

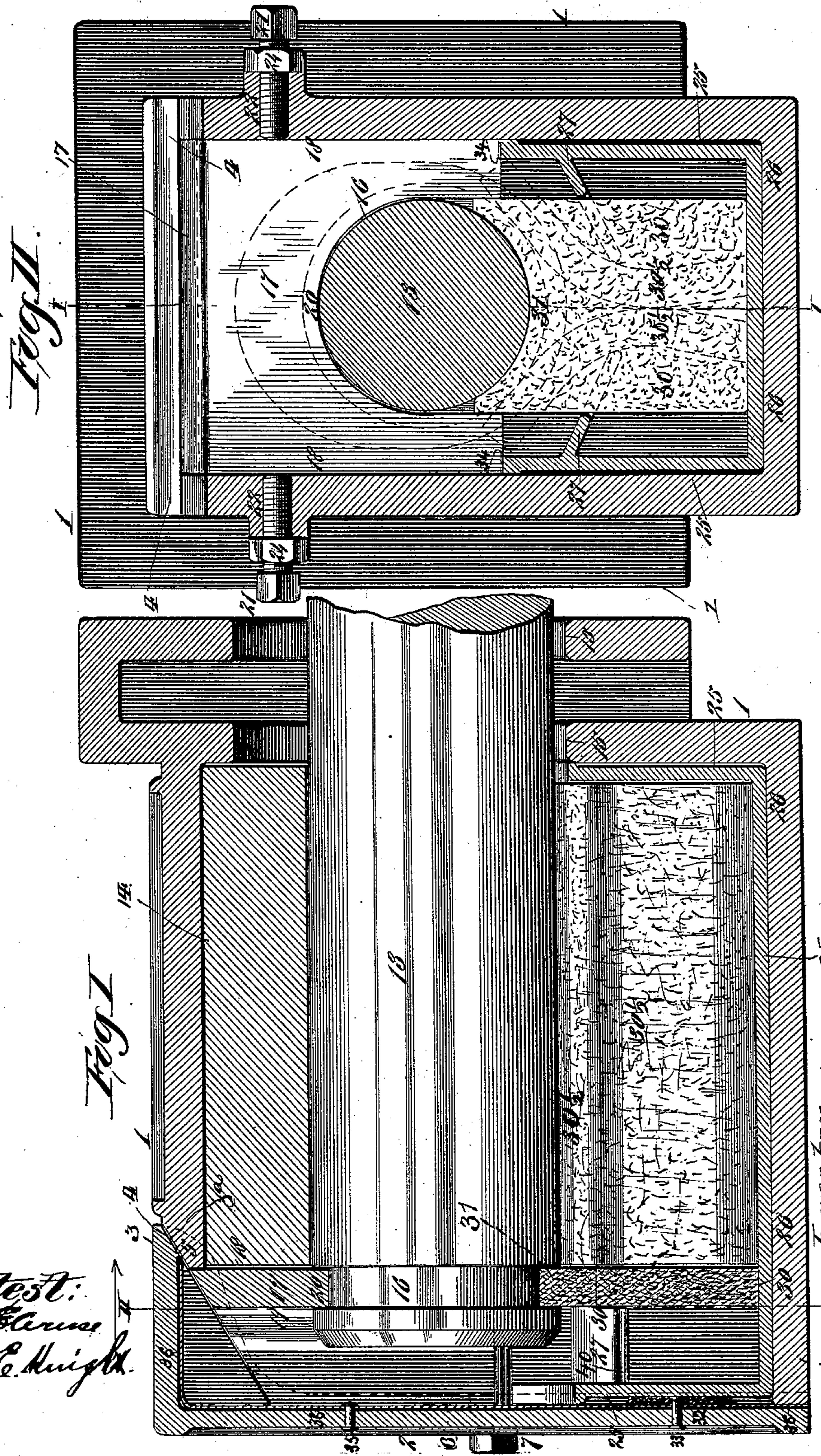
(No Model.)

2 Sheets—Sheet 1.

J. H. SURTIN.
OIL DRAWER JOURNAL BOX.

No. 517,776.

Patented Apr. 3, 1894.



Attest:
Geo. E. Currier
Wm. C. Knight.

1. H → Inventor.
John H. Sullivan.

By Wright Bros.
attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. I.

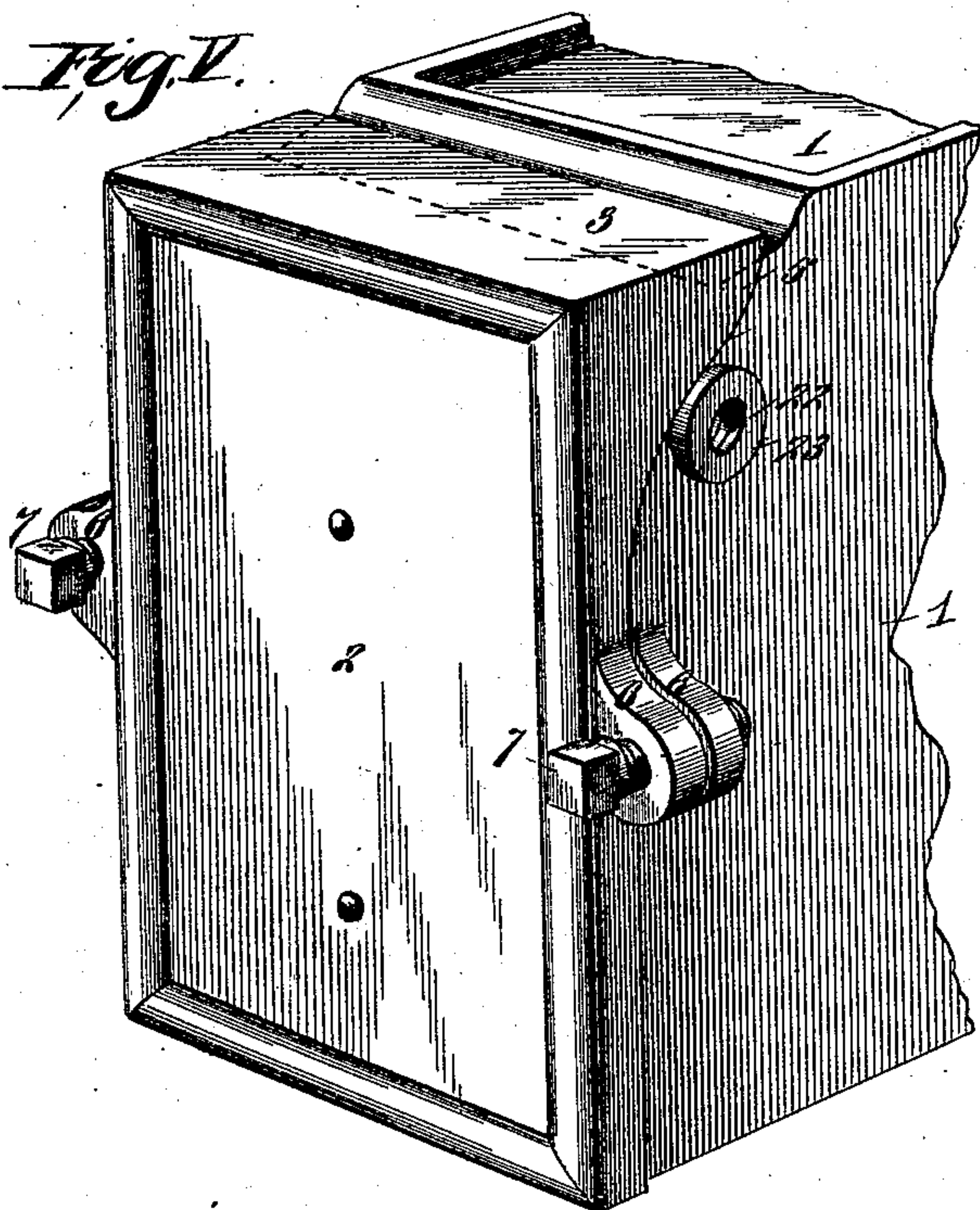


Fig. II.

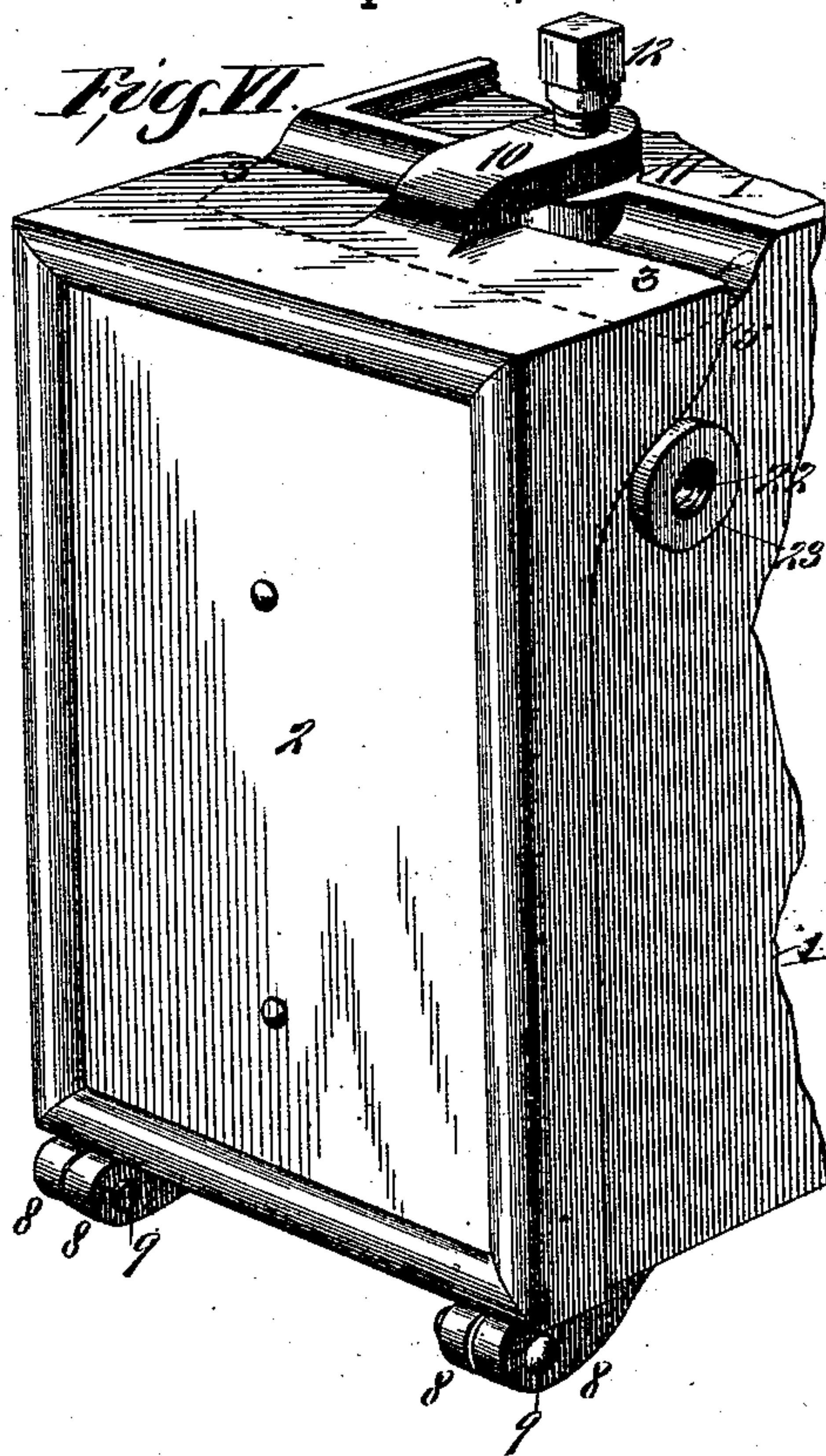


Fig. IV.

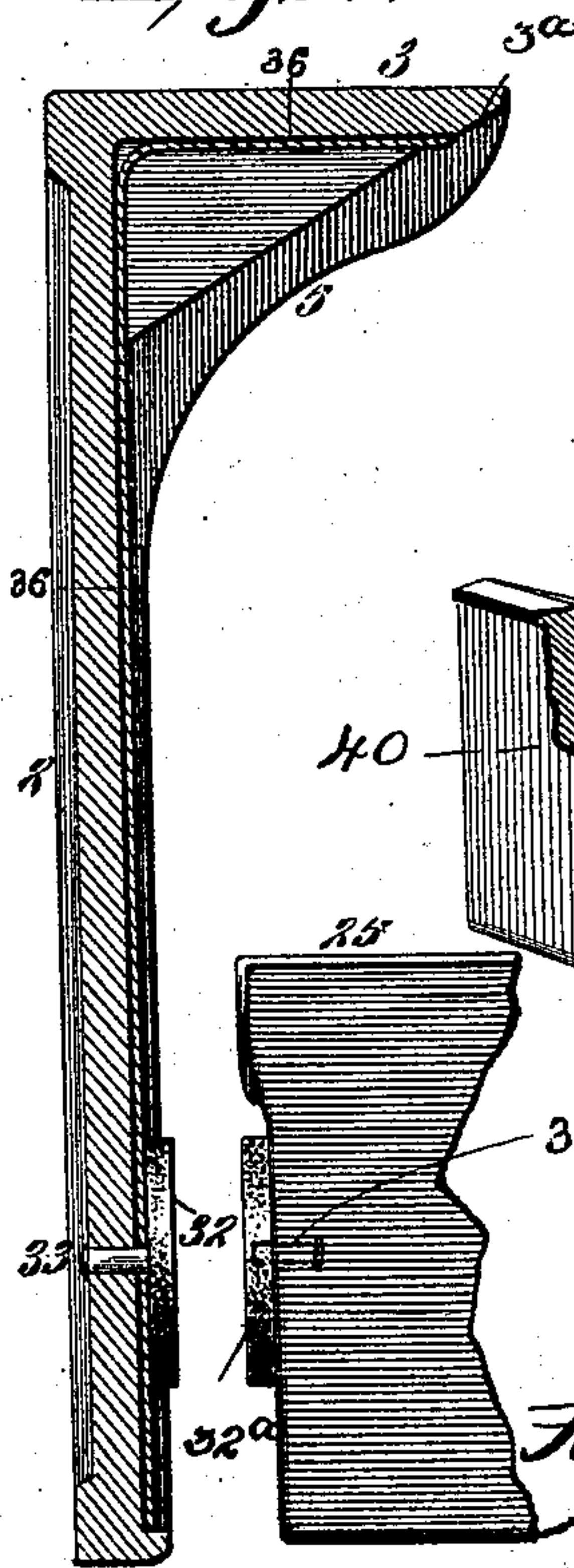
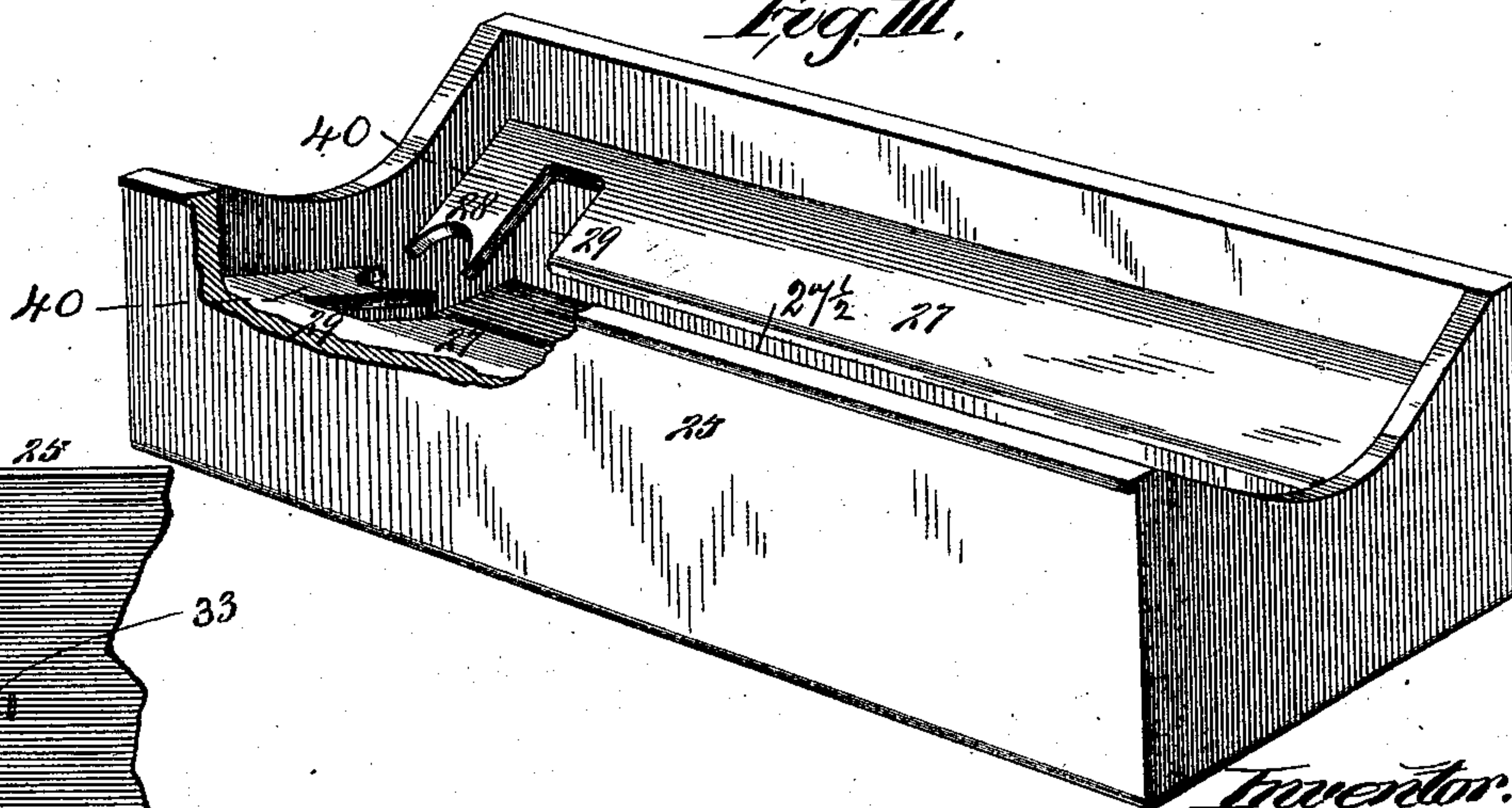


Fig. III.



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Atty's.

UNITED STATES PATENT OFFICE.

JOHN H. SURTIN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF TWO-THIRDS TO
ROBERT McCULLOCH AND WILLIAM SUTTON, OF SAME PLACE.

OIL-DRAWER JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 517,776, dated April 3, 1894.

Application filed March 26, 1892. Serial No. 426,556. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. SURTIN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Oil-Drawer Journal-Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an oil-drawer journal box especially for use on cars of street and other railways, in which, by the removal of the cap or dropping the same on its hinges, the journal and the whole front of the journal box and oil-drawer are opened up, both for cleansing and oiling; and in which the oil-drawer itself can be easily withdrawn to facilitate the cleansing of the parts, and the cooling of hot journals, and in which said journal oil-drawer, being distinct from the journal-box, is in case of leakage or injury replaced by another oil-drawer, without the delay and loss of the removal and replacement of the whole journal-box and the invention consists in features of novelty herein after fully described and pointed out in the claims.

Figure I is a vertical, longitudinal section, taken on line I—I Fig. II, and shows the journal box, the journal in its bearings, the oil-drawer, the felt blocks from said drawer to said journal, with the cap to said journal-box. Fig. II is a vertical, transverse section, taken on line II—II, Fig. I, and shows the journal box, the journal in its bearings in said box, the felt blocks in the lubricant, which felt blocks reach in contact with the journal; the surmounting check-plate, the lower arc edge of which check-plate extends within the circumferential groove of said journal, and the set-screws that fasten said check-plate in its true position. Fig. III is a perspective view of the oil-drawer, and its inclined flanges that arrest the upward spray of the lubricant from the rotation of the journal, and return the oil drip that has been elevated by said journal and drops therefrom, to the oil tank of the drawer; the said drawer has part broken away to show the aperture for seating the front felt block and the circular opening for the passage of lubricant into the oil tank. Fig. IV is a front elevation of the cap of the jour-

nal-box, and shows the anti-rattler elastic cushions respectively on said cap and on the end of the drawer to quell the transmission of the vibratory movement from the journal box to the oil-drawer. Fig. V is a perspective detail elevation of the journal-box, and shows the journal-box cap and its screw attachment; and Fig. VI is a perspective detail elevation of a modification of the journal-box, in which the cap instead of being removable is hinged to the box at the bottom and when closed is fastened by a set-screw at the top.

Referring to the drawings:—1 represents the body of the journal-box, and 2 is the front closure cap, whose surmounting rear extension 3, has an incline 3^a which rests on a corresponding incline 4 formed on the upper front corner of the body, to bear the main weight of said cap, and 5 are the side flanges that reinforce the joint of said cap on its seat on the body, to keep the same from twisting and make it dust tight.

6 represents registering, perforate screw threaded lugs that alike respectively project from the sides of the body, and from the edges of the cap, and 7 are set-screws that are respectively screw seated in said corresponding lugs, and thus securely attach the cap to the body.

8 represents perforate hingelugs which may be screw threaded or otherwise; which lugs respectively project from the bottom of the body and from the bottom edge of the cap in corresponding positions in the modification shown in Fig. VI, and 9 are pivot-pins or screws that are seated and secured in said respective perforate lugs and complete the hinge attachment of said cap to said body.

10 represents a screw perforate lug that projects rearward from the top of said cap; 11 is a perforate flange in corresponding position in the top of the body, and 12 is a set-screw seated in said lug and in said screw perforate flange for fastening said hinged cap in its closed position. Bolts 35 secure felt lining 36 within the cap 2.

13 represents the journal, 14 the brass on which said journal has its main bearings, and 15 the underlying bearings.

16 represents the annular retention groove

in the journal and 17 is a surmounting check-plate or key piece, which is seated in the channel grooves 18 in the inside of the body, behind the projecting brackets 19 above said
 5 annular groove in the journal, whose arc-curved lower edge 20 sits lightly within said annular groove and is vertically adjusted, and held to said adjustment by the set-screws 21, which are respectively seated and turned
 10 to the setting position in their peripheral screw seats 22 in the flanges 23 on the inside of the body, so as to secure said check plate in its adjusted position, and 24 are jam-nuts that reinforce the hold of said screws to their
 15 seat to prevent their rattling loose. It will be seen that when said check plate wears, it can be easily taken out, trued up, replaced and re-secured by said set screws in its re-adjusted position, when the front plate 2 is
 20 removed.

25 represents the oil-drawer, which when the cap 2 has been removed, can be withdrawn from its seat 26 on the bottom of the journal box, for cleansing of said oil-drawer,
 25 for refilling with lubricant, for cleaning of the journal and its bearings, or for any other of the numerous causes that too often require the complete removal of the journal box, and the consequent withdrawal of the
 30 car from the track.

27 represents the inclined side flanges, located within the drawer at a distance beneath the top of the drawer, which descend from the sides within said drawer. The under
 35 sides of the flanges arrest the efflux of the oil from the drawer under the influence of the rotary movement of the journal, and the inclined upper sides tend to reinstate the oil at its normal level, which oil may have surged
 40 upward under the influence of said rotating journal.

28 represents curved openings in the elongated extensions 40 at the outer ends of said inclined flanges 27, through which openings
 45 the oil or lubricant is supplied to the oil-drawer.

29 represents transverse slots reaching more than half way across on the inside of said inclined side flanges 27, and 30 is a front felt
 50 block that is seated vertically in said transverse slots and the upper curved arc edge 31 of which fits in the annular groove 16 of the journal 13, and by capillary attraction and the suction from the rotary movement of the
 55 journal the block draws up oil from the drawer 25 and administers it to the journal.

30½ are two side felt blocks as shown in Fig. I and in broken lines in Fig. II. These side felt blocks are generally one half inch
 60 thick and extend down through the longitudinal opening 27½ into the drawer and upwardly so as to lap the journal as shown in Fig. II.

32 represents anti-rattler cushions that are
 65 respectively secured by the bolts 33 in corresponding positions on the outer end of said

oil-drawer 25 and on the inside of said cap 2; and said anti-rattler cushions serve to quell the vibration and jarring of the oil-drawer. While I have shown and prefer to use both
 70 of said anti-rattler cushions, yet one may be used by itself, especially if made of sufficient thickness and have largely the same effect. When only one of said cushions is used it may be attached to either the outer end of the oil-
 75 drawer or in an opposite position to the inside of the cap.

By the removal of the oil-drawer 25, and the adjustable check plate 17, every facility is offered for reaching the journal 13, for
 80 cleansing and inspecting its condition.

By the provision of the central aperture formed by the openings at front end of the oil-drawer for the replenishing of oil to said
 85 drawer, the fresh lubricant is supplied, so as to give new effective lubricating ability to the partially worn out oil evenly throughout both sides of the drawer tank, whereas when the supply as usual is effected from one corner of said tank, much of the old worn out
 90 oil is not revived thereby.

34 are horizontal beads that project internally from the inner sides of the body immediately above the oil-drawer. The beads
 95 guide the oil from the journal into the drawer.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of the body 1 formed with an incline 4, the cap 2 formed with side
 100 flanges 5, and with rearward extension 3 having an incline 3^a resting on the incline of the brow and means by which the cap is secured to the body; substantially as described.

2. The combination of the body 1 having
 105 the channels 18, the check-plate 17, seated in the channel-grooves, having the arc curved base, the oil drawer for the lubricant having longitudinal flanges 27 provided with transverse slots 29, the front suction block 30 lo-
 110 cated in the slots, having arc curved surface 31 and the journal 13 having annular recess 16 receiving the check-plate and suction block, substantially as described.

3. The combination of the body 1, the oil-
 115 drawer 25 the cap 2 and the cushions 32 located between the oil-drawer and the cap; substantially as described.

4. A journal-oil-drawer having the inclined longitudinal flanges 27, providing a longi-
 120 tudinal opening 27½ between them, and the transverse slots 29, the side blocks, and the front block; substantially as described.

5. A journal oil-drawer having the inclined longitudinal flanges 27, located at a distance
 125 beneath the top of the drawer, providing a longitudinal opening 27½ between them and the transverse slots 29, and the side and front blocks substantially as described.

6. A journal oil-drawer having the inclined
 130 longitudinal flanges 27, providing a longitudinal opening 27½ between them, the trans-

verse slots 29 and the extensions 40, having openings 28 and the side and front blocks; substantially as described.

5 7. A journal oil-drawer having the inclined longitudinal flanges 27, providing a longitudinal opening $27\frac{1}{2}$ between them, the transverse slots 29 and the extensions 40, the side suction blocks $30\frac{1}{2}$ the front suction-block 30, located in the transverse slots, having an
10 arc-curved surface 31, substantially as described.

8. A journal oil-drawer having the inclined

longitudinal flanges 27 providing a longitudinal opening $27\frac{1}{2}$ between them, the transverse slots 29, and the extensions 40, having 15 openings 28 the front suction-block 30, located in the transverse slots, having an arc curved surface 31, and the side suction-blocks $30\frac{1}{2}$ located in the longitudinal opening; substantially as described.

JOHN H. SURTIN.

In presence of—

BENJN. A. KNIGHT,
SAML. KNIGHT.