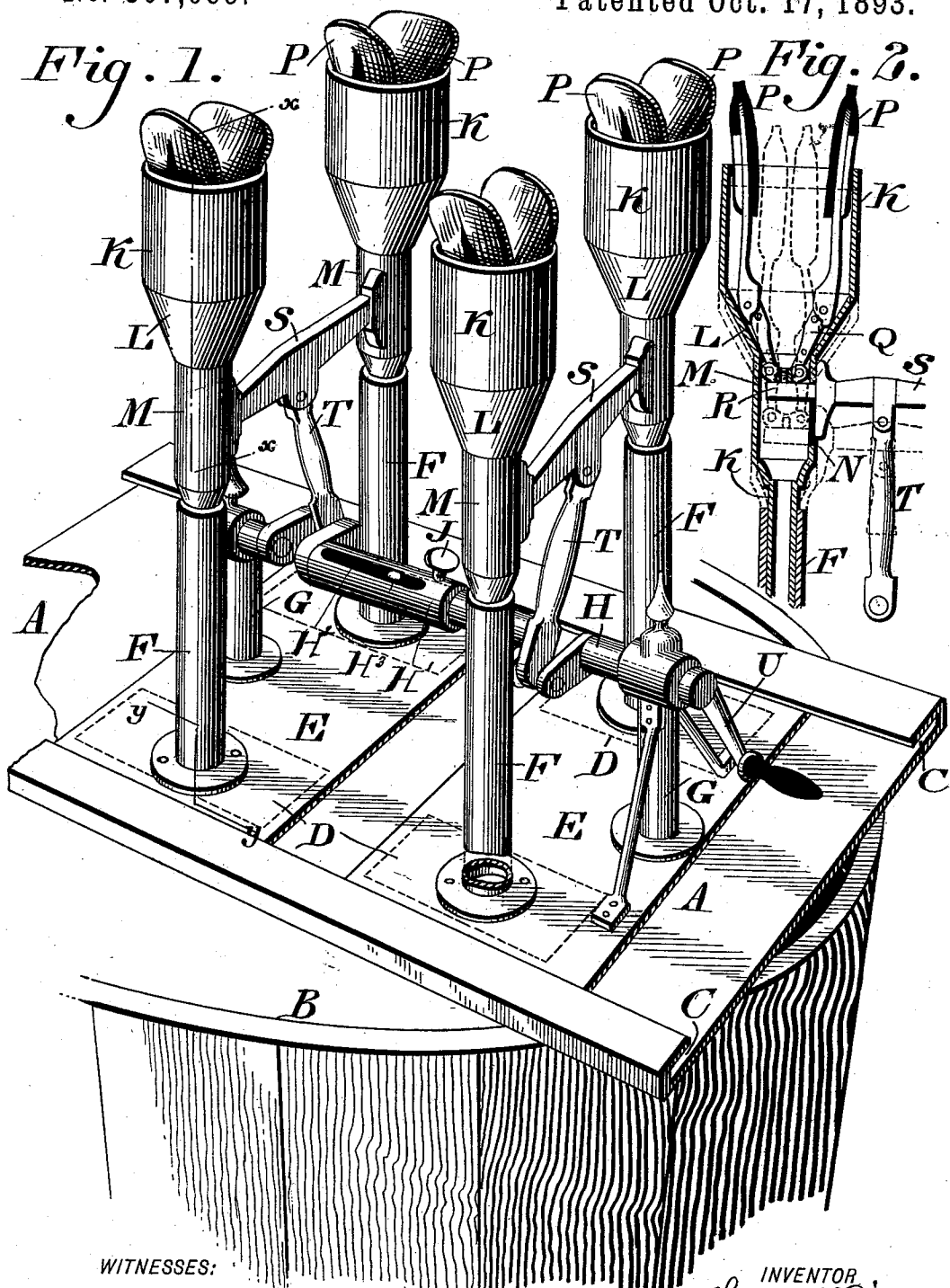


(No Model.)

H. HEITMANN.
COW MILKER.

No. 507,069.

Patented Oct. 17, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY HEITMANN, OF TRENTON, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
CHARLES K. SCHAEFER, OF SAME PLACE.

COW-MILKER.

SPECIFICATION forming part of Letters Patent No. 507,069, dated October 17, 1893.

Application filed May 20, 1893. Serial No. 474,861. (No model.)

To all whom it may concern:

Be it known that I, HENRY HEITMANN, a citizen of the United States, residing at Trenton, in the county of Mercer, State of New Jersey, have invented a new and useful Improvement in Cow-Milkers, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a cow milker formed of fingers adapted to grasp the teats and work down the same after the manner of hand-milking, said fingers being provided with novel means for closing, and raising and lowering the same.

It further consists of means for adjusting the device to teats of different localities or sizes.

Figure 1 represents a perspective view of a cow milker embodying my invention. Fig. 2 represents a vertical section of a portion thereof, on line *x, x*, Fig. 1. Fig. 3 represents a vertical section of a portion on line *y, y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates a base which is adapted to be supported on a pail B, or other suitable receptacle for the milk. On the sides of said base are ways C, and in said base are lengthened openings D.

E designates separated plates which rest freely on the base A, and are guided by the ways C.

Rising from the base are tubes F and standards G, the latter forming the bearings for the divided crank shaft H, the sections of which are fitted to each other telescopically, and connected by the set screw J, whereby said shaft may be longitudinally adjusted, and the plates E and the superimposed parts also adjusted relatively to variations in the location of the teats of a cow. In the present case, the sleeve H' of the sections of the shaft, has a slot H² into which freely projects the pin H³ on the other section, so that the sections are prevented from slipping when the shaft is rotated.

K designates cups whose portions are reduced, forming conical shoulders L, and whose portions M are connected freely with the tubes F, and formed with slots N in the sides there-

of. Within the cups K are fingers P, which are covered or clad, especially on their inner faces, with soft material, and pivotally connected at their lower ends by means of links Q with stems R, which partly project through the slots N, and are attached to cross heads S, said stems being thus permitted to rise and fall, owing to said slots N. The upper ends of the fingers are flaring at top, so that when they reach the teats they are forced apart, should they not be in open position as they ascend.

Connected with the heads S and the cranks of the shaft H, are pitmen T, whereby rising and falling motions may be imparted to said heads S.

The operation is as follows: The normal position of the fingers P is open or separated, as shown most clearly in Fig. 2. Now when the device is properly adjusted in relation to the teats, the shaft H is rotated by the crank handle U, or other suitable means, whereby the pitmen are elevated and the fingers rise on each side of the teats. Then the stems R strike the tops of the slots N, whereby owing to the action of the shoulders L the cups rise and the fingers P are closed against the teats. Then the cross heads lower and the fingers descend, thus also lowering the tubes, the fingers slipping down on the teats. Then the pins strike the bottoms of the slots N and fully lower the cups, whereby the fingers separate as they leave the teats, after which the fingers are again raised and the other operations repeated, thus simulating the action of hand-milking. When the milk leaves the teats, it drops into the cups, and is directed from the same into the tubes F, and openings D, from which latter it enters the pail or receptacle.

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

1. A milking device having cups with inclined shoulders therein, and slotted lower portions freely supported on tubes, fingers in said cups having links at their lower ends, and crank arms or pitmen for raising and lowering cups and fingers, said parts being combined substantially as described.

2. The rising and falling cups, the rising

and falling fingers therein, and the cross head connected with said fingers, said cups having slots therein through which the stem of said cross head plays, whereby the cups and fingers are movable independently of each other so as to close and open the fingers, substantially as described.

3. A milking device having a cup with conical shoulders therein, and a slotted lower portion, a tube on which said lower portion freely moves, fingers in said cup having links at their lower ends, a cross head with a stem projecting through said slot and connected with said links, and mechanism for raising and lowering said cross head, said parts being combined substantially as described.

4. In a milking apparatus, movable cups with movable fingers therein, a base having openings therein, plates movable over said openings in said base and guided in ways thereon, hollow tubes on said plates freely receiving the lower portions of said cups, a lengthwise adjustable sectional crank-shaft

journaled in bearings on said plates, pitmen, heads and links connecting said crank-shaft with said cups, and fingers for operating the latter parts, said parts being combined substantially as described.

5. In a milking device, the supporting plates of the milk-conveying tubes made adjustable relatively to each other, and the base on which plates rest having elongated slots beneath said tubes, substantially as described.

6. A milking device consisting of a base with openings therein, plates adjustable on said base, and carrying standards and tubes thereon, a shaft journaled on said standard, cups movable on said tubes, fingers in said cups, and mechanism connected with said crank shaft for raising and lowering said fingers and said cups, said parts being combined substantially as described.

HENRY HEITMANN.

Witnesses:

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