

No. 669,014.

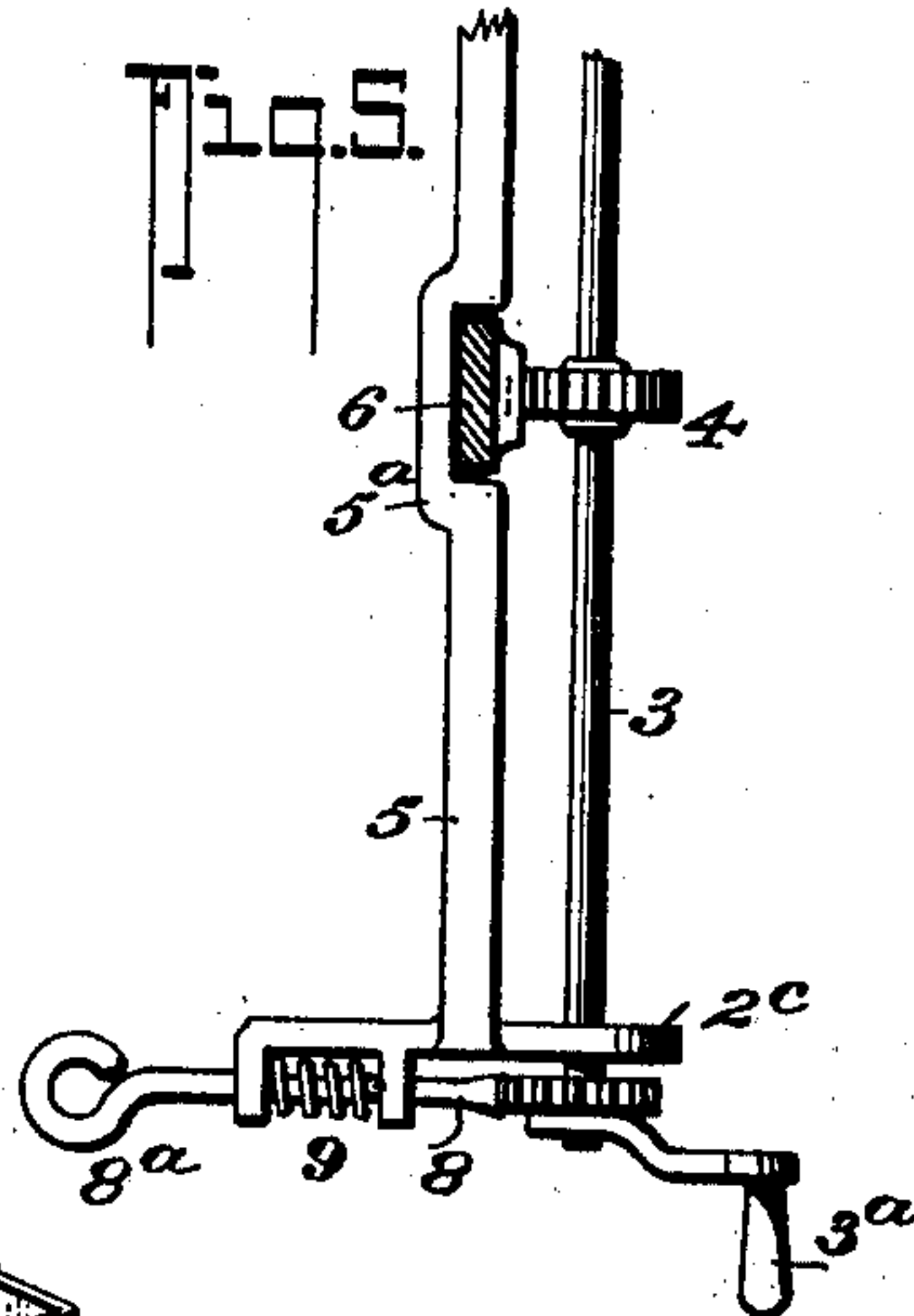
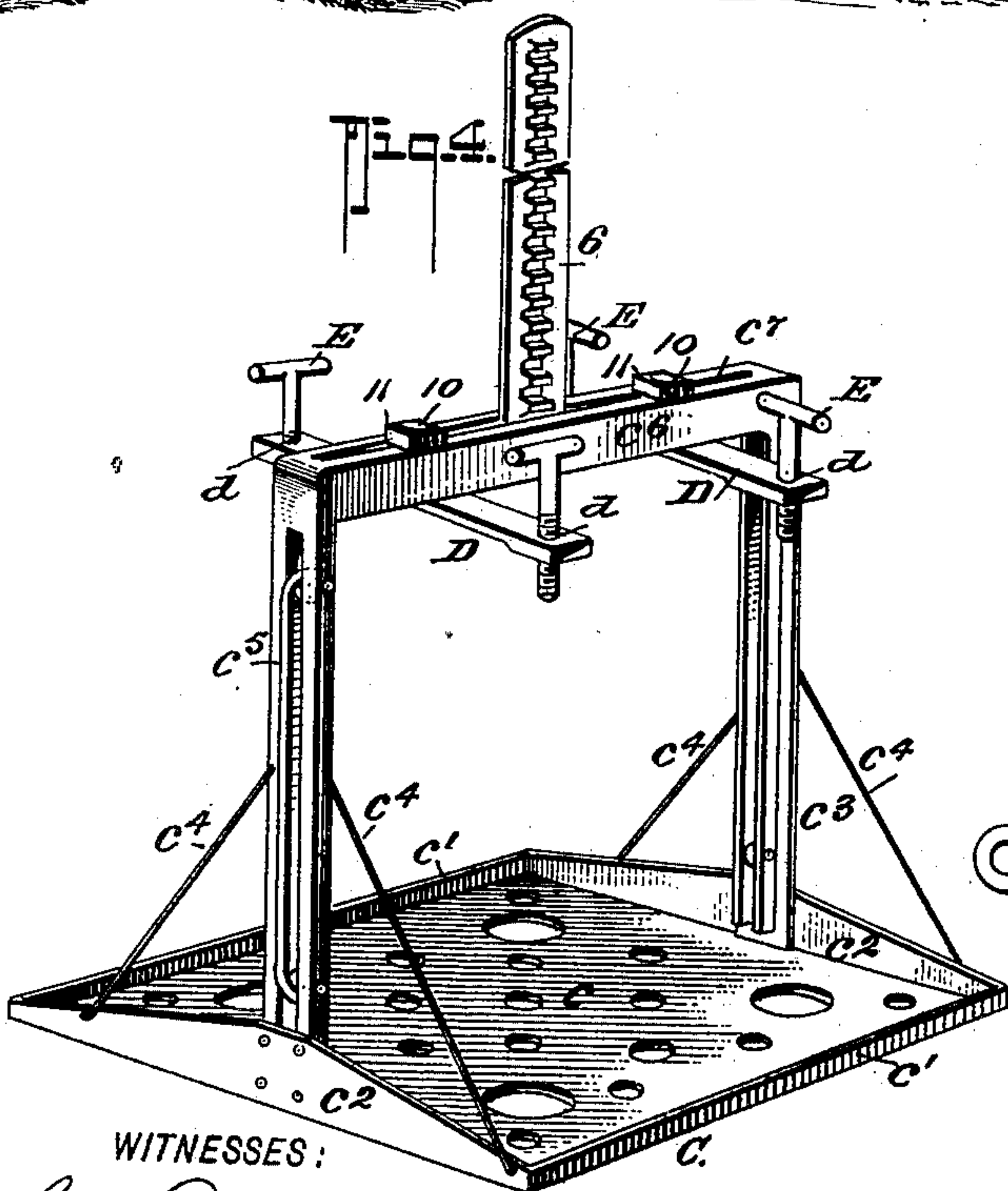
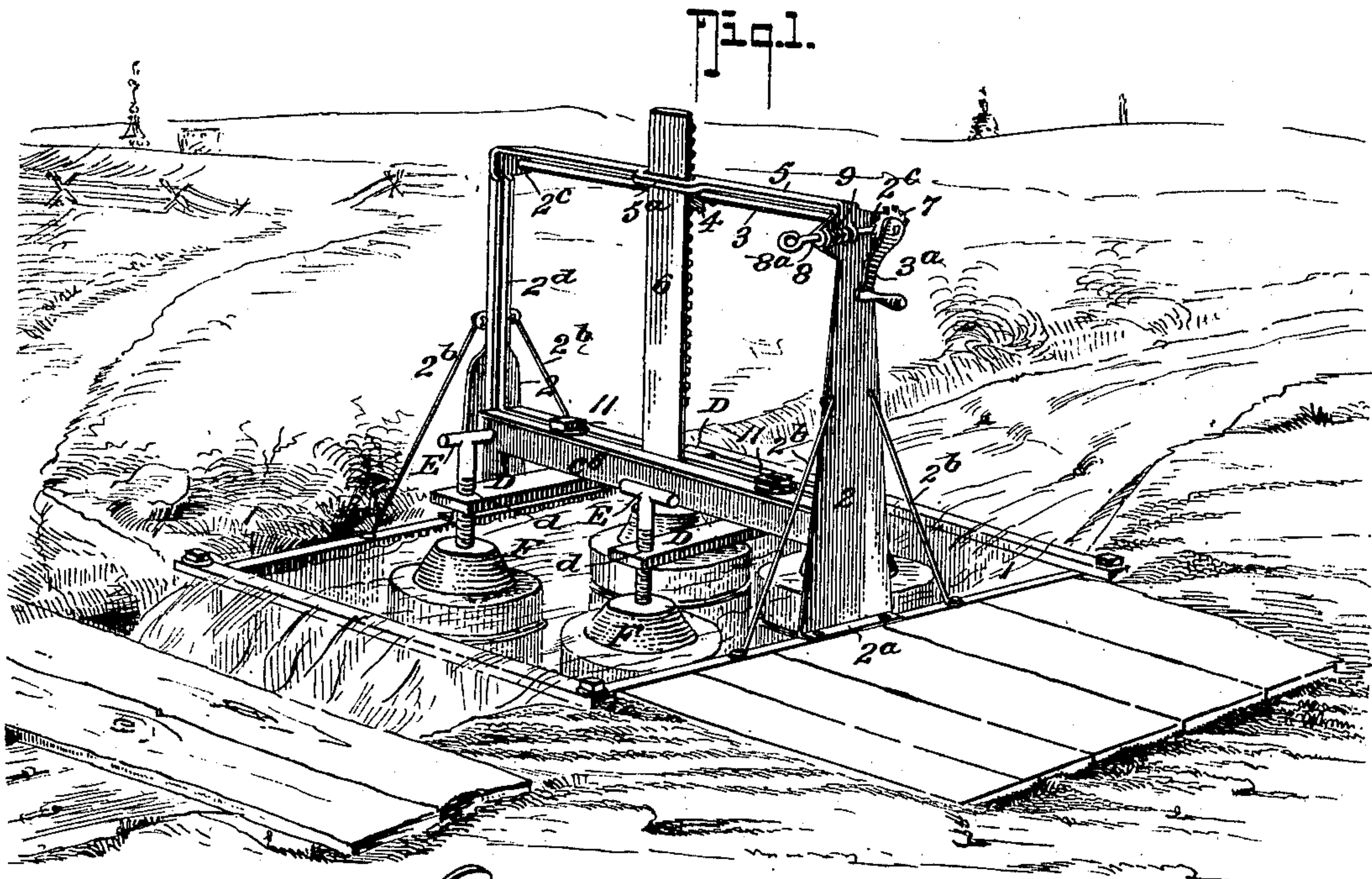
Patented Feb. 26, 1901.

J. PAYNE.
CREAMERY APPARATUS.

(No Model.)

(Application filed Dec. 27, 1900.)

2 Sheets—Sheet 1.



WITNESSES:

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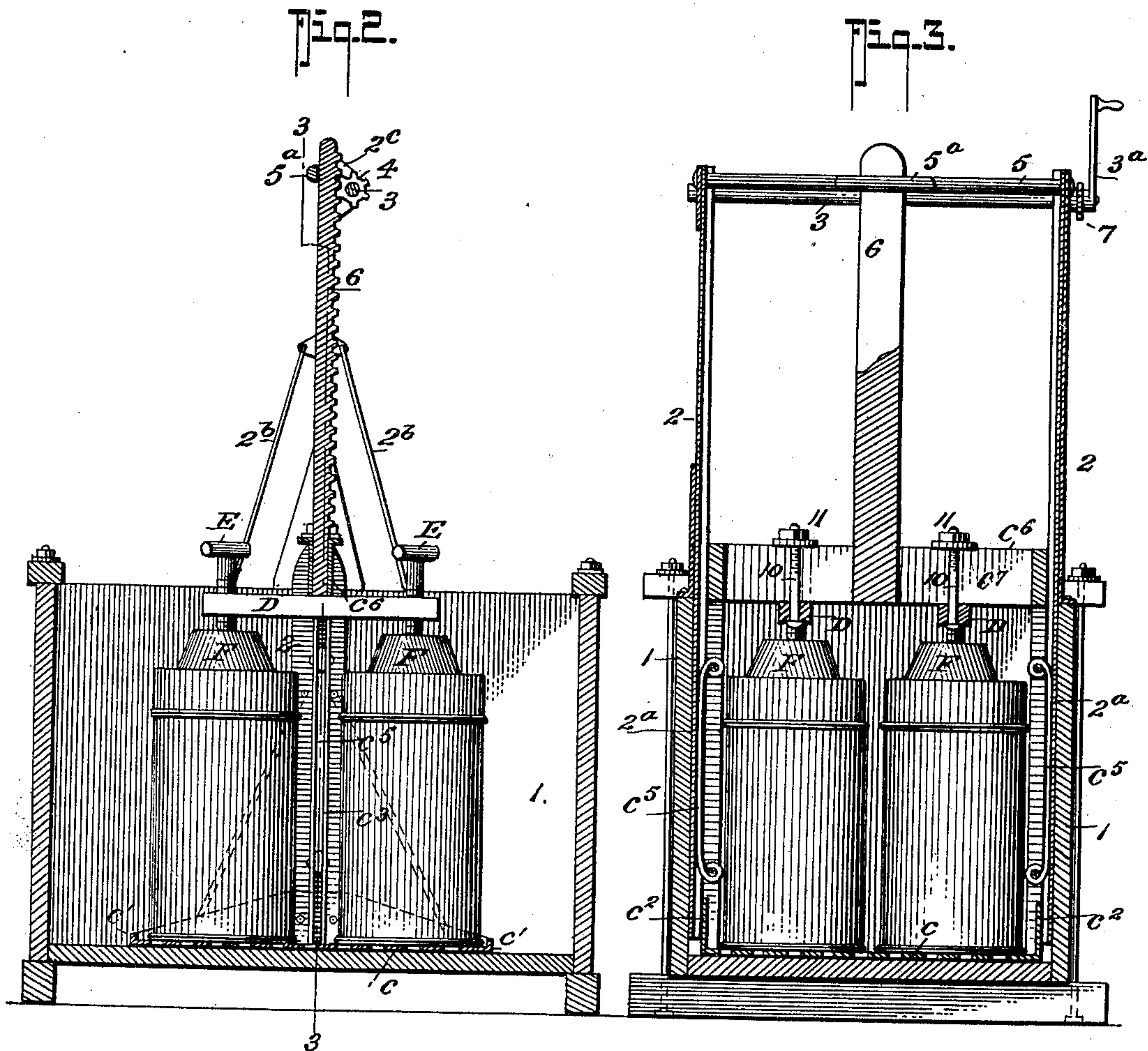
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UNITED STATES PATENT OFFICE.

JACOB PAYNE, OF SWANTON, NEBRASKA.

CREAMERY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 669,014, dated February 26, 1901.

Application filed December 27, 1900. Serial No. 41,242. (No model.)

To all whom it may concern:

Be it known that I, JACOB PAYNE, residing at Swanton, in the county of Saline and State of Nebraska, have invented a new and Improved Creamery Apparatus, of which the following is a specification.

My invention is in the nature of an improved means for cooling milk and for elevating or lifting the cans out of the cooling-vat for conveniently handling the same.

A common method employed by farmers for handling milk is to submerge the cans in a running stream to raise cream quickly and keep the milk sweet and from insects, dust, foul odors, &c. Usually this is done by placing cans containing the milk in a tank or tub having an inlet and an overflow, the cans being held down in the water by weights or wedge-blocks against their tops or upper ends. This method of treating milk, though universally used, I have found open to serious objections, as the placing of weights on the can necessitates the lifting of such weights to raise the cans and gain access thereto and great care in handling the said cans to prevent their upsetting, which not alone entails loss of milk, but also, by reason of milk mixing with the cooling-water, spoils the water and requires an entire fresh supply for the tank. Again, by reason of the flotation of the cans water frequently leaks in under the cover and impairs the quality of the milk, and under all ordinary circumstances before a can can be properly and solidly placed in position on the bottom of the tank sufficient water must be let out of the tank to allow the can being set in place without danger of water rushing in under the cover. In other words, the tank must be bailed out until the water-level is in a plane below the can-cover; otherwise there is danger of water mixing with the milk in the can. Again, in case the cans are more or less empty it is very difficult on account of their buoyancy to set them in place unless a considerable portion of the water in the tank is first removed, and, furthermore, by reason of lifting the cans by main force the strength of a delicate woman or boy is greatly taxed to raise one or more of the filled cans out of the tanks.

My invention therefore seeks to provide a means for submerging the cans and elevating

the same by which the objectionable features in the handling of milk above referred to are entirely overcome and by which the cans can be conveniently and easily lowered into the well in a submerged condition without danger of floating around therein or water entering under the cover and by which the entire set of cans can be easily elevated without the necessity of letting out any of the water in the tank and such elevating accomplished with ease and in such manner that a boy or woman can easily lift the can or cans in position or remove same without any unusual strain.

My invention comprehends a simple and economical construction of tank, can-supporting means, and elevator devices coacting with said holding means capable of being easily manufactured and adapted to effectively operate for the intended purposes.

My invention in its complete form consists in certain novel features of construction and peculiar combination of parts, all of which will hereinafter be fully described, and particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view illustrating my invention as in use, the cans being shown as partly elevated. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the can holder or carriage, and Fig. 5 is a detail plan view of the clutch device for holding the can-holder at different elevations.

In its practical construction my improvement includes a tank 1, which may be of any suitable dimensions. This tank is preferably constructed of wood and braced, as shown, and is placed in any suitable manner by sinking same below ground or otherwise to allow for a free flow of water therein, as indicated in a general manner in Fig. 1 of the drawings.

2 2 indicate a pair of standards disposed at opposite sides of the tank, and each has a foot portion 2^a, whereby it can be securely made fast to the top of the tank, each standard being further strengthened by a pair of brace-rods 2^b, as shown. The standards, which may be of cast metal, each have a laterally-projecting ear 2^c at the upper end,

which form bearings for a crank-operated shaft 3, which centrally thereof carries a cog-wheel 4, the purpose of which will presently appear, and the said upper ends of the standards are joined by a cross member 5, that acts as a combined brace and guide, said member at a point in line with the gear 4 having a stepped portion 5^a, that acts as a guide for the vertically-movable rack-bar 6. At one end the rod 3 has a crank-handle 3^a, and adjacent the handle it has a ratchet-wheel 7, with which engages a spring-held locking-pawl 8, mounted on the standard provided with a handle-piece 8^a and normally held to engage the ratchet-wheel 7 by the spring 9, as shown. Each standard has a vertical slideway 2^d, which extends down on the inside of the side of the tank, and the said slideways are made fast to the said tank sides, as clearly shown in Fig. 3.

C designates a combined carriage and support for the cans, which in practice is made of galvanized steel, as said carrier is normally held immersed in the tank. Said carrier or support C, as shown in detail in Fig. 4, is made to conveniently support four cans; but I desire it understood the same may be made to hold a greater or less number, if desired, its arrangement being such, however, that when built to hold four cans, as shown, it is also adapted to hold three, two, or one can.

The carrier C comprises a perforated base c, having shallow upturned ends c' and side flanges c², and each flange c² is fixedly joined to vertical side pieces c³, braced to the flanges c² by rods c⁴ and provided with outwardly-projecting tongues c⁵, adapted to engage and slide in the pendent guide or slide ways 2^d of the standards. The upper ends of the side pieces c³ are joined by a longitudinally-slotted cross-bar c⁶, upon the under side of which is detachably held a pair of transversely-disposed arms D, laterally movable on the under side of the cross-bar c⁶ to suit the size of cans used and held in place by the clamp-screws 10, that pass up through the slot c⁷ in the cross-piece c⁶, and the bolt and washer members 11, as shown. The carrier C also includes the rack-bar 6, the lower end of which is fixedly held in the slot c⁷ of cross-bar c⁶.

The outer end of each member D has a threaded aperture d to receive a clamp-screw E, one of such screws being provided for each can, and coöperatively held with each clamp-screw is a wooden presser-block F, that engages the top of the can.

The cans G are preferably the ordinary "Cooley" cans and are adapted to seat upon the perforated bottom, as shown.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the advantages of my improvement will readily appear. In operation the carrier is elevated by the crank-shaft and rack devices until the platform c is about level with the top of the tank. The filled cans,

with their covers properly applied, are then placed on the said platform c and the covers held clamped on the cans and the cans rigidly held on the platform by adjusting the screws E to bear against the blocks F, it being understood the arms D are first set to bring the blocks F to properly bear against the can-covers. The several cans having been clamped in place, the carrier is lowered by withdrawing the pawl or detent from engagement with the ratchet-wheel and proper manipulation of the crank-shaft until the platform c rests on bottom of the tank.

I am aware that elevator devices have heretofore been employed for lifting cans out of water-tubs; but so far as I know my invention differentiates from what has heretofore been mechanically provided in the details of construction of the several parts described, particularly in the arrangement of the carriage or can-support, the means for holding the cans thereon, and the coöperative arrangement of the said carrier and the guides therefor, and means for elevating the same.

By providing a means for bringing the cans up to the top of the tub in the manner shown and described there is no elevating of heavy weights and the cans can be safely lifted without danger of upsetting, and as the tops are held down by a tight screw-pressure there is no danger of water entering under same.

By reason of the tops being kept down tight and without danger of being pushed off by water and air pressure against them the milk held in the cans will produce a large amount of cream, which will remain sweet for a much longer time than is possible when the can has a floating action within the tank.

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

1. In a creamery apparatus of the character described, the combination with the tank, the standards and the crank-operated elevating-shaft, said shaft carrying a cog-gear, an elevator-carriage comprising a perforated base, side standards, projected up from the base, having lateral guides for engaging the tub-standards, a slotted cross-bar connecting the said carriage-standards, a vertically-projecting rack-bar adapted to engage the elevating-shaft gear, the transverse arms D, means for adjusting said arms laterally on the slotted cross-bar, the clamp-screws E, and the blocks F, all being arranged substantially as shown and for the purposes described.

2. In a creamery apparatus as described, the combination with a vat or tank, a combined can holder and carriage, vertically movable in the tank, and crank-shaft-operated means for elevating the holder and carriage, substantially as described, said carriage including a perforated bottom, side standards, a slotted cross-bar c⁶, a vertically-extended rack-bar 6, transversely-disposed arms D, held on the under side of the bar c⁶, for lateral movement, the clamp-screws pass-

ing up through the slot c^7 , in the bar c^6 , for
holding the arms D, the washer and nuts co-
operating with the said clamp-screws, an ad-
justing-screw E, in each end of the arms D,
5 and the cross-bar 2^c , connecting the upper
ends of the tank-standards, said bar having
a stepped portion 2^d forming a guide for the

rack-shaft 6, all being arranged substantially
as shown and for the purposes described.

JACOB PAYNE.

Witnesses:

ABRAHAM PAYNE,
J. E. SHAW.