

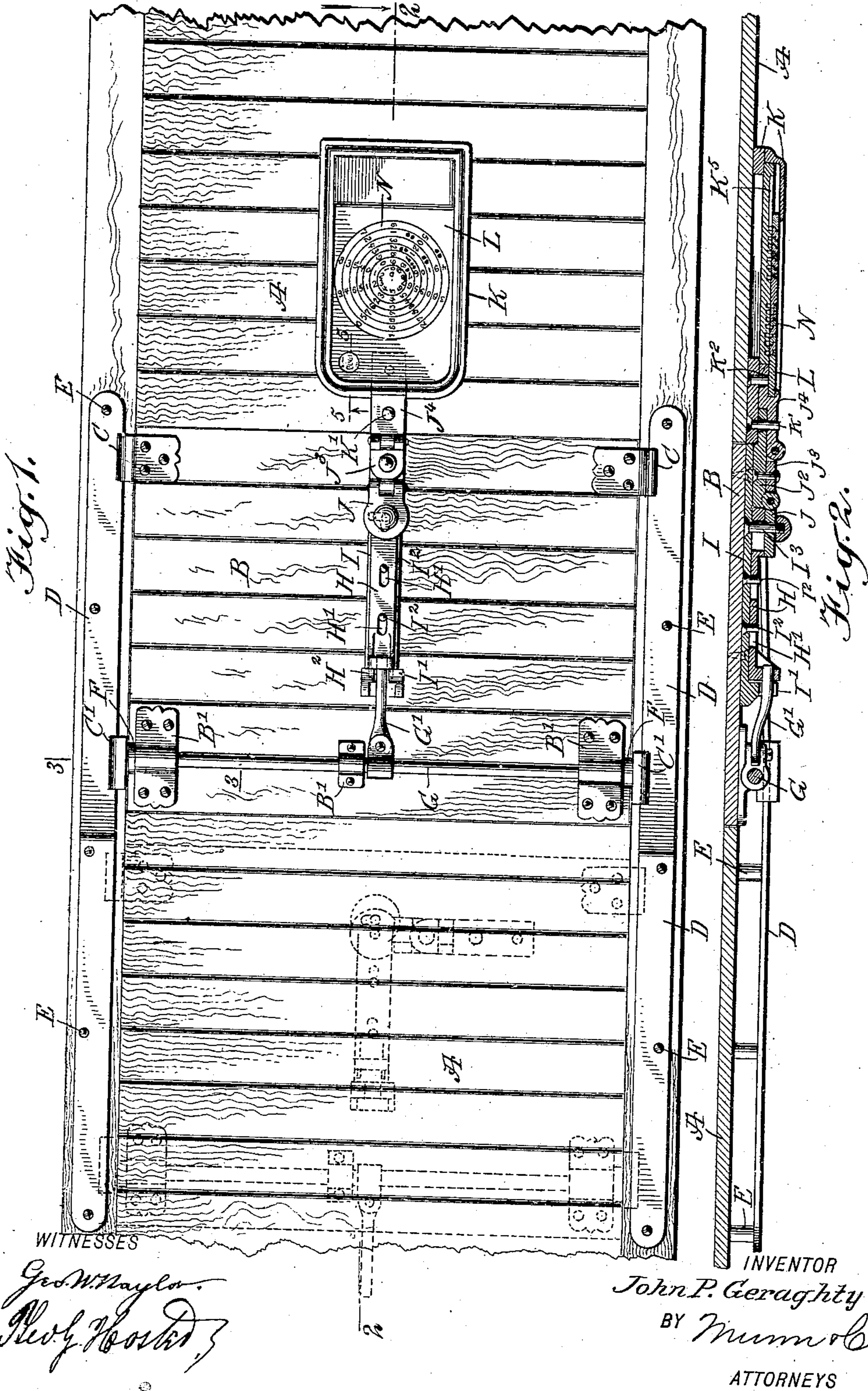
No. 875,576.

J. P. GERAGHTY.
LOCKING DEVICE.

PATENTED DEC. 31, 1907.

APPLICATION FILED MAR. 29, 1907.

2 SHEETS—SHEET 1.

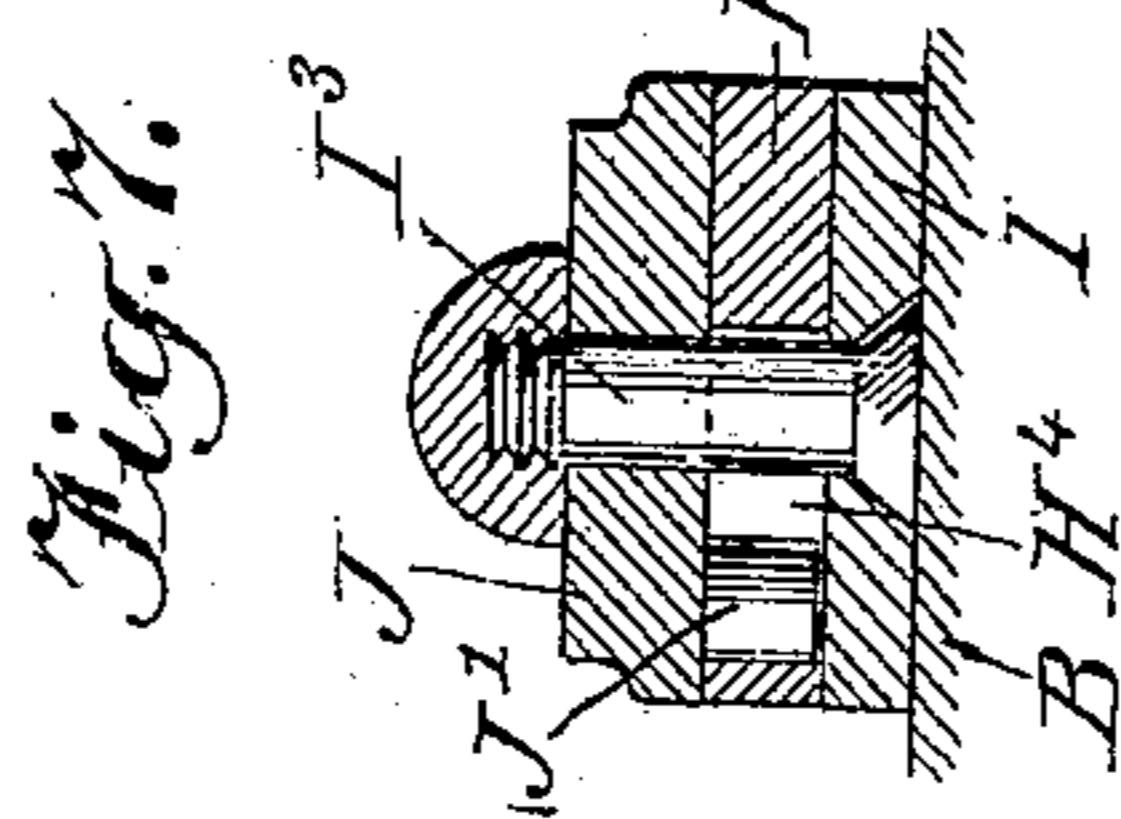
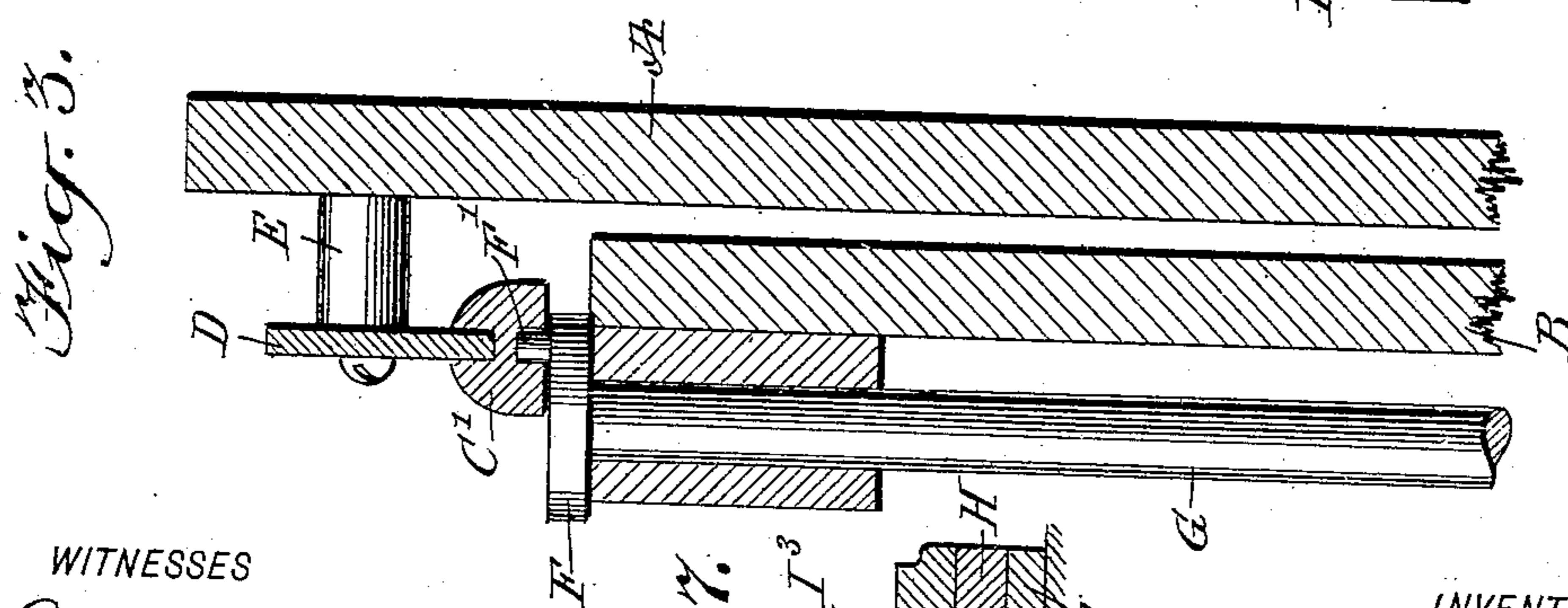
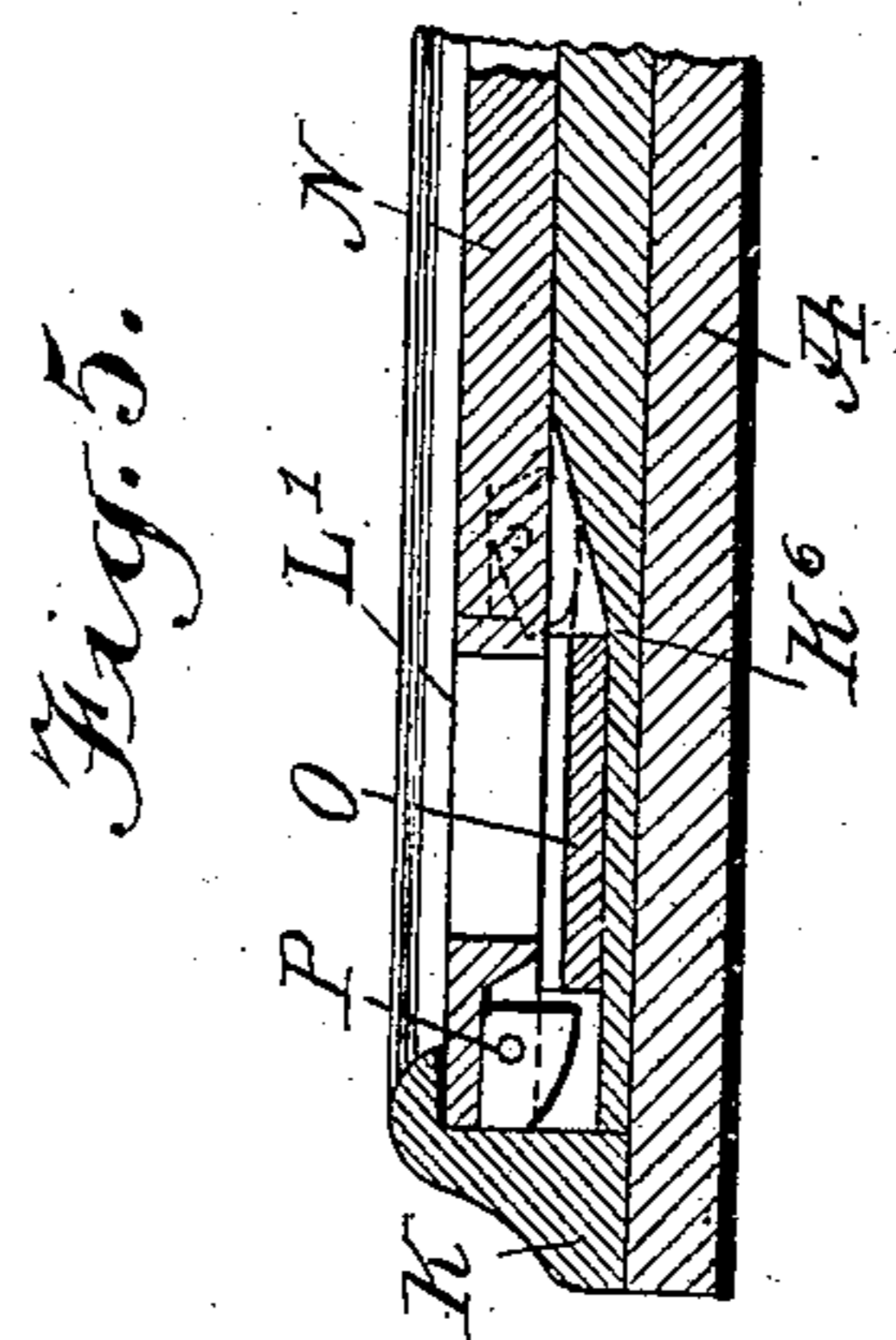
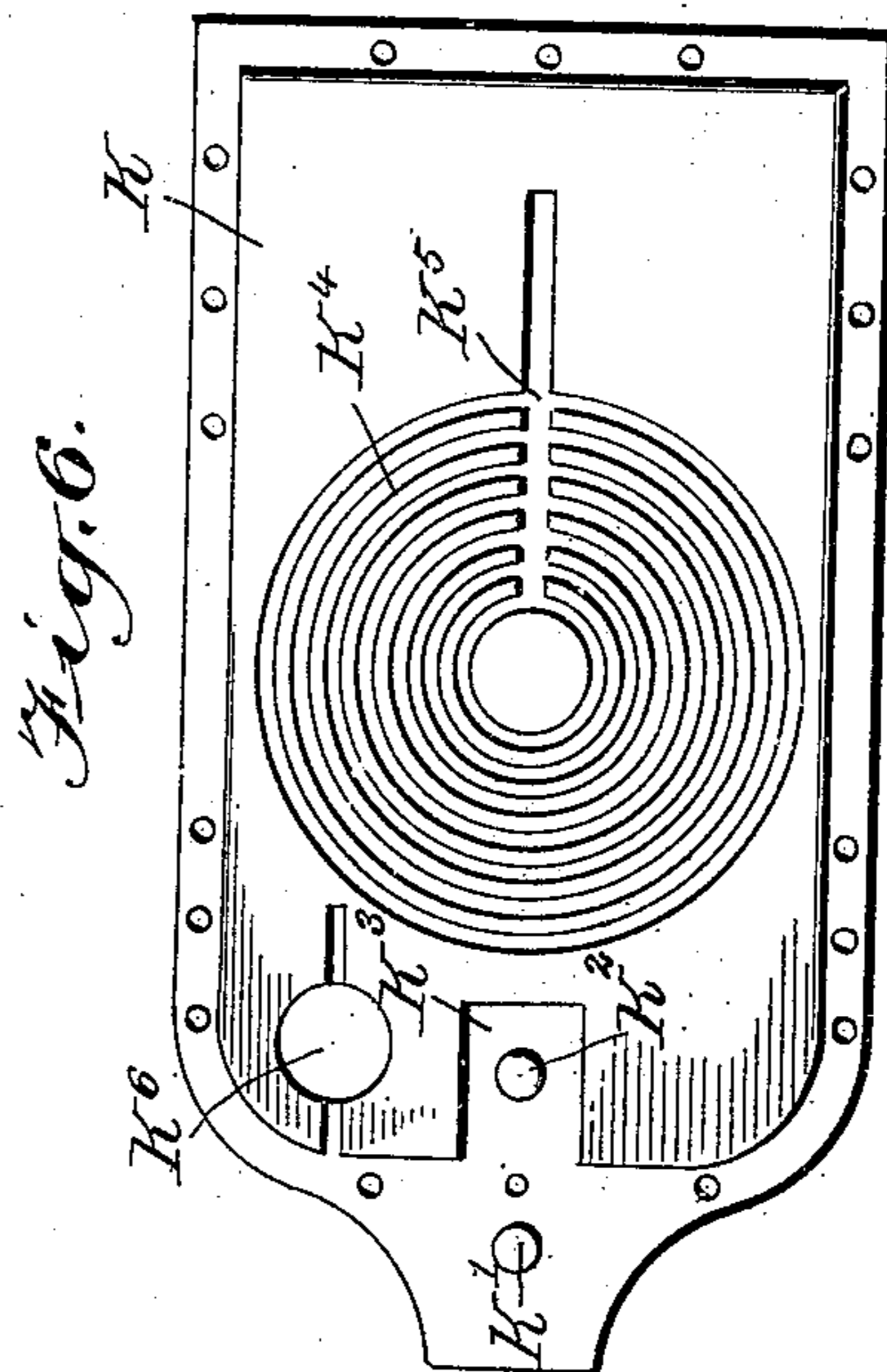
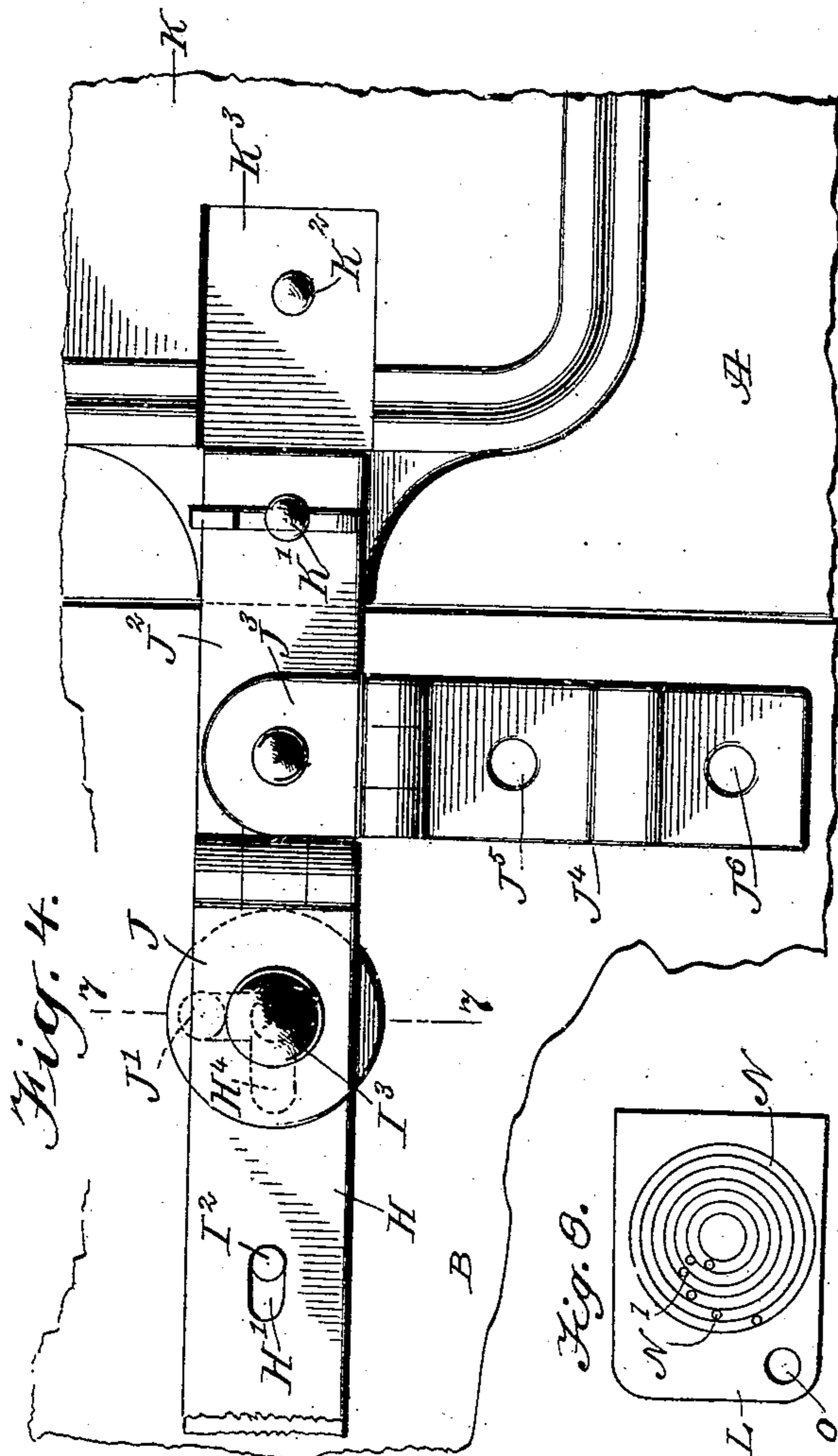


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2 SHEETS—SHEET 2.



WITNESSES

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ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN P. GERAGHTY, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF THIRTY ONE-HUNDREDTHS TO HIMSELF, FORTY ONE-HUNDREDTHS TO CHARLES H. GOOD, TWENTY ONE-HUNDREDTHS TO JOHN J. GOODLAD, AND TEN ONE-HUNDREDTHS TO EUGENE SULLIVAN, ALL OF JERSEY CITY, NEW JERSEY.

LOCKING DEVICE.

No. 875,576.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed March 29, 1907. Serial No. 365,331.

To all whom it may concern:

Be it known that I, JOHN P. GERAGHTY, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Locking Device, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved locking device for car doors and the like, arranged to securely hold the door locked, to permit of conveniently unlocking the door and sliding it lengthwise along the side of the car to uncover the door opening, and to allow ready inspection of the seal with a view of determining whether the lock has been tampered with or not while the car is in transit.

The invention consists of novel features and parts and combinations of the same, which will be more fully described herein-after and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied; Fig. 2 is a sectional view of the same, on the line 2—2 of Fig. 1; Fig. 3 is an enlarged transverse section of part of the improvement, on the line 3—3 of Fig. 1; Fig. 4 is an enlarged face view of the improvement, showing the slidable plate unlocked; Fig. 5 is an enlarged sectional view of the lock on the line 5—5 of Fig. 1; Fig. 6 is a face view of the lock frame or casing, Fig. 7 is an enlarged transverse section of part of the improvement, on the line 7—7 of Fig. 4, and Fig. 8 is a face view of the slide of the lock frame or casing, showing the tumblers of the lock.

The car door opening at the side of the car A is adapted to be closed by the car door B, provided at the top and bottom and near one end with shoes C, and shoes C' are arranged at the top and bottom of the car door B near the other end, and the said shoes C, C' slidably engage the longitudinally extending rails D secured to the side of the car and spaced from the face of the car by suitable spacing posts E, as plainly indicated in Figs. 1 and 2. The shoes C' are engaged by wrist

pins F' of cranks F, secured at the upper and lower ends of a vertically disposed shaft G 55 journaled in suitable bearings B' fixed on the car door B. On the shaft G, and preferably near the middle thereof, is secured a pivoted handle G' adapted to be taken hold of by the operator, to impart a turning motion to the shaft G with a view to cause the cranks F to move the door B transversely in or out of the car door opening whenever it is desired to close or open the door. When the door B is closed the handle G' extends in a longitudinal 60 direction, and its free end is adapted to be engaged by a sliding locking member or plate H mounted to slide lengthwise on a plate I secured to the car door B. As shown the plate H is provided with an angular and apertured end to receive the handle G'. On the left hand side of the plate I is formed a fork I', into which passes the handle G', so as to hold the same in longitudinal alinement for engagement by the plate H, as will be 75 readily understood by reference to Figs. 1 and 2. On the plate I are secured pins I² extending into elongated slots H' formed in the plate H, so as to guide the latter in its longitudinal movement when moving in or out of engagement with the free end of the handle G'. The left hand end of the plate H is provided with dowel pins H² engaging corresponding apertures in the fork I', to hold the plate H in proper position when closed, 85 that is, when engaging the free end of the handle G'.

The plate H is adapted to be moved in a longitudinal direction by an actuating device under the control of the operator, and for this purpose the plate I is provided with a fixed pivot pin I³ extending through the horizontal member of an L-shaped slot H⁴ formed in the right hand end of the plate H (see Figs. 4 and 7). Into the vertical mem- 95 ber of the slot H⁴ projects a pin J' formed on the rear face of an arm J mounted to turn on the pivot pin I³ and provided with a hinged extension J², on which is pivoted an arm J³ provided with a hinged locking arm J⁴ having apertures J⁵ and J⁶ adapted to engage 100 pins K' and K² held on the frame or casing K of a lock attached to the side of the car A, the lock being preferably a combination lock, as indicated in the drawings. The pin K' is also adapted to be engaged by the hinged ex- 105

tension J^2 , so as to hold the car door B against opening movement unless the extension J^2 is swung out of engagement with the pin K' . The locking arm J^4 on account of being hinged to the arm J^3 , and the latter being fulcrumed on the extension J^2 permits of swinging the locking arm J^4 over the extension J^2 and then swinging the locking arm J^4 rearwardly, to engage with its apertures J^5 and J^6 the pins K' and K^2 . The pin K^2 extends within a recess K^3 formed on the frame K of the lock, and the said recess K^3 is adapted to receive the free end of the locking arm J^4 , thus holding the car door B against longitudinal movement in addition to the extension arm J^2 . The free end of the locking arm J^4 is adapted to be covered by a slide L mounted to slide longitudinally in the frame or casing K, and in the said slide L are mounted to turn a plurality of concentric ring tumblers N provided at their front faces with spaced numerals, say from 0 to 9, and provided at their rear faces with pins N' projecting into corresponding concentric grooves K^4 formed on the frame K, as plainly indicated in Fig. 6. The grooves K^4 are intersected by a longitudinally extending groove K^5 , which also reaches beyond the outermost groove K^4 , as indicated in Fig. 6, and hence when the tumblers N are set to the proper combination then their pins N' register with the longitudinal groove K^5 , to permit of sliding the slide L from the left to the right into an open position, to free the locking arm J^4 or to permit of sliding the slide L from the right to the left, to cover the locking arm J^4 when the latter is in a locking position, that is, engages the pins K' and K^2 . Now when the locking arm J^4 is locked in place by the slide L, and one or more of the ring tumblers N is turned to move the corresponding pins N' out of the slot K^5 , then the slide L is held against movement, and consequently the locking arm J^4 is held in a locked position. Thus by the arrangement described, a lock is on the car and a movable keeper is mounted on the car door and is adapted to be locked against longitudinal movement by the lock on the car, and this keeper serves to lock the mechanism for moving the car door in a transverse direction in or out of the car door opening.

In order to enable a car inspector or other person to readily determine whether the lock has been tampered with or not during the time the car is in transit, a seal O is provided in the form of a disk, of paper or other material, and fitted into a recess K^6 formed on the frame K of the combination lock. The tumbler slide L is adapted to pass over the seal O and is provided with a small aperture L' for viewing the seal O by the inspector or other person. On the slide L at or near the left hand end thereof is arranged a pivoted cutter P, which cuts across the face

of the seal O when the slide L is shifted from the left to the right, that is, when the combination lock is opened, and hence an inspector can readily determine whether the combination lock has been tampered with as the seal O then will show a defacing mark produced by the cutter P on sliding the slide L into an open position as previously explained.

The operation is as follows: When the door B is locked in the car door opening, as illustrated in Figs. 1 and 2, and it is desired to open the door B, then the operator turns the ring tumblers N until they are set to a predetermined combination, to bring the pins N' in register with the longitudinal groove K^5 , and then the operator slides the slide L from the left to the right, so as to uncover the locking arm J^4 . The operator now swings the same out of engagement with the pins K' , K^2 and then swings the extension J^2 out of engagement with the pin K' , after which the operator by means of the extension J^2 and the locking arm J^4 imparts a turning motion to the pivoted arm J, so that the pin J' thereof in traveling in the vertical member of the groove H^4 of the plate H, causes a sliding of the latter from the left to the right, to disengage the free end of the handle G' . The operator now takes hold of the handle G' and swings the same forward, to cause a turning of the shaft G and cranks F, whereby the latter swing the left hand end of the car door B outward out of the car door opening, to permit the operator now to shift the door B from the right to the left, the door traveling on the shoes C, C' engaging the rails D. The portion of the rails D at the car door opening are oblique to the face of the car, so that the rear shoes C lift the right hand end of the car door B out of the car door opening when the car door B is pushed from the right to the left into an open position. When it is desired to close the car door B, the latter is pushed from the left to the right until it reaches a position opposite the car door opening, and then the operator swings the handle G' back into the position shown in Fig. 1, that is, engages the same with the fork I' , and by this movement the shaft G and the cranks F are turned to move the car door B inwardly into the door opening of the car. The operator now by means of the extension J^2 and the locking arm J^4 turns the arm J, so as to cause the plate H to slide from the right to the left and engage the free end of the handle G' . The extension J^2 and the locking arm J^4 are then engaged with the corresponding pins K' , K^2 , after which the slide L is moved from the right to the left, to cover the free end of the locking arm J^4 , and then the operator turns one or more of the ring tumblers N to close the combination lock. Previous to moving the slide L into a closed position, the seal O is placed into the recess K^6 , and when the

slide L is moved into a closed position then the cutter P rides freely over the face of the seal O without marring the same, the cutter P moving into a left hand side position relative to the seal O, as indicated in Fig. 5.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a locking device for doors and the like, a fixed plate adapted to be secured to a support, a movable member supported on the fixed plate for locking the operating device of a door, an actuating device for the movable member, a lock, and means connected with the actuating device and controlled by the lock for locking the actuating device.

2. In a locking device for doors and the like, a fixed plate adapted to be secured to a support, a slidable member supported on the fixed plate for locking the operating device of a door, an actuating device for the slidable member, a lock, and means connected with the actuating device and controlled by the lock for locking the actuating device.

3. The combination with a lock, of a sliding plate for securing the handle of a door operating device, a pivoted arm engaging the plate to impart a sliding movement thereto, and a locking arm connected with the pivoted arm and adapted to be locked in place by said lock.

4. The combination with a lock, of a plate mounted to slide and having one end constructed to engage and secure the handle of a door operating device, and a pivoted arm engaging the said plate to impart a sliding motion to the same, the said arm having a hinged handle adapted to be engaged by the said lock.

5. The combination with a lock, of a plate

for locking the handle of a door operating device, said plate being mounted to slide and provided with a slot, and a pivoted arm provided with a pin engaging the slot of the plate, said arm having a member adapted to be locked in place by the lock.

6. The combination with a lock, of a base plate, a plate for locking the handle of a door operating device, said door being mounted to slide on the base plate and provided with an L-shaped slot, a pivot pin secured to the base plate and projecting through the horizontal member of the slot of the sliding plate, an arm fulcrumed on the said pivot pin and provided with a pin working in the vertical member of the said slot, and means for locking the arm in position by the lock.

7. The combination with a lock having a sliding member, of a sliding plate for locking the handle of a door operating device, and a pivoted arm engaging the plate to slide it, said arm having a pivoted member adapted to engage the lock case and to be engaged by the slidable member of the lock.

8. The combination with a lock having a slidable member, of a sliding plate for locking the handle of a door operating device, and a pivoted arm engaging the plate to slide it, said arm having a hinged section adapted to engage the lock case and provided with a pivoted handle adapted also to engage the lock case and to be engaged by the slidable member of the lock.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN P. GERAGHTY.

Witnesses:

THEO. G. HOSTER,

EVERARD B. MARSHALL.