

Model.)

J. L. BARLOW.  
Metal Lined Wooden Barrel.  
Patented Dec. 28, 1880.

No. 235,980.

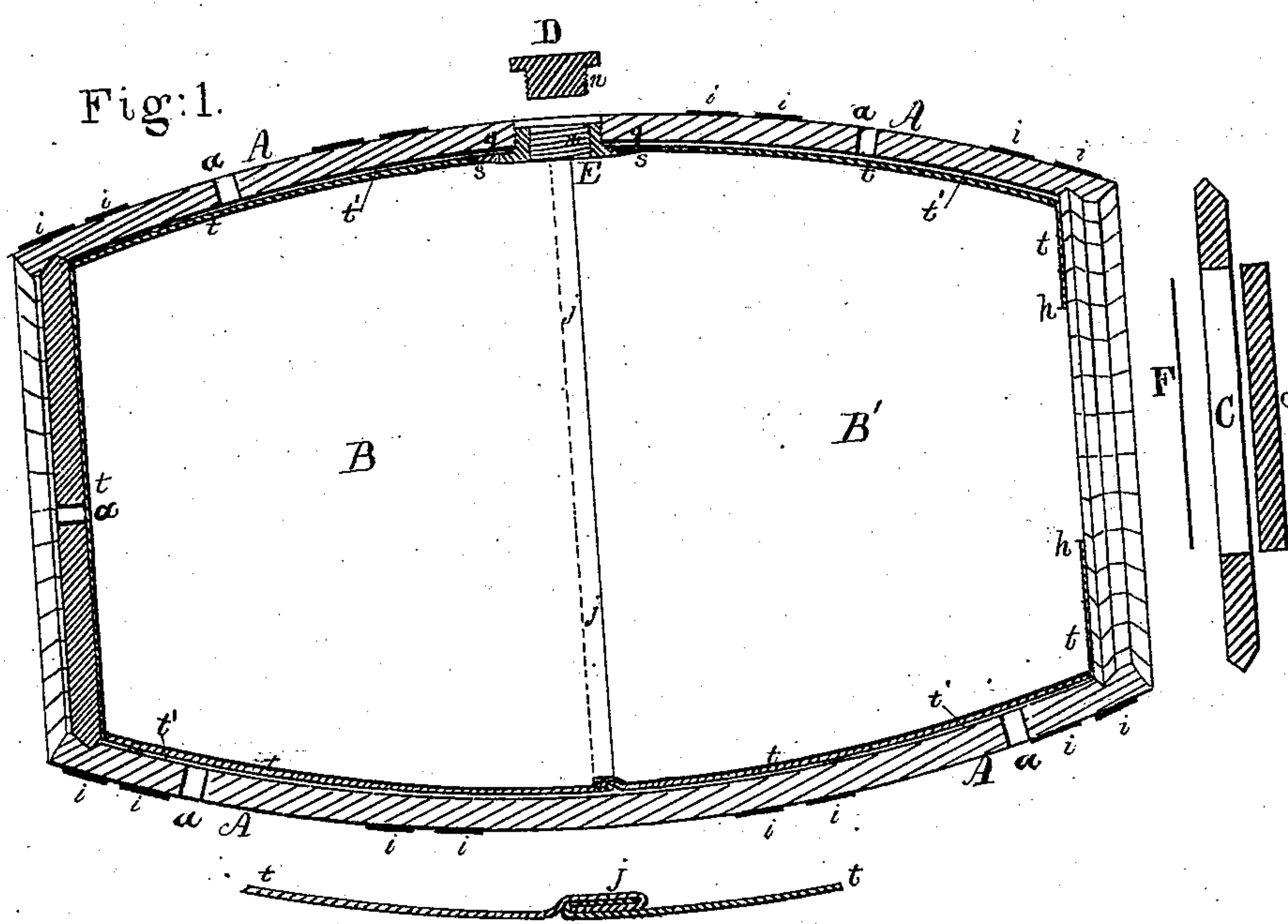


Fig. 5.

Fig. 2.

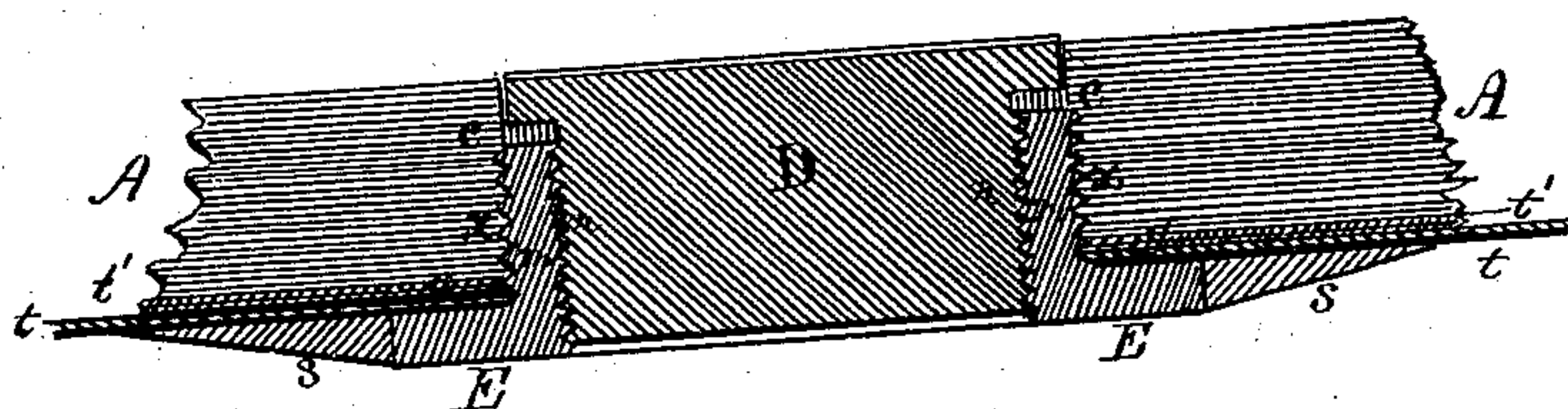
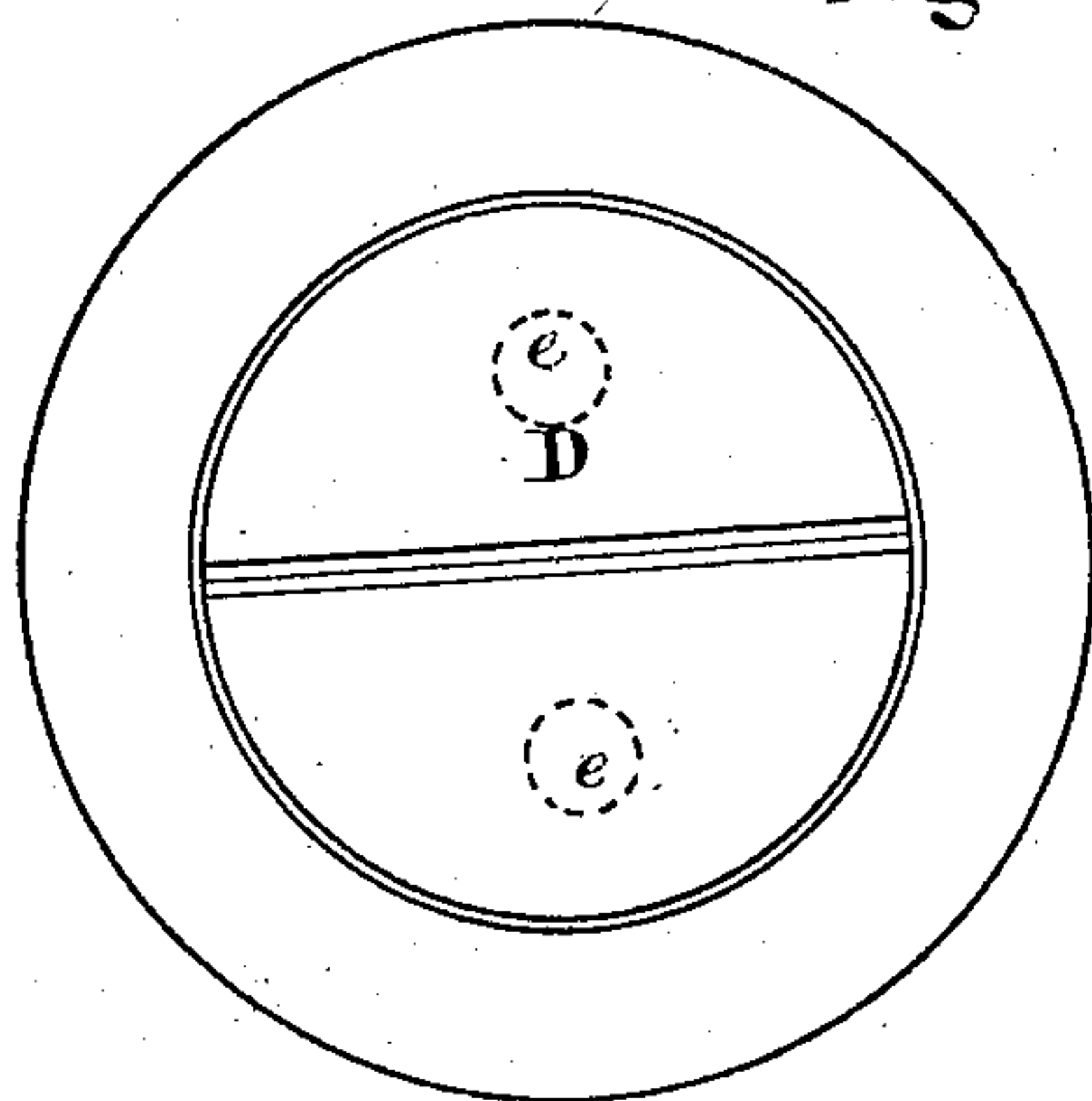
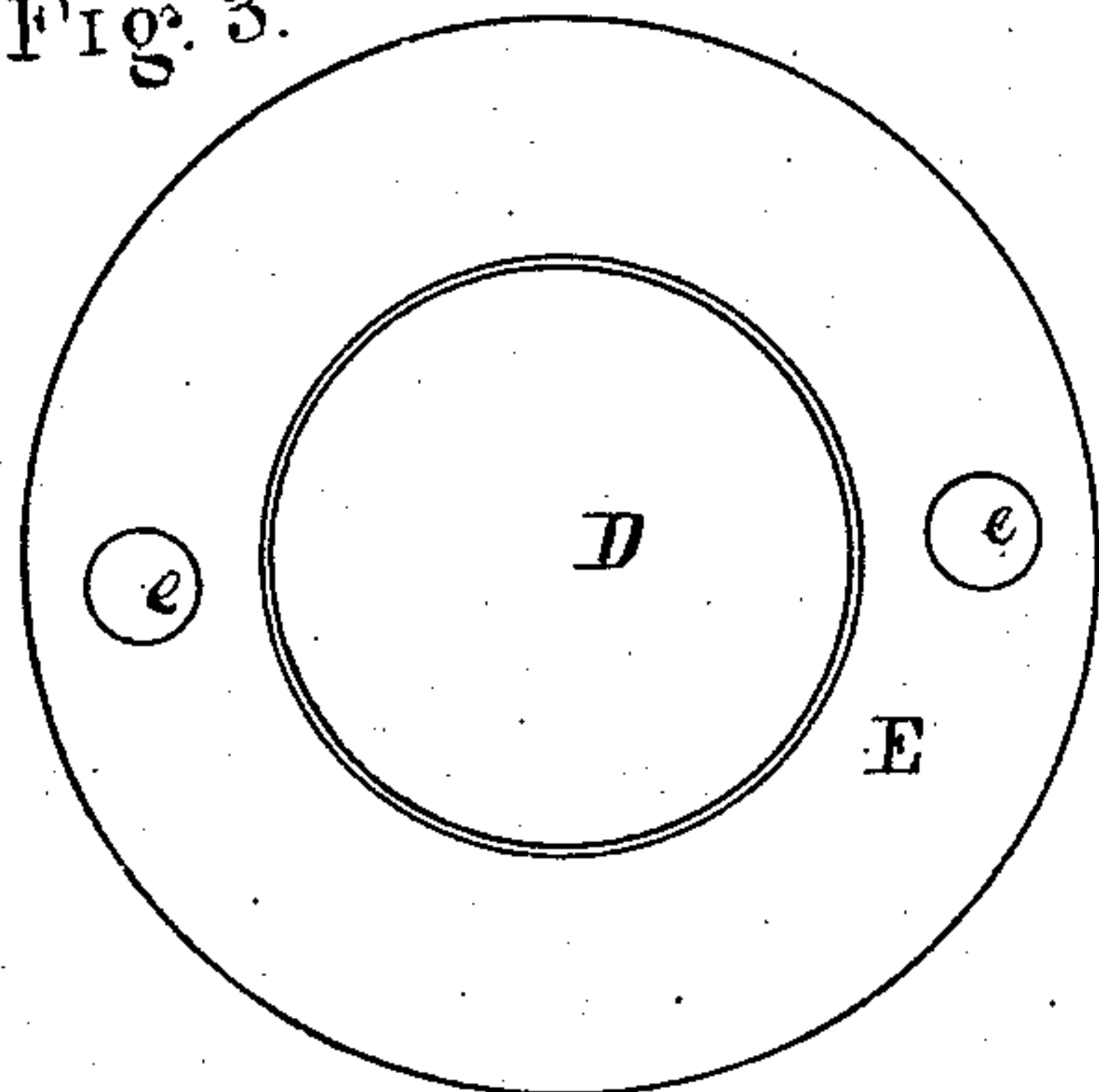


Fig. 4.

Fig. 3.



Witnesses

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Inventor

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# UNITED STATES PATENT OFFICE.

JOSEPH L. BARLOW, OF WILMINGTON, NORTH CAROLINA.

## METAL-LINED WOODEN BARREL.

SPECIFICATION forming part of Letters Patent No. 235,980, dated December 28, 1880.

Application filed September 3, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH L. BARLOW, of Wilmington, in the county of New Hanover and State of North Carolina, have invented certain Improvements in Metal-Lined Wooden Barrels, of which the following is a specification.

This invention relates to certain improvements in the construction of metal-lined wooden barrels, whereby they are rendered perfectly air, spirit, and vapor tight, as will be hereinafter more fully described, and set forth in the claim.

In the drawings, Figure 1 is a longitudinal vertical section of a barrel. Fig. 2 is a section of the bung and holder. Fig. 3 is a bottom view, and Fig. 4 a top view, of the bung and holder. Fig. 5 represents the lap in section.

A A represent the staves of a wooden barrel; B B', two sections of the metal lining. C is a wooden head. D is a metal bung. E is the bung-holder. F is a covering metal plate.

In the construction of a barrel the metal lining *t t t*, &c., is first made complete (all joints being double locked and soldered inside and outside) in the two halves or sections B B', which are then joined together by the double-locked joint *j j*, Fig. 5. (Shown in section.) A round hole, *h h*, having been left open in the end of one of the sections, B', the wooden barrel A is now built over the metal lining. The head C is left out to give access to the hand-hole *h h*. The bung-hole, of suitable size to receive the bung-holder E, is then bored down to the metal lining *t t*, which is easily cut through by placing inside and underneath a leaden backer, introduced through the hand-hole *h h*, and by the use of mallet and chisel or any other suitable cutter. The bung-holder E is then introduced through the hand-hole *h h*, and screwed firmly up into the bung-hole by means of a wrench, or otherwise, worked either inside or outside, fitting into slots *e e*, either round or trenched, of sufficient depth, or fitting over short pins in place of round holes, the shoulders *g g* pressing the metal lining *t t* closely to the wood of the barrel A. A heavy floating joint of solder, *s s*, is then made around the shoulder *g g*, connecting it with the metal lining *t t*. The hand-hole *h h* is now closed up with the somewhat larger circular metal plate F, secured to the lining *t t* by a

floating solder joint. In the wooden head C, which covers the metal plate F over the hand-hole *h h*, is a similar but larger hand-hole, for removing the metal cover F in the metal barrel or lining for the purpose of making repairs inside of it, when necessary, or for any other purpose, without removing the hoops or otherwise injuring the wooden barrel. The circular hole in the wooden head is then closed up with a circular piece of wood, *c'*, which fits it, and is fastened by straps of metal across the head or by any other suitable means, the wooden head C having previously been put in its place and the hoops *i i* properly set up. The washer *c*, of lead, leather, rubber, or any other suitable material, is now put in place, and the metal bung D is then screwed down tightly upon the washer *c*. The bung-holder E has an outside screw-thread, *x*, whereby it is secured to the wooden barrel, and also an inside screw-thread, *m*, into which the screw-plug *n* of the bung D is secured, there being a space, *t'*, between the end of bung-holder E and the shoulder of bung D, which is filled by the washer *c*, above referred to. All the space *t'* that exists between the metal lining *t t* and the wooden staves is then filled with any suitable material, either liquid, (hot or cold,) powdered, or in any other form, through holes *a a*, bored in either or all of the staves, and through both heads in the wooden barrel, either before or after the completion of the barrel, or in any other way by which the said space can be filled in, the holes to be afterward plugged up for the purpose of making the barrel more compact and solid. The result will be an airtight, spirit and vapor tight metal-lined wooden barrel. The purpose is to use a material or composition that will fill the space, and not to add any more weight to the barrel than can be avoided. Among the many which may be used are pine-pitch, brewer's pitch, rosin, flour paste, plaster-of-paris, coal-tar, asphaltum, &c. The lightest which can be procured in the localities where the material contained in the barrel may be manufactured or distilled is to be used.

Among the many advantages secured by this improvement are assurance against loss by leakage or evaporation, so that spirits of turpentine and other volatile liquids can be held in the market, like cotton and other sta-

ples, for any length of time without loss; also,  
avoiding the inconvenience and much of the  
danger of fire from such leakage and evapora-  
tion in ships carrying such liquids in the ordi-  
5 nary barrels; also, avoiding the great expense  
in the ordinary method of gluing and its cost.  
Second-hand barrels with these improvements  
will be nearly as valuable as new ones. These  
improvements can be applied to any well-made  
10 barrels in good preservation. For these and  
other obvious reasons it is believed that a  
great saving to the trade will result from the  
use of these improvements.

I claim—

The metal lining of a barrel made in two 15  
sections, having a hand-hole in one section  
covered by a soldered plate, in combination  
with a wooden barrel having a hand-hole in  
one head and a cover secured, all substantially  
as and for the purpose described.

JOSEPH L. BARLOW.

Witnesses:

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