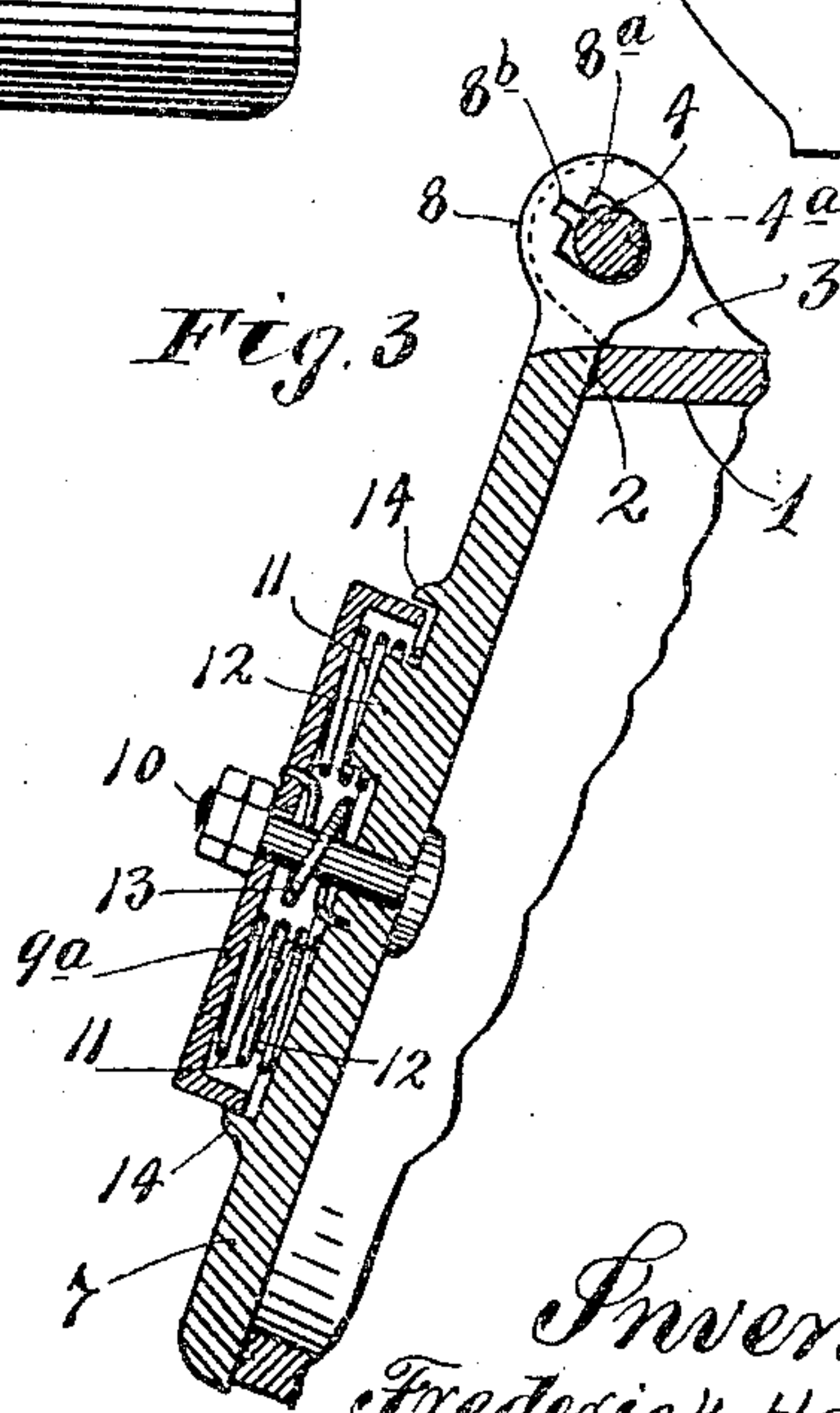
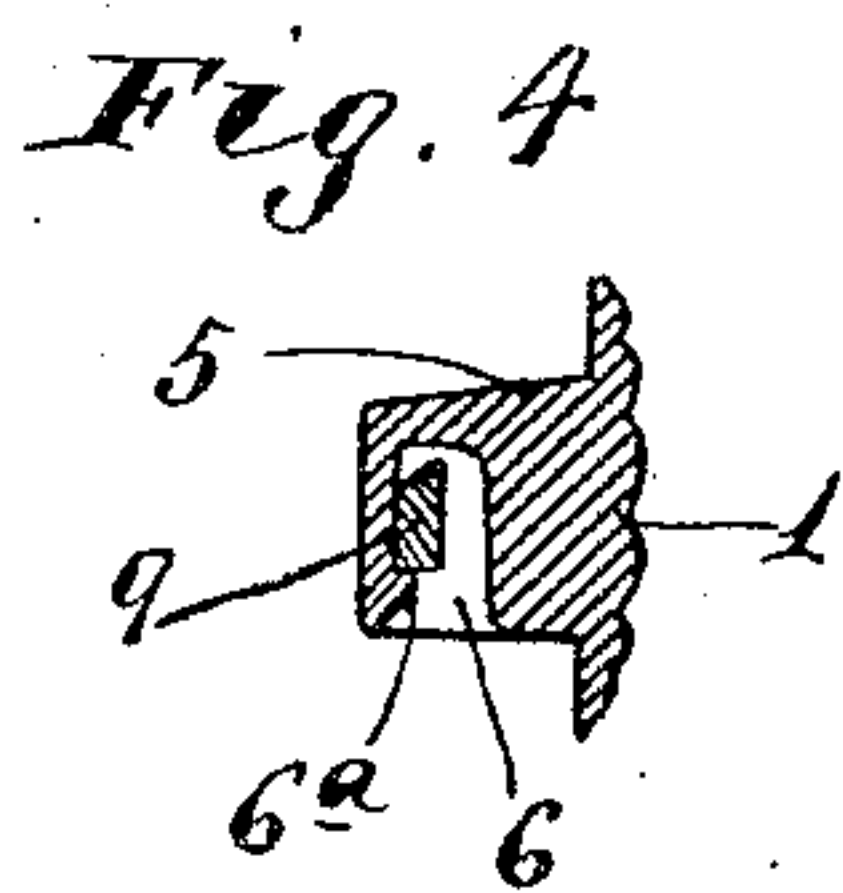
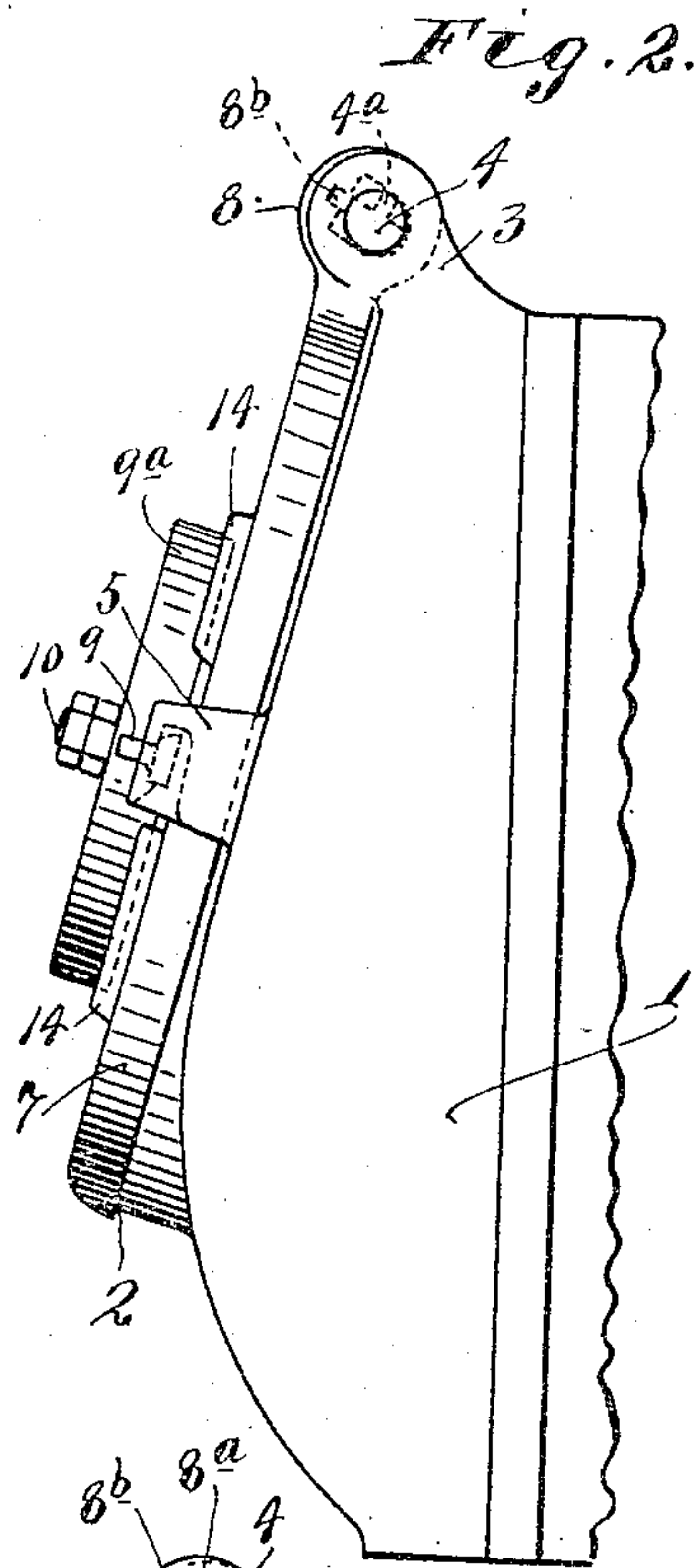
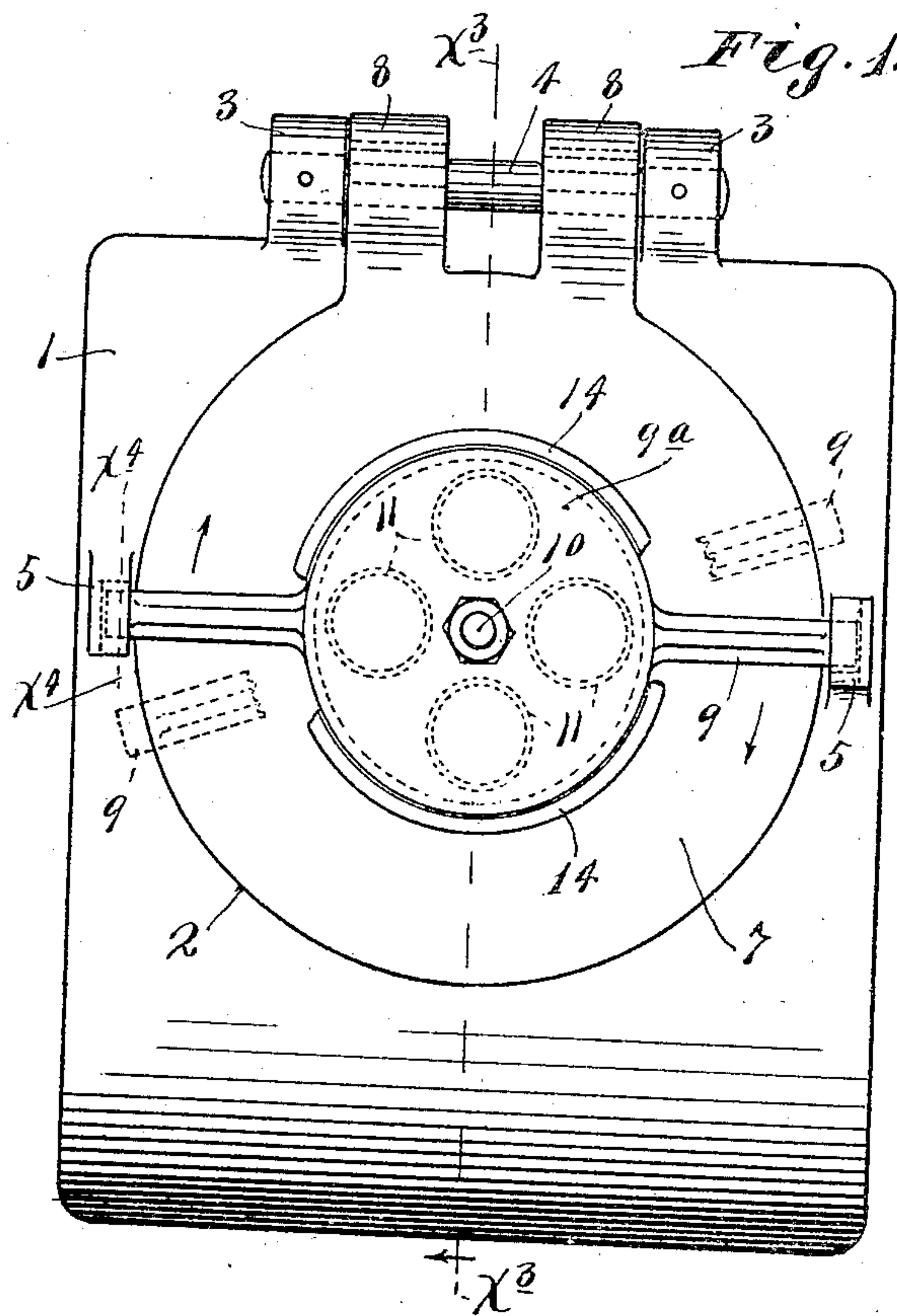


910,668.

Patented Jan. 26, 1909.



Witnesses.
A. H. Opsahl.
Harry Opsahl.

Inventor.
Frederick Hachmann
By his Attorneys.
Williamson & Merchant

UNITED STATES PATENT OFFICE.

FREDERICK HACHMANN, OF ST. PAUL, MINNESOTA, ASSIGNOR OF SEVEN-EIGHTHS TO WALTER W. WHITMAN, OF ST. PAUL, MINNESOTA, AND ONE-SIXTEENTH TO PATRICK H. SCANLAN, OF BUTTE, MONTANA.

CAR-AXLE-BOX LID.

No. 910,668.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed January 29, 1908. Serial No. 413,291.

To all whom it may concern:

Be it known that I, FREDERICK HACHMANN, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Car-Axle-Box Lids; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its object to provide an improved car axle box lid, and to this end, it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings; Figure 1 is a view in front elevation showing a car axle box equipped with my improved lid. Fig. 2 is a side elevation of the parts shown in Fig. 1, some parts being broken away. Fig. 3 is a vertical section taken on the line $x^3 x^3$ of Fig. 1, some parts being broken away; and Fig. 4 is a detail in section on the line $x^4 x^4$ of Fig. 1.

The car axle box 1 may be of any suitable construction, but is preferably formed with an annular lid seat 2. Above the lid seat 2, the box is provided with a pair of heavy hinge lugs 3 preferably cast integral with the box. A hinge bolt 4 is extended through and rigidly keyed or otherwise secured to the said hinge lugs 3. On the outer face of the box and at diametrically opposite sides of the lid seat 2 are lock lugs 5 also preferably cast integral with the box. These lock lugs 5 are formed with under-cut lock seats 6, both of which are open on their inner sides. The lock seat 6 of one of the lugs 5, to-wit, as shown, the right hand lug (see Fig. 1), extends upward and is open at the top of the lug, while the seat 6 of the left hand lug extends downward and is open at the bottom of the lug. At their open ends, the seats 6 are preferably formed with beveled lock shoulders 6^a, as best shown in Fig. 4.

The lid 7, which is preferably made of disk-like form to closely fit the annular seat 2, is provided with a pair of upwardly extended hinge lugs 8 that are loosely pivoted on the hinge bolt 4, there being sufficient play between the said lugs and the hinge bolt to permit the lid 7 always to tightly seat at

all points against the annular seat 2. The seats 8^a of the lid lugs 8 are provided with radial notches 8^b that are adapted to engage with lug flanges 4^a of the non-rotary hinge bolt 4 to hold the lid in an open position.

An oscillatory lock bar 9 is intermediately pivoted to the central portion of the lid 7, as shown, by means of a nutted bolt 10. The central portion of this lock bar 9 is preferably made in the form of a round spring housing 9^a that is open at its inner face or adjacent to the lid 7. Within the spring housing 9^a is a multiplicity of coiled springs 11 shown as properly spaced on the outer face of the lid 7, by means of bosses 12 cast on the said lid. These springs 11 exert a force which tends to throw the lock bar laterally outward and away from the lid, as far as permitted by the bolt 10. A torsion spring 13 which surrounds the bolt 10, and is attached at one end to the lid 7 and at its other end to the spring housing 9^a, exerts a force which tends to move the lock bar 9 in the direction of the arrows marked thereon in Fig. 1. On the outer face of the lid 7 are segmental flanges 14 that overlap the upper and lower portions of the rim of the spring housing 9^a and act as sand guards to keep sand and dirt out of the said spring housing.

The operation of the lid locking device is as follows: The lid may be turned into a closed position when the lock bar 9 is moved approximately into the position indicated by dotted lines in Fig. 1, in which position its ends will clear the lock lugs 5. When the lid has been thus closed and the lock bars released, the latter will, by the torsion spring 13, be moved into interlocking engagement with the lock lugs 5. More particularly stated, by a movement of the lock bar 9 from the position indicated by dotted lines into the position indicated by full lines, its free ends are forced into the lock seats 6 of the said lugs 5 and past the lock shoulders 6^a, as best shown in Fig. 4. The torsion spring 13 in itself would probably be sufficient to prevent accidental separation of the ends of the lock bar 9 from the lock lugs 5, but the lock shoulders 6^a serve to positively prevent such accidental separation.

To open the lid, it is only necessary to first press the lock bar 9 slightly inward so that it will clear the lock shoulders 6^a, and then to turn the same backward into its dotted line position shown in Fig. 1. When the lid is

locked by the lock bar, as above described the springs 11 are compressed, and they then exert a force which tightly holds the lid against the lid seat on the box. The normal clearance between the lock bar 9 and its housing 9^a, and the face of the lid 7, must, of course, be sufficient to permit sufficient lateral motion of the lock bar, in respect to the lid, to move the ends of said bar clear of the lock shoulders 6^a. In fact, even when the said lock shoulders 6^a are not employed, a lateral motion of the lock bar, in respect to the lid, is required in order to put the springs 11 under tension when the lid is locked in its closed position by the bar.

The improved device, above described, may be constructed at small cost, and, furthermore, is efficient for the purposes had in view.

What I claim is:—

1. The combination with a box and a lid hinged thereto, of a lock bar intermediately pivoted to the outer side of said lid and having a limited lateral movement in respect thereto, yielding means tending to force said bar laterally away from said lid and to impart rotary movement thereto in one direction, and the exterior of the box having lock lugs, with which the ends of said lock bar are engageable and disengageable by oscillatory movement, substantially as described.

2. The combination with a box and a lid hinged thereto, of a lock bar having a spring housing at its intermediate portion, a bolt intermediately pivoting said lock bar to the

central portion of said lid and permitting a limited lateral movement thereof in respect to the lid, springs interposed between said lid and the spring housing of said lock bar, the said springs tending to move said lock bar laterally away from the said lid and to impart rotary movement thereto in one direction, and the exterior of the box having lock lugs with reversely extended seats with which the ends of said lock bar are engageable and disengageable by oscillatory movement, substantially as described.

3. The combination with a box and a lid hinged thereto, of a lock bar having a spring housing at its intermediate portion, a bolt intermediately pivoting said lock bar to said lid and permitting a limited lateral movement thereto in respect to the lid, springs interposed between said lid and the housing of said lock bar, said springs exerting a force tending to move said lock bar laterally away from said lid and to impart rotary movement thereto in one direction, and the exterior of the box having lock lugs provided with seats 6 and beveled shoulders 6^a with which the ends of said lock bar are engageable and disengageable by oscillatory movement, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK HACHMANN.

Witnesses:

MALIE HOEL,
H. D. KILGORE.