

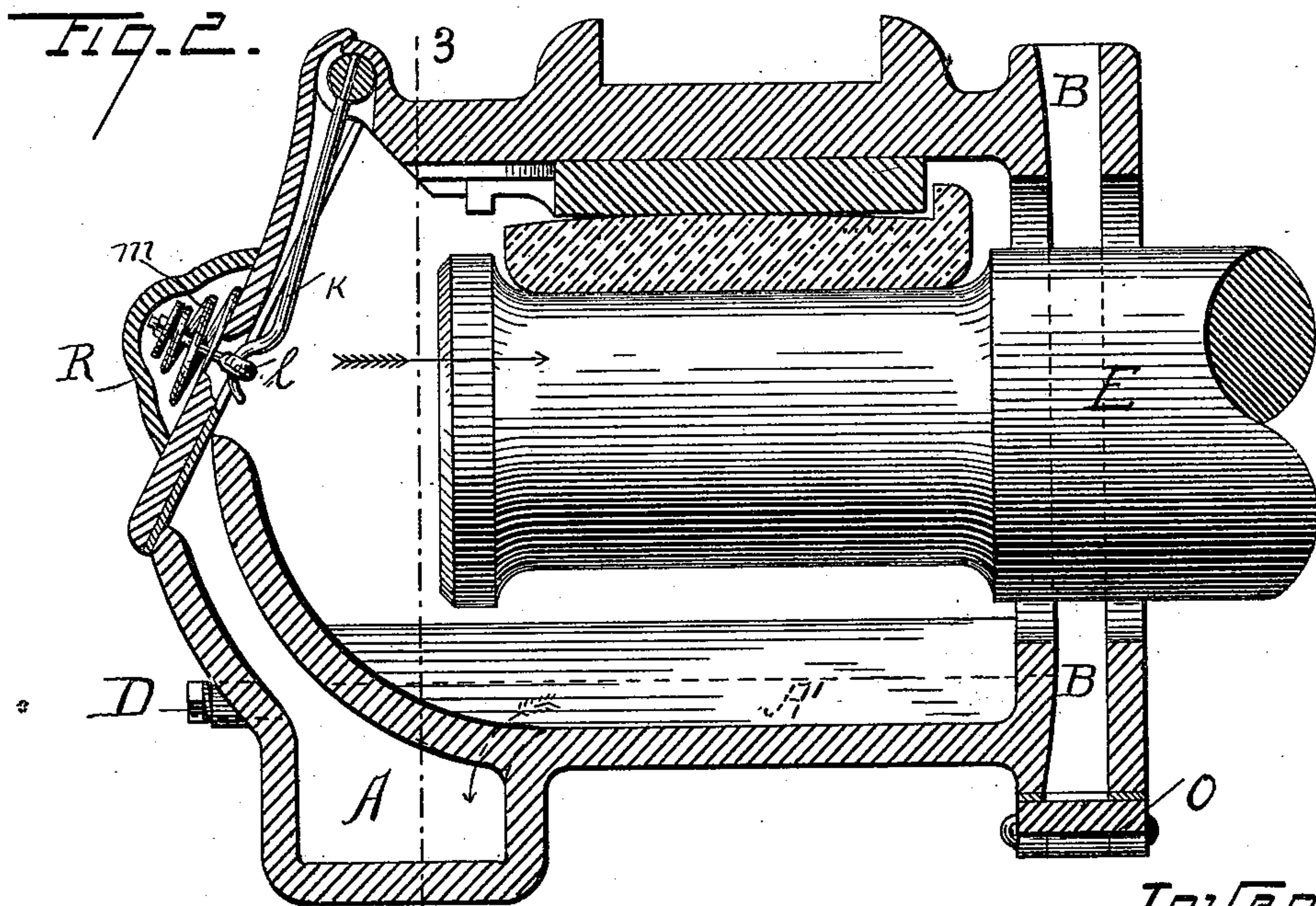
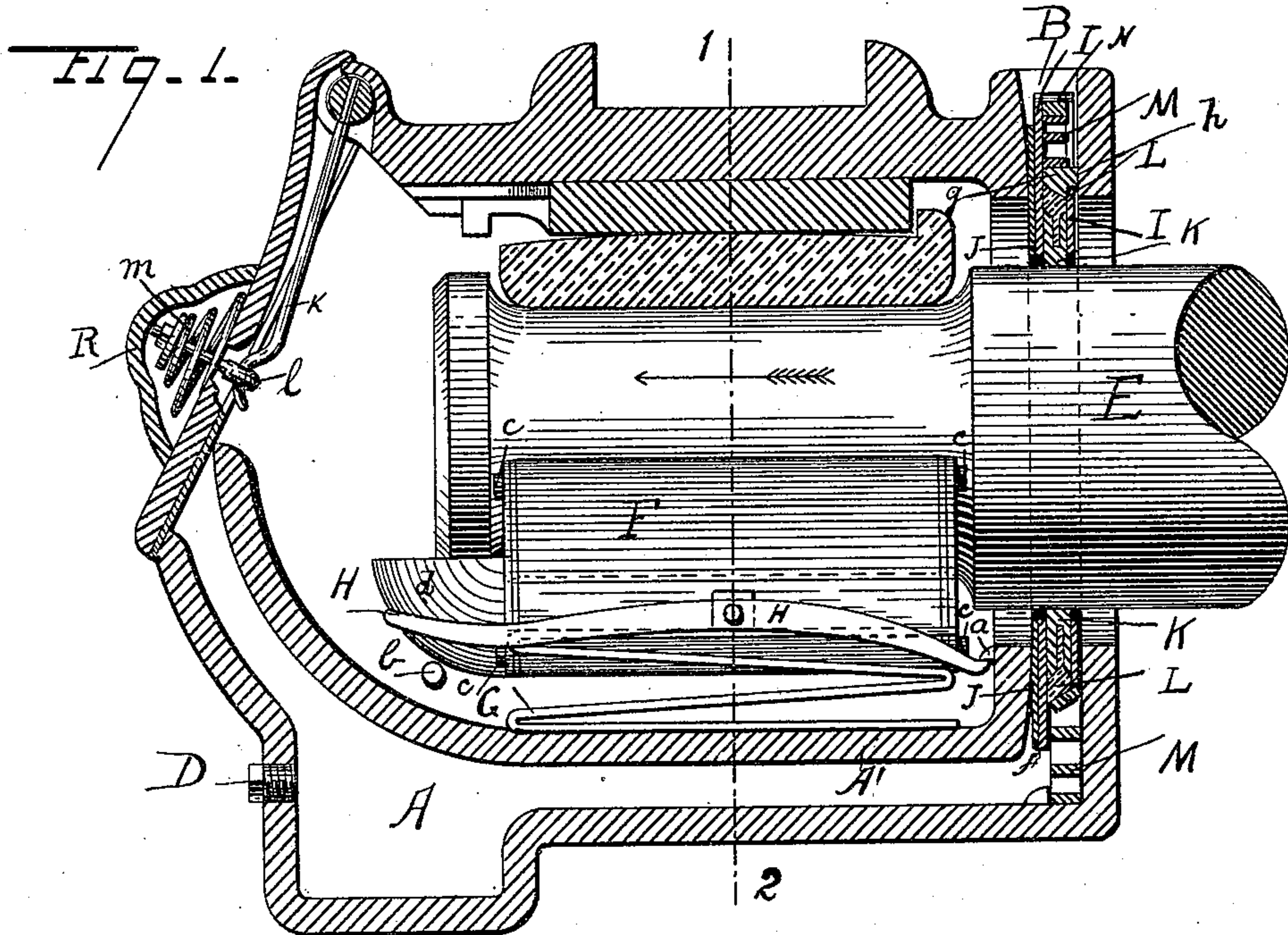
(No Model.)

3 Sheets—Sheet 1.

J. PETITHOMME.  
CAR AXLE BOX.

No. 545,720.

Patented Sept. 3, 1895.



Witnesses 4  
Julius H. Smith  
C. F. Ragsdale

Inventor  
Joseph Petithomme  
by Paré & St. Marie  
Attorneys



(No Model.)

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FIG. 3.

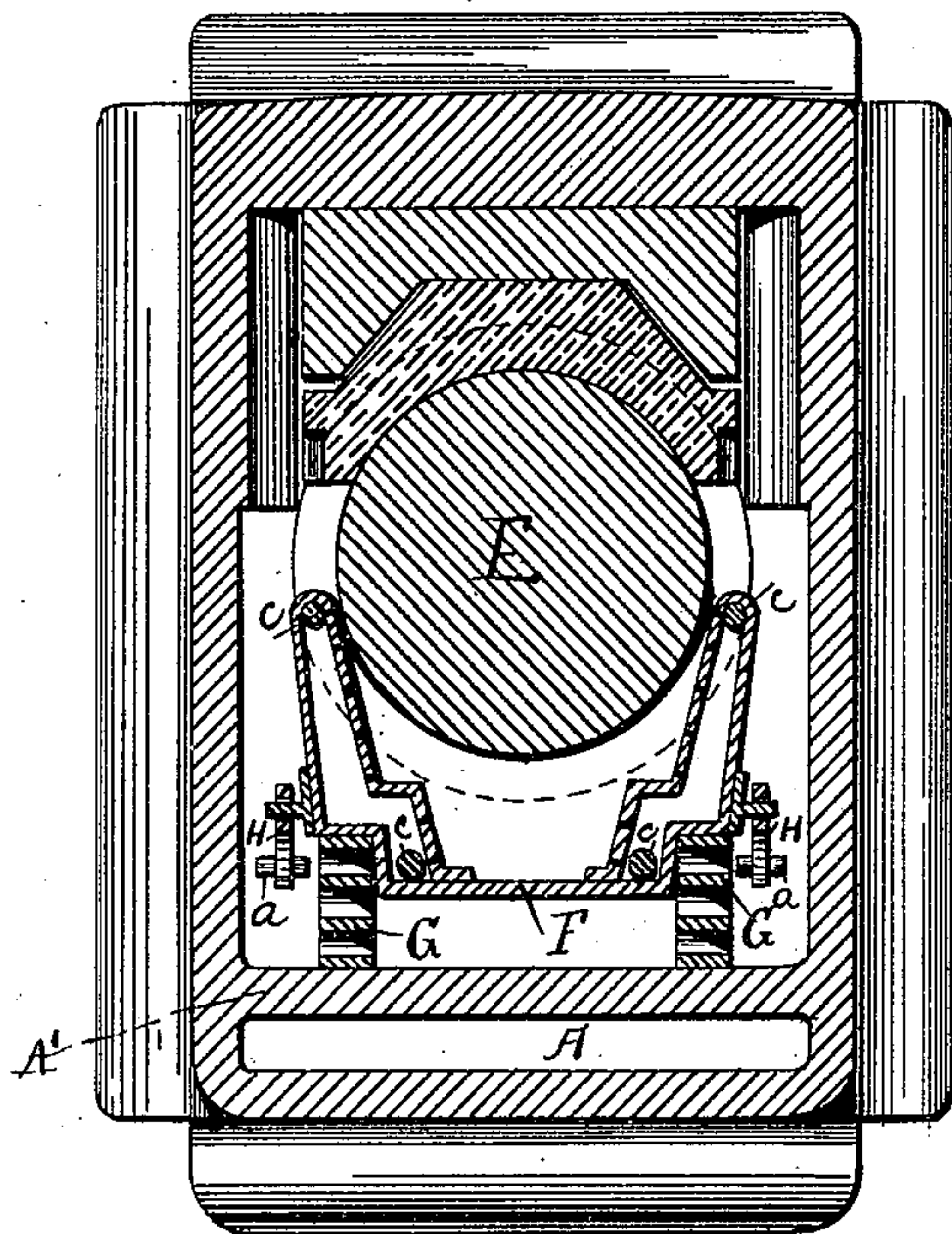


FIG. 4.

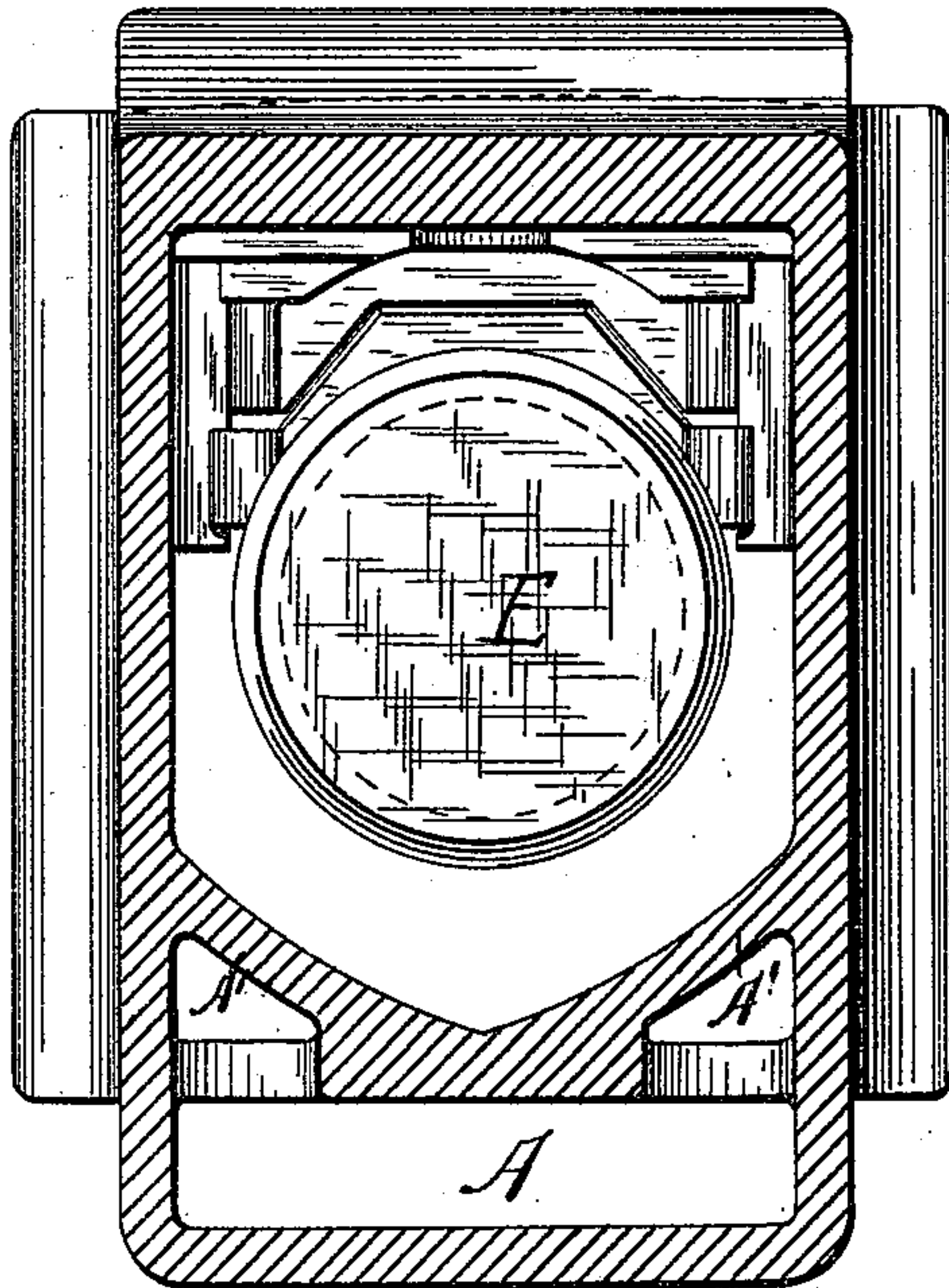


FIG. 5.

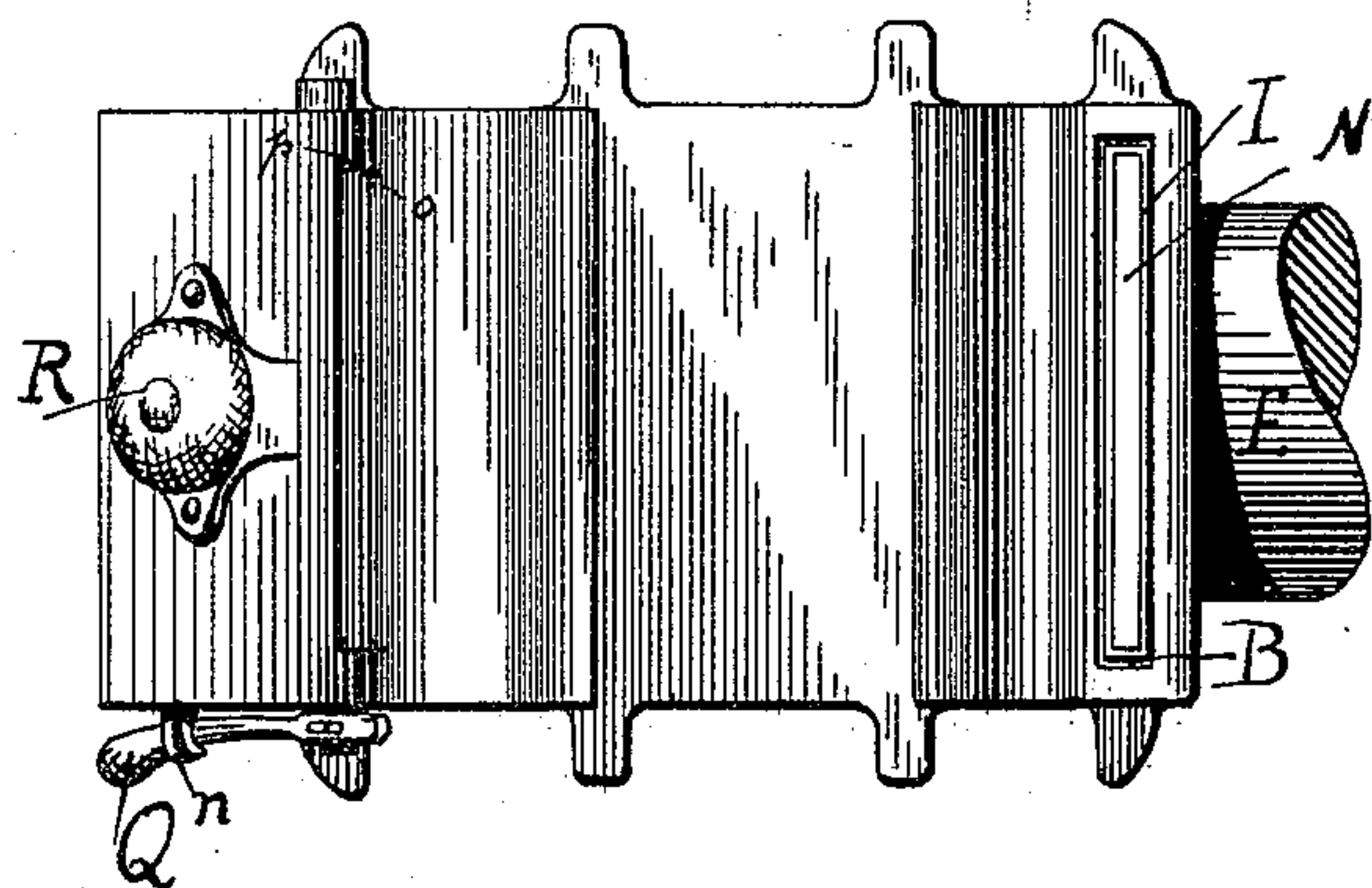


FIG. 6.

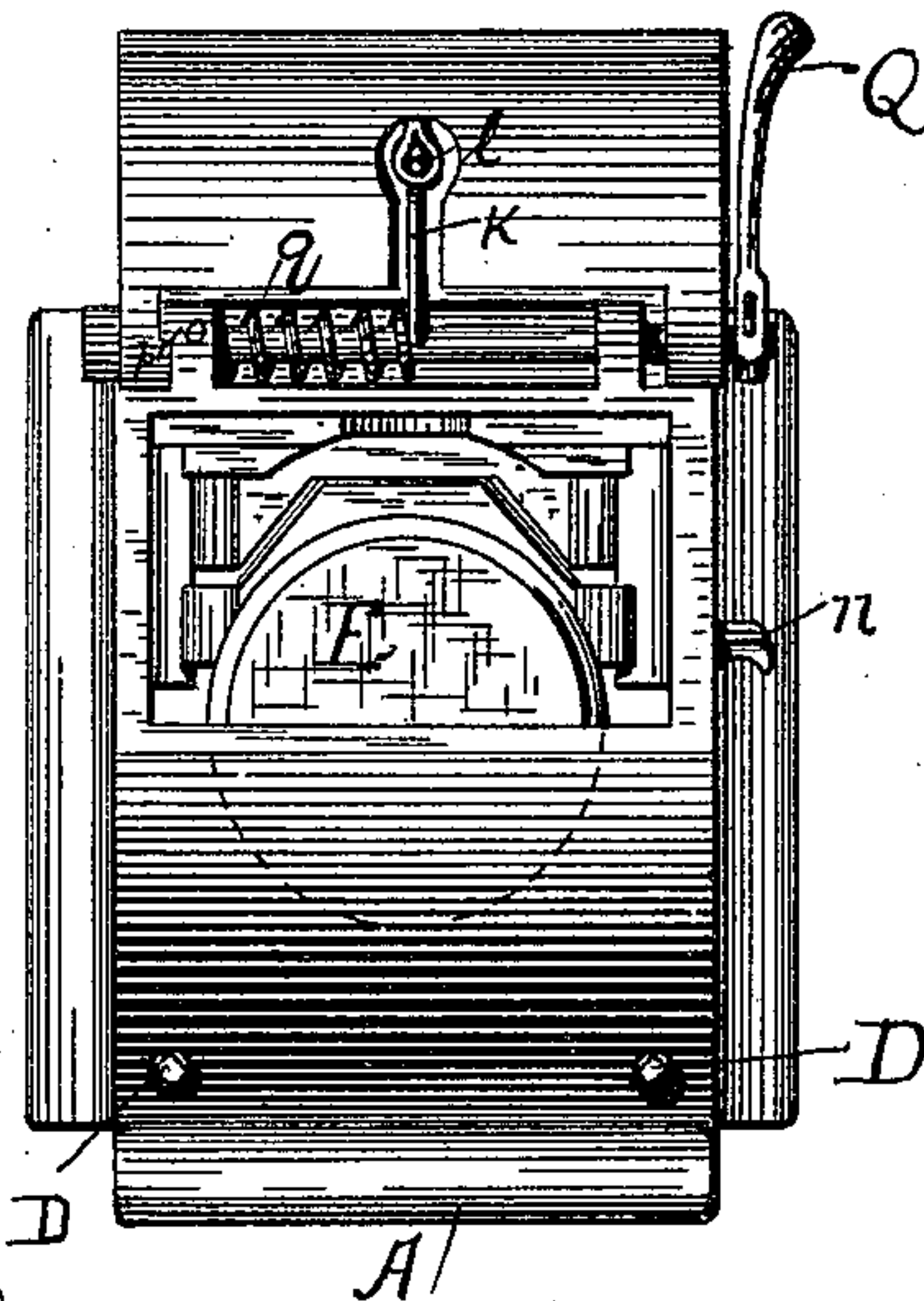
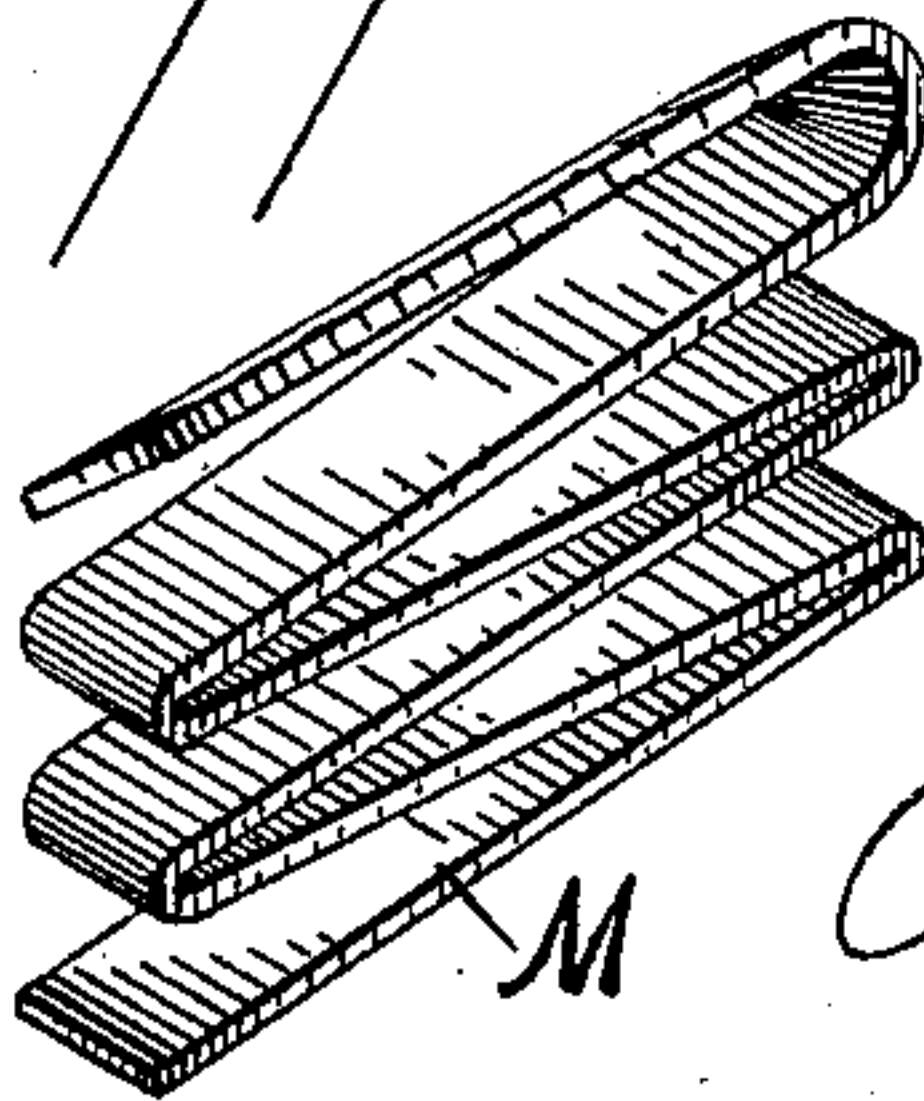


FIG. 7.



Witnesses

Julius H. Smith

C. H. Ragsdale

Inventor

Joseph Petithomme

by Paré & St. Marie

Attorneys



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FIG. 8.

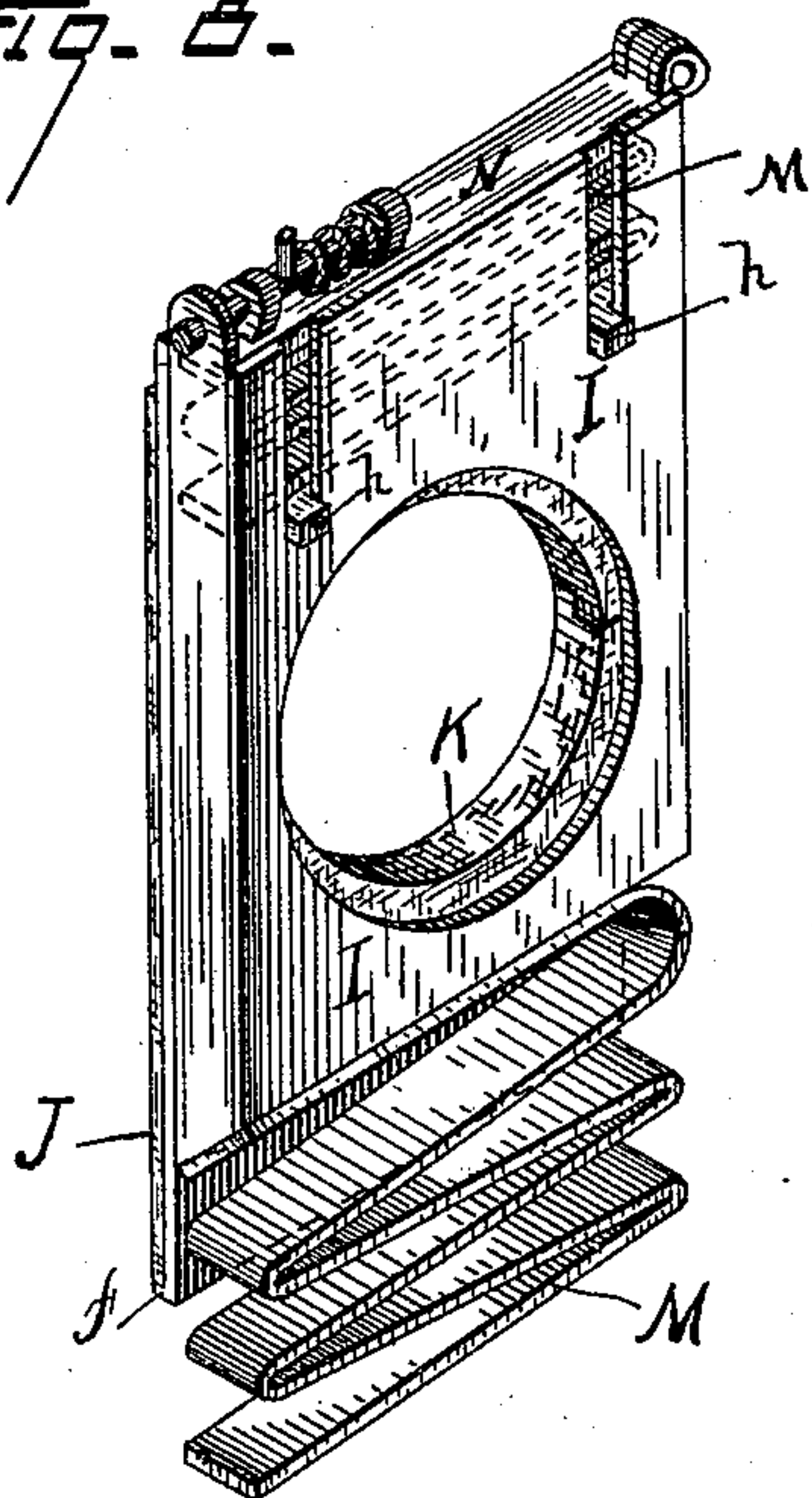


FIG. 9.

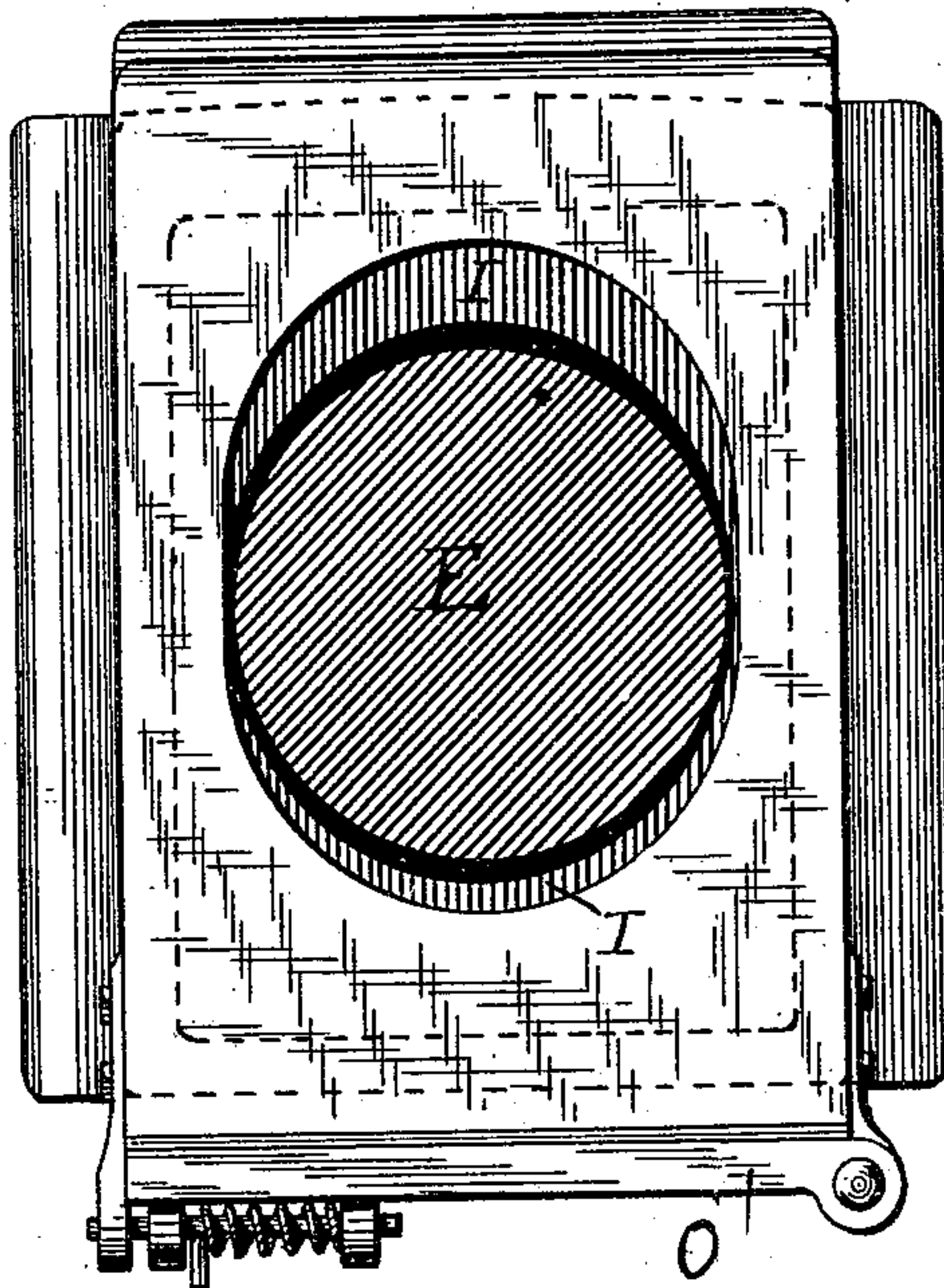


FIG. 11.

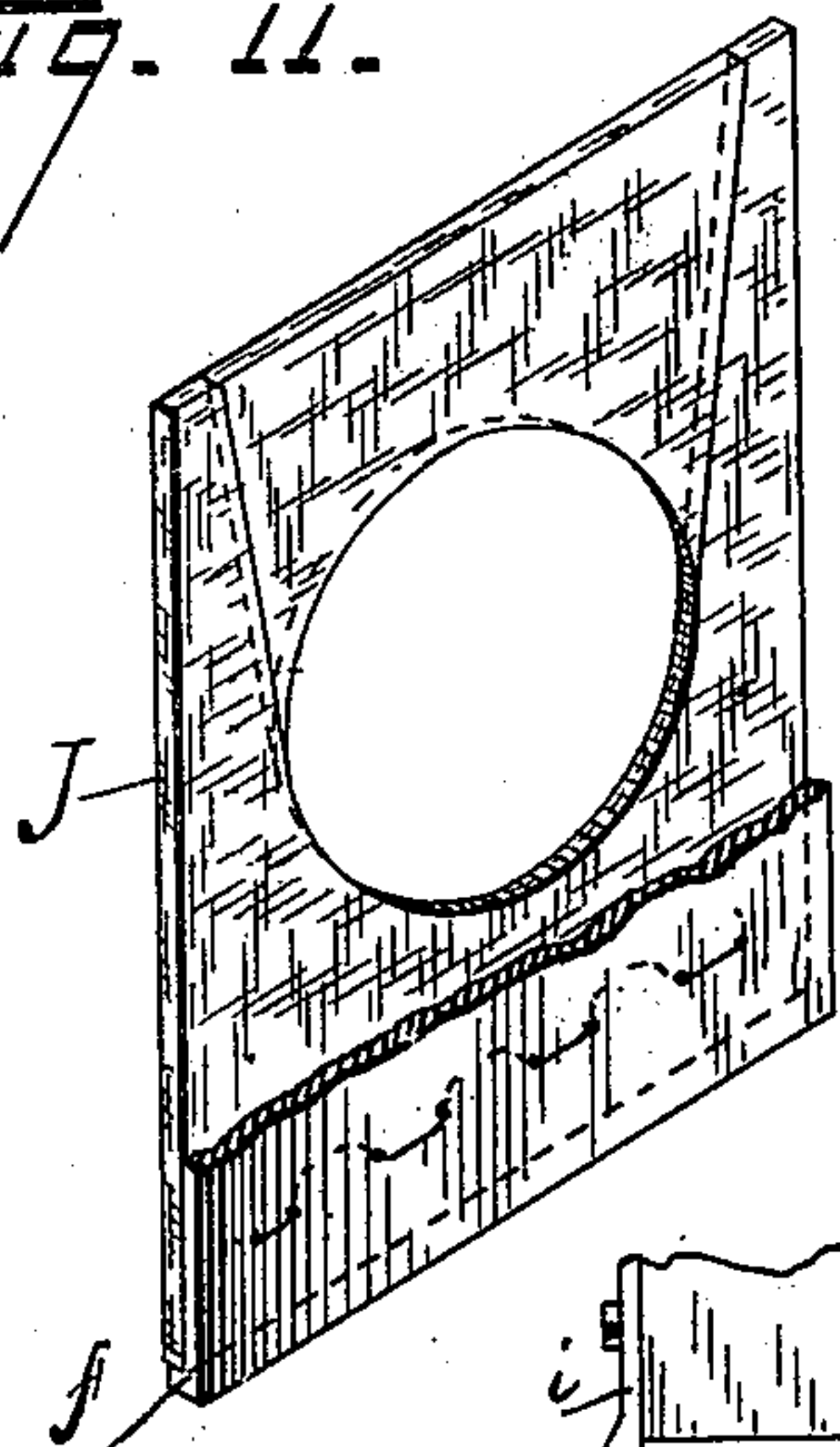


FIG. 12.

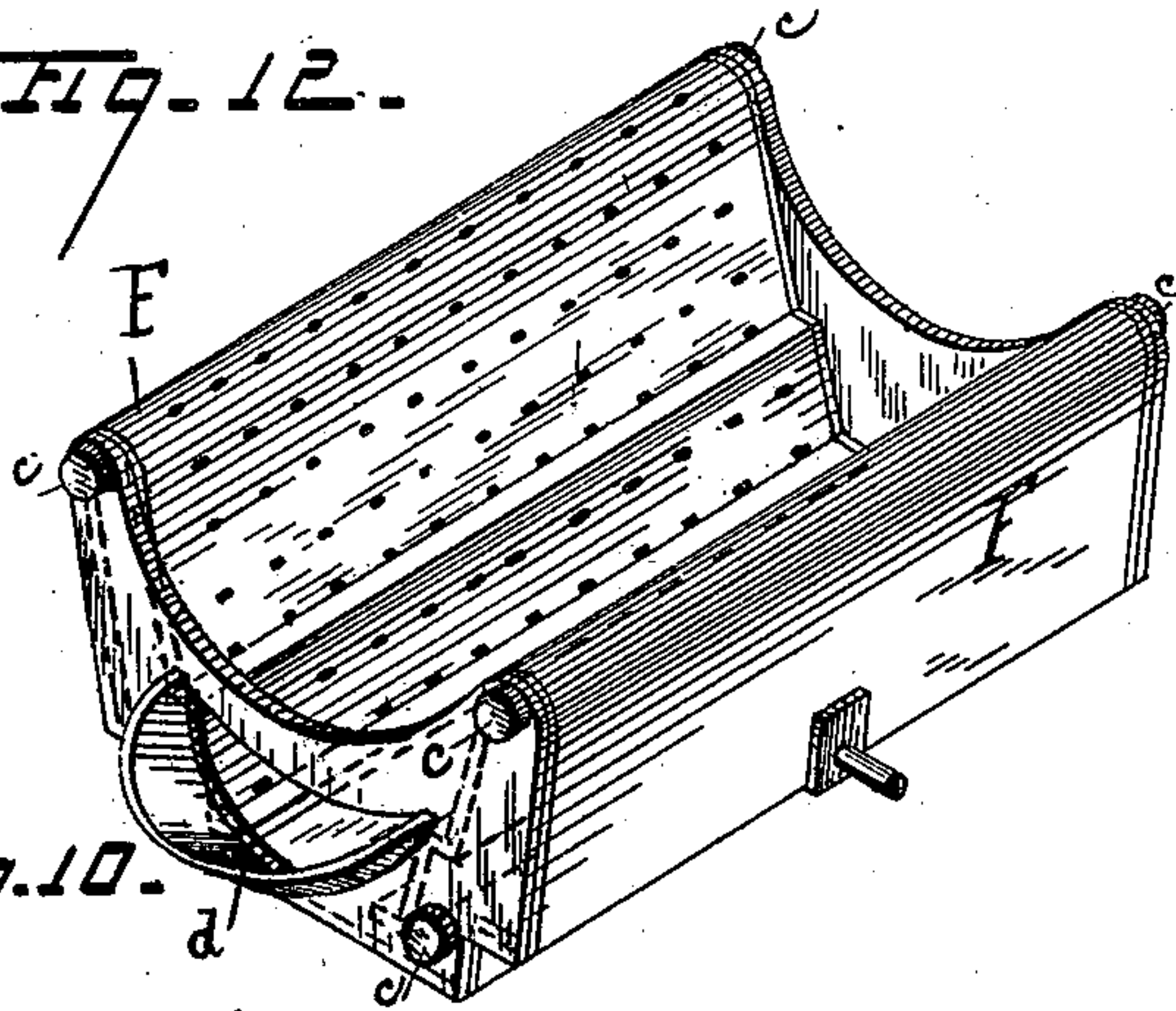


FIG. 10.

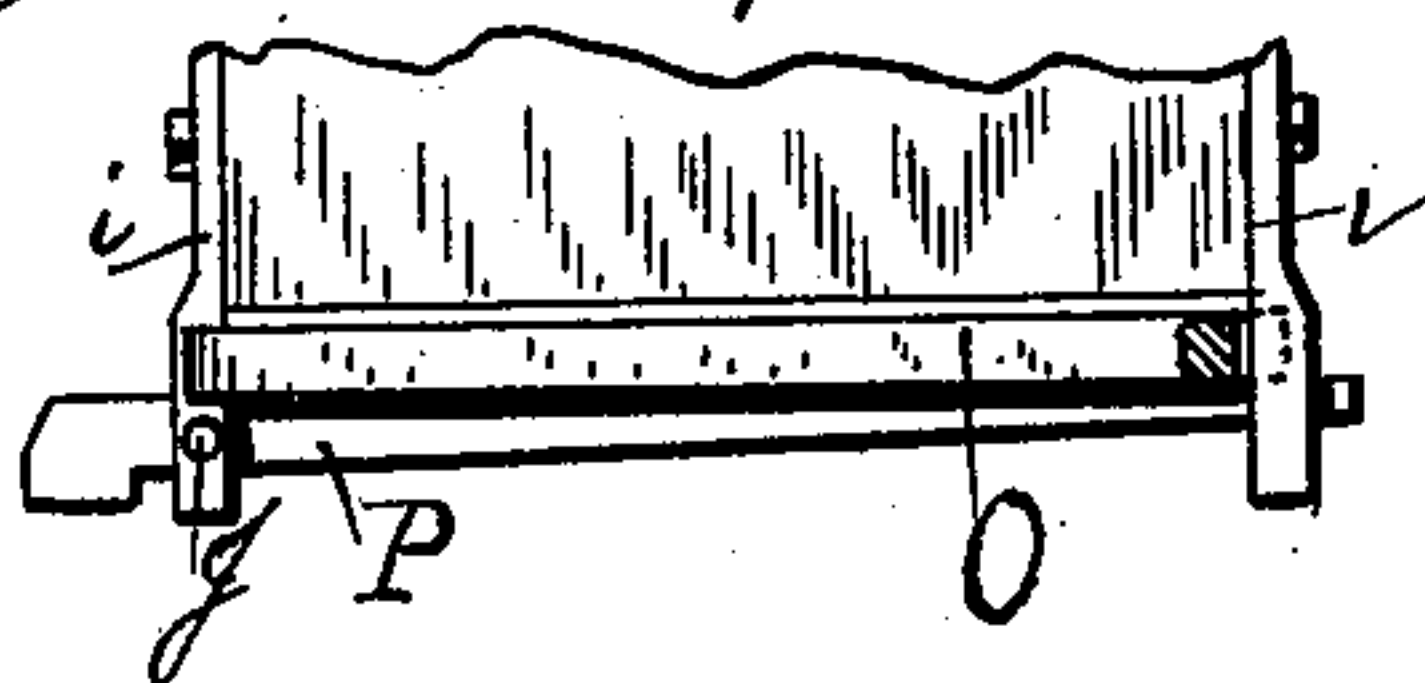
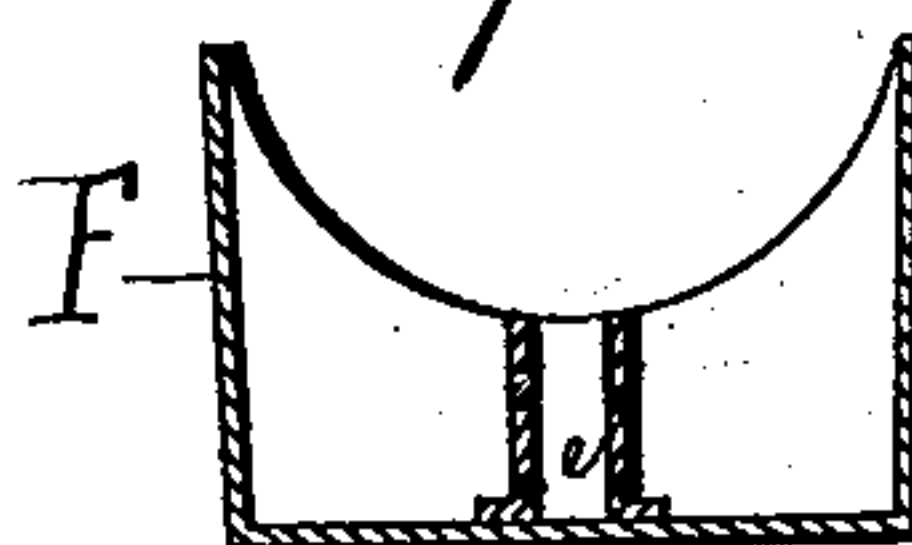


FIG. 13.



WITNESSES

Julius H Smith  
C. F. Ragdale

INVENTOR

Joseph Petithomme

by Paré & St Marie  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

JOSEPH PETITHOMME, OF OAKLAND, CALIFORNIA.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 545,720, dated September 3, 1895.

Application filed November 23, 1888. Serial No. 291,680. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH PETITHOMME, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Journal or Car-Axle Boxes, of which the following is a specification.

The object of my invention is to provide means for rendering journal-boxes oil-tight and dust-proof in the highest degree attainable. This object I gain by the device or combination of devices illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of a journal-box containing my improvements; Fig. 2, a vertical section of the same with a modification in the oil-receiver; Fig. 3, a vertical cross-section of the box on line 1 2, Fig. 1, as seen in the direction of the arrow; Fig. 4, a vertical transverse section taken on line 3 4, Fig. 2, looking in the direction of the arrow in the latter figure; Fig. 5, a top view of the box with the lid closed; Fig. 6, a front view of the same with the lid open; Fig. 7, a perspective view of one of the springs used in connection with the dust-guard; Fig. 8, a perspective view of the dust-guard with springs applied; Fig. 9, an end elevation of the box as seen from the rear of Fig. 2, showing the improved dust-guard recess; Fig. 10, a broken rear elevation of the same, indicating another mode of fastening the recessed bottom to the box; Fig. 11, a detailed view in perspective of the packing, showing how to fasten it to the dust-guard casing; Fig. 12, a perspective view of the cellar or waste-holder, and Fig. 13 a vertical cross-section of a cellar of a modified form.

Similar letters refer to similar parts throughout all the views.

In constructing my journal-box I provide it at the bottom with an oil-receiver A, which is formed by a suitable partition A', extending, preferably, from the lower end of the dust-guard's recess B to the fore part of the box. The rear part of the receiver may be made in two ways, both producing the same results. It may, as shown in Figs. 1 and 3, extend the whole width of the box or else take the shape of side channels, as represented in Figs. 2 and 4. Waste is deposited in the deeper part

of the receiver for the absorption of any oil that may escape from the box proper. This waste can be renovated at will, since access can be had readily to the receiver by simply lifting the lid which covers it in common with the box. The apertures, stopped by the plugs D, facilitate the cleaning out of the receiver when any sediment has collected. The recess B is made concave on one side, so as to insure a closer joint of the dust-guard with the journal-box at the point of insertion of the axle E. I also make the recess a little longer than is usually done in practice in order to give room for a very elastic dust-guard spring.

The cellar F, which is adapted to hold waste saturated with oil, is kept up to the axle by means of springs G, located on each side of it. The latter are conveniently set in recesses under the cellar, the lower part of which is drawn in for their reception. This arrangement is better shown in Fig. 3.

Lever H is provided in order to lower the cellar when it is desired to introduce new waste into it. These levers are hung loosely on pintles by the sides of the cellar, their farther end abutting against stays a. By bearing down upon their near end and hooking it under the pins b, projecting from the sides of the journal-box, the cellar is brought down sufficiently low to permit its cleaning out or the renovating of the waste.

The construction of the cellar is better illustrated in Fig. 12, where it is shown in perspective. The bottom and sides may be made of common sheet-iron folded so as to form compartments. The ends or bearings are preferably made of brass or Babbitt metal in order to resist better the friction of the axle. Thin bolts c unite all the parts together. The inner sides of the compartments are perforated and serve to retain the oil in the cellar, for as the waste is pressed against the axle the oil which is squeezed out, instead of overflowing, has a chance to fall back through the perforations to the bottom of the cellar, and consequently steepens the waste a much longer time. It is not necessary to work the levers H and lower the cellar every time it is wanted to pour oil or put new waste into it, as this can be most conveniently done through the



outwardly-projecting mouth *d*, it being large enough for the introduction and working of packing-hooks. The levers are brought into use only in case of a more thorough overhauling.

As shown in Fig. 13, a different shape could be given to the cellar *F*. By giving it the form therein represented the sides and bottom would be of a single thickness and the oil pressed out of the waste would fall into the channel *e* and through holes in the sides of the latter get back into the waste-compartments. It will be noticed that no cellar has been shown in Fig. 2. It can, nevertheless, be applied just as well to a box of that construction, the cellar-bottom being only rounded off to conform in shape to the oil-receiver.

The dust-guard is composed of a casing *I*, made, preferably, of metal or hard vulcanized fiber and of sundry other pieces, to be hereinafter described. The casing is open at both ends, and its anterior part is somewhat longer than the rest in order to permit its adaptation to all kinds of journal-boxes, whether they have prolonged recesses or not. A front packing *J*, (shown in detail in Fig. 11,) made of some soft material, is attached to the casing in order to effect a better joint with the journal-box, since metallic pieces do not make a perfect joint together. The lower end of the packing *J* rests on a flange *f* of the casing and is sewed onto the latter, preferably by a thin copper wire. A thread of this kind sinks into the soft packing without injuring its surface, which remains smooth. The packing is made of two detachable parts, one fitting under and the other over the axle. This arrangement allows their renovating quickly and easily.

The paddings *K*, made, preferably, of asbestos, overlap each other and have metal plates *L* embedded in them, which impart to them the required stiffness and prevent their wearing out too fast. (See Fig. 1.) These metal plates are V-shaped near one end, so as to bear against the sides of the casing and keep them always at the requisite distance apart. They are, besides, beveled to correspond to similarly-beveled springs *M*. The object of this construction is to obtain a side as well as a direct pressure, and thus insure a tight joint not only with the axle, but also with the box.

The springs *M* are made of several branches in order to give them a great elasticity. The bevels are secured by turning the top blade of the lower spring on an inclined plane and providing the upper spring with a beveled bar *g*. The latter carries buttons *h h*, which help to press the dust-guard against the box. The casing and inner parts are protected by a cover *N*, hinged to one side and fastened to the other by a locking-bolt held in place by a spiral spring, as shown.

The dust-guard recess *B*, which I make open at the bottom as well as at the top for convenience, is provided with a hinged door

*O* underneath, which is kept closed, also, by means of a locking-bolt and spiral spring. (Shown in detail in Fig. 9.) Another mode of shutting this recess is illustrated in Fig. 10, in which the door or cover *O* is represented as made of a detachable piece passed through the ends of supports *i i*, secured to the sides of the journal-box. In that case the cover *O* is kept tightly closed by a wedge *P*, driven beneath it and secured by a set-screw *j*.

The lid which I provide for my journal-box is hinged to the latter at the outer end. It is closed as tightly as desirable by means of a hook *k*, inserted into the hinge-pin and reaching down to about the center of the lid, on the under side, where it engages an eyebolt *l*, controlling a volute spring *m*, seated on the upper side. A lock-lever *Q*, held fast by a catch *n* on the side of the box, binds all the parts. The cap *R* is for the protection of the volute spring and the exclusion of dust. It is desirable to have the lid keep open of itself while oiling, renovating the waste, or cleaning out the box. I attain this object by cutting out corresponding notches in the lug *o* of the box, through which the hinge-pin passes, and in one of the lugs *p*, which hold the same, so as to enable the lid to be carried a little aside when raised. This side movement is effected by means of a spiral spring *q*, wound around the hinge-pin, one end of the spring resting against the hook *k* and the other against the lug *o*. It will be readily seen that as soon as the lid is lifted the spring will release itself and cause the indented lugs to engage each other, thereby keeping the lid open. The notches being cut to a bevel, it will be sufficient in order to shut the lid to bear down some on it, when it will become disengaged and resume its former position.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a journal-box, a cellar composed of a single-sheet bottom, compartments having double sides, the inner wall of each side being perforated end bearing-pieces, and bolts uniting the same, substantially as set forth.

2. In a journal-box, the combination of the axle, a cellar bearing thereon, said cellar recessed at the bottom, springs in the recesses of said bottom, side-pintles on said cellar, levers loosely hung on said pintles, stays for the rear ends of said levers, and inwardly-projecting pins adapted to keep down the front ends of the same when lowered, substantially as set forth.

3. In a journal-box, the combination of the axle, a spring supported cellar bearing thereon, side-pintles on said cellar, levers fulcrumed on said pintles, stays or bearings for the back end of said levers, and means adapted to keep down the front end of the same, when lowered, substantially as set forth.

4. The combination of a car-axle box, a dust-guard recess formed therethrough, and a cover



or door for said recess, the said cover or door being hinged to one side of the box and adapted to be secured to the other side of the same by means of a spring-actuated locking-bolt, substantially as set forth.

5 5. In a car-axle box, the combination of the axle, a dust-guard therearound, and a spring acting upon said dust-guard, the contacting

branch of said spring being in an inclined plane, substantially as set forth. 10

In witness whereof I have hereunto set my hand and seal.

JOSEPH PETITHOMME. [L. S.]

Witnesses:

A. S. PARÉ,

J. H. BLOOD.