

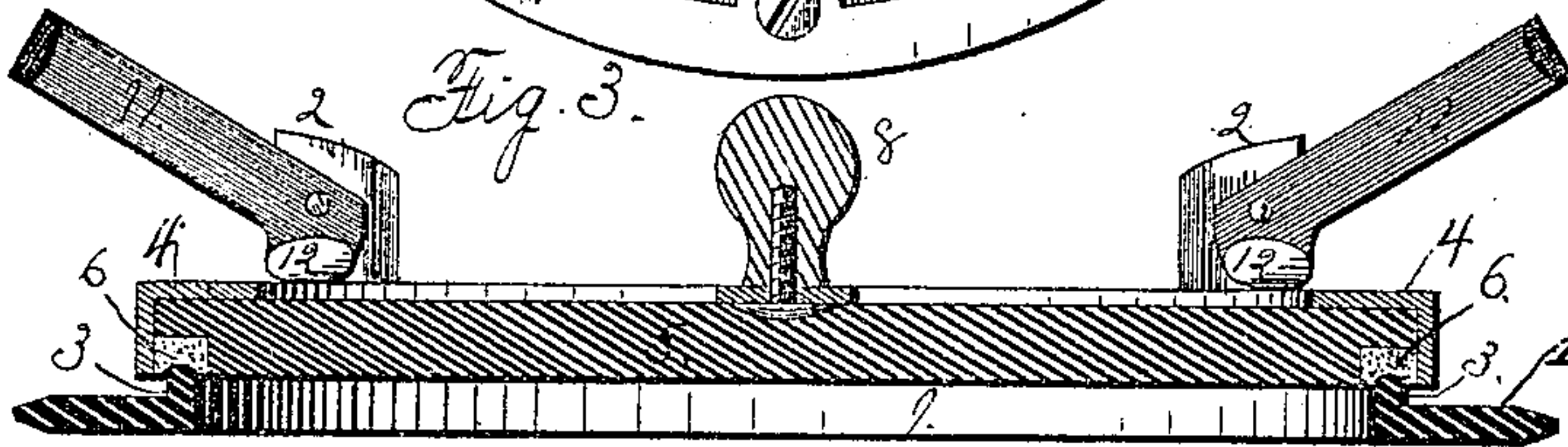
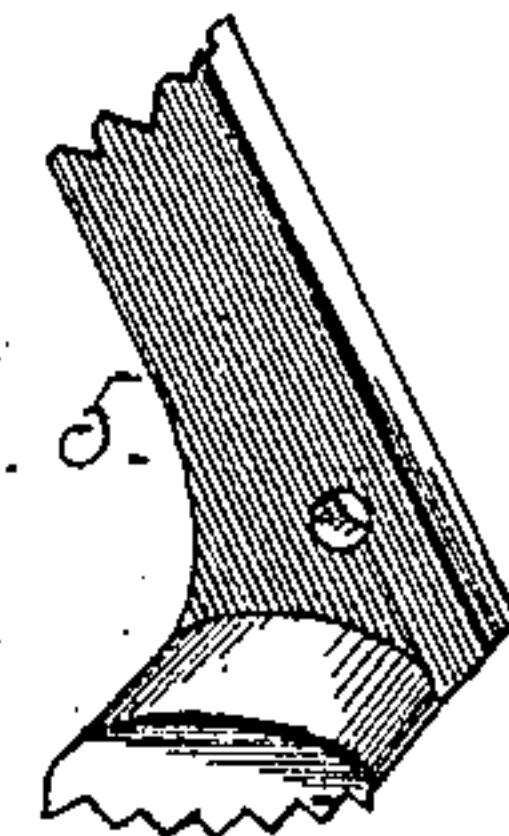
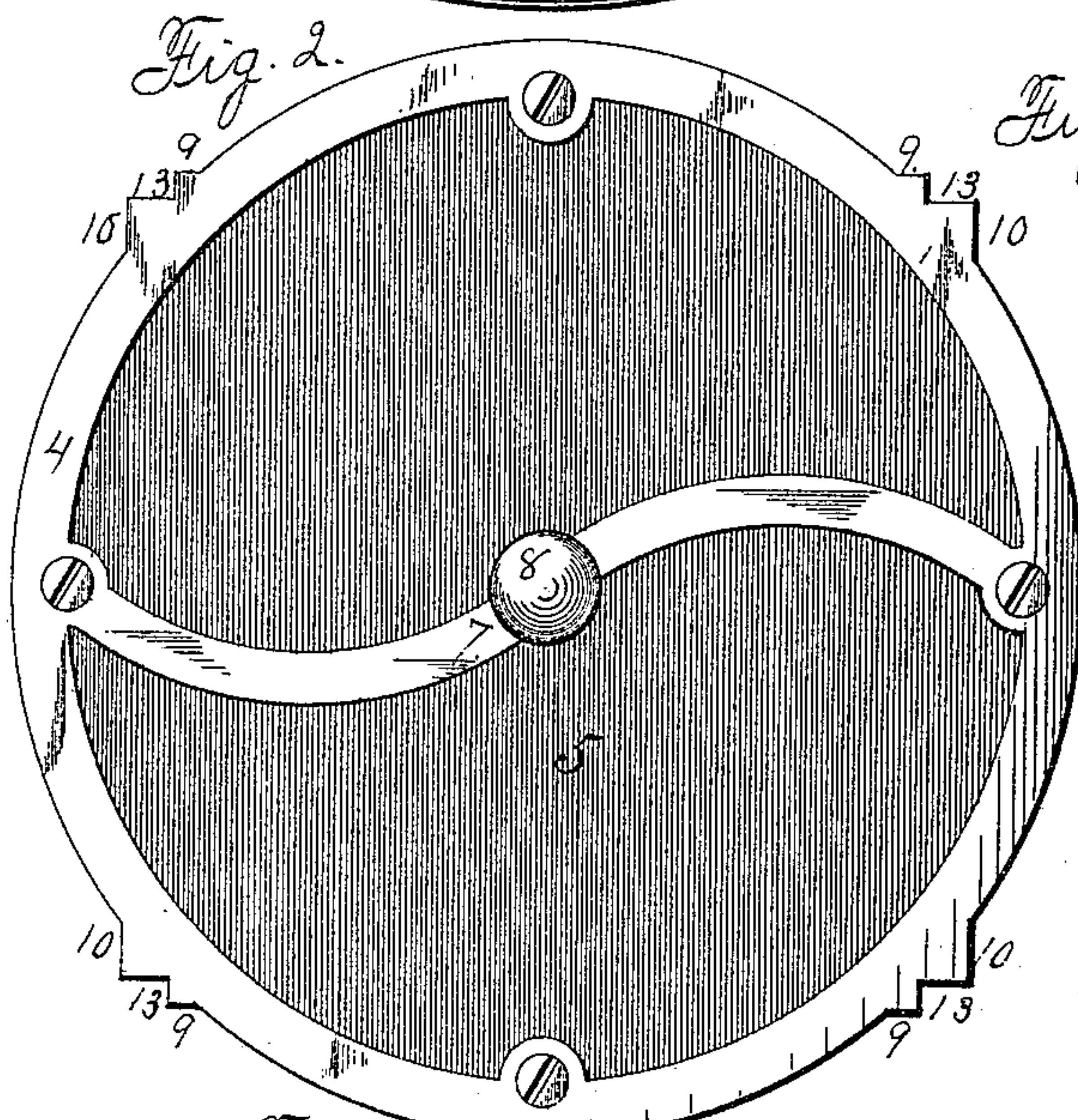
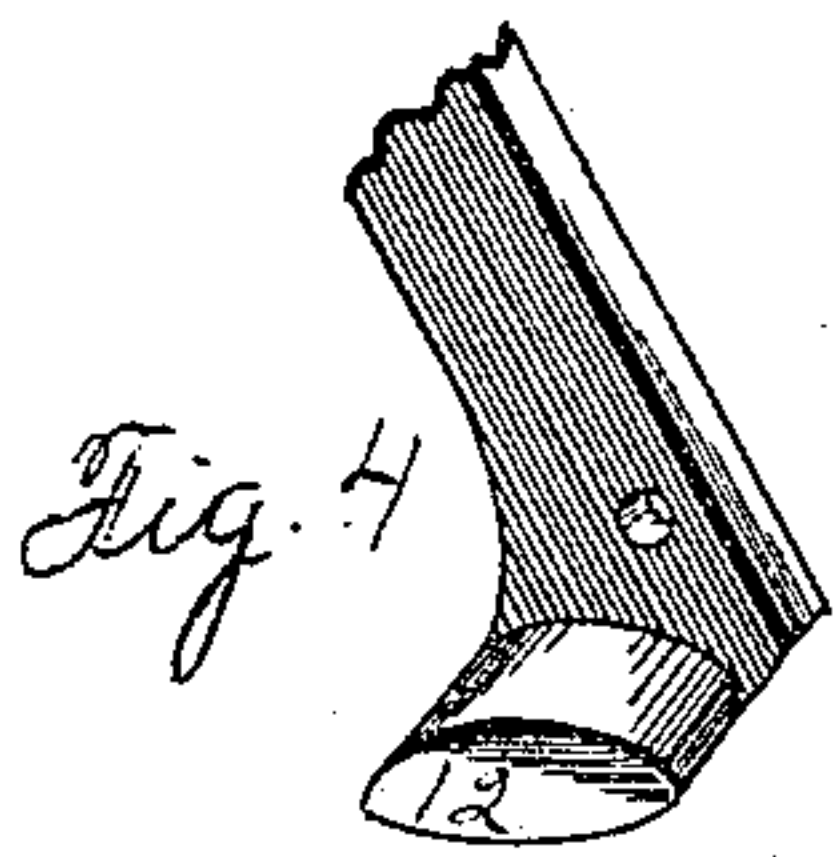
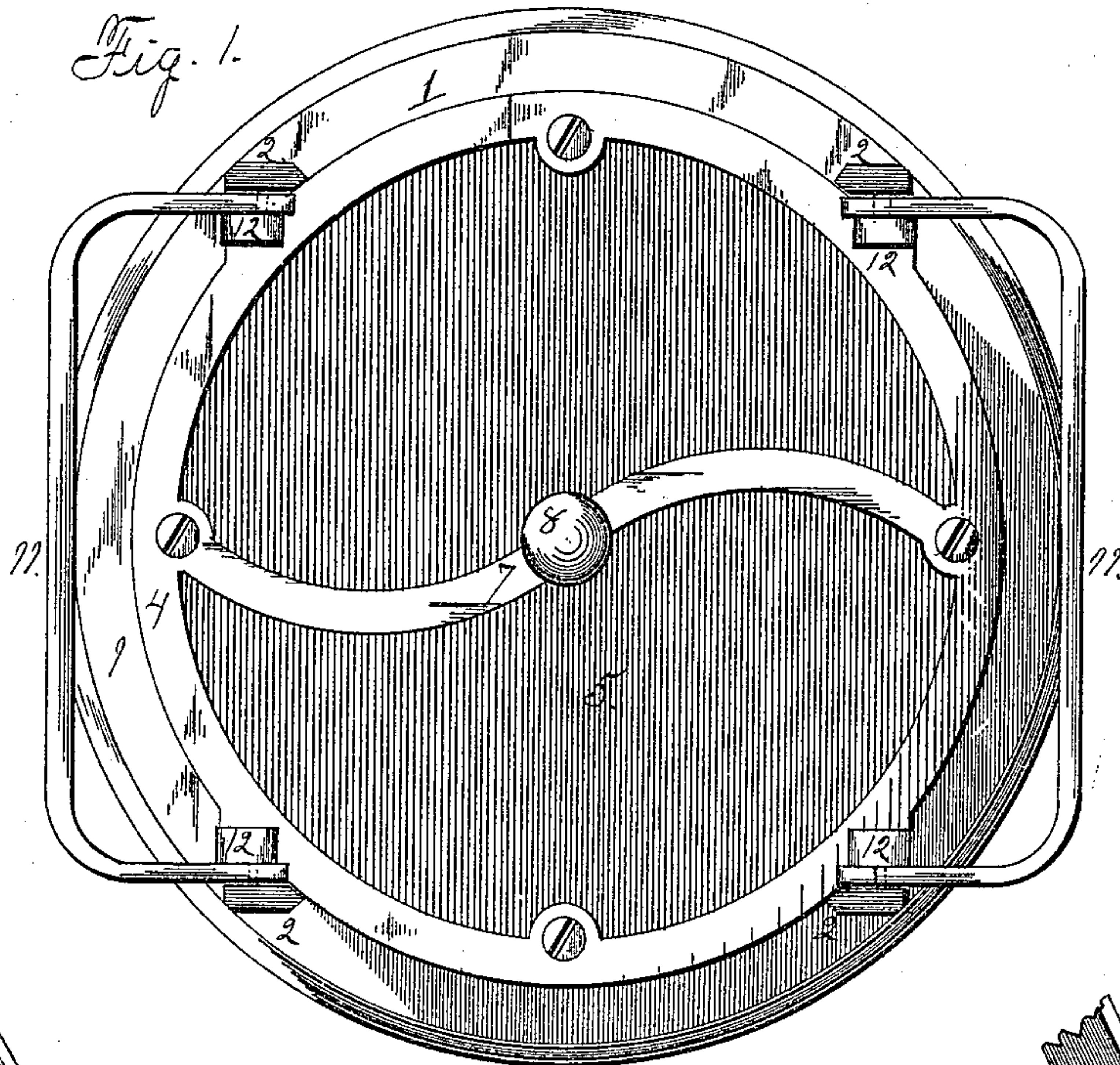
(No Model.)

2 Sheets—Sheet 1.

S. D. PALMER.
CHURN.

No. 441,441.

Patented Nov. 25, 1890.



Witnesses:
A. O. Behel.
E. Behel.

Inventor:
Samuel D. Palmer.
Per Jacob Behel.
Att'y.

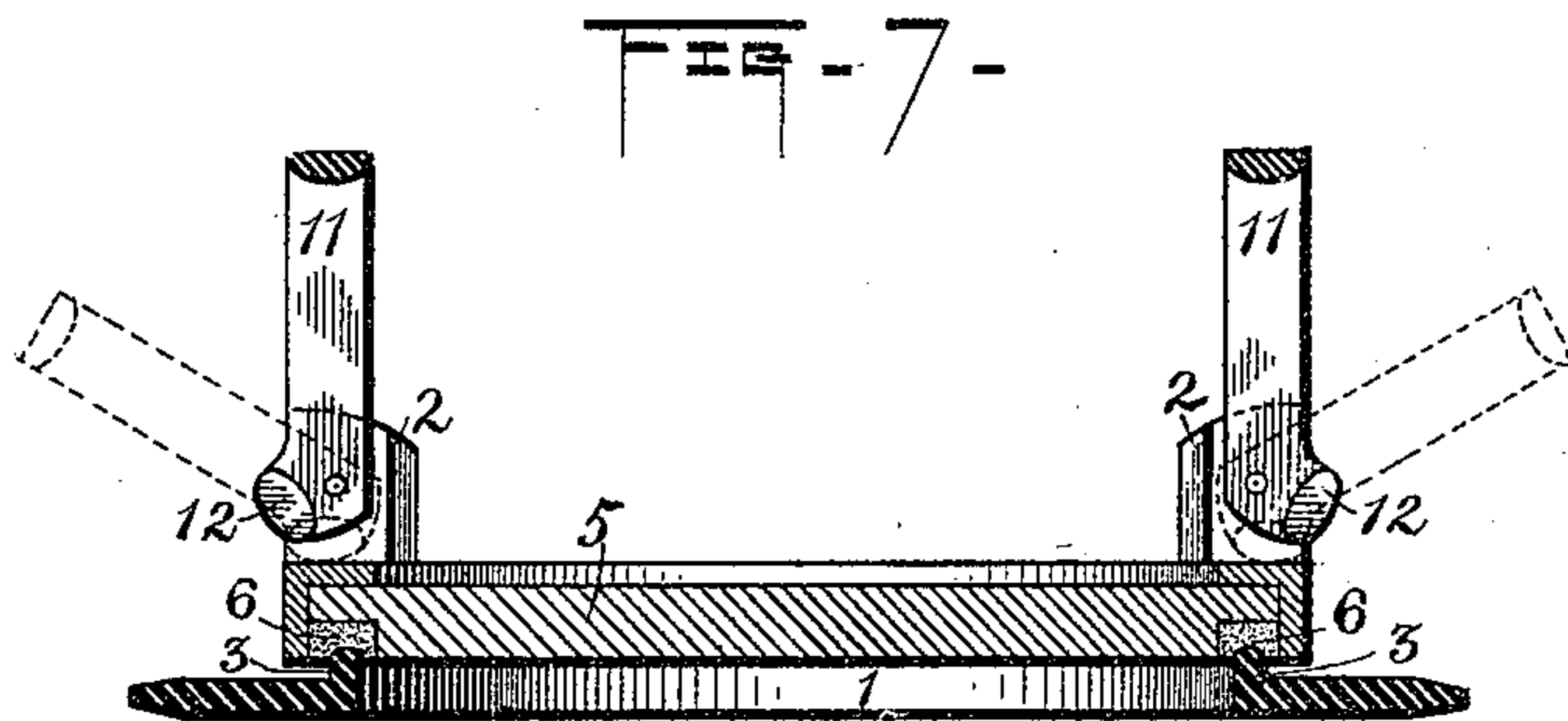
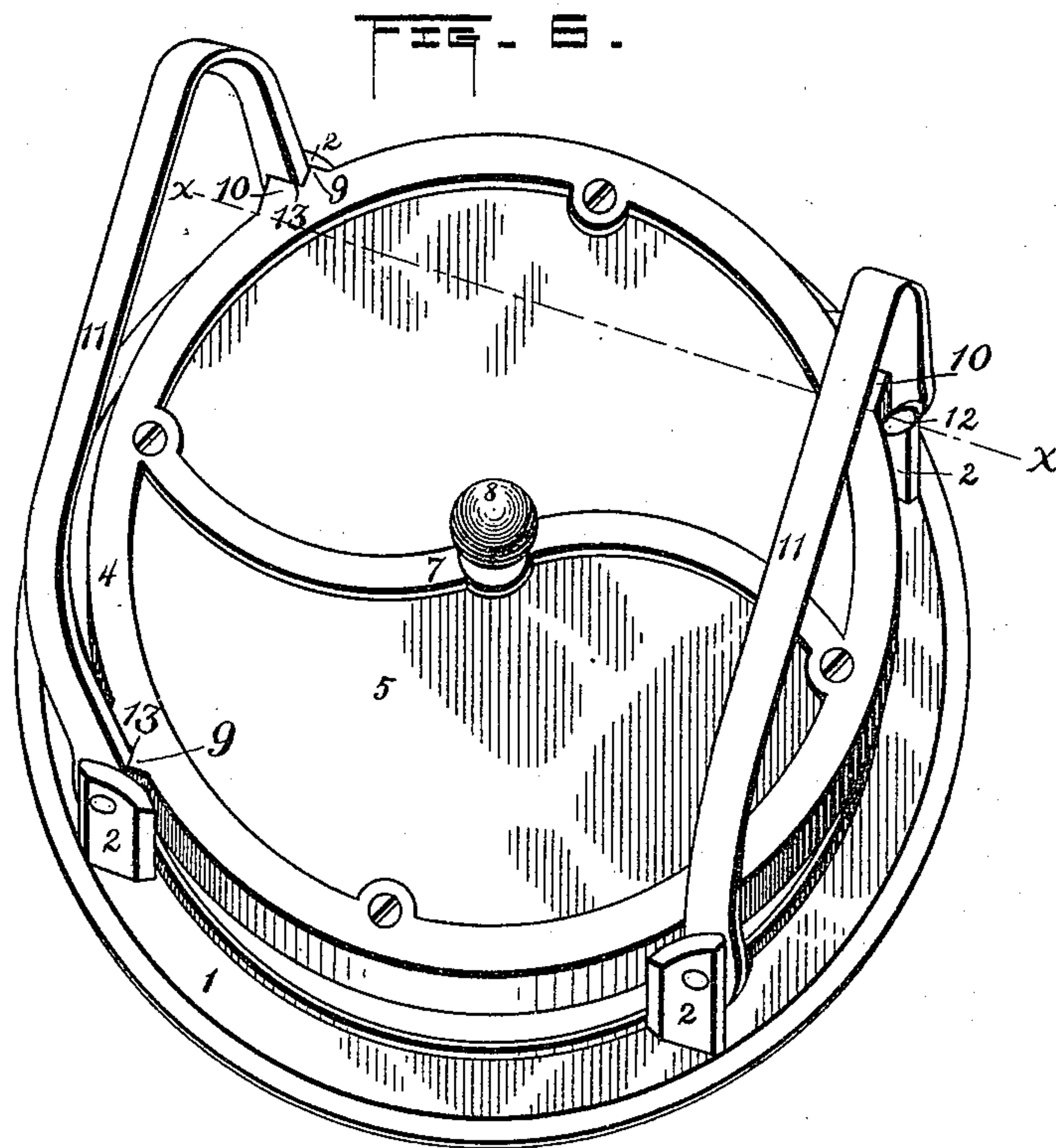
(No Model.)

2 Sheets—Sheet 2.

S. D. PALMER.
CHURN.

No. 441,441.

Patented Nov. 25, 1890.



WITNESSES:
R. B. Seward.
J. A. Connor, Jr.

INVENTOR:
S. D. Palmer
By E. C. Seward,
Att'y.

UNITED STATES PATENT OFFICE.

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

CHURN.

SPECIFICATION forming part of Letters Patent No. 441,441, dated November 25, 1890.

Application filed February 23, 1888. Serial No. 264,899. (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 Churns, of which the following is a specification.

This invention consists of an annular metallic ring-head and a removable head held in place on the ring-head in a removable manner by means of bails pivoted to the ring-head and fitted with cam projections to engage the removable head. To this end I have designed and constructed the churn represented in the accompanying drawings, in which—

Figure 1 is a plan view of a churn embodying my invention. Fig. 2 is a plan view of the removable head. Fig. 3 is a transverse vertical central section. Fig. 4 is an enlarged view of a portion of a bail, showing the cam. Fig. 5 is also an enlarged view of a portion of a bail, showing a cam having a grooved face. Fig. 6 is a perspective view showing the bails in a vertical position to permit of the cover being removed or put on; and Fig. 7 is a vertical sectional view taken on line *xx*, Fig. 6, showing the bails in full lines in a position for removing the cover and showing them in dotted lines for clamping the cover in position.

In the figures, 1 represents an annular metallic ring-head fitted to enter the croze of the churn and having ears 2 rising from its upper face at proper intervals. This annular ring-head is fitted on its inner edge with an uprising bead-formed seat 3 to receive the packing of the removable head. The removable head consists of an annular metallic ring 4 of angle-iron form in section, which receives the main portion 5 of the head. The outer edge under face of the head is recessed and an annular packing-ring 6, of cork or other suitable material, is placed within the recess. The annular ring 4 is provided with a transverse center bar 7, from the center of which rises a suitable handle 8 for the convenience of handling the removable head. The periphery of the annular ring of the removable head is formed with projections 9 at proper intervals to enter between the uprising ears of the

annular ring-head to determine the position of the head on the ring-head. It is also formed with peripheral projections 10, for a purpose to appear hereinafter.

Bails 11, of suitable conformation, are pivotally connected to the ears 2 of the ring-head capable of a swinging movement. These bails have their end portions produced in cam-formed projections 12, having their periphery eccentric to the pivotal support of the bail in such a manner that when the bails are swung outward the cam-formed projections 12 will engage the upper surface of the peripheral projections 10 of the removable head in a manner to press it to its seat with sufficient force to produce a water-tight connection of the head with the ring-head.

A notch 13 is formed between the peripheral projections 9 and 10 of the ring-head to receive the inner edge portion of the bails when in a vertical position to permit the head to be put in place on the annular ring-head or removed therefrom. In this instance I have represented the cams 12 with a smooth peripheral face to engage the projection 10 of the removable head, which construction I prefer; but instead of the smooth peripheral face grooved cam-faces may be employed, as shown at Fig. 5.

To readily place the removable head in position on the annular ring-head, turn the bails outward. Then place the removable head in position to enter within the uprising ears. Then turn the bails inward, which will permit the removable head to drop in place on the ring-head. Then turn the bails outward, which movement will bring the cams in contact with the projections 10 of the removable head and press it to its seat on the ring-head.

So far as known to me I am the first to employ a pair of bails provided with self-locking cams which engage and hold the removable head in position. Therefore it is immaterial where the bails are pivoted to the churn, by which term I mean to embrace the churn-body, ring-head, or removable head, so long as they have the self-locking cams, and I consider any of the above locations within the scope of my invention.

I claim as my invention—

1. The combination of a churn, a removable head adapted to be placed on and removed from the churn in the direction of its length, and a pair of bails pivoted to the churn, said
5 bails provided with self-locking cams which engage and hold the removable head in position, substantially as set forth.
2. The combination of a churn, a removable head adapted to be placed on and removed
10 from the churn in the direction of its length, two pairs of ears secured to the churn, and a pair of bails pivoted to the ears, said bails provided with self-locking cams which engage and hold the removable head in position, substantially as set forth.
3. The combination of a churn, a removable head, a ring-head on which the removable head rests, a pair of bails pivoted to the churn, said bails having self-locking cams which engage and hold the removable head in position, substantially as set forth.
4. The combination of a churn, a removable head, a ring-head engaged thereby, two pairs of ears secured to the churn, a pair of bails
25 pivoted to the ears, said bails having self-locking cams which engage the removable head, holding it in position, substantially as set forth.
5. The combination of a churn-body, a ring-head, a removable head, a pair of bails pivoted to the ring-head, said bails provided with self-locking cams which engage the removable head and hold it in position, substantially as set forth.
- 35 6. The combination of a churn-body, a ring-head provided with ears, a removable head, a pair of bails pivoted to the ears, said bails provided with self-locking cams which engage the removable head and hold it in position, substantially as set forth.
7. The combination of a churn-body, a ring-head, a removable head, a pair of bails pivoted to the ring-head, said bails provided with self-locking groove-faced cams, substantially as set forth.
8. The combination of a churn, a removable head, and a pair of bails pivoted to the churn, said bails provided with self-locking groove-faced cams which engage and hold the removable head in position, substantially as set forth.
9. The combination of a churn, a pair of bails pivoted to the churn, which are provided with self-locking cams, and a removable head provided with projections which receive the
55 cams, thereby holding the removable head in position, substantially as set forth.
10. The combination of a churn-body, a ring-head, a removable head provided with projections, and a pair of bails pivoted to the
60 ring-head, said bails provided with self-locking cams which engage the projections of the removable head, thereby holding the removable head in position, substantially as set forth.
11. In combination with a churn, a pair of bails pivoted to the churn and provided with self-locking cams, a removable head provided with peripheral notches to receive the bails, and with peripheral projections to receive the
65 70 cams, substantially as set forth.

SAMUEL D. PALMER.

Witnesses :

E. BEHEL,

A. O. BEHEL.