

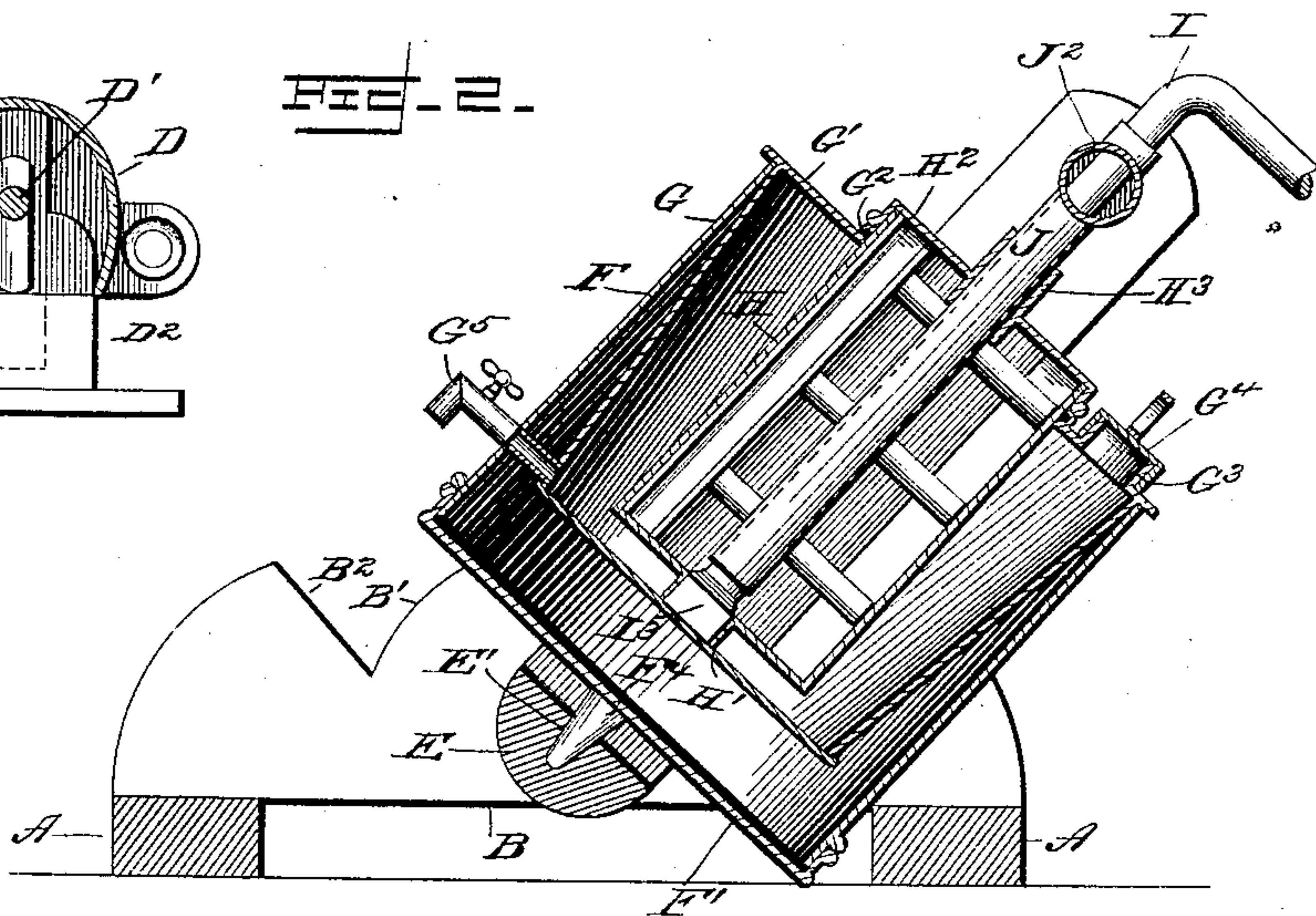
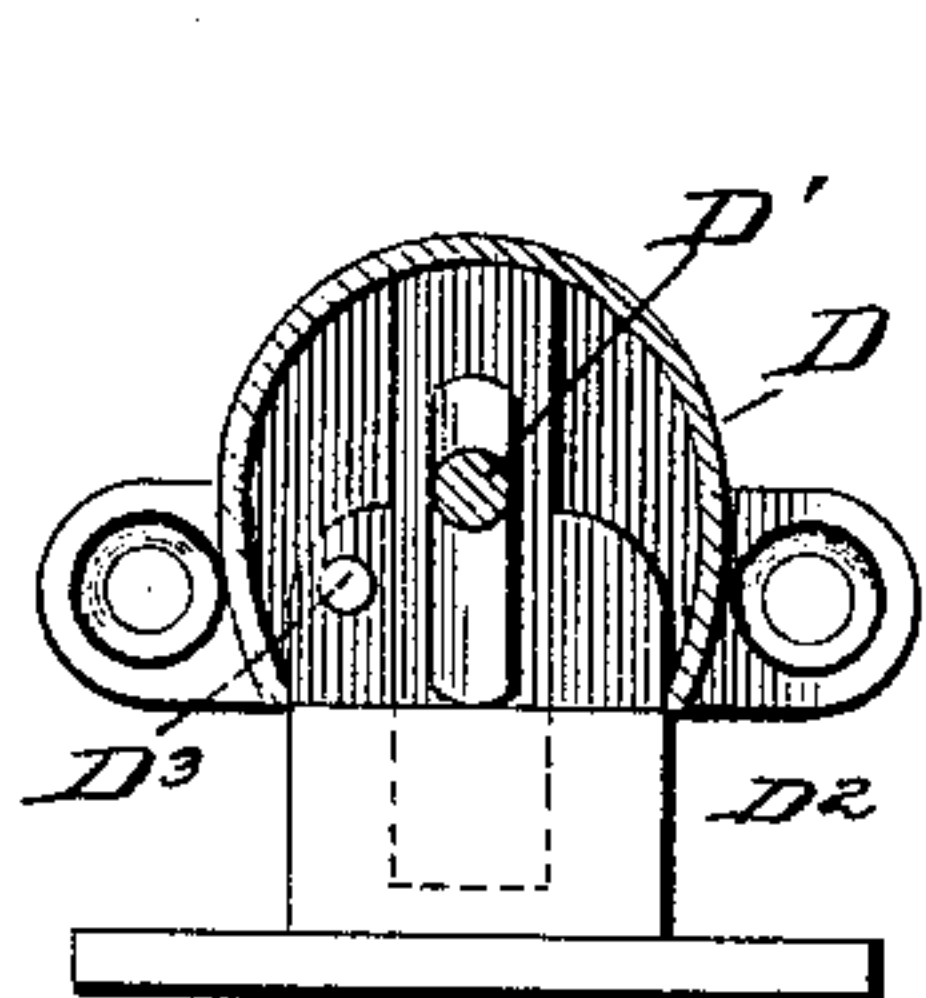
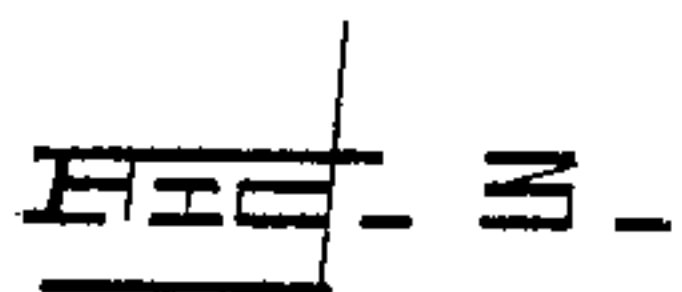
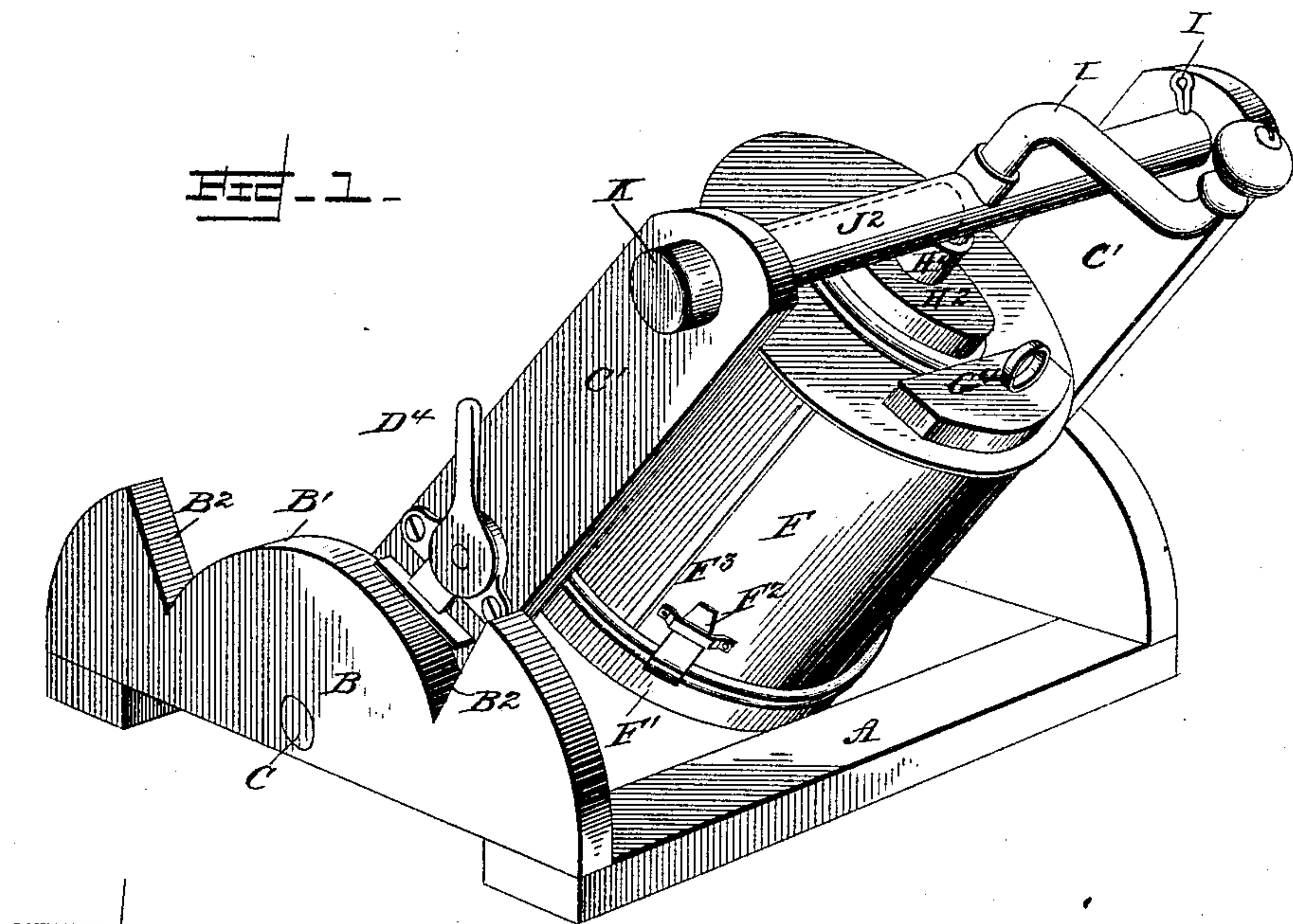
(No Model.)

2 Sheets—Sheet 1.

T. W. CROZIER.
ICE CREAM FREEZER.

No. 480,714.

Patented Aug. 16, 1892.



Witnesses:

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By his Attorneys,

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

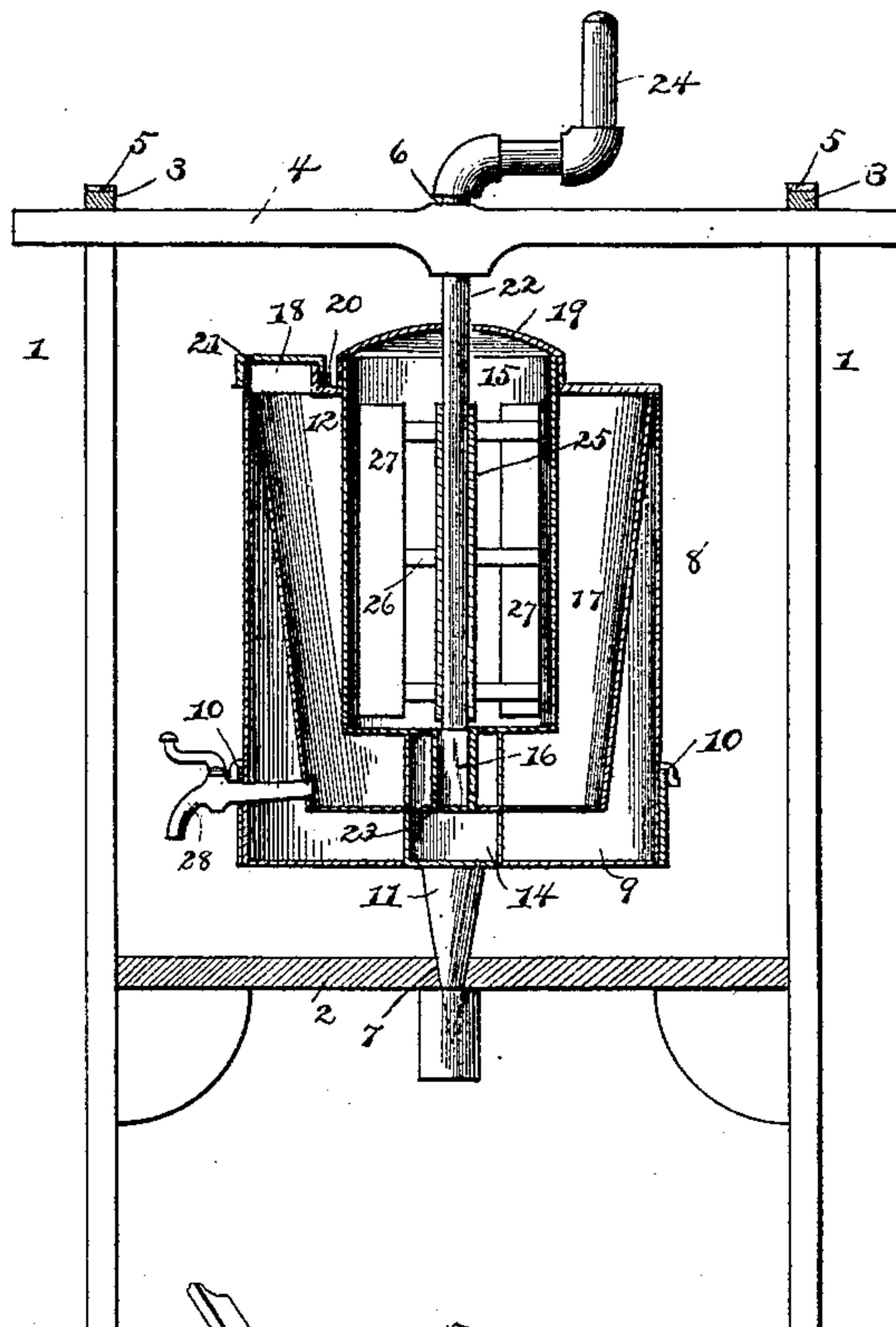
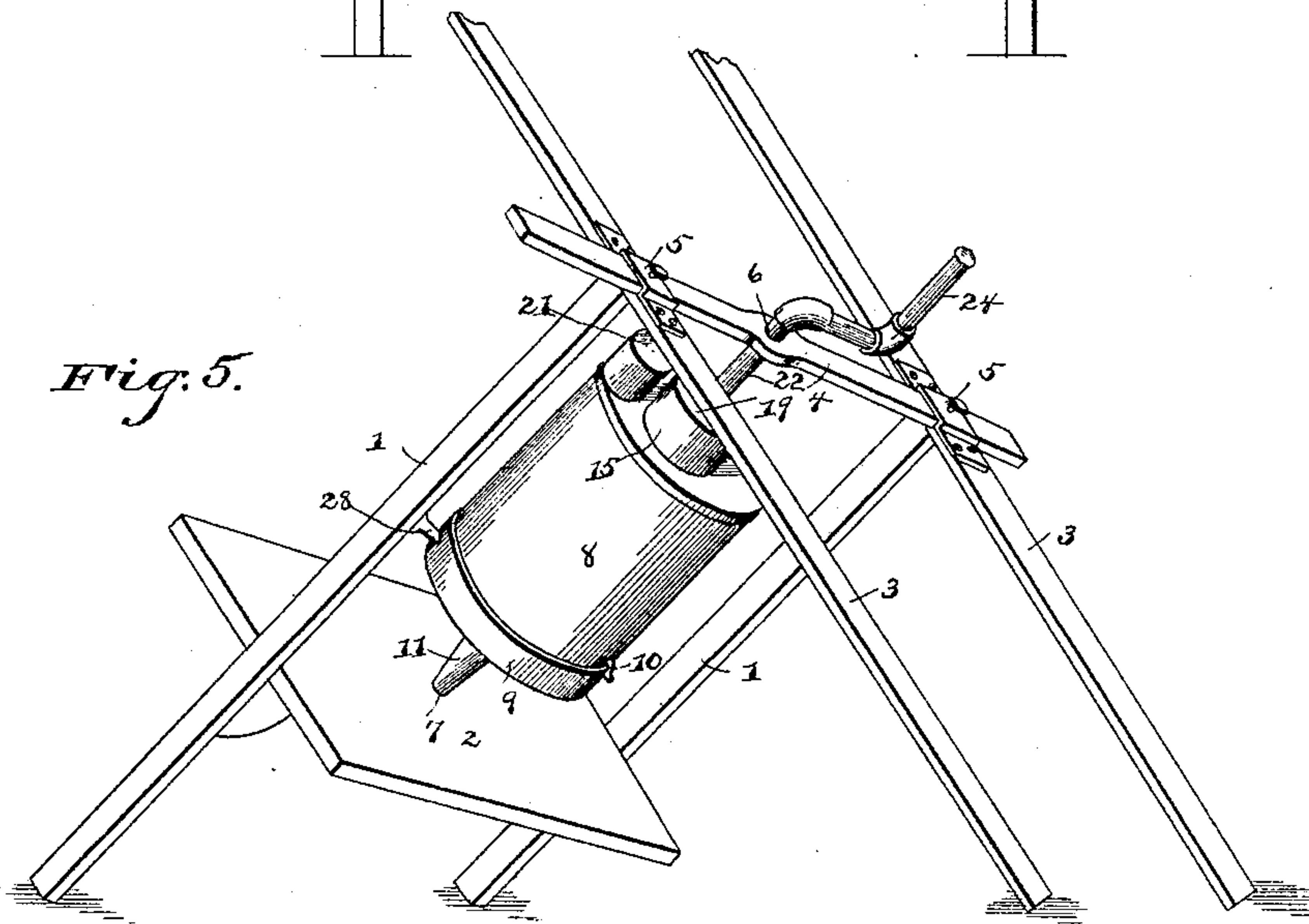


Fig. 5.



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THOMAS W. CROZIER, OF ROANOKE, VIRGINIA.

ICE-CREAM FREEZER.

SPECIFICATION forming part of Letters Patent No. 480,714, dated August 16, 1892.

Application filed May 31, 1890. Serial No. 354,165. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. CROZIER, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented a new and useful Improvement in Ice-Cream Freezers, of which the following is a specification.

This invention relates to improvements in ice-cream freezers; and the objects and advantages of the same, together with the novel features thereof, will hereinafter appear, and be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a freezer constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same lowered into operative position. Fig. 3 is a detail in elevation of the cam-lock, the housing being broken away to expose its interior mechanism. Fig. 4 is a vertical sectional view of the freezer, the same being mounted upon a modified construction of framework. Fig. 5 is a perspective view of the freezer mounted as in Fig. 4.

Like letters and numerals of reference indicate like parts in all the figures of the drawings.

In my preferred construction of framework, as shown in Figs. 1 and 2, I employ a rectangular base consisting of opposite side bars A, connected by transverse end bars B, the upper edges of which are uniformly rounded or curved, as at B', and terminate in shoulders B². To the end bars B, concentric with the curved edges thereof, there are pivoted at C uprights C'. A metal housing D is secured to each upright above the end bars, and from the same extends a bearing-pin D', upon which is mounted for vertical reciprocation a slotted clamping-plate D², slotted to receive the pin and provided at one side of its slot with a bearing-pin D³. A lever D⁴ is mounted upon the pin D' and is loosely connected with the pin D³, and by oscillating the same by hand the clamping-plate will be raised and lowered out of and into contact with the rounded or curved surface of the end bar B. A cross or rest bar E connects the two uprights C' near their lower ends and is provided at its center with a countersunk conical bearing E'.

Between the uprights C' is located for rotation a cylindrical casing F, having a removable bottom F', secured in position by means of clips F², passed into keepers F³, secured to the wall of the cylinder. The bottom is further provided upon its under side with a depending bearing-lug F⁴, which bears in the bearing E' of the bar E.

Depending in the cylindrical casing F is an inner casing G, of inverted-truncated-cone shape, shallower than the cylindrical casing F, and provided with a top or head G', having a central opening G² and a smaller opening G³, flanged and provided with a removable cover or cap G⁴. The two casings F and G constitute a space, which may be provided with any suitable heat-non-conducting material or packing, the interior of the inner cylinder communicating with the external atmosphere by means of a faucet or draw-off cock G⁵.

Secured within the opening G² of the casing G and depending into the same is a freezing-cylinder H, the bottom of which is provided with a square countersunk socket H' and the upper end of which is above the top G' of the cylinder G, where it is provided with a removable cover H², having a central flanged opening H³. An agitator-shaft I depends through the opening H³ and terminates at its upper end above the ends of the uprights in a crank I² and at its lower end in a square head I³, fitting removably in the socket H'. The shaft has loosely fitted thereover a tube or sleeve J, of T-shape, it having at its upper end lateral branches J², extending to points opposite openings G³, formed in the upper ends of the uprights G', and held in position by lateral pins K, passed through the openings G³ and into the ends of the tubes. The pins K are perforated and are held in position by ordinary split pins or keys L.

In the construction shown in Figs. 4 and 5 I employ a framework in which the freezer revolves, and the same consists of a pair of opposite side bars 1, which are connected near their rear ends by a platform 2 and have their upper ends provided with a pair of transverse bars 3, extending some distance at each side of the side bars and in turn connected by a tie-bar 4, the latter being remov-

ably connected with the bars 3 through the medium of clips 5 and provided at its center with a suitable bearing 6. The platform 2 is provided with a countersunk central bearing 7, which is vertically opposite the bearing 6 upon the bar 4.

8 designates an outer cylinder or casing, which in this case is provided with a removable bottom 9, connected to the cylinder by means of clips 10. The bottom has upon its under side a depending conical bearing-stud 11, which takes within the bearing 7 of the platform 2. Supported within the casing 8 is an inverted-truncated-cone-shaped vessel 12, the upper end or base of which fits snugly within the upper end of the casing 8, and, being shorter than the casing 8, combines with the latter to form an intermediate space, in which is packed sawdust, charcoal, or other non-conducting material.

A cylindrical socket 14 is mounted upon the bottom 9 of the casing 8 and extends up through the vessel 12 and terminates a short distance above the bottom of the latter, said socket serving to in a manner support the vessel and also to support the freezing-cylinder 15, which is located within the vessel 12 and at its bottom has a rectangular countersunk socket 16, which takes within the socket 14, but is considerably smaller than the same. The vessel 12 and the cylinder 15 combine to form an intermediate ice-space 17, and into the same ice may be introduced through an opening 18, formed in the upper end thereof, and in a manner hereinafter described.

19 designates the cover, which fits the wall of the cylinder 15, which latter extends above the edges of the cylinder 8 and vessel 12, as shown, and said cover is provided at its base with a lower flange 20, which extends over the vessel 12 and the cylinder or case 8. At one side of the central portion of the cover the latter is provided with the opening 18 and has mounted thereon a removable cover 21.

22 designates a shaft, which extends down through the bearing 6 and terminates in a square end 23, fitting the depression or socket 16 in the bottom of the freezing-cylinder. Above its bearing the shaft is provided with a crank-handle 24, by which the shaft may be rotated, and between the bearing 6 and the socket 16 the shaft is cylindrical and has loosely mounted thereon a cylindrical sleeve 25, from which extend lateral arms 26, connected by axially-opposite blades or beaters 27. This completes the construction of the freezer, with the exception of a draw-off cock 28, which is passed through the casing 8 and vessel 12 and terminates within the latter, whereby the water formed by the melted ice may be drawn off from the vessel.

The operation is as follows: The ice is introduced into the vessel and the cream into the cylinder, after which in the constructions shown in Figs. 3 and 4 the bar 4 is placed in

position and the crank-handle 24 applied to the shaft. The freezer is now tilted or inclined so that the lower ends of the bars 1 and two of the ends of the bars 3 serve as a support to retain the freezer in the inclined position, which is about at an angle of forty-five degrees. It is now simply necessary to conduct the operation of freezing in the ordinary manner—that is, by the rotation of the crank, which serves to rotate the beater and the freezer in opposite directions, as will be readily understood.

Having described my invention, what I claim is—

1. The combination, with the framework and a swinging frame having bearings, of the cylinder journaled for rotation therein, the inner freezing-cylinder, and an agitator mounted therein, substantially as specified.

2. The combination, with the rectangular base, and the opposite uprights pivoted at their lower ends thereto, and connecting cross-pieces at the upper and lower ends of the uprights and provided with bearings, of a cylinder having a lower bearing-lug journaled in the lower cross-piece, a freezing-cylinder therein, and a cranked agitator-shaft located in the upper bearing and extending into the freezing-cylinder, substantially as specified.

3. The combination, with the framework having the opposite bearings, of the outer cylinder having a central bearing upon its under side, the inner conical vessel depending within the cylinder and combining with the latter to form a space for the reception of non-conducting material, the inner freezing-cylinder having the countersunk socket, the cover for the inner cylinder and having the circular flange for the outer cylinder and provided at one side with the opening, the cap for the opening, the shaft extending through the bearing of the framework, through the cover of the freezing-cylinder, and into the latter and terminating in a square end taking into the socket of said cylinder, a handle, the sleeve mounted upon the shaft within the freezing-cylinder, the arms extending from the sleeve, and the blades mounted on the arms, substantially as specified.

4. The combination, with the framework, the opposite side bars of which are provided with the curved edges B' and provided with bearings, of the freezer-carrying frame supported pivotally in the bearings and devices mounted on the pivoted frame and adapted to bind upon the edges B', whereby the freezer-carrying frame may be held in any position, substantially as specified.

5. The combination, with the base, the two pivoted uprights having opposite openings, and the lower cross-bar having the bearing, of the freezer having the bearing-lug taking in the bearing, the inner casing mounted therein and provided with a head having a central opening, the freezing-cylinder mounted in the opening, the cover therefor having an open-

ing, a T-shaped tube depending into the opening, pins passing removably through the openings in the uprights, provided with perforations, and taking into the opposite ends
5 of the tube, short transverse pins passed therethrough for locking the pins, agitators carried by the tube within the freezing-cylinder, and a crank-shaft located in the tube and terminating at its lower end in a square head fitting removably in a socket formed in the bottom of the freezing-cylinder, substantially as specified. 10

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