

(No Model.)

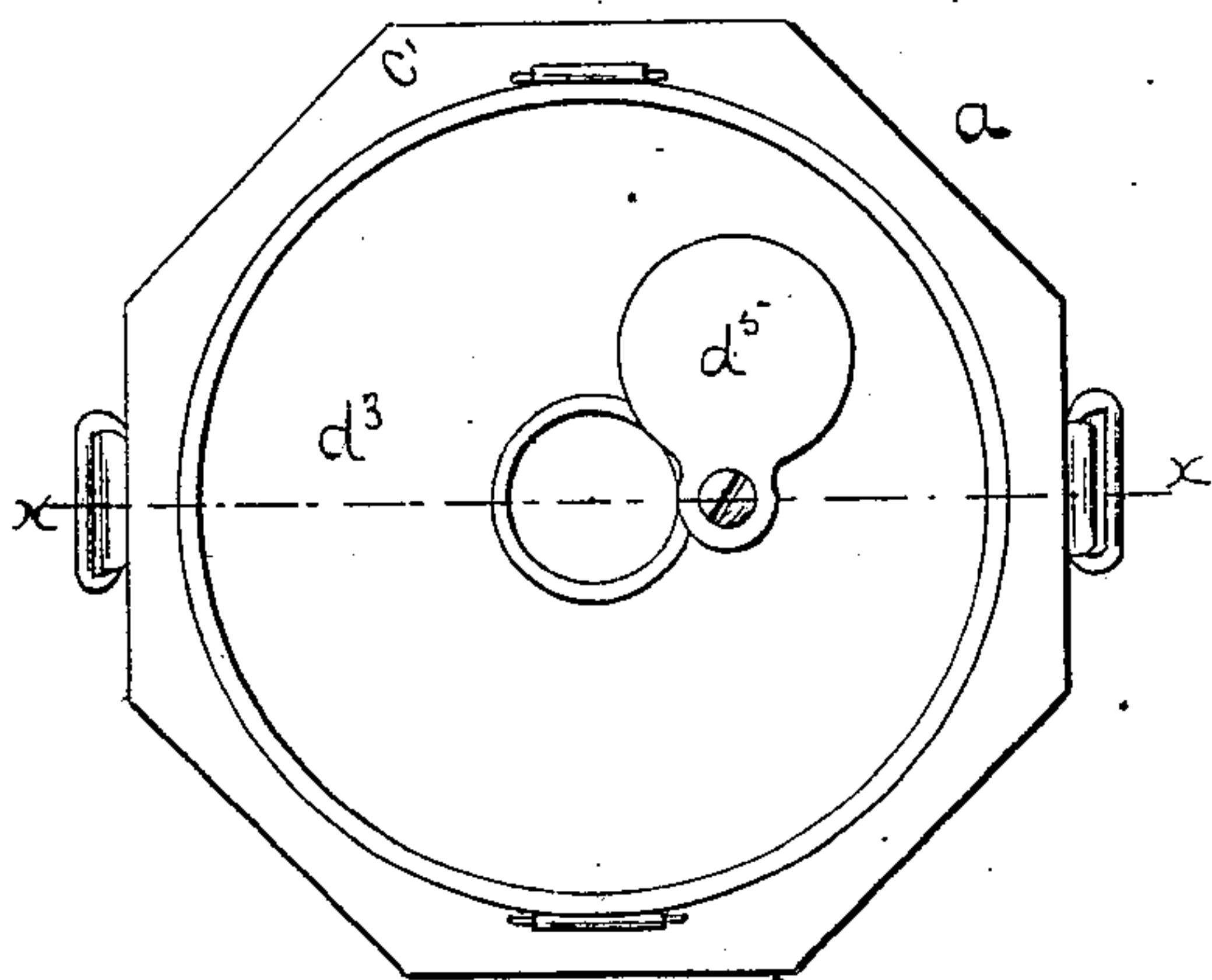
2 Sheets—Sheet 1.

J. F. SWAB.  
HAULING CAN.

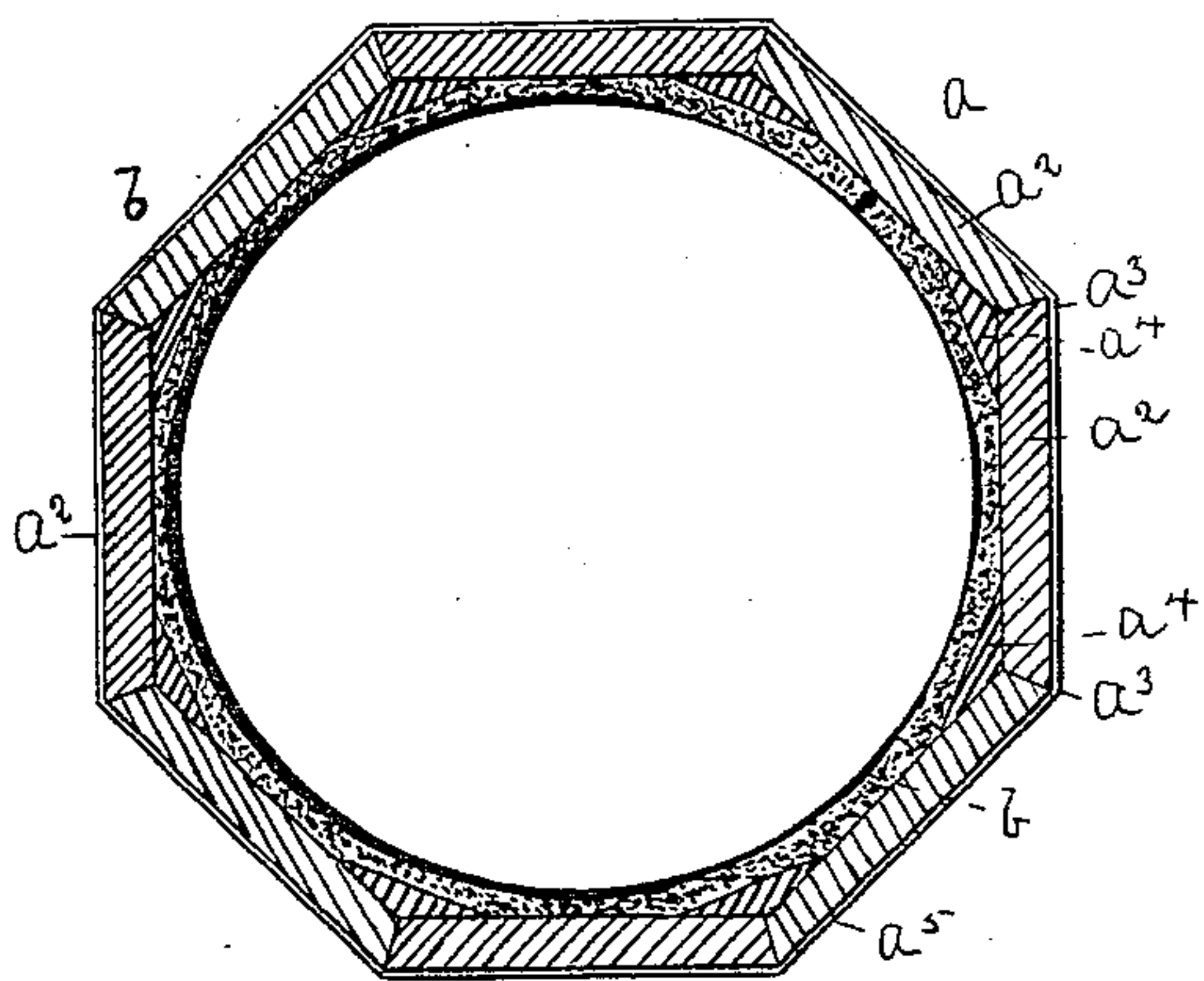
No. 282,585.

Patented Aug. 7, 1883.

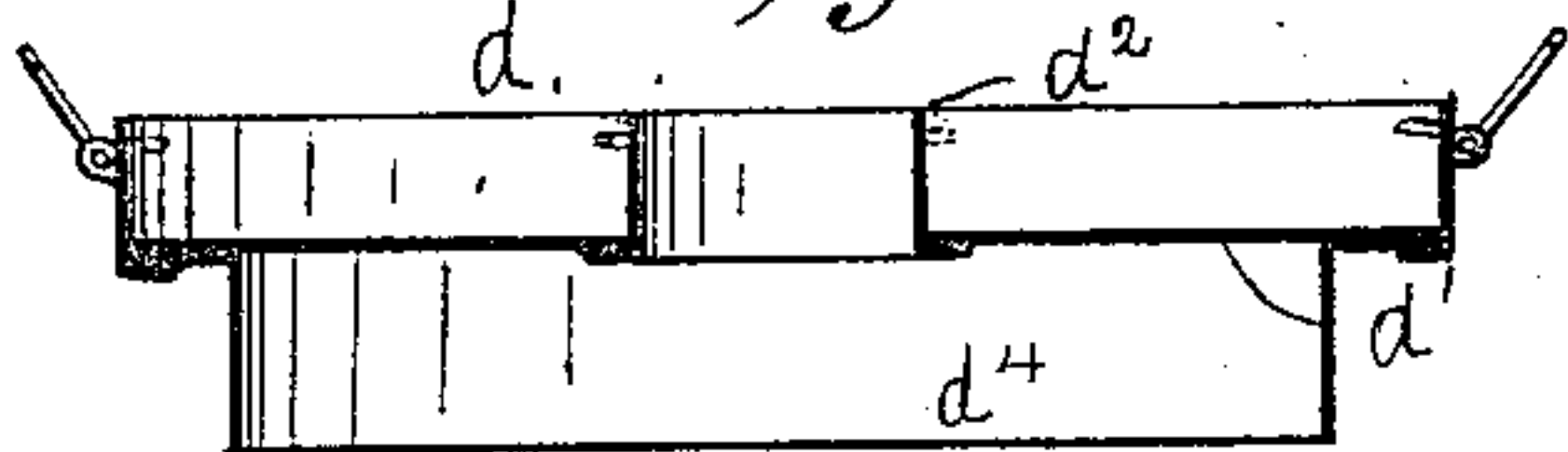
*Fig. 1.*



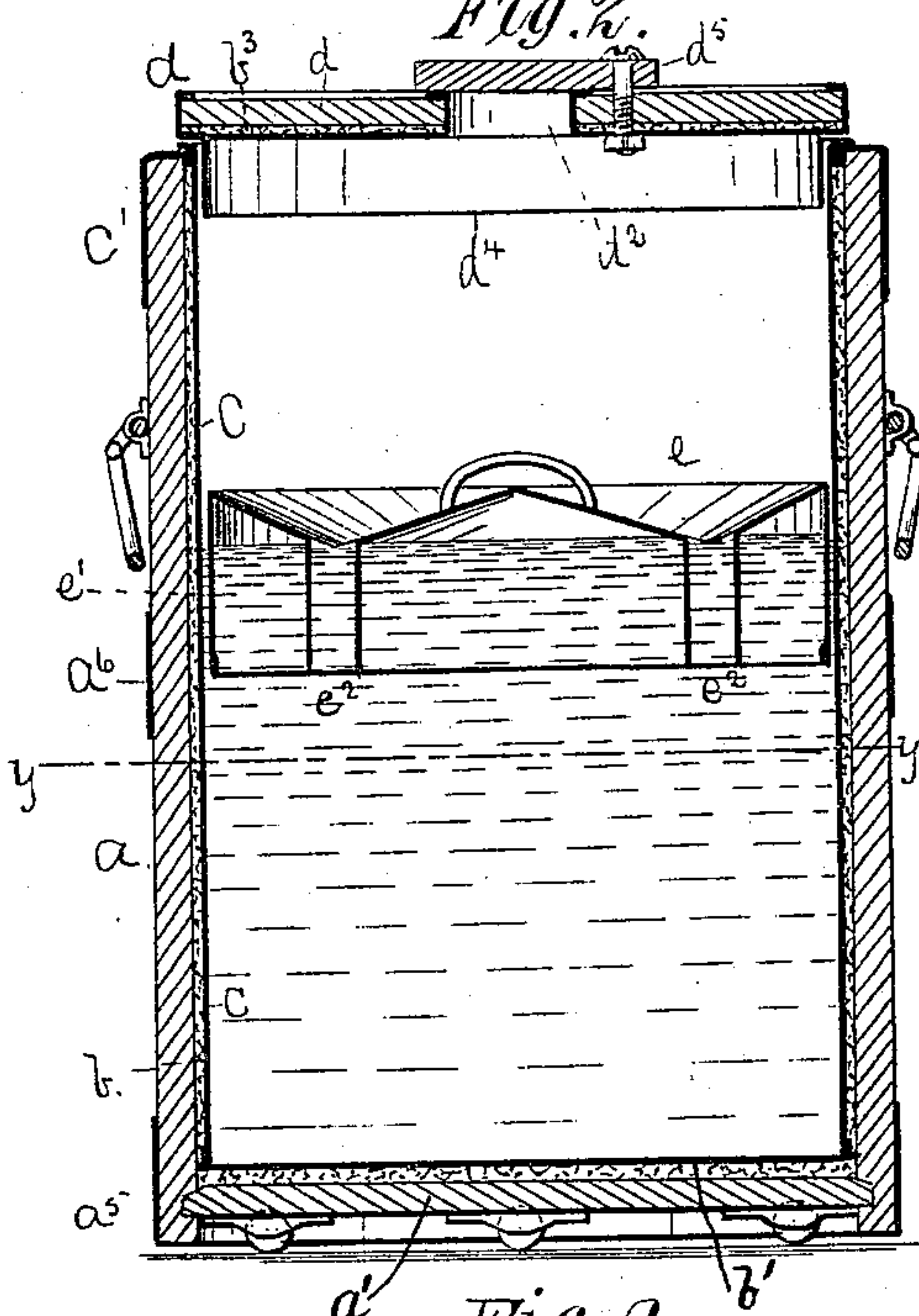
*Fig. 3.*



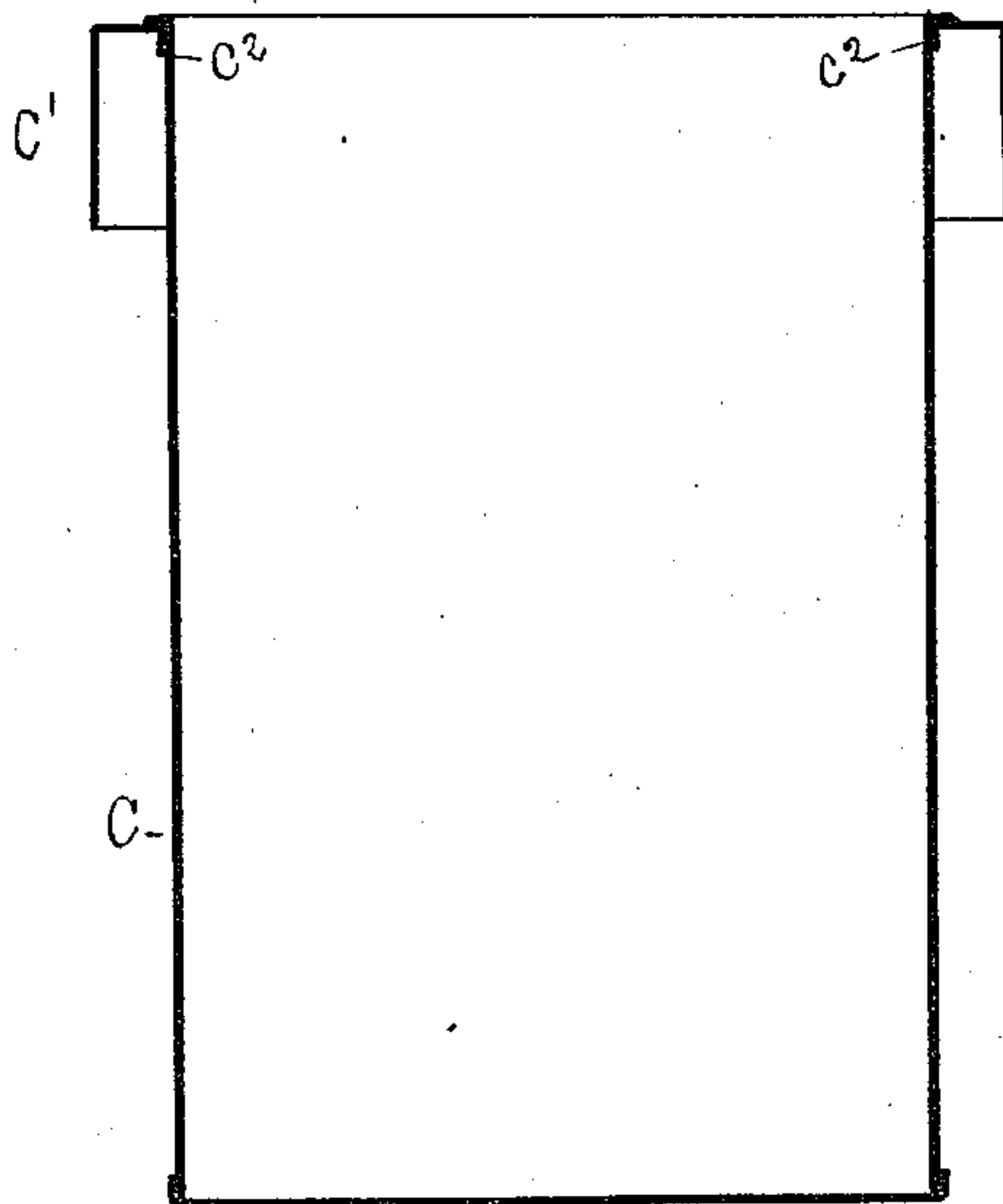
*Fig. 5.*



*Fig. 2.*



*Fig. 4.*



Witnesses.  
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Inventor  
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Attys

(No Model.)

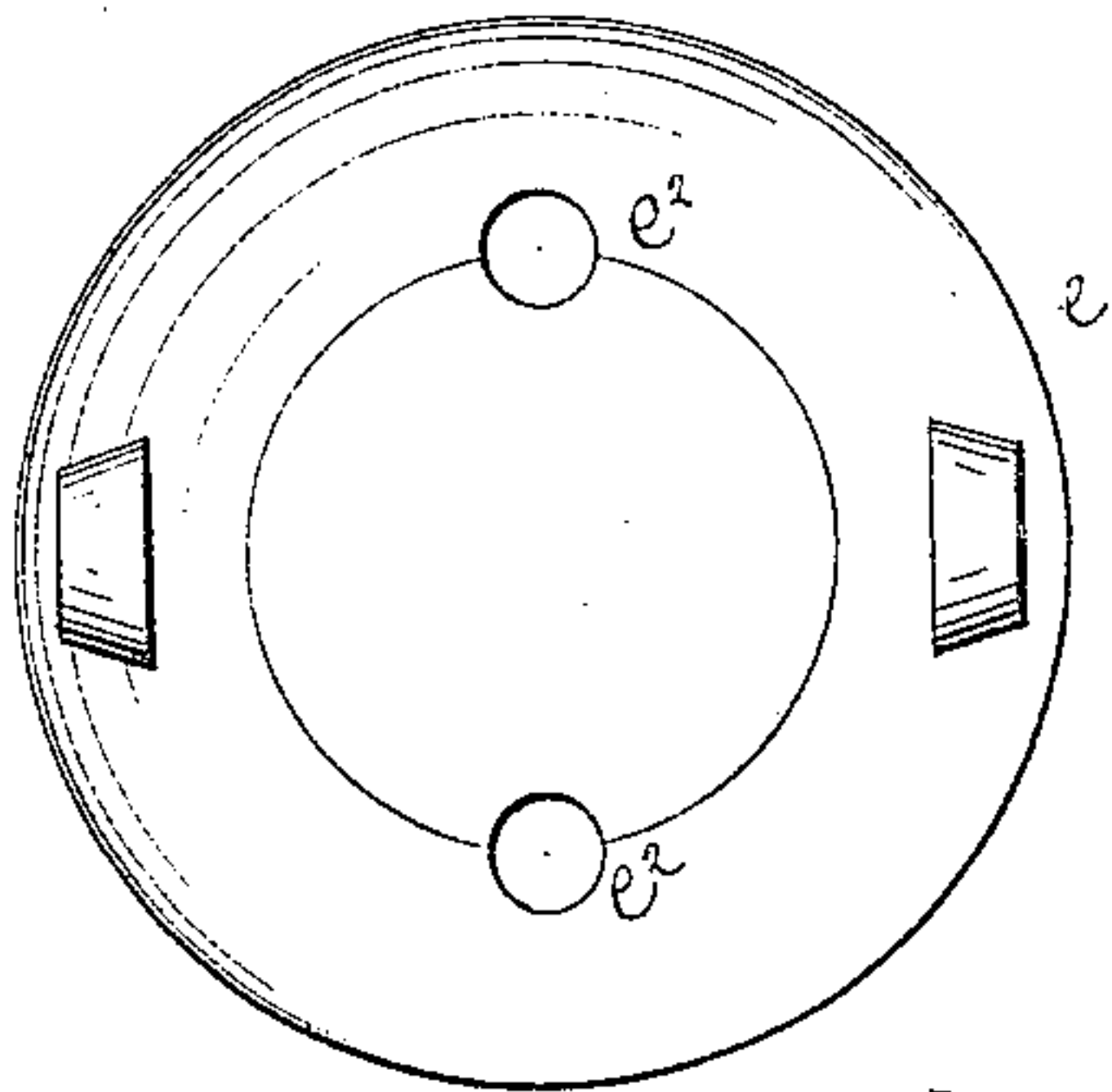
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J. F. SWAB.  
HAULING CAN.

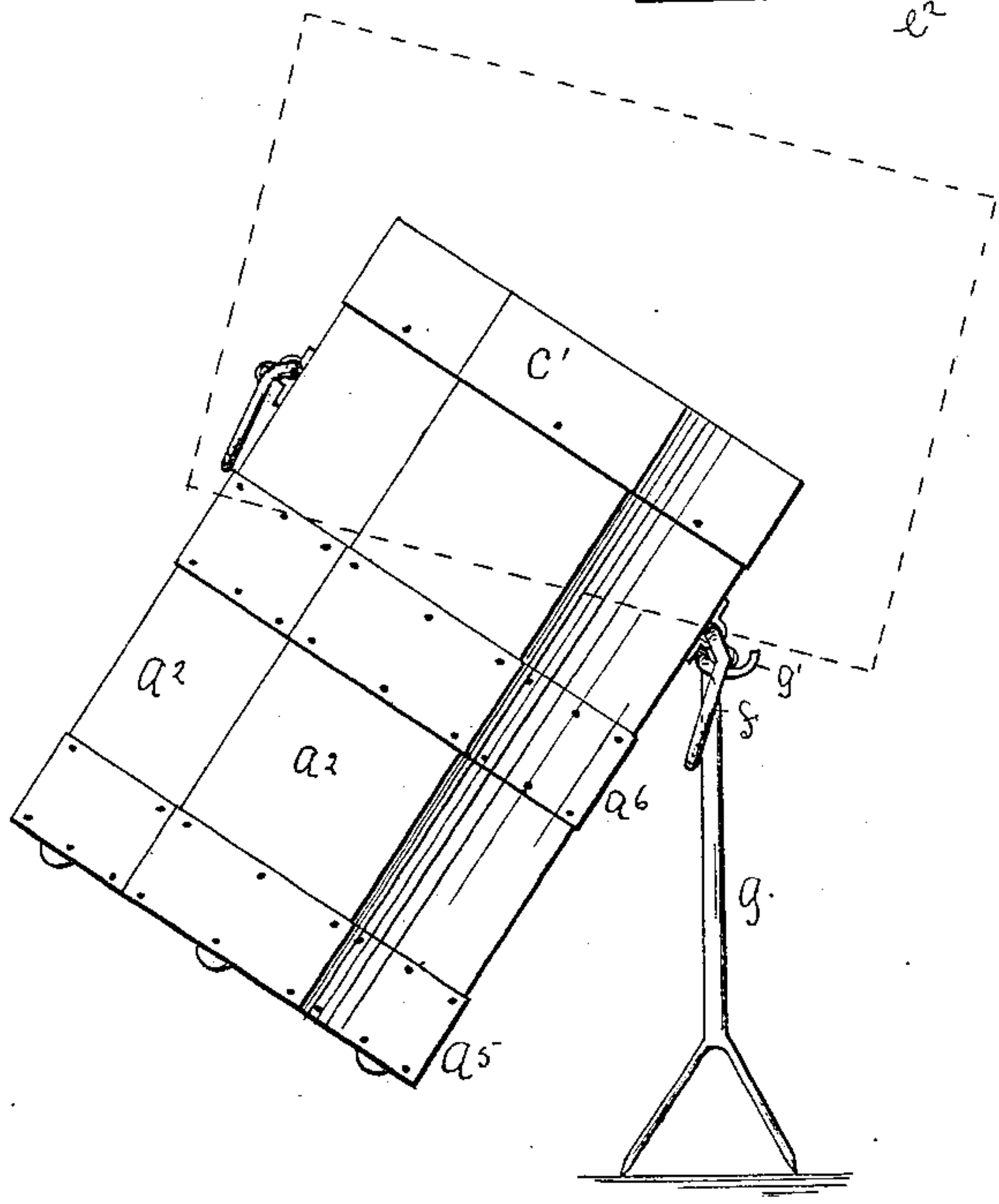
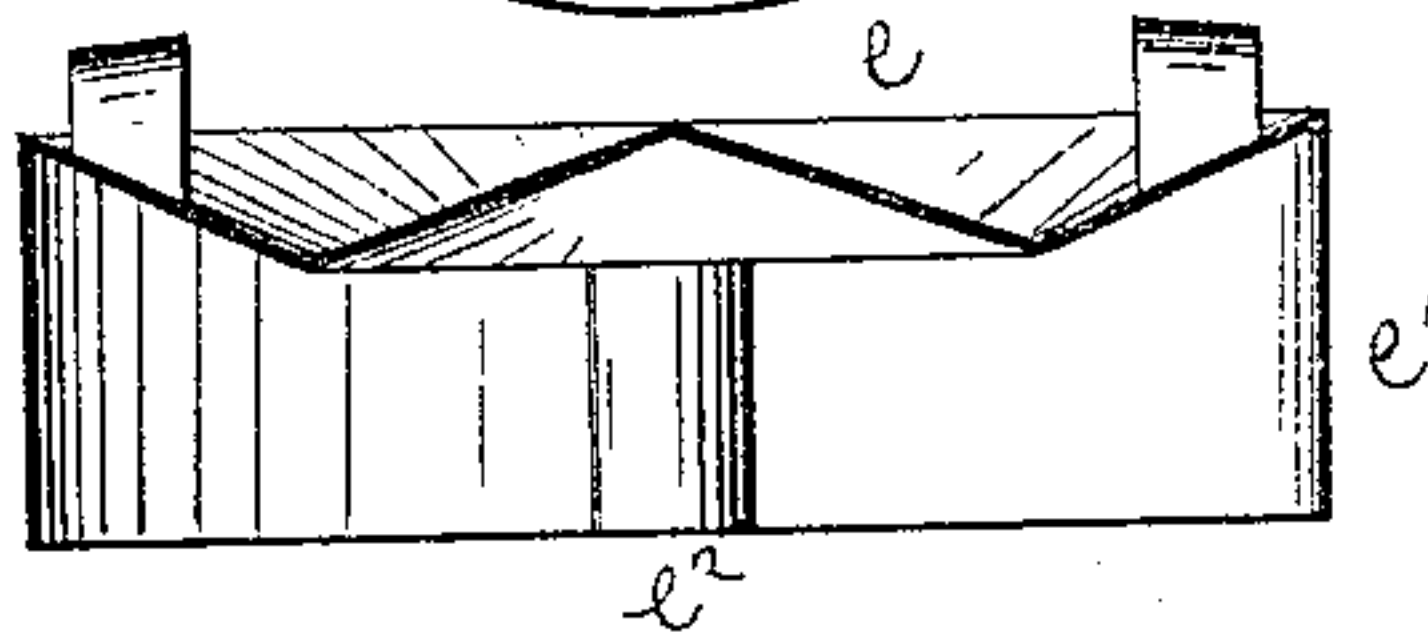
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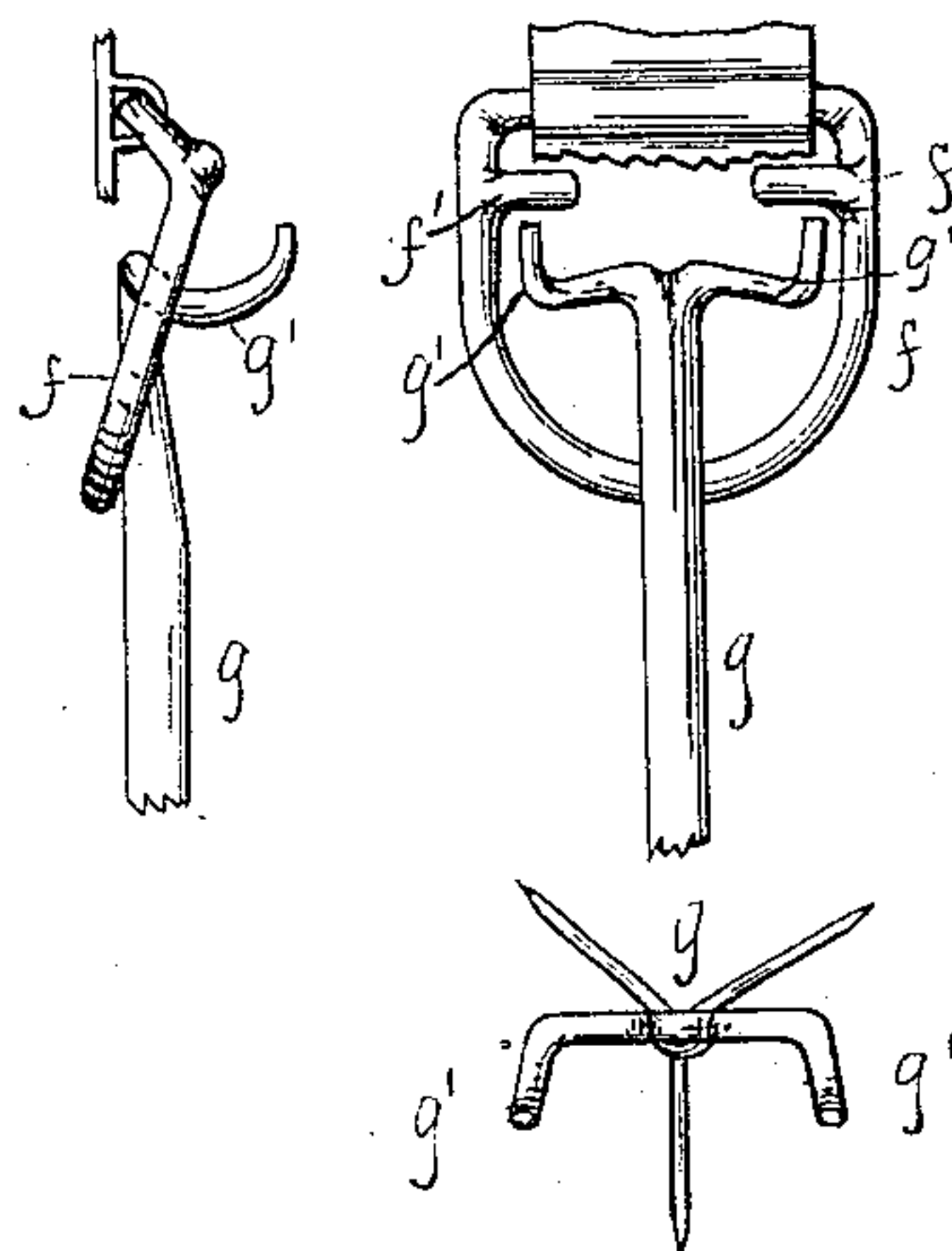
*Fig. 6.*



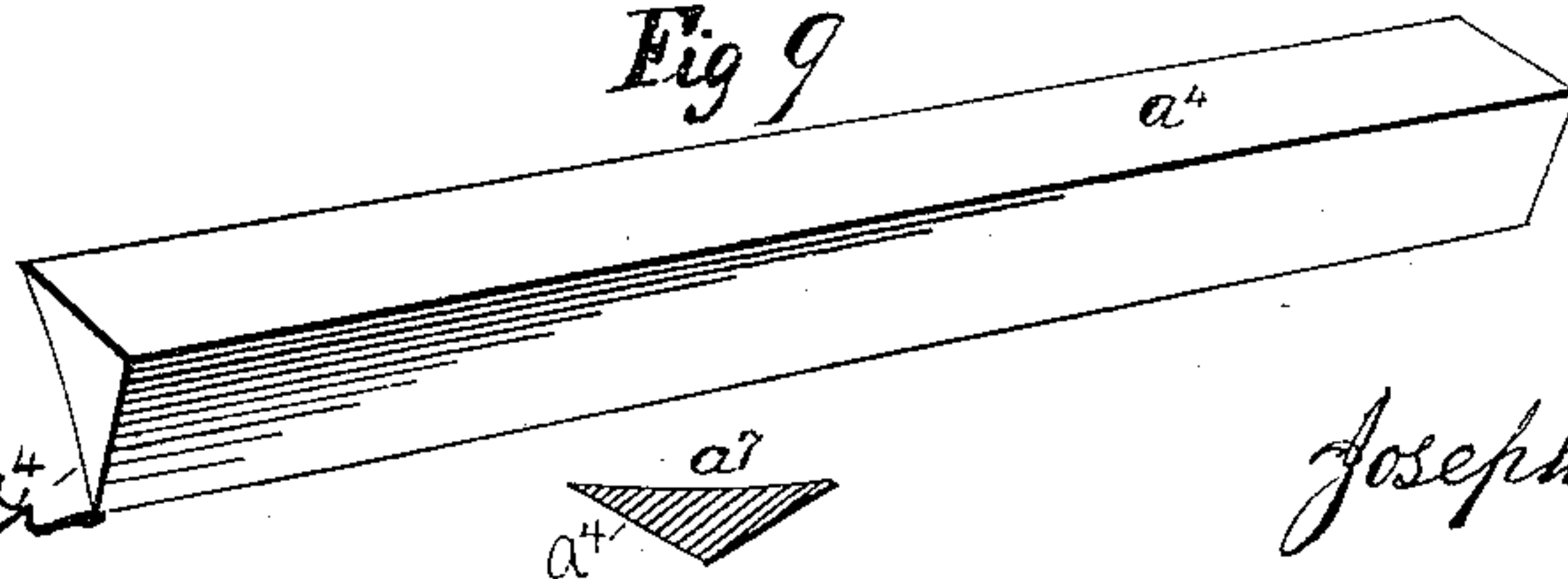
*Fig. 7.*



*Fig. 8.*



*Fig 9*



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# UNITED STATES PATENT OFFICE.

JOSEPH F. SWAB, OF CEDAR RAPIDS, IOWA.

## HAULING-CAN.

SPECIFICATION forming part of Letters Patent No. 282,585, dated August 7, 1883.

Application filed February 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH F. SWAB, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Hauling-Cans; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in cans for hauling and transporting milk; and it consists in the construction and arrangement of the several parts hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a plan of my can having the lid in place thereon. Fig. 2 is a vertical section of the can on line  $x x$ , Fig. 1. Fig. 3 is a cross-section of the can on line  $y y$ , Fig. 2. Fig. 4 shows a vertical section of the inner metallic casing removed from the outer casing. Fig. 5 is a vertical section of the lid or cover, having the wooden disk and packing removed therefrom. Fig. 6 shows two views—a plan and a vertical section—of the float. Fig. 7 shows the can supported by its tilting stand. Fig. 8 shows in detail the improved tilting stand and ear to be employed in combination with my can, and Fig. 9 shows one of the angle strips or blocks in perspective and in cross-section.

This can is composed of a main outer casing of octagonal shape, an inner cylindrical removable metallic casing, and an interposed packing. I make the outer casing of a convenient angular shape, preferably octagonal, so that the ears or handles and the tilting devices may be readily attached thereto, and so that the operation of tilting for the purpose of emptying the can may be more easily and readily accomplished than could be accomplished with round cans.

$a$  is the main outer casing, made of wood, and provided with the wooden bottom  $a'$ . The casing is made of octagonal form, having the edges of its several sides or panels,  $a^2$ , snugly jointed by miter-joints  $a^3$ , as shown. In the inner angle formed by the contiguous edges

of the sides or panels  $a^2$ , I place the vertical angle pieces or strips  $a^4$ , which fit snugly into and fill the said angles, covering and bracing the joint and extending laterally therefrom a sufficient distance to give to the inner perimeter of the casing an almost circular form. These angle pieces or strips make the joints  $a^3$  perfectly air-tight; give strength and durability to the casing, and give form to the inner perimeter to adapt it to receive the packing-web  $b$ . The casing is bound by the external hoops,  $a^5 a^6$ , which are secured in place by any suitable means.

Transportation or hauling milk-cans are subject to very great exposure to rain and the heat of the sun, and are subjected to the roughest and hardest kind of handling, all of which puts them under the severest tests. In my can the outer casing is made angular in form, having the joints covered on the inner side by snugly-fitting angle-blocks. The flat sides of the casing enable the hauler to get hold of and move the can with more ease, while the braced joints effectively resist the hard knocks to which the can is subjected. I have in this casing a form which possesses all the strength of a tubular can, and which may be handled with the most perfect ease.

$b$  is the packing interposed between the wooden casing  $a$  and the inner metallic casing,  $c$ . This packing is made, preferably, from a web of felt or rubber, which is slightly elastic or which will yield under pressure. From the web I first cut a circular piece or disk,  $b'$ , which I lay on the bottom  $a'$ . I next cut the web  $b$ , having a width equal to the depth of the casing and having a length equal to the inner perimeter of the said casing. The ends of this web  $b$  are then placed together to give it a tubular form, and it is slipped down into and fits snugly against the inner face of the casing.

$c$  is the inner cylindrical metallic casing. It slips down into the casing  $a$  and into the tubular packing-ring  $b$ . It is made slightly larger than the inner diameter of the tubular packing-ring, so that it will compress the latter outwardly and compactly against the inner face of the outer casing. The inner casing may be removed from the main casing and the tubular packing, as hereinafter explained.

$c'$  is an overlapping depending rim connect-



ed to the top of the casing *c*, and extends outward over the upper end of the packing-ring *b* and over the upper end of the main casing, and is bent downward close to the outer side of the main casing, as shown in Figs. 2 and 4. This overlapping rim covers and protects the upper ends of the packing-ring and outer casing, and provides means whereby the inner casing may be made securely fast in its place. Small nails, screws, or any suitable clasp-fastening may be employed to fasten the rim to the can. I prefer to make the rim *c'* fast to the casing *c*; but it may be made in a separate detached piece, having its inner end turned down in a short lip, as indicated at *c''* in Fig. 4. The lip *c''* will hold the upper end of the packing-ring out of the way and will permit the casing *c* to be lifted out. I employ this latter construction in cans which are not to be subjected to severe handling. I prefer to make the rim *c* fast to casing, as hereinafter explained. It will be seen that the casing *c* may be lifted from its place in casing *a*, and when thus removed it may be set in water to cool the milk.

*d* is the lid, made just large enough to rest upon the top of and close the upper or open end of the inner casing, *c*. It is cylindrical in form, having a bottom plate, *d'*, which rests upon and covers the casing *c*. It is also provided with a central tube, *d''*, open at both ends. A packing-disk, *b''*, is laid on the bottom plate, *d'*, and over this is placed a wooden disk, *d'''*. The disks *d'''* and *b''* are made to fit snugly in the lid and around the central tube, *d''*. The upper edge of the lid is turned inward over the outer edge of the wooden disk, and the upper end of the tube *d''* is turned outward and down onto the disk *d'''*, as shown, thus making a very solid and compact cover.

*d'* is a depending rim fixed to the under side of the cover *d*. It is set in slightly from the periphery of the lid, and is arranged to slip down into and snugly fit within the upper casing, *c*. The lid or cover thus provided serves to close the casing *c* when the latter is in place in or is removed from the outer casing, *a*. The opening through the central tube, *d''*, may be closed by small slide or pivoted valve *d'''*.

*e* is the float employed in my can. Its upper plate is made like the float patented to me in Letters Patent No. 242,713. The under portion of the float is left entirely open. The outer depending rim, *e'*, touches the casing *c*, and the depending tubes *e''* have their lower ends flush with or nearly flush with the lower edge of the rim *e'*. When the milk is poured into the can, it rises within the float till it touches the lower portions of the depressed top. The top having the annular depression formed between its periphery and center, the milk will touch the lowest point of this depression, but will not rise to and touch the higher portions, because of the air which has been compressed below the top plate. When the milk has risen, as indicated

in Fig. 2, there will be two spaces or chambers filled with compressed air—namely, one at the center and the other an annular space at the periphery. These two bodies of compressed air operate together to cause the float to ride perfectly steady and hold the milk against all agitation. The float is not liable to be broken or bent or otherwise injured, because the bodies of compressed air act as elastic cushions to preserve the float intact.

In Fig. 7 I show, in combination with my can, an ear, *f*, specially adapted to it, to enable the person to better handle it when full or partially full of milk. This ear *f* is made in the form shown in Fig. 8, having two short inwardly-projecting lugs, *f'*, which are so arranged that they will catch on the arms *g'* of a tilting stand, *g*. The stand *g* is made just high enough so that its arms *g'* will be under the ear *f* when the latter is raised. The ear is dropped onto the stand, and then the can may be tilted, as indicated in dotted lines, Fig. 7, for the purpose of emptying the milk.

For ordinary use in the spring and fall of the year this can may be constructed without the interposed packing. The inner casing, *c*, will be made large enough to fit snugly against the inner faces of the angle blocks or strips, made with concave surface *a'*, as shown in cross-section, Fig. 9, and touch the middle points of the inner faces of the sides or panels *a''*. The inner casing will be held perfectly secure. I make the rim *c'* in the manner hereinbefore described for all cans subjected to severe handling; but where the cans are to be handled lightly the rim need not be turned down along the outer side of casing *a*, but may be extended only far enough to cover the upper ends of the packing-ring and of the panels *a''*.

The tilting devices shown in Figs. 7 and 8 will be made the subject-matter for a further application for patent.

The can is provided with rollers secured to its bottom plate, as shown in Fig. 2, so that it may be readily moved about the creamery.

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

1. The transportation-can hereinbefore described, consisting of an octagonal wooden casing, a series of wooden angle-blocks fitted snugly into the inner angles of the wooden casing, and having their interior faces made concave and concentric with the center of the wooden casing, and a removable cylindrical elastic packing-web laid against the concave faces of the angle-blocks and against the inner faces of the side of the wooden casing, between the said angle-blocks and the removable metallic can or inner casing, substantially as described.

2. In a milk-can, the metallic lid *d*, having bottom plate, *d'*, the central tube, *d''*, the rim *d'*, set inward from the periphery of and fixed to and depending from the bottom plate, *d'*,



the packing  $b^3$ , wood disk  $d^3$ , secured in place by the overturned edges of the lid  $d$  and tube  $d^2$ , and the valve  $d^5$ , all arranged substantially as and for the purposes set forth.

- 5 3. In a transportation milk-can, a float having its top plate formed with an annular trough between its centers and periphery, and provided with the depending periphery-ring  $e'$ , and having the depending tubes  $e^2$ , having  
10 their upper ends opening into the bottom of

the annular trough, and their lower ends arranged flush with or nearly flush with the lower edge of the depending periphery-ring  $e'$ , substantially as set forth.

In testimony whereof I affix my signature in 15 presence of two witnesses.

JOSEPH F. SWAB.

Witnesses:

MARK C. FARR,

GEORGE B. POTTS.