(No Model.)

S. D. PALMER.

CHURN CLOSURE.

No. 446,391. Patented Feb. 10, 1891.

Fig. 1.

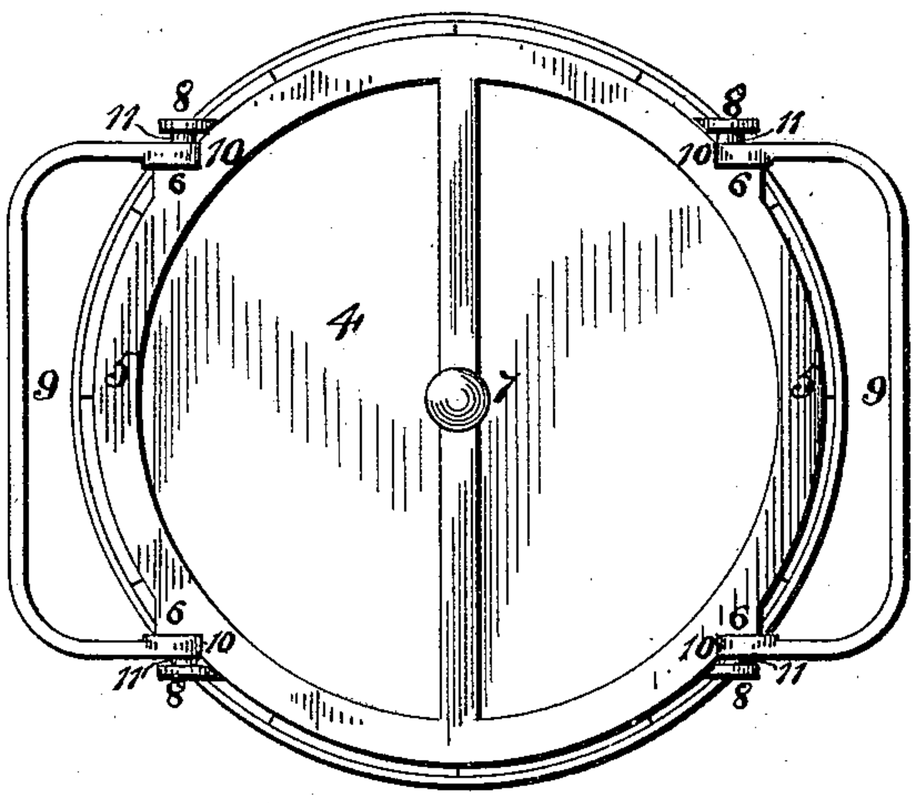


Fig. 2.

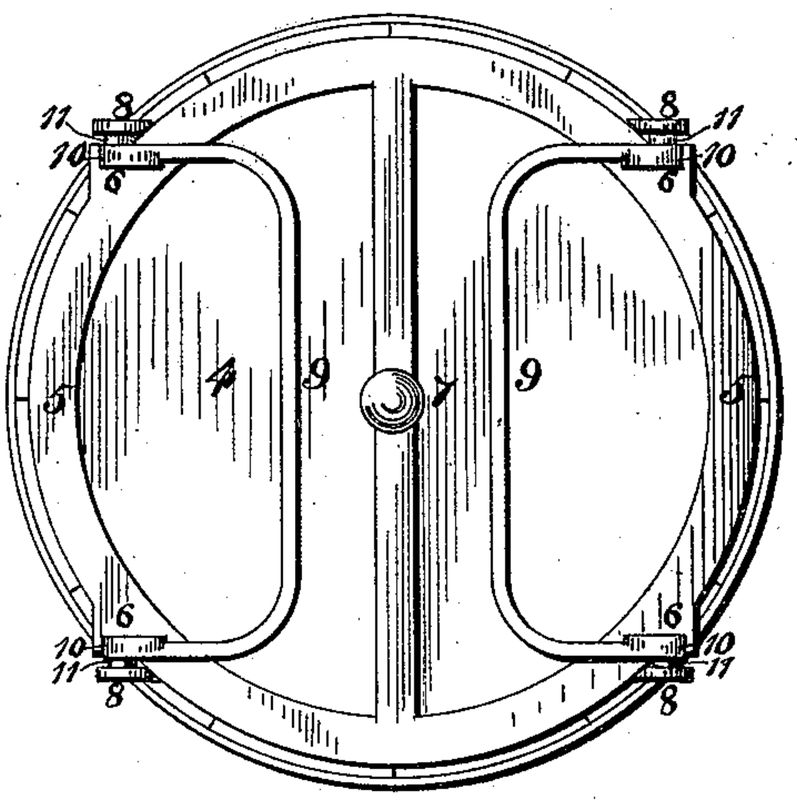


Fig. 3.

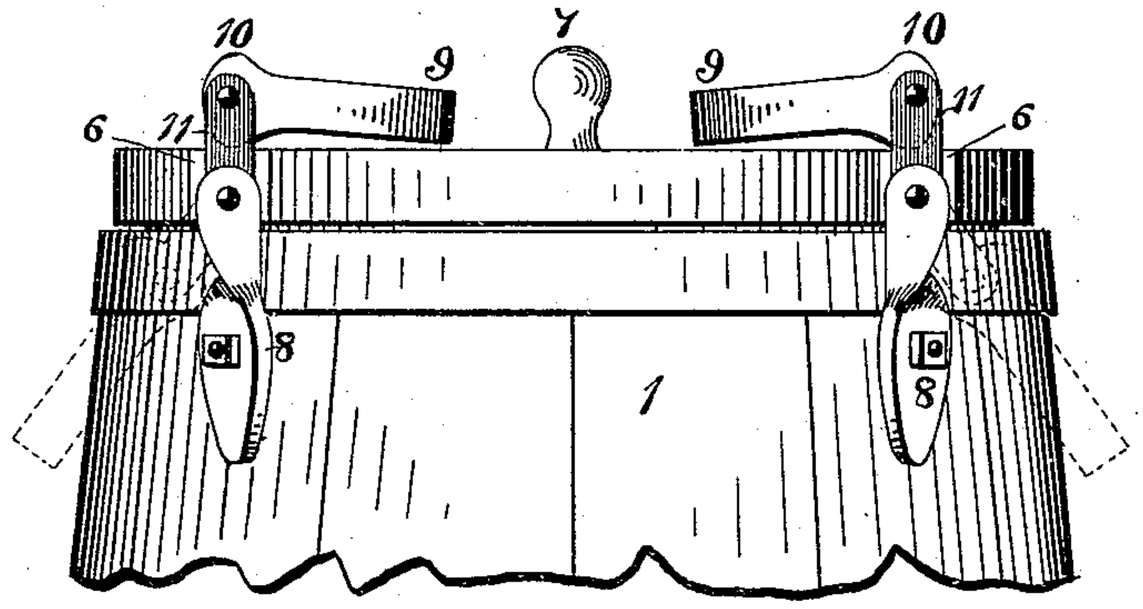
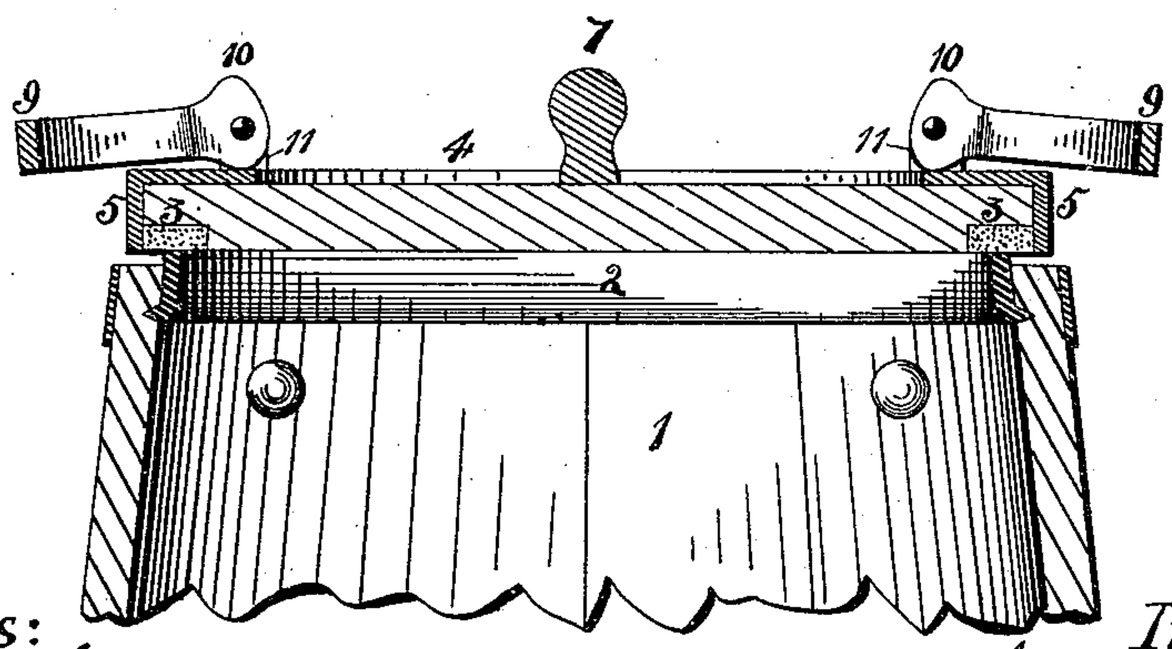


Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL D. PALMER, OF ROCKFORD, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO HENRY H. PALMER AND GEORGE E. KING, OF SAME PLACE.

CHURN-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 446,391, dated February 10, 1891.

Application filed January 21, 1890. Serial No. 337,580. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. PALMER, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Churn-Closures, of which the following is a specification.

The object of this invention is to construct a churn in which bails with cam-formed ends are employed to hold the removable head in position on the churn.

This invention consists of a pair of bails having their ends in cam form, said bails having a pivotal connection with the churn through the medium of swinging links.

This invention further consists of a pair of bails having a pivotal connection with the churn and having their ends in double-cam form, by means of which the head is held in position.

In the accompanying drawings, Figure 1 is a plan view of a churn embodying my invention, in which the removable head is held in position by the bails swung outward. Fig. 2 is a plan view of the churn, in which the removable head is held in position by the bails swung inward. Fig. 3 is a side elevation of the churn with the bails swung inward, and in which the bails are shown in dotted lines swung clear of the head to permit its removal. Fig. 4 is a vertical section of the churn, showing the internal construction.

The churn-body 1 is of the usual barrel form, having a chine-groove therein, which receives a ring-head 2, upon which is seated a packing-ring 3, of cork or other suitable material, held in place in the under side of a removable head 4, which has its periphery bounded by an annular metallic ring 5, from which extend peripheral projections 6. A handle 7 is secured to the removable head, by means of which the head can be removed. Such a construction of a churn is much the same as that shown in Letters Patent No. 418,355, granted to me December 31, 1889.

To the outside of the churn are secured ears 8 by a fastening passing through the churn and ear, and receiving a screw-nut on its projecting end. These ears stand at about equal points on the circumference of the churn and have their upper ends perforated. A pair of bails 9 have their ends 10 in double-cam form, and have a pivotal connection with the ears 8 through the medium of links 11, which are pivoted to both bails and ears. When it is desired to secure the head in position on the churn, the bails are swung toward the head until the links 11 stand about vertical, which will bring the ends of the bails directly over the peripheral projections 6. Then by swinging the bails on their pivotal connection with the links in either direction the cam-faces of the bails will engage the peripheral projections, and a further downward movement of the bails will press the packing 3 in the removable head in contact with the ring-head 2, thereby forming a water-tight joint between the removable head and churn. By having the bails formed with double cams I am able to secure the head in position by swinging the bails either inwardly or outwardly, and I have made two different-sized cams on each bail, so that when the churn is new and the packing is full the bails will be swung outwardly, and as the packing becomes compressed by swinging the bails inward the packing will be further compressed, as the larger cams are on the inner faces of the bail ends, and by the employment of the different-sized cams I produce the same effect as though the cams were of equal size and made vertically adjustable. By having a link-connection between the bails and ears I can swing the bails clear of the head to permit its removal and also bring the cam ends of the bails directly over the peripheral projections before the cams come in contact therewith, thereby assuring a direct downward pressure and permitting the use of the double cam, as described.

In the drawings I have shown one style of ring-head and construction of removable head; but it is evident that any construction of the parts may be employed to coact with my improved head-securing devices, or the ring-head may be omitted and the packing rest on the ends of the staves, thereby forming the joint between the removable head and churn.

I claim as my invention—

1. The combination of a churn, a removable head, and a pair of bails pivoted to the churn, said bails provided with engaging parts which contact with the removable head when such bails are swung into either the inward or the outward position, and thereby hold the head in place, substantially as set forth.

2. The combination of a churn, a removable head, a ring-head, and a pair of bails pivoted to the churn, said bails provided with engaging parts which contact with the removable head when such bails are swung into either the inward or the outward position, and thereby hold the head in place, substantially as set forth.

3. The combination of a churn, a removable head, and a pair of bails pivoted to the churn, each end of the bails provided with two oppositely-arranged cams, substantially as set forth.

4. The combination of a churn, a removable head, a ring-head, and a pair of bails pivoted to the churn, each end of the bails provided with two oppositely-arranged cams, substantially as set forth.

5. The combination of a churn, a removable head, and a pair of bails pivoted to the churn, each end of the bails provided with two cams oppositely arranged, of unequal size, substantially as set forth.

6. The combination of a churn, a removable head, a ring-head, and a pair of bails pivoted to the churn, each end of the bails provided with two cams oppositely arranged, of unequal size, substantially as set forth.

7. The combination of a churn, a removable head having peripheral projections, a ring-head, and a pair of bails pivoted to the churn, each end of the bails provided with two cams oppositely arranged, which engage the peripheral projections of the removable head, thereby holding it in position, substantially as set forth.

8. The combination of a churn, a removable head, and a pair of bails having a linked connection with the churn, said bails provided with engaging parts which contact with the removable head when such bails are swung into either the inward or the outward position, and thereby hold the head in place, substantially as set forth.

SAMUEL D. PALMER.

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