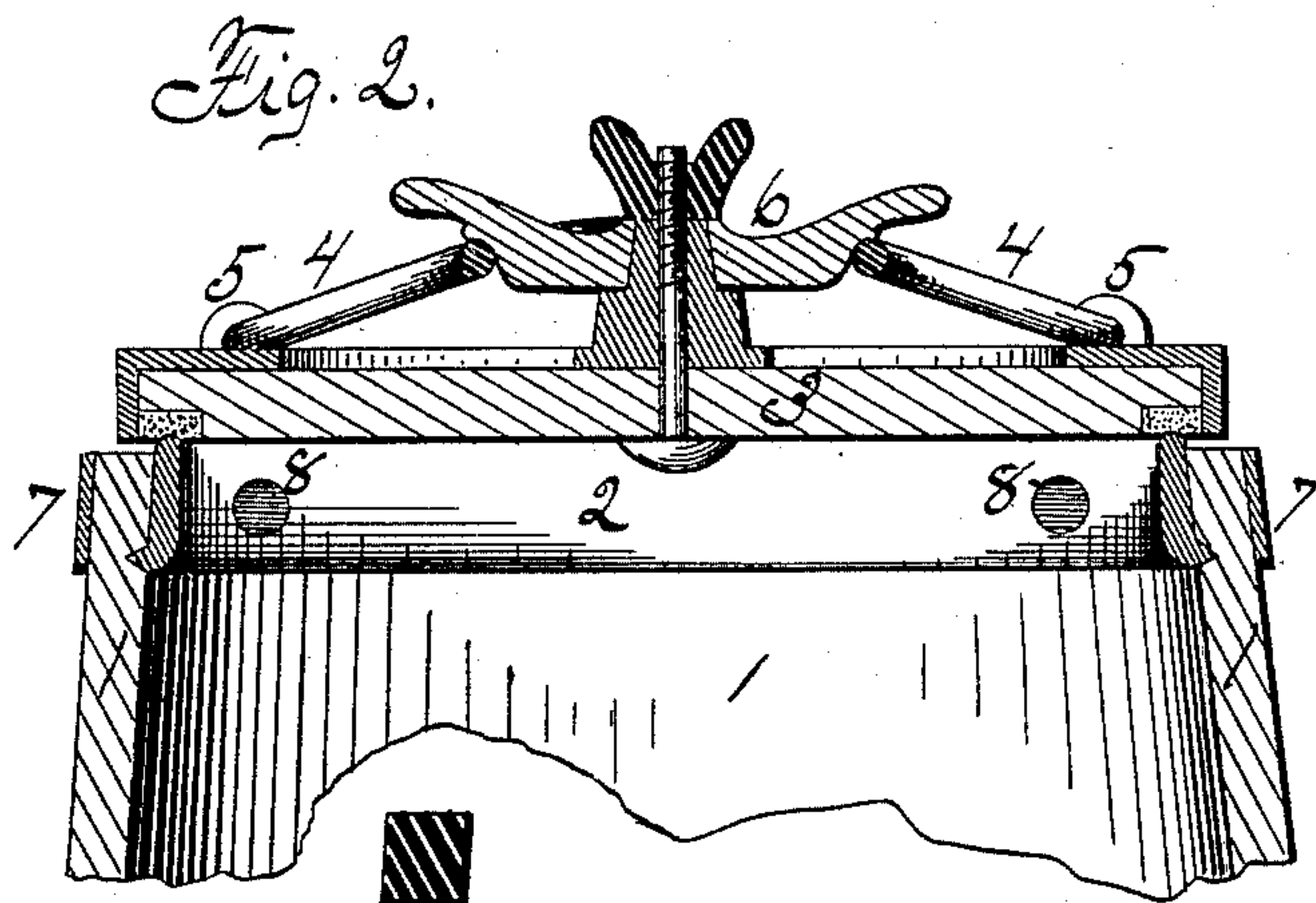
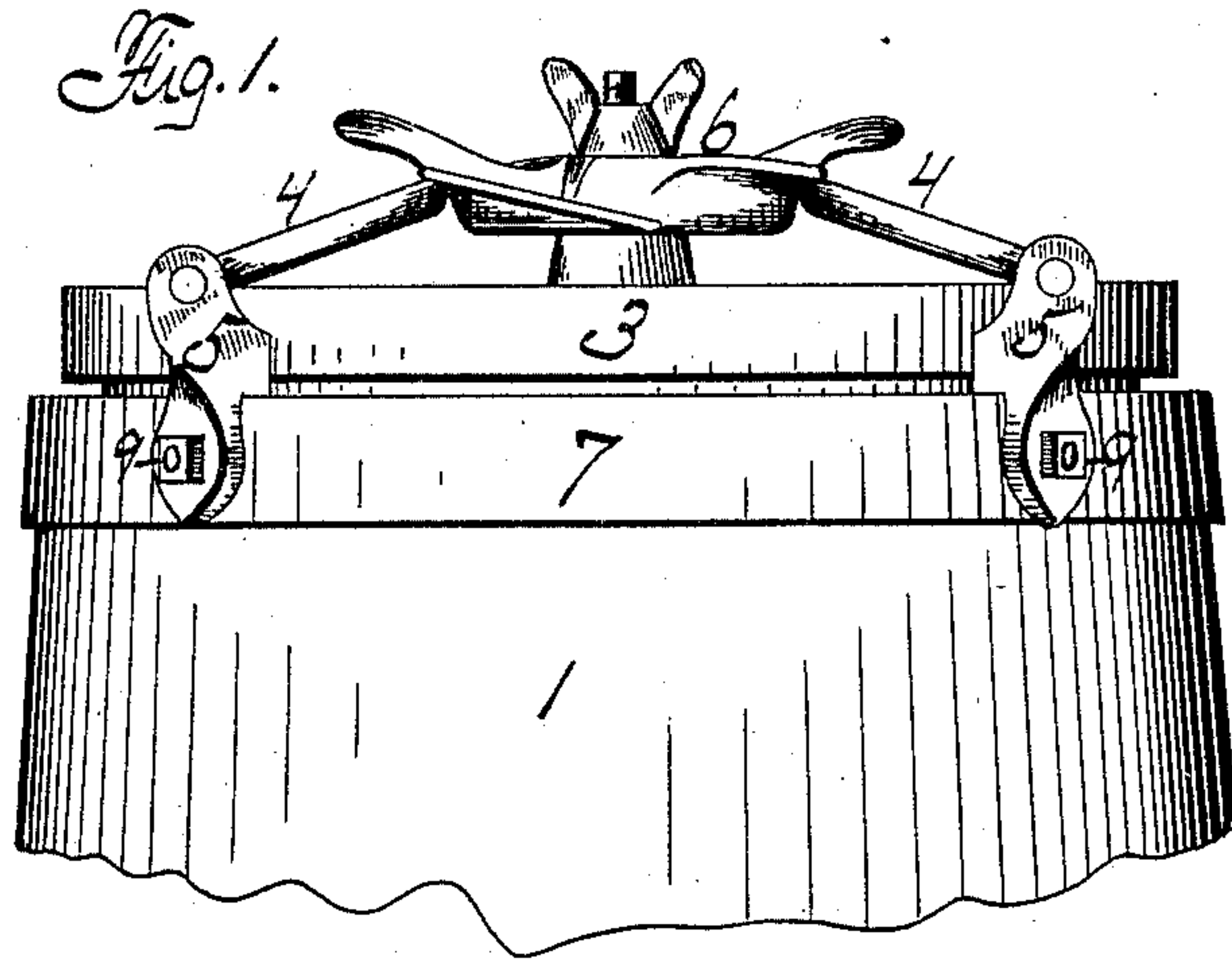


(No Model.)

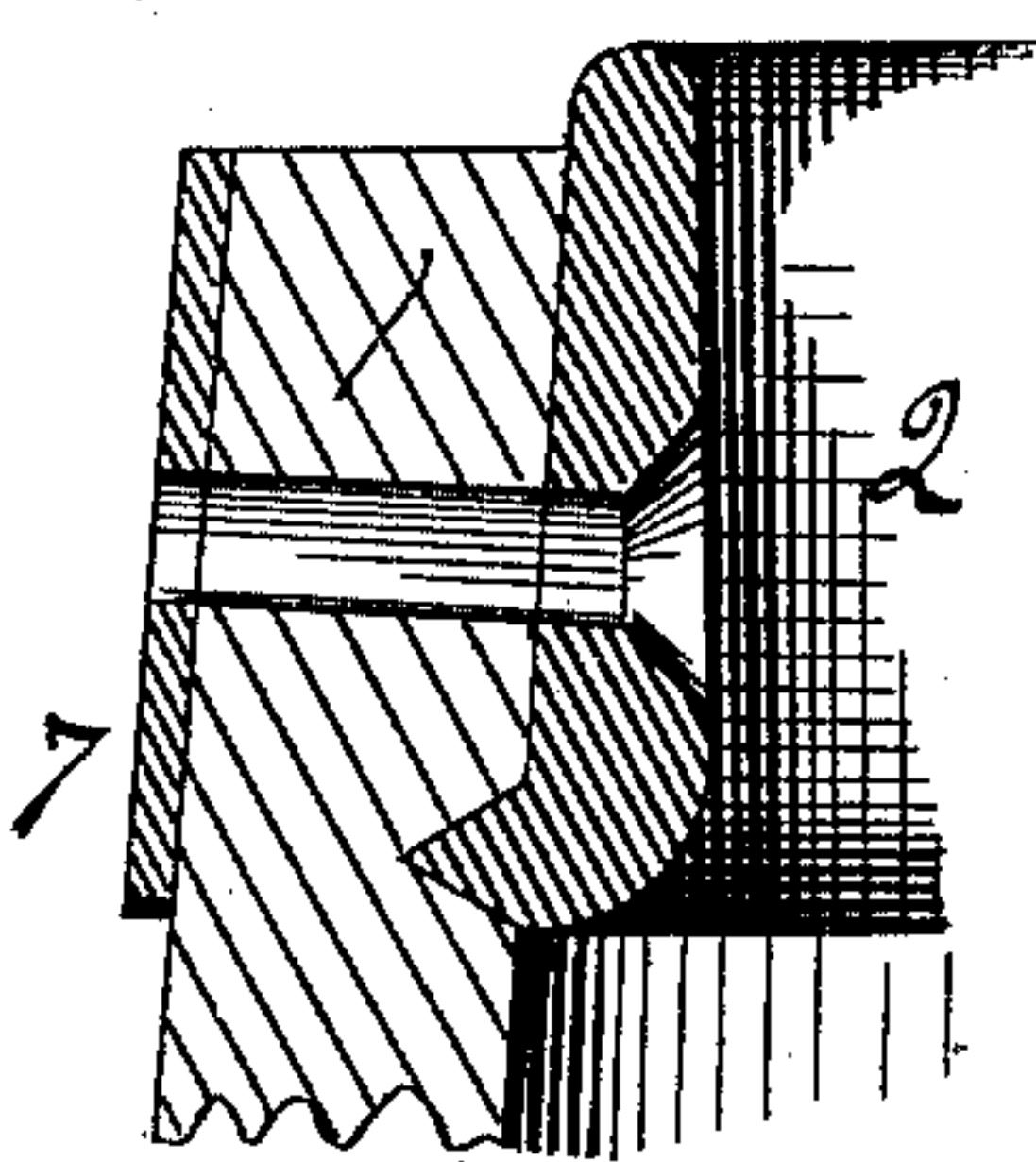
S. D. PALMER.  
CLOSURE FOR CHURNS.

No. 418,379.

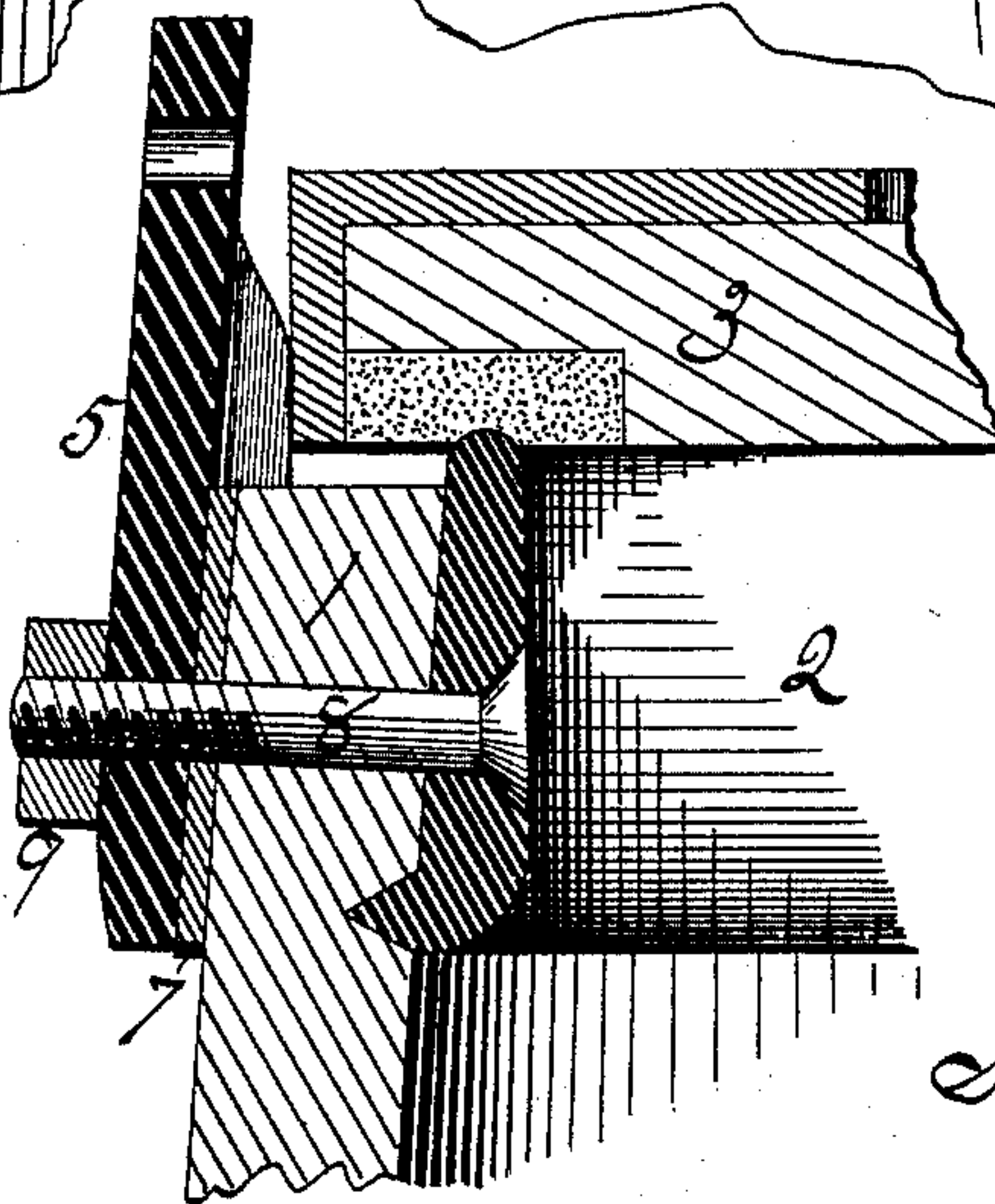
Patented Dec. 31, 1889.



*Fig. 4.*



*Fig. 3.*



Witnesses;  
George E. King  
E. Behel.

Inventor:  
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By A. O. Behel,  
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# UNITED STATES PATENT OFFICE.

SAMUEL D. PALMER, OF ROCKFORD, ILLINOIS.

## CLOSURE FOR CHURNS.

SPECIFICATION forming part of Letters Patent No. 418,379, dated December 31, 1889.

Application filed May 24, 1889. Serial No. 311,979. (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 Closures for Churns, of which the following is a specification.

The object of this invention is the manner of securing the ears to the outside of a churn, which consists of a bolt passing through the ring and stave of the churn, receiving a nut on its projecting end.

In the accompanying drawings, Figure 1 is a side elevation of a churn the ears of which are secured thereto by my improved means. Fig. 2 is a vertical central section of the churn represented at Fig. 1. Fig. 3 is a section through the chine-ring and ears, showing the manner of securing the ears to the churn. Fig. 4 is also a section through the chine-ring and churn-body, showing the transverse opening through which the bolt is passed for securing the ears to the churn.

The churn represented in the drawings in the main is the same as one for which an application for patent is now pending in the Patent Office, Serial No. 258,216, which consists of a churn-body 1, a chine-ring 2, secured in the croze of the churn and extending upward along the interior of the churn, and extending above the chine thereof to receive a removable head 3, held in place by bails 4, pivoted in ears 5, and engaging a clamp 6, secured to the removable head, and in another application, No. 320,876, also pending, is shown, described, and claimed a churn having two pair of ears secured thereto, in combination with a removable head, a fastening located on the removable head, and a pair of bails pivoted in the ears and engaging the fastening, and in the various combinations of these elements.

The features above referred to are not included in the claims of this application, since they form the subject-matter of claims in the above applications, to which reference is made.

It has been found in the manufacture of churns, when the ears are secured to the outside of the churn by a bolt passing through the stave, that the bolt-heads cut into the in-

ner surface of the churn, consequent upon the moistening of the churn and the outward face upon the bolt, which would create a breakage in the side of the churn, where milk and cream would accumulate, necessitating particular attention in cleaning the churn after use. The ears would also become loose by the upward pressure upon them while holding the removable head in position. I have obviated all of these objections by my means of securing the ears to the churn, which I will now proceed to describe, and which is shown enlarged at Figs. 3 and 4.

With the chine-ring 2 in position in the churn, as shown in section at Fig. 2, the churn is taken to a drilling-machine and four holes are drilled through the outer hoop 7, churn-body 1, and chine-ring 2. The hole is countersunk at its inner end, as shown at Fig. 4. A bolt 8 is passed from the inside through the parts, its countersunk head entering the countersink in the chine-ring. An ear 5 is placed on the projecting end of the bolt, and a screw-nut 9 is then turned on the bolt, and the parts firmly clamped together, as shown at Fig. 3. By this manner of securing the ears to the churn-body a much firmer fastening is obtained and all liability of its becoming loosened prevented, as the bolt has a seat in the chine-ring, and the nut may be tightened without breakage of the wooden portion of the churn, as the wooden portion is clamped between the outer metallic hoop 7 and the chine-ring 2.

It is evident that rivets or other fastenings may be employed in place of the bolt herein shown without departing from the gist of my invention.

I claim as my invention—

1. In a churn, the combination of a churn-body, a chine-ring extending upward along the interior of the churn, and ears secured to the churn-body by a fastening passing through the chine-ring and churn-body, substantially as set forth.

2. In a churn, the combination of a churn-body, a chine-ring extending upward along the interior of the churn, and ears secured to the churn-body by a bolt passing through the chine-ring, churn-body, and ear, and receiving a screw-nut on its projecting end, the head

of the bolt being countersunk into the inner face of the chine-ring, substantially as set forth.

3. In a churn, the combination of a churn-  
5 body, a removable head, a chine-ring extending upward along the interior of the churn and extending above the chine thereof to receive the removable head, ears secured to the

churn-body by a fastening passing through the chine-ring and churn-body, and bails pivoted in the ears for holding the removable head in position, substantially as set forth.

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