(No Model.)

E. A. & E. M. POND.

DEVICE FOR FASTENING LIDS OF VESSELS.

No. 368,491. Patented Aug. 16, 1887.

FIG. I.

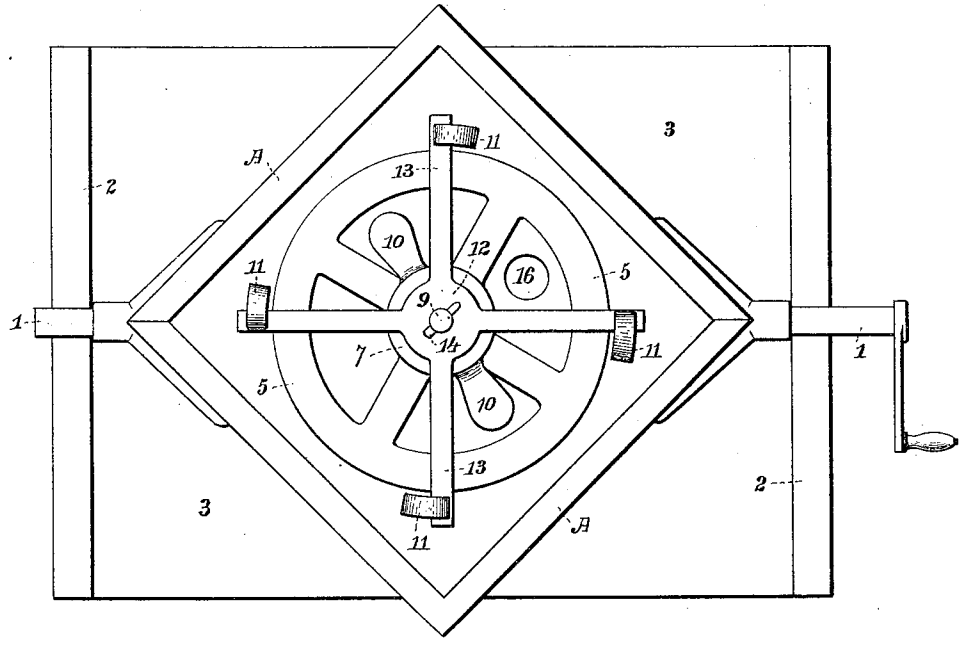


FIG. II.

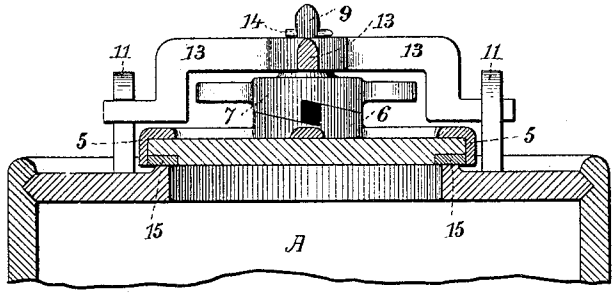
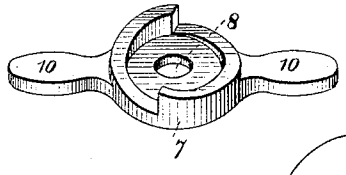


FIG. III.



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UNITED STATES PATENT OFFICE.

ERASMUS A. POND AND EDMUND M. POND, OF RUTLAND, VERMONT.

DEVICE FOR FASTENING LIDS OF VESSELS.

SPECIFICATION forming part of Letters Patent No. 368,491, dated August 16, 1887.

Application filed January 14, 1887. Serial No. 224,345. (No model.)

To all whom it may concern:

Be it known that we, ERASMUS A. POND and EDMUND M. POND, residents of Rutland, in the county of Rutland and State of Vermont, have invented a new and useful Improvement in Devices for Fastening Lids of Vessels, which improvement is fully set forth in the following specification.

This invention has reference to devices for securing in place the covers or lids of vessels—such as mixers, churns, and the like—and has for its object the production of a simple and effectual fastening device, whereby the lid can be quickly secured in place and a perfectly-tight joint made.

According to the present invention there is affixed to the lid or cover a disk or ring having on its upper edge two inclined or cam surfaces. A similar double cam is placed above the first, being loosely mounted, so as to be capable of turning on a pin projecting from the center of the cover or lid. On the same pin, in contact with the upper surface of the loose cam, is a hub provided with radiating arms, and on the top of the vessel are fixed hooks, (one for each radiating arm,) the ends of the arms being adapted to engage under the hooks.

To fasten the lid in place the hub is turned to bring the ends of the arms under the hooks, and the upper or loose cam is turned by means of projections provided for that purpose, whereby the cover is tightly clamped in place.

In the accompanying drawings, which form a part of this specification, Figure I is a top view of a vessel provided with the invention; Fig. II, a sectional elevation of the cover and upper part of the vessel, the section being on line II, Fig. I; and Fig. III, a perspective view of the upper cam inverted.

We have represented the fastening device as applied to an apparatus for mixing solids and liquids, such as described in Patent No. 297,002, granted April 15, 1884, to Erasmus A. Pond; but it is obviously applicable as well to other and different kinds of apparatus—such, for example, as rotary churns, washing-machines, and the like.

The box or vessel A is provided with trunnions 1 at diametrically-opposite edges, and is supported in standards 2, mounted on a bed-plate or base, 3. A handle, 4, is provided for rotating the vessel. It is important in vessels of this kind that the lid or cover 5 should be so securely fastened as to form a perfectly-tight joint and prevent spilling of the contents. This is effected by the device now to be described. The disk or ring 6 is rigidly fixed to the center of the cover 5. The upper face or edge of this ring or disk is formed with two inclined or cam surfaces, the two highest points of the inclines being on opposite sides of the center of the disk or ring.

The circular cam 7 is similar in form to the cam 6, (the shape being shown in Fig. III,) and when placed upon the cam 6 the cam-surfaces fit accurately into each other, as shown in the drawings. The upper double cam, 7, has a central perforation, 8, and is loosely mounted on the journal-pin 9, which projects upwardly from the center of the cam-disk 6, and may be in one piece therewith. The double cam 7 has two lateral projections, 10, for convenience in turning by hand.

Fixed to the top of the box A are hooks or catches 11, preferably placed at equal distances apart. Four hooks or catches are shown; but the number may be greater or less.

On the pin 9, just above the cam 7, is loosely mounted a hub, 12, having four radiating arms, 13, which are bent downward near their outer ends, so that these ends can come under the hooks or catches 11. A small pin, 14, prevents the hub being removed from the journal-pin 9. The hub 12 rests upon the top of cam 7, and both can move vertically on the journal-pin until stopped by the pin 14.

The lid or cover 5 is provided with a rubber packing-ring, 15, let into its under side, and with a glass-covered window, 16, through which the contents of the box can be observed.

To fasten the cover securely in place it is only necessary to turn the hub 12 until the ends of arms 13 come each under one of the hooks or catches 11, and to turn the cam 7 by means of the projections 10. The hub 12 is thus raised by the cam 7 until the ends of the arms 13 press firmly against the horizontal edges of hooks 13, and the cover is thereby clamped between the hub 12 and the top of box A.

It will be seen that the device constitutes an effectual fastener, which is quickly and easily manipulated either to close or to open the box.

Modifications may be made in the details of construction without departing from the spirit of the invention, and parts of the invention may be used without the whole.

We claim—

1. The combination, with the vessel and its cover, of a double circular cam fixed on the cover, a similar cam pivoted thereon, the cam-surfaces being in contact, the hooks or catches on the vessel, and the engaging-arms carried by the cover and adapted to be operated by said pivoted cam, substantially as described.

2. The combination, with the vessel and cover, of a circular double cam fixed centrally on the cover, a corresponding double cam pivoted centrally thereon, a series of radiating arms carried by a hub pivoted on the same axis as said cam, and a series of hooks with which the outer ends of said arms engage, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

ERASMUS A. POND.
EDMUND M. POND.

Witnesses to E. A. P.:
E. A. POND, Jr.,
H. C. OTIS.
Witnesses to E. M. P.:
WM. R. CHIPMAN,
L. L. STIMPSON.