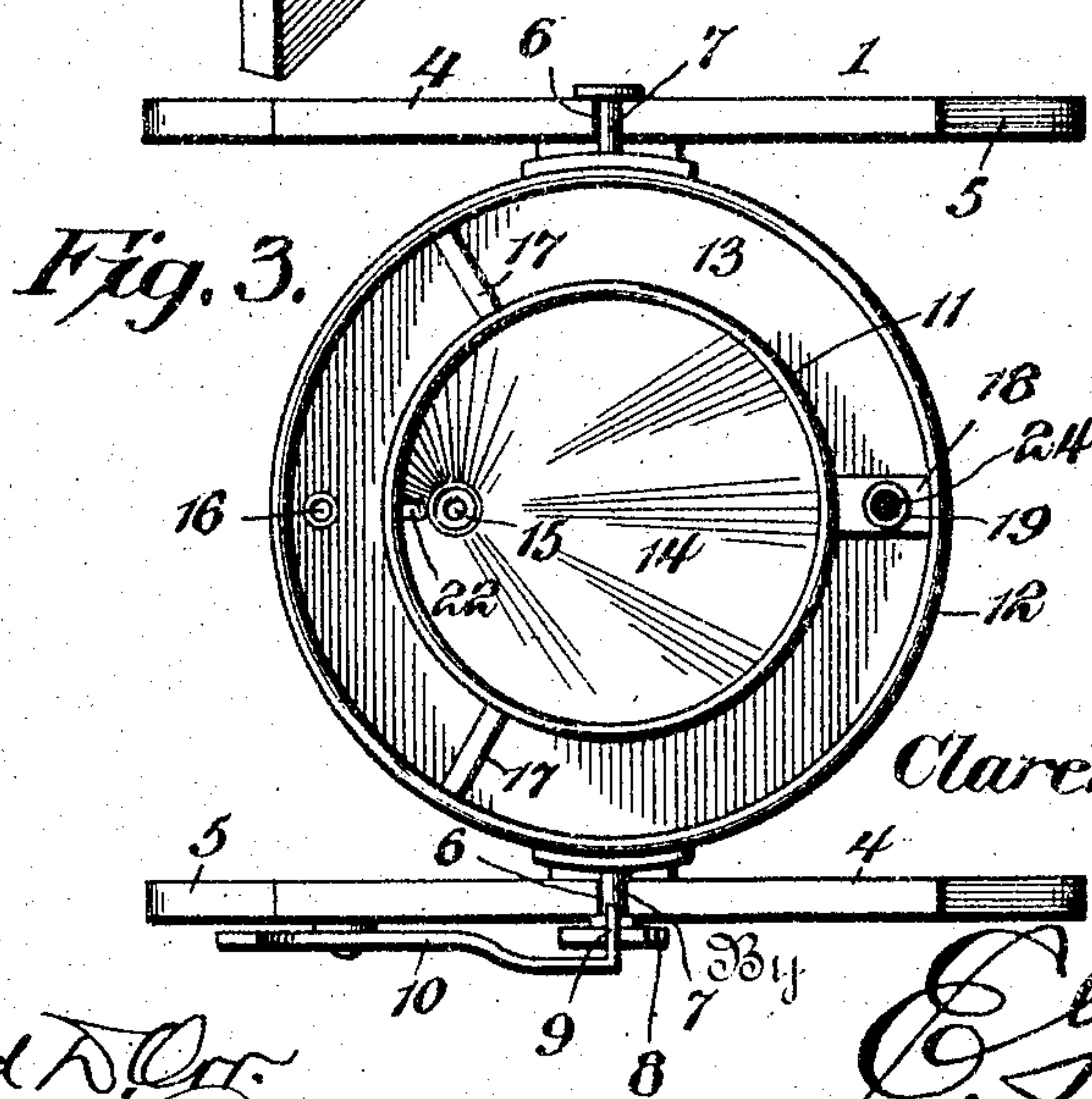
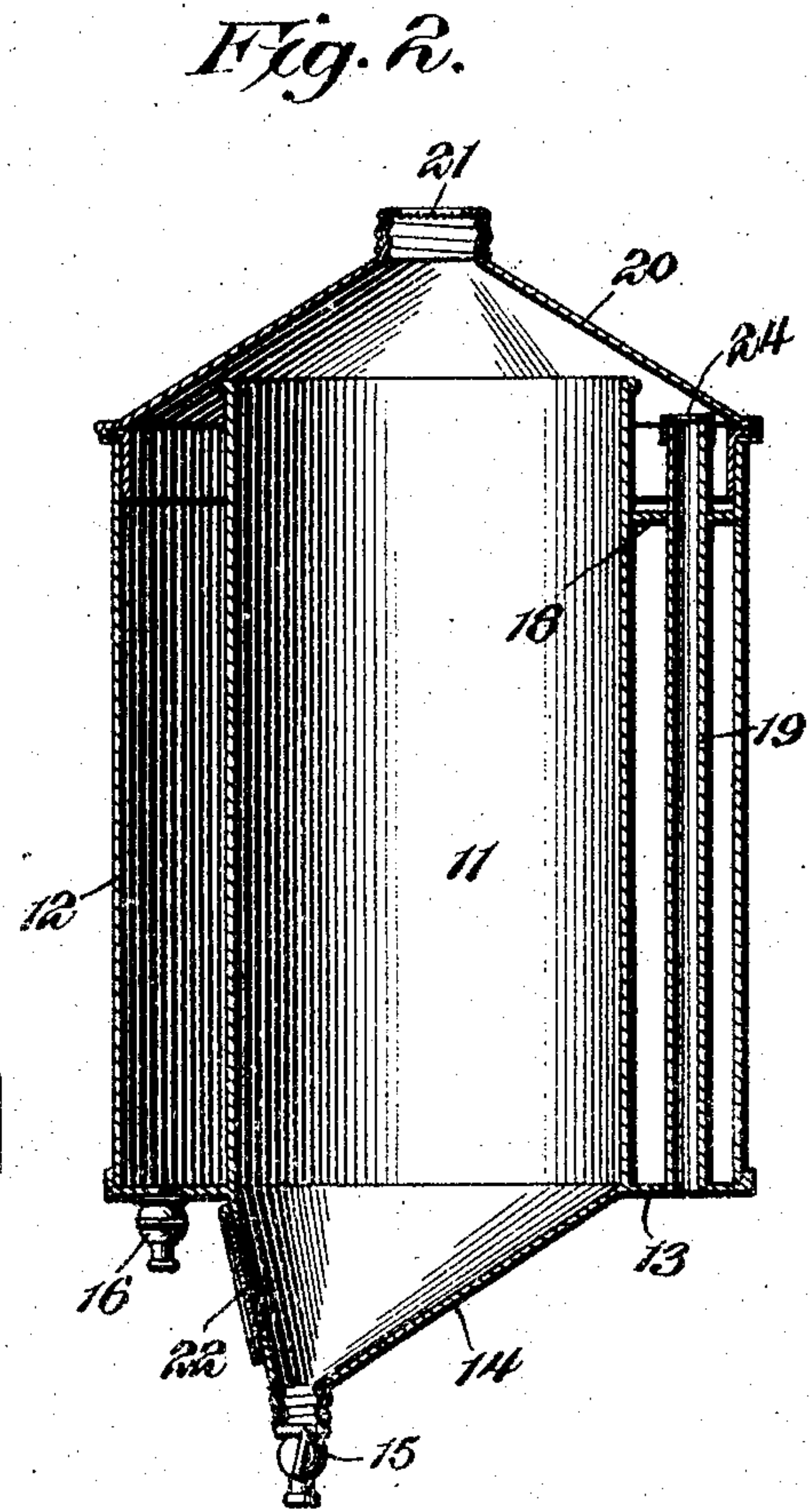
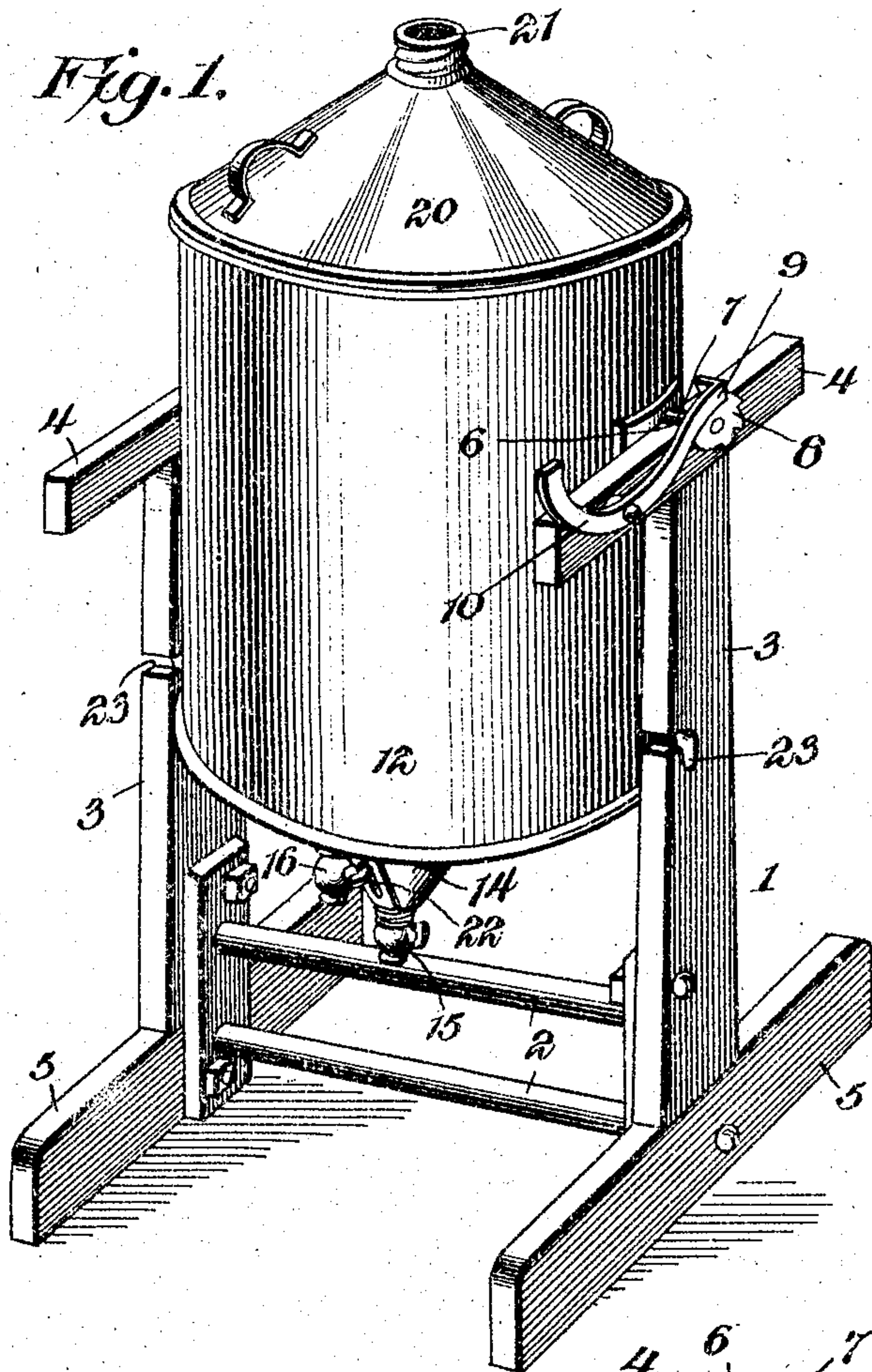


No. 778,327.

PATENTED DEC. 27, 1904.

C. W. PARKS.
CREAM SEPARATOR.
APPLICATION FILED JULY 9, 1904.



Clarence W. Parks,
Inventor,

Witnesses
Howard D. Orr
J. F. Piley

C. G. Siggers
Attorney

UNITED STATES PATENT OFFICE.

CLARENCE W. PARKS, OF LOWELL, MICHIGAN.

CREAM-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 778,327, dated December 27, 1904.

Application filed July 9, 1904. Serial No. 215,935.

To all whom it may concern:

Be it known that I, CLARENCE W. PARKS, a citizen of the United States, residing at Lowell, in the county of Kent and State of Michigan, have invented a new and useful Cream-Separator, of which the following is a specification.

The invention relates to improvements in cream-separators.

The object of the present invention is to improve the construction of cream-separators and to provide a simple, inexpensive, and efficient one of great strength and durability adapted to rapidly reduce the temperature of milk, to produce a separation of the cream, and capable of effectively removing all gases and odors and of discharging the same into the outer air without permitting the entrance of dust, insects, &c.

A further object of the invention is to provide a cream-separator in which the warm gases in escaping will cause a circulation of cold air adapted on entering the milk-receptacle to displace the warm air and gases, whereby the latter will be caused to escape more rapidly and the milk will be thoroughly aerated.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a cream-separator constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same, the stand being omitted. Fig. 3 is a plan view, the cover being removed.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a stand composed of two sides connected at the bottom by transverse bars or rungs 2. Each side of the frame consists of a vertical standard 3 and horizontal top and

bottom bars 4 and 5, centrally connected to the standard. The bottom bars 5 constitute the base of the stand; but the latter may be constructed in any other desired manner, as will be readily understood. The top bars are provided with centrally-arranged bearings 6 for the reception of journals 7 of the cream-separator, one of the journals being provided with a ratchet-wheel 8, arranged to be engaged by one end 9 of a pivoted lever 10. The lever is pivoted between its ends on one of the top horizontal bars 4, and its engaging end is bent inward at right angles, as clearly illustrated in Fig. 3 of the drawings, for engaging the ratchet-wheel. The ratchet-wheel and lever are adapted to lock the cream-separator in an inclined position at any desired adjustment.

The cream-separator consists of a substantially cylindrical inner can or receptacle 11 and an outer cold-water jacket 12, arranged concentric with the inner receptacle and connected at its lower end with the same by an inwardly-extending horizontal flange or bottom 13, as clearly illustrated in Fig. 2 of the drawings. The inner receptacle is provided with a tapering bottom 14, extending below the bottom of the jacket and having an eccentrically-arranged lower end or apex. The front wall of the tapered bottom of the inner receptacle is substantially vertical, and the apex is provided with a discharge-opening which is eccentrically arranged to avoid creating a suction within the inner receptacle, whereby the entire quantity of milk may be withdrawn before the cream. Also the tapered bottom causes any sediment to settle within its lower end and will enable the same to be drawn off with a small quantity of milk. A cock or faucet 15 is arranged at the lower end or apex of the bottom for controlling the discharge of the contents of the inner receptacle. A similar cock or faucet 16 is arranged at the bottom of the jacket for enabling the contents thereof to be drawn off as desired. The inner receptacle is extended slightly above the outer jacket, so that there will be no liability of the water accidentally flowing from the jacket into the inner receptacle.

The inner receptacle is supported by braces 17 and 18, arranged at intervals, as shown in Fig. 3, and interposed between the inner and outer receptacles. These braces may be of any desired number, and the brace 18 also serves to support a cold-air tube 19, arranged vertically within the jacket or outer receptacle and extending from the top to the bottom thereof. The cold-air tube pierces the bottom of the jacket or outer receptacle and communicates with the outer air, which as the warm air and gases escape at the top of the cream-separator is caused to flow into the cold-air tube to take the place of the escaping air and gases and also to facilitate their rapid escape. The inner jacket is designed to be filled with cold water or any other cooling mixture, and the air passing upward through the tube 19 is cooled and after leaving the same and flowing into the inner receptacle will sink to the surface of the contents thereof, thereby displacing the warmer air and gases and causing the same to escape more rapidly. The contents of the inner receptacle are thus subjected to the action of the cold air and are thoroughly aerated. The cold water within the jacket lowers the temperature of the milk adjacent to the walls of the inner receptacle, thereby causing the cooled milk to sink to the bottom of the inner receptacle. The warmer milk rises and takes the place of the descending cooler milk. A circulation of the milk is thus produced until the contents of the inner receptacle are thoroughly and uniformly cooled. This circulation causes the air and gases to escape, and the animal heat is rapidly eliminated.

The cream-separator is provided with a conical cover 20, which is fitted on the outer jacket and which extends above the inner receptacle. This conical cover, which is adapted to be inverted to form a strainer, is provided at the apex with an opening covered by wire-gauze 21 or other suitable material. The wire-gauze forms the strainer and is preferably detachably secured to the cover to enable it to be replaced when worn. The cover may, as illustrated in the accompanying drawing, be provided with a threaded flange and a screw-cap; but any other suitable means may be employed. The screw-cap, which fits on the threaded flange, has an opening for exposing the strainer, and it extends inward over the same, the strainer being clamped between the threaded flange and the inwardly-extending portion of the cap. The strainer permits the gases and odors to escape from the cream-separator and at the same time excludes dust, insects, and the like.

The tapered bottom is provided with a sight-aperture 22, which is covered with glass or other transparent material and which enables the contents of the inner receptacle to be inspected.

The sides of the stand are provided with

supplemental bearings 23, adapted to receive the journals of the cream-separator for enabling the stand to serve as a crate when shipping the cream-separator.

The upper end of the cold-air tube is provided with a screen 24 of wire-gauze or other suitable material to prevent any insects, &c., from entering the cream-separator through the cold-air tube. The screen is preferably applied to the cold-air tube in the form of a cap, as indicated in Fig. 2 of the drawings.

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

1. A cream-separator, comprising an inner milk-receptacle having an open top, an outer jacket designed to contain a cooling liquid, a cold-air tube having one end communicating with the outside air and its other end discharging into the cream-separator at the top of the inner receptacle, said air-tube passing through the jacket, whereby the air passing through the tube will be cooled and a cover fitted on the jacket, substantially as and for the purpose described.

2. A cream-separator provided with inner and outer receptacles and having a cover fitted on the outer receptacle, the inner receptacle being open at the top and adapted to contain the milk, and the outer receptacle being designed to receive the cooling liquid, and an air-tube arranged within the outer receptacle and communicating at its lower end with the outside air and having its inner end arranged adjacent to the top of the inner receptacle, substantially as and for the purpose described.

3. A cream-separator, comprising an inner vertical milk-receptacle open at the top, an outer vertical jacket surrounding the inner receptacle, a cover arranged on the jacket, and a cold-air tube extending from the bottom to the top of the jacket and communicating at its lower end with the outside air and having its upper end arranged adjacent to the top of the inner receptacle.

4. A cream-separator, comprising inner and outer receptacles, the inner receptacle being open at the top, a cover fitted on the outer receptacle, braces connecting the receptacles, and a cold-air tube supported by one of the braces and piercing the bottom of the outer receptacle.

5. A cream-separator, comprising inner and outer receptacles, a cover fitted on the outer receptacle, the inner receptacle being open at the top, and a cold-air tube having one end communicating with the outside air, and its other end discharging into the cream-separator at the top of the inner receptacle, the discharge end of the cold-air tube being provided with a screen.

6. A cream-separator, comprising inner and outer receptacles, the inner receptacle being extended below the outer receptacle and provided at the bottom with a faucet, said inner

receptacle being also open at the top and extended above the outer receptacle, a cold-air tube arranged within the outer receptacle and communicating at one end with the outside
5 air, and a cover mounted on the outer receptacle and extending over the inner receptacle and the cold-air tube.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLARENCE W. PARKS.

Witnesses:

S. P. HICKS,

MYRTIE A. TAYLOR.