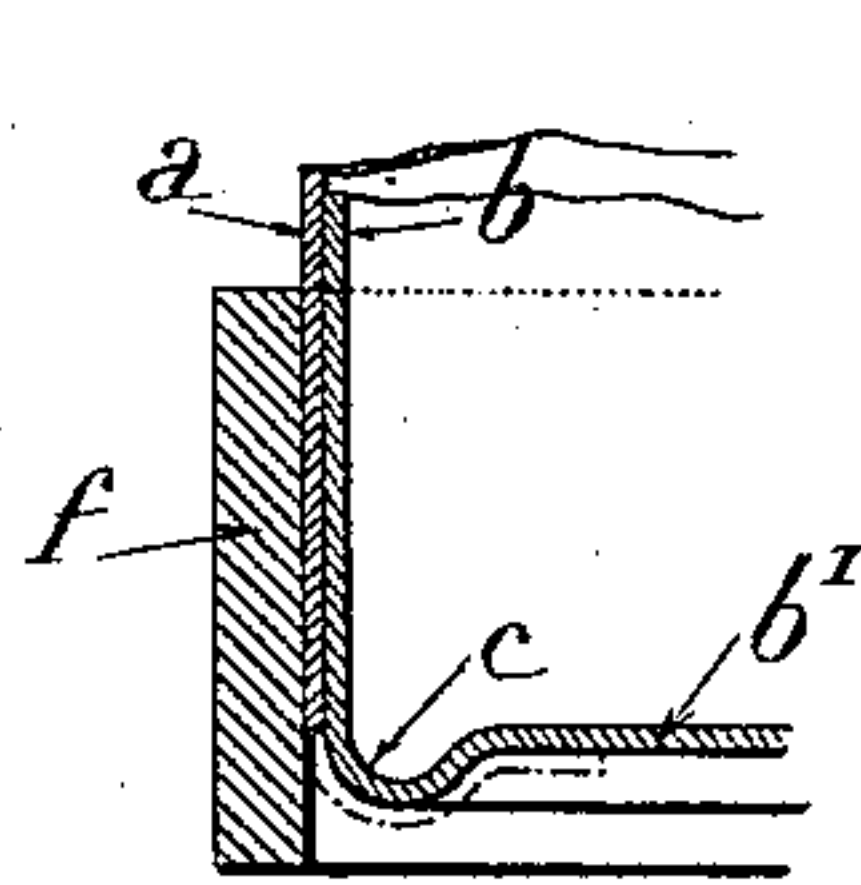
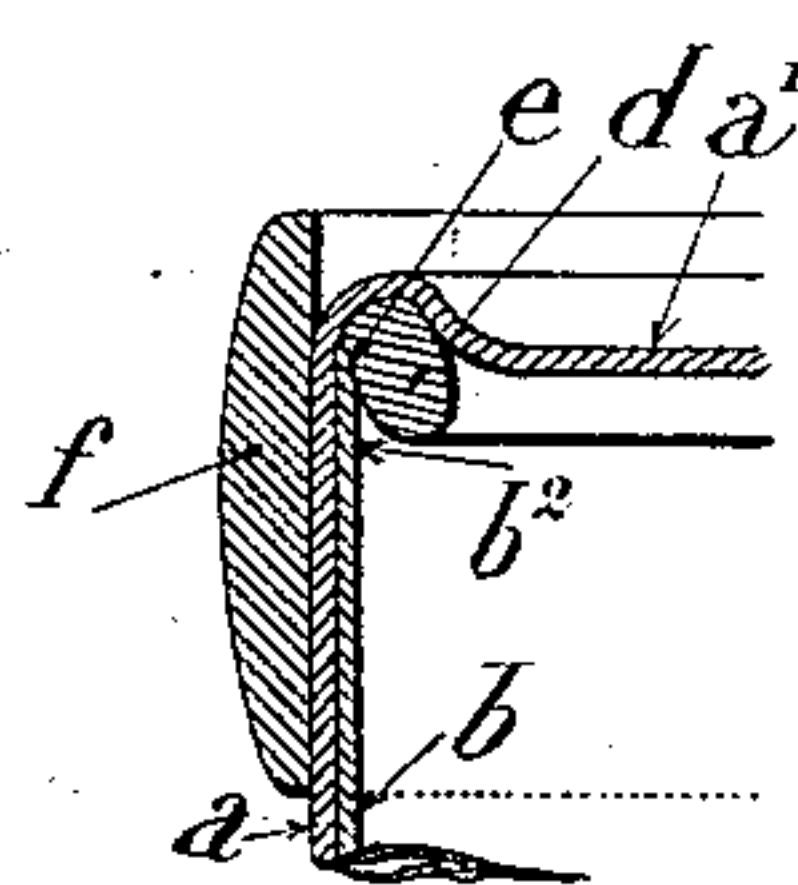


FIG. 5



Witnesses:
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att'y.

UNITED STATES PATENT OFFICE.

CHARLES NICOLAS LEROY, OF PARIS, FRANCE.

METALLIC CASING FOR SHIPMENT OF PETROLEUM.

SPECIFICATION forming part of Letters Patent No. 575,034, dated January 12, 1897.

Application filed December 19, 1895. Serial No. 572,657. (No model.) Patented in France November 3, 1894, No. 242,607.

To all whom it may concern:

Be it known that I, CHARLES NICOLAS LEROY, mechanical engineer, a citizen of the Republic of France, residing at 91 Rue Oberkampf, Paris, in the Republic of France, have invented new and useful Improvements in Metallic Barrels or Casks, (for which I have obtained a patent in France, No. 242,607, bearing date of November 3, 1894,) of which the following is a specification.

My invention refers to metallic barrels or casks to be used in shipping petroleum and other more or less similar liquids which are characterized by the manner in which their principal parts are manufactured and by the novel method of utilizing the contraction of metallic tubes produced by chilling the same after having first heated them, all for the purpose of making the casings absolutely tight.

In the accompanying drawings, Figure 1 is a longitudinal section of a cask constructed according to my invention. Fig. 2 is an elevation of the cask. Figs. 3, 4, and 5 are detail drawings, to which I refer in the following description.

My cask or barrel is composed of two cylinders *a* and *b* of substantially the same diameter and length, each having at one end an integrally-formed cap or head *a' b'*, the opposite ends being open, the said cylinders being formed by stamping the same out of sheet iron or steel, the two cylinders being connected together by heating one, thereby expanding it, and inserting the open end of the other in a cold condition into the open end of the heated one, so that the contraction of the outer or heated cylinder in cooling will form a tight union between the two cylinders, all without the employment of supplementary parts or of solder.

The bottoms *a' b'* of the cylinders are reinforced by ribs or corrugations *c c*.

The dimensions of the cylinders *a* and *b* are exactly the same or are substantially the same. For the purpose of inserting one into the other the outer cylinder *a* is first heated to a temperature sufficient to produce the expansion required to permit of introducing into it the interior cylinder *b*. Upon its cooling, the surfaces in contact with each other will firmly adhere to each other and will so

combine with each other along their entire surfaces as to form an absolutely tight joint. To guard against irregularities in said joint, I place in the bottom of the exterior cylinder *a* and before the insertion of the interior cylinder *b* a ring *d*, made of malleable metal, lead or tin, for instance, and of whatever section may be produced or formed by the end *b²* of the inner cylinder being forced against it. A suitable pressure applied to the cylinder or even such as will result from its own weight will cause the edge *e* to be properly united with ring *d*, as shown in Fig. 3. If necessary, the joint can be perfected by making the bottom *a'* of the exterior cylinder bind upon the malleable ring *d*, as shown in Fig. 5.

I indicate in Fig. 4 by a broken line how the edge of exterior cylinder *a* may be deflected inward against bottom *b'* of the interior cylinder *b*, so as to offer, if necessary, absolute resistance to any relative displacement of parts *a* and *b*.

My metallic barrel or cask so constructed may be encircled by two or three iron or steel bands *f*, of either straight cross-section (Figs. 1 and 4) or of curved cross-section (Fig. 5) and applied either hot or cold.

The bottom of one of the cylinders *a b*, for instance *b'* of the interior cylinder, is provided with an aperture *g* for filling the casing, which aperture, after such filling, is closed by a stopper *h*, soldered to the bottom, or any other suitable closing device may be employed.

My barrel or cask may be provided with perforations for emptying the same and may have attached to it any additional devices which may make the same more serviceable. Finally, the cylinders *a* and *b* may be made of different thicknesses.

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

1. A metallic barrel or cask for the transportation of petroleum or other liquids, composed of two sheet-steel or sheet-iron cylinders of equal diameters and of the same length, each stamped from a single piece of metal with an integrally-formed cap or head at one end, and firmly united together by incasing one cylinder within the other while the outer cylinder is heated, substantially as set forth.

2. The combination with the two cylinders

a b of substantially the same diameter and length and each having an integrally-formed head or cap at one end, and adapted to be tightly united together by inserting one cylinder within the other, as described, of a ring *d* of malleable metal or the like inserted in the bottom of the outer cylinder *a* and adapted to unite with the edge of the inner cylinder *b*, substantially as set forth.

10 3. A metallic barrel or cask for the transportation of petroleum and other like liquids, consisting of two stamped-up sheet iron or steel cylinders of substantially equal diam-

eters and length, each having one end closed by an integrally-formed head or cap provided with ribs or corrugations, the said cylinders firmly united to form a complete receptacle by inserting the open end of one into the open end of the other and shrinking one upon the other, substantially as set forth. 15 20

In witness whereof I have hereunto set my hand in presence of two witnesses.

CHARLES NICOLAS LEROY.

Witnesses:

E. GAUREND,
EUGENE WATTIN.