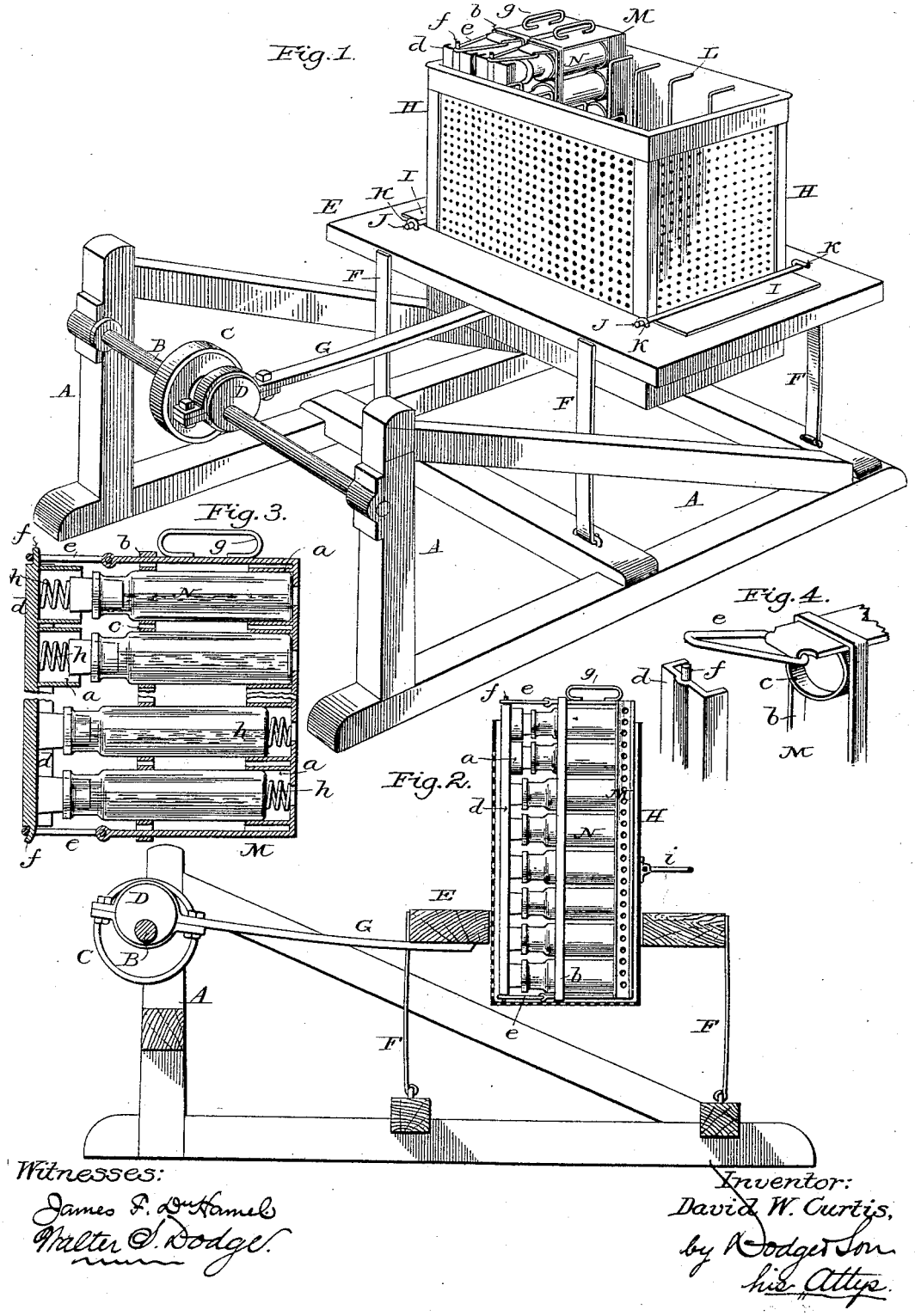
(No Model.)

D. W. CURTIS.

CREAM TESTING CHURN.

No. 342,336. Patented May 25, 1886.



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UNITED STATES PATENT OFFICE.

DAVID W. CURTIS, OF FORT ATKINSON, WIS., ASSIGNOR OF TWO-THIRDS TO OSCAR S. CORNISH AND WALTER S. GREENE, BOTH OF SAME PLACE.

CREAM-TESTING CHURN.

SPECIFICATION forming part of Letters Patent No. 342,336, dated May 25, 1886.

Application filed March 12, 1886. Serial No. 194,980. (No model.)

To all whom it may concern:

Be it known that I, DAVID W. CURTIS, of Fort Atkinson, in the county of Jefferson and State of Wisconsin, have invented certain new and useful Improvements in Cream-Testing Churns, of which the following is a specification.

This invention relates to what are known as "cream-testing" churns, and before describing in detail the construction of the improved machine I will explain the objects and uses of the same.

It is the practice among creamerymen to collect cream from different farms, a small quantity of each lot of cream thus collected being kept separate and labeled or otherwise designated. When received at the factory, the cream is put into little bottles of uniform size and shape and churned until the butter is formed. When the churning is completed, the bottles are removed from the churn and placed in hot water, so as to melt the butter, which is then allowed to stand until a separation takes place. The butter-oil is then measured with a scale, and the percentage of the oil to the cream thus determined. In carrying out this process, which is not claimed herein, having been in public use for some years, care must be taken that the corks or stoppers of the bottles be held firmly in place, because should any of the cream or butter be wasted the proper percentage could not be obtained. Means must also be provided for holding the bottles firmly in place, because should they become loose they would soon be broken.

Referring now to the drawings, Figure 1 is a perspective view of my improved churn; Fig. 2, a longitudinal vertical section of the same, and Figs. 3 and 4 views illustrating certain details of construction.

A indicates a substantial framing, and B a shaft journaled therein, the shaft being provided with a band-wheel, C, and an eccentric, D.

E indicates a bed or platform supported near its four corners upon upright spring-arms F, and connected with or to the eccentric D by means of pitman G, as shown in Figs. 1 and 2. From this construction it will be seen that a rapid easy motion may be imparted to the bed or platform, the spring-arms F taking up the thrust and preventing jar as the bed is reciprocated.

The bed or platform E is provided with a large central opening, in which a box or chamber, H, is seated, the latter being shown open at its top and provided on its bottom and three sides with perforations, though the perforation of the box is not essential. On two sides of the box H are formed wings or laterally-extending arms I, which rest upon the upper face of the bed or platform E, and thus limit the distance the box H projects through the latter. Bars or rods J extend across the top of the plates or wings I, and have their ends secured in eyes or staples K, as shown, whereby the box is held firmly to its seat. One of the staples or eyes K may be open on its side and made in the form of a spring, and so as to permit the ready insertion and removal of the rod J. The box I is further provided with a series of guides or ways, L, between which are placed the bottle-cases M, as shown in Figs. 1 and 2.

The cases M just referred to are of substantially rectangular form, as shown in Figs. 1, 2, and 3, and are preferably made of metal. The bottom of each case is provided with a number of sockets, *a*, corresponding in number to the bottles, and further provided with a steadying-band, *b*, formed with wings or hoops *c*, which pass about the bottles N and prevent their vibrating and striking against each other.

The cover *d*, flanged along its sides, as shown in Figs. 1, 2, 3, and 4, is secured to the case M by means of hasps or loops *e*, pivotally attached to the end walls of the case M and passing over lugs *f* on the ends of the cover *d*.

When it is desired to remove the cover *d*, the links or loops *e* are raised off the lugs *f*, as shown in Fig. 4, whereupon the bottles may be lifted out.

Each of the cases M is provided with a handle, *g*, by which it may be lifted out of its place in the box H and set into the hot water, as above stated. The bottoms of the sockets *a* are left open, as shown in Fig. 3, so as to allow the air and water to have access to the bottoms of the bottles, and to facilitate cleaning.

After continued use the corks or stoppers

of the bottles become worn, and must be pressed farther into the bottles to prevent leakage. To retain the corks firmly in place, I provide each bottle with a spring, *h*, which may be placed upon the top or the bottom of the bottle, as shown in Fig. 3. When the springs are placed upon the tops of the corks, it will be found desirable to provide the cover *d* with sockets, so as to prevent accidental displacement of the springs. The springs cause a constant pressure to be exerted upon the corks which prevents their escape from the bottles, the springs compensating for any difference in the seating of the corks in the same or in different bottles, and causing all to be properly held in place. They further relieve the bottles of any jar or concussion that might occur if the slightest end-play were permitted.

As shown in Fig. 2, the box H is provided with a handle, *i*, by which it and the contained bottle-cases M may be removed bodily from the bed or platform E.

The size of the bottle-cases may be varied as circumstances require.

The box H may be made tight, if desired, the perforated bottom and sides being omitted.

It will be noticed that each of the bottle-cases M is independent of the others, and any one may be removed at any time to ascertain how the churning is progressing.

Although I have shown each case M as provided with eight bottles, I do not wish to limit myself to any particular number, as it is apparent that a greater or lesser number may be used. It is likewise apparent that the width of the box H may be varied to suit a greater or lesser number of bottle-cases than six, all of these changes in form and size being within the province of the manufacturer and dependent upon the wants of the user.

Having thus described my invention, what I claim is—

1. In a cream-testing churn, the combination, with a reciprocating bed or platform, of a box, as H, seated therein, and a series of removable bottle-cases, as M, placed within said box.

2. In a cream-testing churn, the combination, with a reciprocating bed or platform, E, of a box, H, seated therein, a series of guides on the inner face of the box, and a series of bottle cases between the guides, all arranged substantially as shown.

3. In a cream testing churn, the bottle-case M, provided with sockets *a*, band *b*, hoops or rings *c*, and cover *d*.

4. In a cream-testing churn, the bottle-case M, provided with a series of sockets, *a*, springs *h*, inserted in the sockets, band *b*, hoops *c*, cover *d*, having studs *f*, and pivoted loops *e*, all arranged substantially as shown.

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