

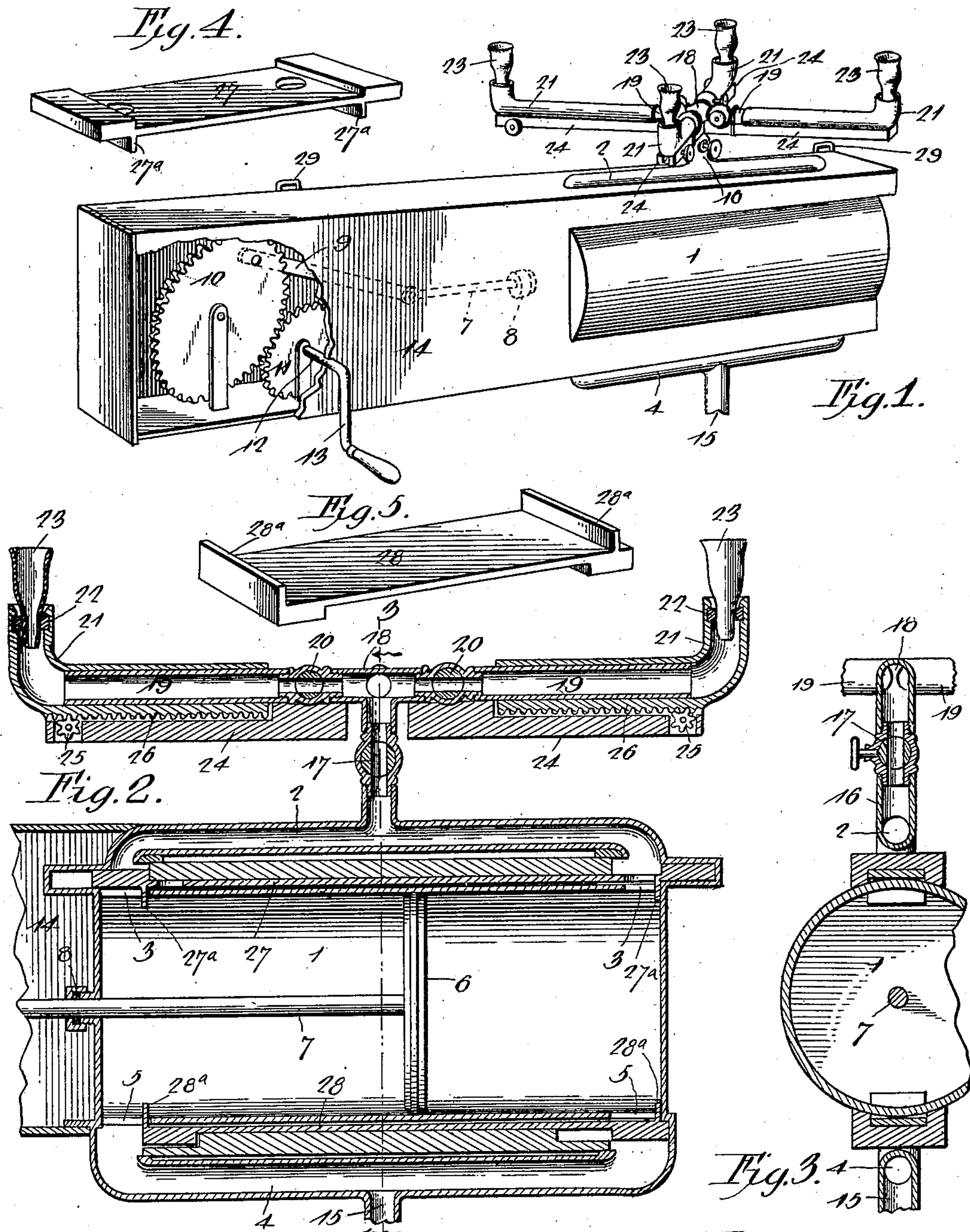
No. 631,774.

Patented Aug. 29, 1899.

C. C. BUNDY.
MILKING MACHINE.

(Application filed Dec. 8, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES C. BUNDY, OF FREEMAN, MISSOURI.

MILKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 631,774, dated August 29, 1899.

Application filed December 8, 1898. Serial No. 698,691. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. BUNDY, a citizen of the United States, residing at Freeman, in the county of Cass and the State of Missouri, have invented a new and useful Milking-Machine, of which the following is a specification.

My invention relates to a milking apparatus, and has for its object to provide a simple, compact, and efficient construction and arrangement of parts whereby the milking operation may be conducted with rapidity and without injury to the stock and also to provide an arrangement of parts whereby cleaning may be effected with ease and completeness.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the principles or sacrificing any of the advantages of this invention.

The preferred embodiment of my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of an improved milking-machine. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section on the plane indicated by the line 3 3 of Fig. 2. Figs. 4 and 5 are detail views in perspective respectively of the inlet and outlet valves.

Similar reference characters designate like and corresponding parts in the several figures of the drawings.

In the construction illustrated, 1 represents a cylinder communicating with an inlet-valve casing 2 by means of the inlet-ports 3 and with an outlet-valve casing 4 by means of similar ports 5, and arranged for operation in the cylinder is a reciprocating piston 6, of which the rod 7 passes through a suitable stuffing-box 8 and is connected by a pitman 9 with a crank-wheel 10. The crank-wheel may be actuated by power-multiplying gearing, such as the pinion 11, carried by an op-

erating-shaft 12, having a crank-arm 13 or the equivalent thereof, and in practice I prefer to inclose the gearing in a casing 14, whereby dust is effectually excluded.

Communicating with the outlet-valve casing 4 is a discharge nozzle or tube 15, and correspondingly in communication with the inlet-valve casing is a conductor 16, having a controlling three-way valve 17. Communicating with the upper end of the conductor 16 is a four-way coupling 18, to which are attached branch inlet-pipes 19, controlling the two-way valves 20, being disposed between said branches and the main conductor 16 to provide for cutting off one or more branches, as may be required in practice. Each inlet branch is of telescoping or extensible construction in that in addition to the member 6, attached to the coupling 18, it includes an outer cup-bearing section 21, consisting of a sleeve fitted to slide upon the inner or fixed section. These movable sections 21 are upturned at their outer ends and are counter-bored to receive packing-rings or cushions 22, and these cushions in turn are annular to form seats for the teat-cups 23, which may be of glass, hard rubber, or any other suitable material. Also radiating from the conductor 16 are supporting-arms 24, at the outer ends of which are mounted feed-pinions 25, meshing with racks 26 on the under sides of the movable sections 21 of the branches. Adjustment by means of the feed-pinions provides for disposing the cups at suitable operative intervals, and as each pipe-section 21 is adjustable independently of the other parts of the apparatus the desired accuracy may be attained with facility.

In connection with the inlet and outlet ports of the cylinder I employ inlet and outlet slide-valves 27 and 28, (shown in detail respectively in Figs. 4 and 5,) and upon each of the valves are arranged spaced tappets 27^a and 28^a, arranged in the paths of movement of the piston and adapted to be encountered alternately to shift the valves, whereby during the movement of the piston in one direction liquid is inducted through the inlet-port at one end of the cylinder and is discharged through the outlet-port at the opposite end of the cylinder, whereas upon the reversal of

movement of the piston the relatively opposite inlet and outlet ports are opened and utilized.

To facilitate holding the apparatus in position while in use, I provide the same with eyes or keepers 29, adapted for engagement by a suitable strap, which, however, I have deemed it unnecessary to illustrate.

Having thus described the invention, what is claimed is—

1. In an apparatus of the class described, the combination with a suction-tube and a suction-producing apparatus, of cup-carrying liquid-conveying members horizontally disposed and having an independent telescopic adjustable communication with said tube, said members being variable in position to alter the intervals between the cups, substantially as specified.

2. In an apparatus of the class described, the combination with a suction-tube and a suction-producing apparatus, of cup-carrying liquid-conveying members horizontally arranged and having an independent telescopic adjustable communication with said tube, and means for radially moving said members to vary the intervals between the cups, substantially as specified.

3. In an apparatus of the class described, the combination with a suction-tube and a

suction-producing apparatus, of tubular liquid-conveying devices in communication with said tube, the same consisting of horizontally-disposed independently-telescoping fixed and movable members, and teat-cups carried by the movable members, substantially as specified.

4. In an apparatus of the class described, the combination with a suction-tube and a suction-producing apparatus, of horizontally-disposed liquid-conveying devices in communication with said tube, the same consisting of fixed inner radial members and telescoping adjustable outer members carrying teat-cups, and pinions meshing with racks on said adjustable members, substantially as specified.

5. In an apparatus of the class described, the combination with a suction-pipe or conductor and a pump in communication therewith, of horizontally-disposed valved branches communicating with said conductor, sleeves slidably adjustable upon the said branches and having upturned extremities provided with seats, yielding cushions fitted in said seats, and teat-cups fitted in the cushions, substantially as specified.

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Witnesses:

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