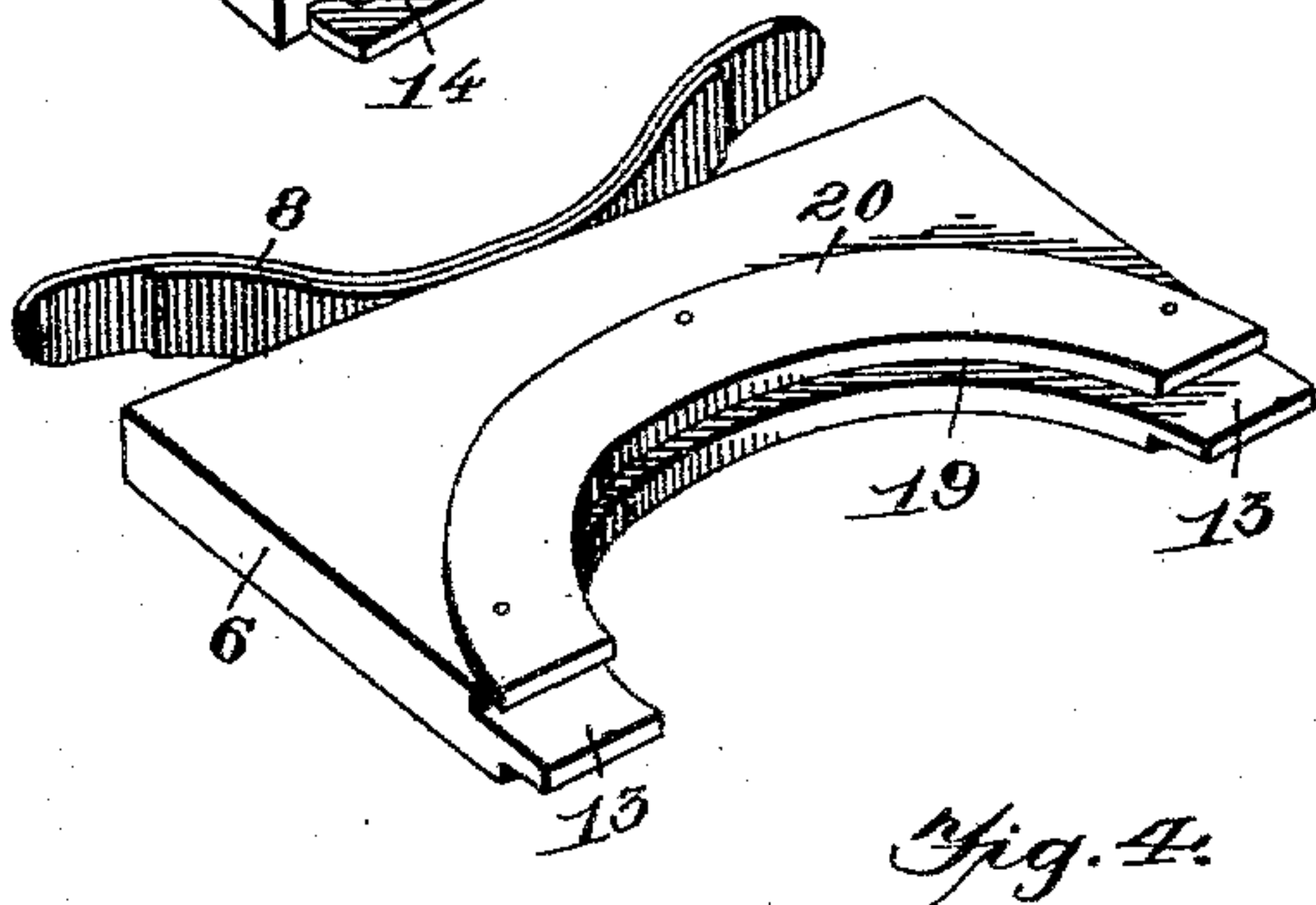
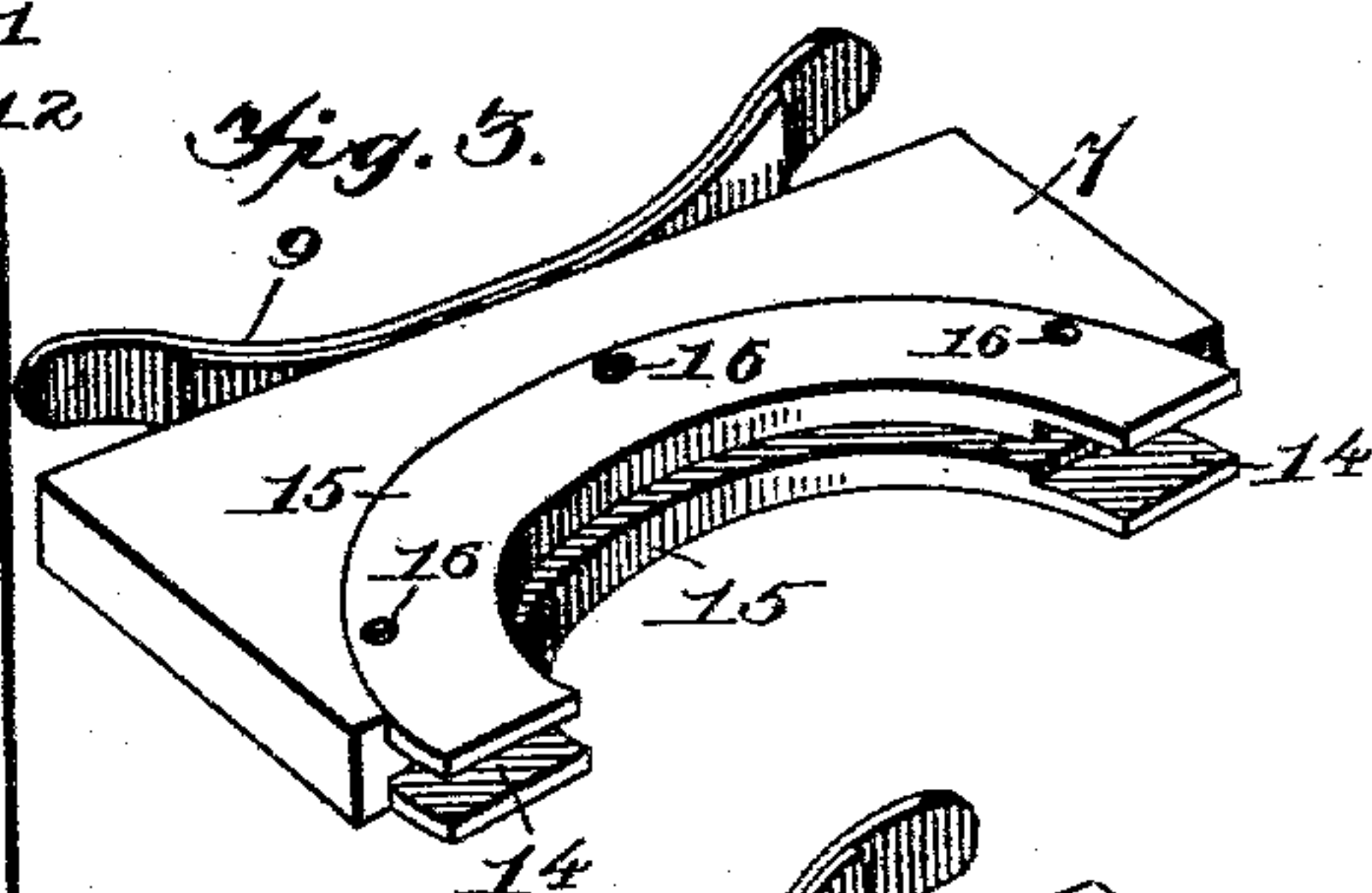
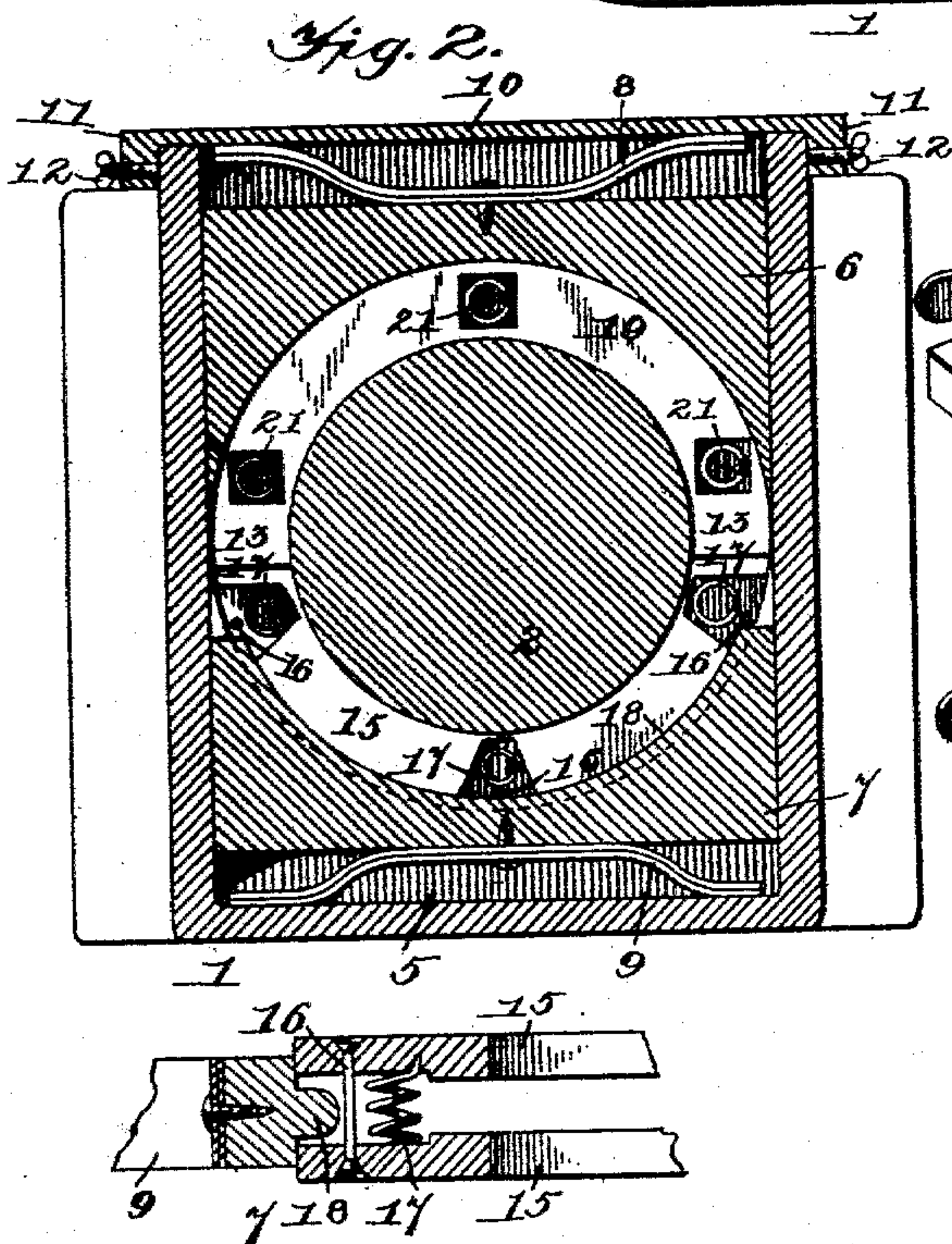
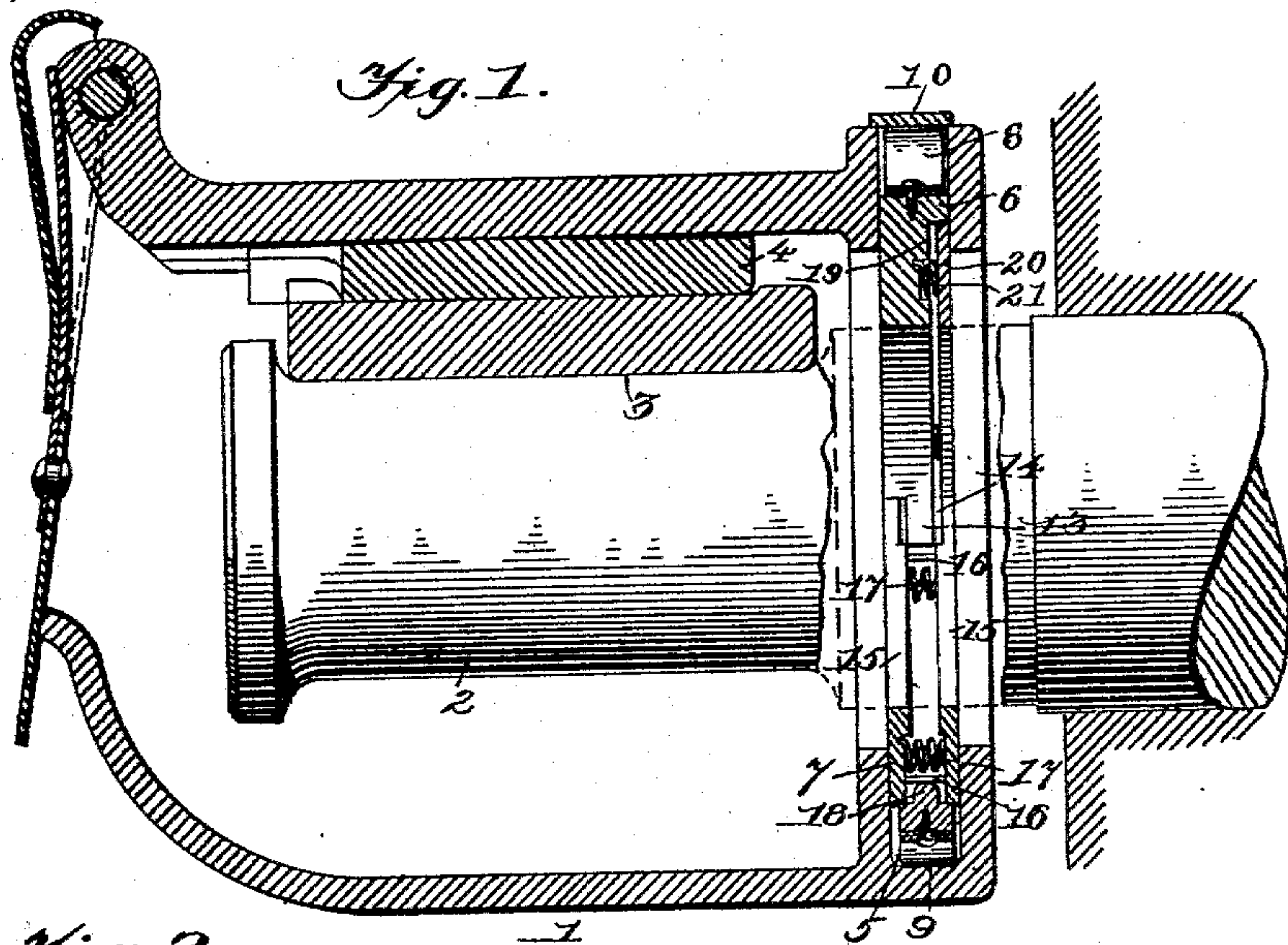


(No Model.)

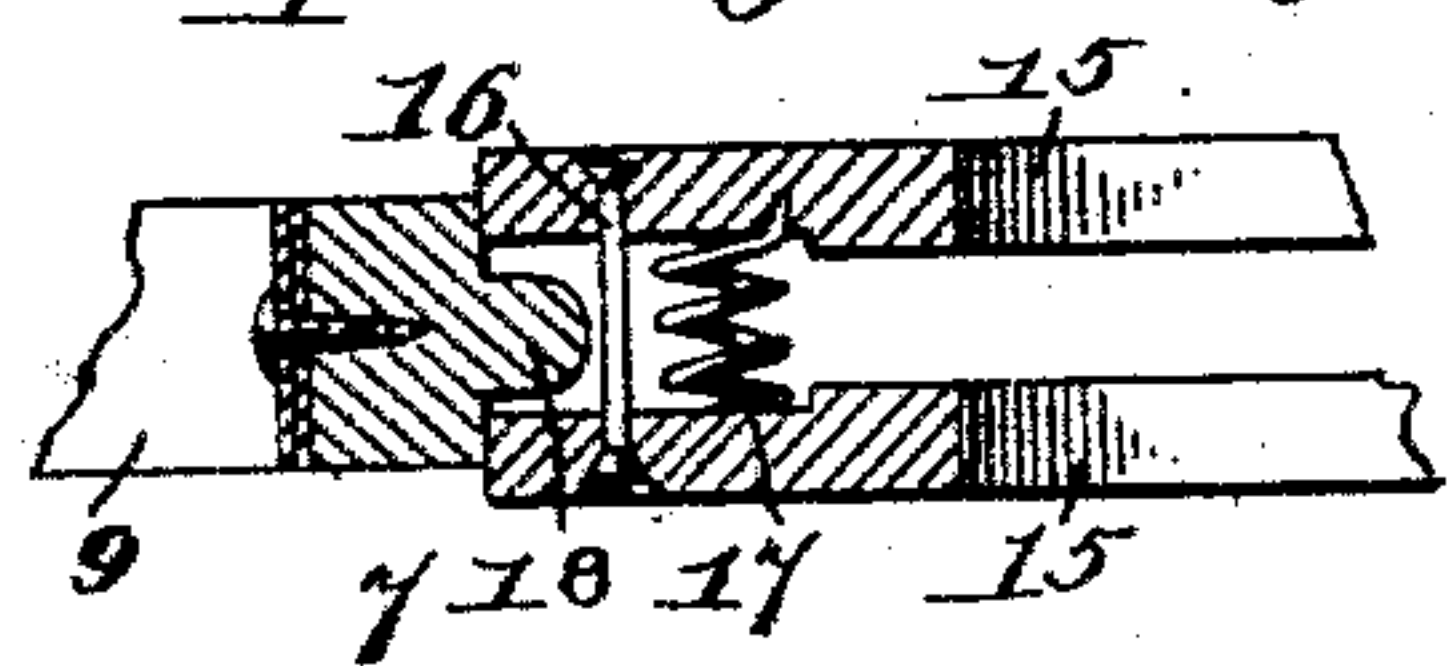
H. I. HOLDERNESS.  
DUST GUARD FOR CAR AXLE BOXES.

No. 571,666.

Patented Nov. 17, 1896.



*Fig. 5.*



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Witnesses

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# UNITED STATES PATENT OFFICE.

HARRY I. HOLDERNESS, OF PINE BLUFF, ARKANSAS.

## DUST-GUARD FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 571,666, dated November 17, 1896.

Application filed June 26, 1896. Serial No. 597,020. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY I. HOLDERNESS, a citizen of the United States, residing at Pine Bluff, in the county of Jefferson and State of Arkansas, have invented a new and useful Dust-Guard for Car-Axle Boxes, of which the following is a specification.

The invention relates to improvements in dust-guards for car-axle boxes.

The object of the present invention is to improve the construction of dust-guards for car-axle boxes and to provide a simple, comparatively inexpensive device capable of effectually excluding dust from the journal-bearing and of preventing the escape and the waste of a lubricant.

A further object of the invention is to provide a dust-guard which may be readily introduced into an axle-box and removed therefrom, and which will yieldingly engage the box and an axle to effect a tight joint and to accommodate itself to the vertical movement of the box on the axle.

In the drawings, Figure 1 is a longitudinal sectional view of an axle-box provided with a dust-guard constructed in accordance with this invention. Fig. 2 is a transverse sectional view. Fig. 3 is a detail perspective view of the lower section of the dust-guard. Fig. 4 is a similar view of the upper section of the dust-guard. Fig. 5 is an enlarged detail sectional view illustrating the manner of mounting the yielding plates of the lower dust-guard section.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a car-axle box arranged on an axle 2 in the usual manner, and receiving a journal-bearing 3 and a journal-bearing key 4, which are interposed between the journal of the axle and the top of the axle-box in the usual manner.

The car-axle box, which is designed for use on passenger and freight cars, is provided at its rear or inner end with a vertically-disposed dust-guard chamber 5, open at the top and formed by the rear wall of the journal-box, and a transverse partition arranged parallel with the rear wall, the latter and the partition being provided with openings for the axle 2.

The dust-guard chamber receives a yielding dust-guard, consisting of upper and lower sections 6 and 7, presenting concave semi-circular inner edges to the axle and forming an axle-opening and held in close contact with the axle by upper and lower curved springs 8 and 9.

The dust-guard is rectangular to conform to the configuration of the dust-guard chamber 5, and the springs 8 and 9, which are preferably leaf-springs, are centrally secured to the upper and lower edges of the sections 6 and 7 of the dust-guard, and have their terminals disposed substantially horizontally and engaging, respectively, a removable cap 10 and the bottom of the axle-box. The springs hold the sections closely against the axle to exclude dust from the axle-box and confine the lubricant therein.

The cap, which covers the top of the dust-guard chamber, consists of a bar or plate resting upon the axle-box and provided at its ends with depending lugs 11, arranged at opposite sides of the axle-box, provided with threaded perforations and receiving clamping-screws 12, which engage the axle-box and retain the cap firmly.

The upper section 6 of the dust-guard is provided at opposite sides with depending tongues 13, fitting in grooves or recesses 14, formed by the projecting terminals of a pair of curved plates 15, which are mounted on the body portion of the lower section, and which constitute the upper part thereof. By arranging the tongues 13 in the grooves or recesses 14 of the lower section the two sections are overlapped and no intervening space is formed between them by the vertical movement of the axle-box on the axle, whereby the dust is effectually excluded at those points.

The curved plates 15, which are semicircular, are connected by transversely-disposed pins 16, and have springs 17 interposed between them and adapted to spread them and hold them against the adjacent faces of the sides of the dust-guard chamber. The transverse pins are provided at their ends with heads arranged in recesses of the outer faces of the plates 15 to permit the latter to contract and expand without the pins coming in contact with the axle-box and binding against



the same. The lower or outer curved edges of the plates 15 are recessed and form a vertical groove which receives a curved rib 18 of the body portion of the lower section. The upper edge of the body portion of the lower section of the dust-guard is semicircular, and is recessed or rabbeted at opposite sides to form the rib 18.

One of the faces of the upper section 6 of the dust-guard is provided with a semicircular recess 19, receiving a semicircular plate 20, which is forced outward by a spiral spring 21, which is adapted to engage the adjacent wall of the dust-guard chamber.

The yieldingly-mounted plates of the upper and lower sections of the dust-guard preserve a tight joint between the dust-guard and the axle-box, and effectually exclude dust and prevent loss of the lubricant.

The upper section 6 of the dust-guard and the curved plates of the lower section may be readily removed from the dust-chamber without removing the axle-box from the axle. After the cap is taken off the upper section may be readily withdrawn from the dust-guard chamber, and the plates 15 of the lower section will slide freely around the axle and may be readily taken out by engaging a common packing-hook with one of the transverse pins 16.

It will be seen that the dust-guard is simple and comparatively inexpensive in construction, that it is adapted to be readily applied to the ordinary axle-box, such as is used on passenger and freight trains, and that it effectually excludes dust from the journal-bearing and confines the lubricant within the axle-box.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. A dust-guard for axle-boxes comprising upper and lower sections capable of a limited vertical movement on each other, and the plates yieldingly mounted on the sections, surrounding the axle-opening and capable of springing outward horizontally to engage frictionally the side walls of a dust-guard cham-

ber to effect a tight joint, substantially as described.

2. A dust-guard for axle-boxes, comprising an upper section and a lower section composed of a lower body portion, and a pair of yieldingly-mounted curved plates forming the upper portion of the lower section, presenting curved edges to an axle and adapted to engage yieldingly the side walls of the axle-box, substantially as described.

3. A dust-guard for axle-boxes, comprising an upper section and a lower section composed of a lower body portion provided at its upper edge with a rib, a pair of curved plates forming a groove for the reception of the rib and constituting the upper portion of the lower section, transverse pins loosely connecting the plates, and means for expanding the plates, substantially as and for the purpose described.

4. A dust-guard for axle-boxes, comprising an upper section provided at opposite sides with depending tongues, and a lower section composed of a lower body portion, and a pair of curved plates yieldingly mounted on the body portion and constituting the upper portion of the lower section and receiving the said tongues between their terminals, substantially as described.

5. A dust-guard for axle-boxes, comprising an upper section provided at one of its faces with a recess and having a yieldingly-mounted plate arranged in the recess and presenting a lower semicircular edge to conform to the configuration of the axle, said upper section being provided at opposite sides with depending tongues, and a lower section composed of a lower body portion, and a pair of yieldingly-mounted plates constituting the upper portion of the lower section, adapted to engage the side walls of a dust-guard chamber and receiving said tongues between their terminals, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARRY I. HOLDERNESS.

Witnesses:

V. O. ALEXANDER,  
E. A. SHEPPARD.