

(No Model.)

J. M. CRITCHER.  
CHURN.

No. 475,848.

Patented May 31, 1892.

Fig. 1.

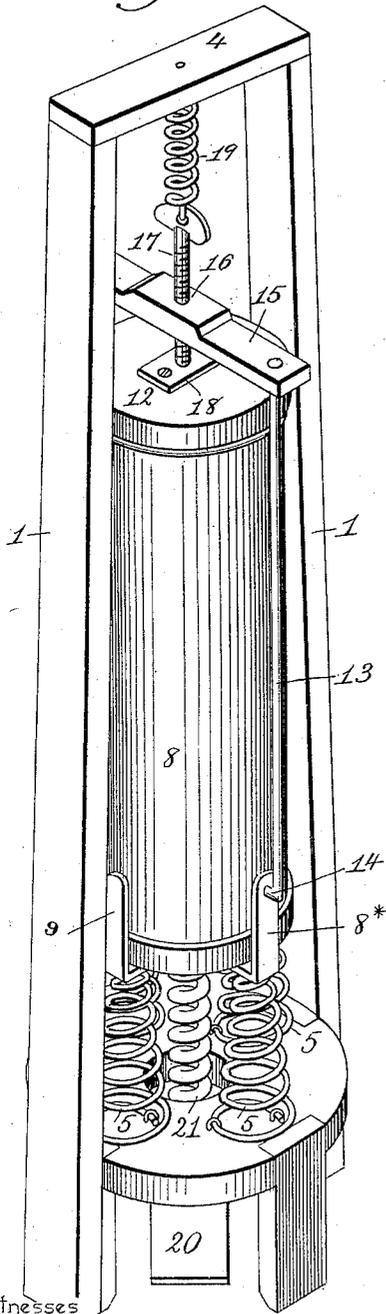
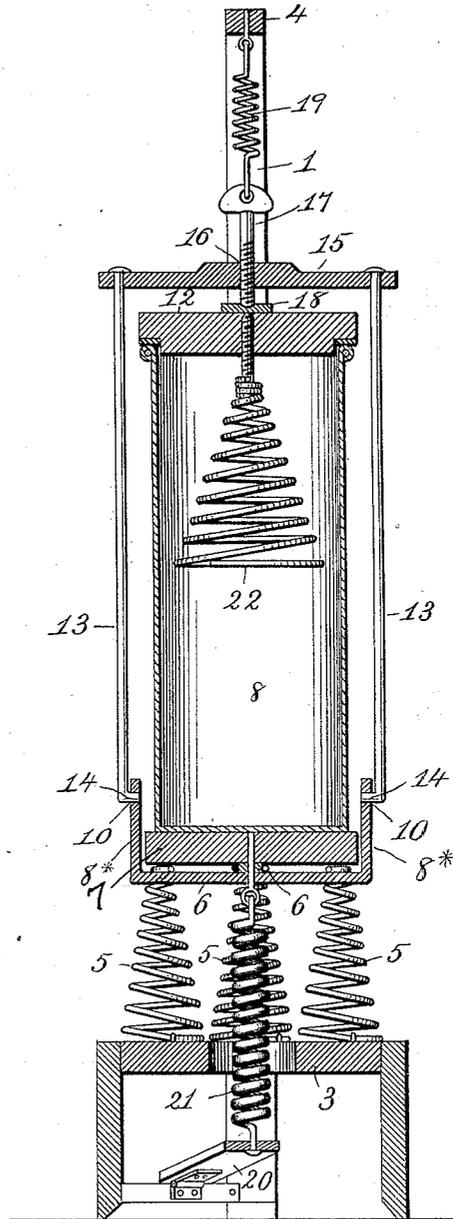


Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN M. CRITCHER, OF BOLIVAR, MISSOURI.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 475,848, dated May 31, 1892.

Application filed September 25, 1891. Serial No. 406,806. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. CRITCHER, a citizen of the United States, residing at Bolivar, in the county of Polk and State of Missouri, have invented a new and useful Churn, of which the following is a specification.

The invention relates to improvements in churns.

The object of the present invention is to provide a simple and inexpensive vertically-reciprocating churn which may be easily operated and which will thoroughly agitate the cream and quickly convert the same into butter.

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.

In the drawings, Figure 1 is a perspective view of a churn constructed in accordance with this invention. Fig. 2 is a central vertical sectional view.

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

1 1 designate uprights having their lower portions connected by a base 3 and their upper ends connected by a cross-bar 4, and arranged on the base 3 are four spirally-coiled springs 5, which are secured by metal bars 6 to a disk 7, and adapted to impart an upward motion to a churn-body 8 after the latter has been forced downward by the operator. The churn-body 8 is cylindrical and is seated on the disk 7 to which the crossed bars 6 are centrally secured, and the latter have their ends 8\* and 9 bent upward and projecting above the disk to prevent the churn-body slipping off the disk 7. The spiral springs have their lower ends secured by staples to the base 2, and their upper ends are engaged by the crossed bars 6, which pass through the coils, and thereby secure the springs to the disk. The ends 8\* of the bar 6 are provided with perforations 10 and are engaged by a yoke 11, which secures a cover 12 to the churn-body and retains the churn-body in its seat on the disk 7. The yoke is composed of vertical bars 13, having their lower end 14 bent inward and engaging the perforations 10 of the ends 8\*, and a cross-bar 15, connecting the

upper ends of the side bars and provided with a central curved opening 16, in which is arranged a thumb-screw 17, which engages a plate 18, secured to the cover 12.

The thumb-screw 17 is provided in its head with an eye, to which is secured the lower end of a spiral spring 19, which has its upper end attached to the cross-bar 4, and which steadies the churn-body and makes its vertical reciprocation easier.

The churn-body is reciprocated by a lever 20, fulcrumed on one of the uprights and connected with the body and adapted to be depressed by the operator. The downward stroke which is caused by the operator compresses the spiral springs 5, which impart an upward movement to the churn-body, and by this arrangement an easy motion, which requires little exertion on the part of the operator, is produced. The lever may be arranged to be operated either by hand or by foot, but it is preferably located as illustrated in the accompanying drawings, and is connected intermediate its ends with the crossed bars by a spiral spring 21.

The cover is provided with a spiral spring 22, which acts as a dasher and is secured to the lower face of the cover; but other forms of dashers may be advantageously employed.

From the foregoing description and accompanying drawings the construction, operation, and advantages of the invention will be readily understood.

What I claim is—

1. The combination of the uprights, the cross-bar connecting the upper end of the uprights, the base arranged near the lower ends of the same, the spirally-coiled springs secured to the base, a churn-body supported on the springs and having its upper end connected with the cross-bar, and a lever fulcrumed on the upright and connected with the churn-body, substantially as described.
2. The combination of the uprights, the cross-bar connecting their upper ends, the base secured near the lower ends of the same, the spiral springs mounted on the base, a disk forming a seat, the crossed bars secured to the disk and engaging the upper coils of the springs and attaching the same to the disk, a churn-body seated on the disk and provided with a cover, a yoke engaging the

crossed bars and securing the cover to the churn-body, and a spring connecting the yoke with the cross-bar, substantially as described.

3. The combination of a frame, spiral  
5 springs supported on the frame, the crossed bars engaging the coils of the springs and having their ends 8\* and 9 bent upward, a disk forming a seat secured to the said bars, a yoke composed of side bars engaging the  
10 ends 8\*, and a connecting-bar secured to the upper end of the side bars and provided with a central threaded opening, a thumb-screw arranged in the threaded opening, a spring

having its upper end connected to the frame and its lower end secured to the thumb-screw, 15 a churn-body secured upon the disk by the yoke, and a lever fulcrumed on the frame and connected with the churn-body, substantially as described.

In testimony that I claim the foregoing as 20 my own I have hereto affixed my signature in the presence of two witnesses.

JOHN M. CRITCHER.

Witnesses:

WILLIAM RACER,  
GEORGE GARDNER.