(No Model.)

J. A. HOWARD.

CHURN.

No. 525,214. Patented Aug. 28, 1894.

Fig. 2.

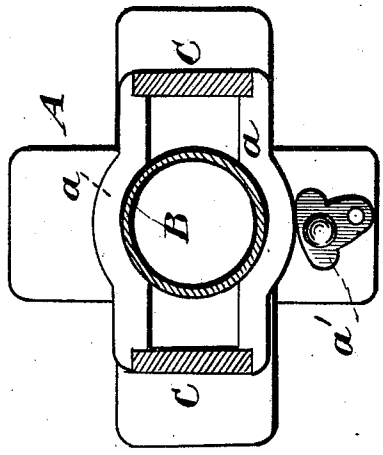


Fig. 4.

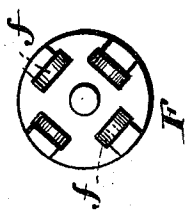


Fig. 3.

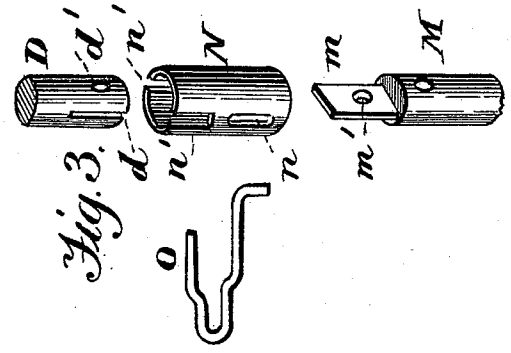
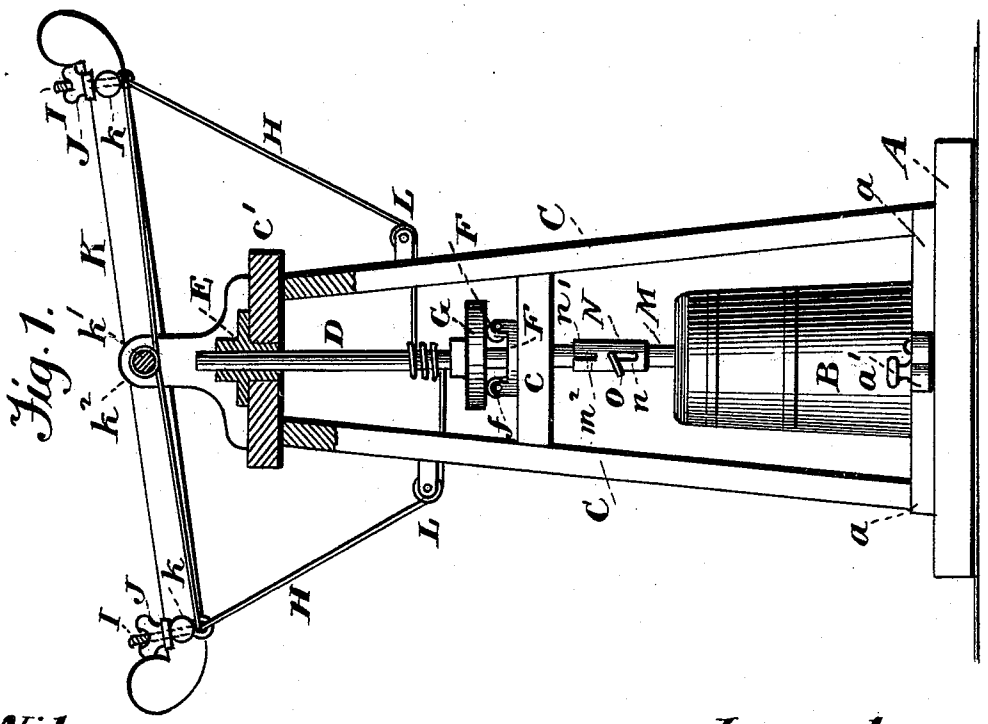


Fig. 1.



Witnesses.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH A. HOWARD, OF ABERDEEN, OHIO.

CHURN.

SPECIFICATION forming part of Letters Patent No. 525,214, dated August 28, 1894.

Application filed May 17, 1894. Serial No. 511,569. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. HOWARD, a citizen of the United States, residing at Aberdeen, in the county of Brown and State of Ohio, have invented certain new and useful Improvements in Churns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The special object of the invention is to improve that class of churns in which vibratory dashers are employed as hereinafter described and pointed out in the claim.

Figure 1 of the drawings is a side view partly in section; Fig. 2 a horizontal section, and Fig. 3 a detail view of coupling sleeve, key and upper end of dasher, separated from each other; Fig. 4 a detail of the metallic disk.

In the drawings, A represents the base or platform on which the churn B is clamped between strips *a a* that are oppositely concaved and one of which is held against the churn by the cam *a'* while the other is fixed so that the churn may be quickly fastened in or taken out. From the base A rise two vertical standards C C which converge upwardly and are spaced as well as braced by the parallel crosspieces *c c'* through the middle of which passes the vibrating shaft D that has a diametrical open slot *d* at its lower end and a transverse hole *d'* at right angles thereto. In the upper crossbar *c'* is placed a socket or hollow metallic bearing E for the upper end or journal of said shaft while the lower end passes loosely through a fast metallic disk F which has on its upper side antifriction rolls *f* between ears thereon. On these antifriction rolls *f* is supported the vibrating disk G which is made fast to the shaft D.

H H are two cords of equal length, each having one end fastened to the shaft D while the other end is secured to an eye on the lower end of the screw I which passes through a crossbar *k* of the lever K, and is provided on top with a thumbscrew J so that a proper tautness may be always given to the cords H, as they pass over the pulleys L to the shaft D. The handlever K is fulcrumed at its middle on a shaft *k'* in the standards k^2 while the crossbars *k* are equally distant from the shaft *k'*.

M is a churn dasher rod, in the upper end of which I secure a diametrical plate *m* with a hole *m'* so that it may enter the slot *d* of the shaft and be held by a crosspin m^2 passing through the holes *m' d'*.

N is a coupling sleeve with the opposite lower slots *n n* through which and through a hole in the rod M, passes one arm of the key O, the front end of said arm being then bent to prevent it from coming out. In the upper end of the sleeve N are two opposite slots *n'* *n'* through which pass the crosspin m^2 which also passes through the hole *m'* of the plate *m*. By this means, the dasher rod and shaft D may be quickly coupled or uncoupled.

What I claim as new, and desire to protect by Letters Patent, is—

The combination with the standards C C having crossbars *c c'* with holes through the middle, of a vibrating shaft D having a bearing E in the upper crossbar *c* and passing through the lower crossbar *c'*, suitable means for vibrating said shaft, the disk F fast on crossbar *c'* and carrying in ears thereof on the upper side, the anti-friction wheels *f* and the disk G fast to the vibrating shaft D and resting on said anti-friction rolls, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH A. HOWARD.

Witnesses:

WILLIAM N. CAMPBELL,

O. B. SPEARS.