

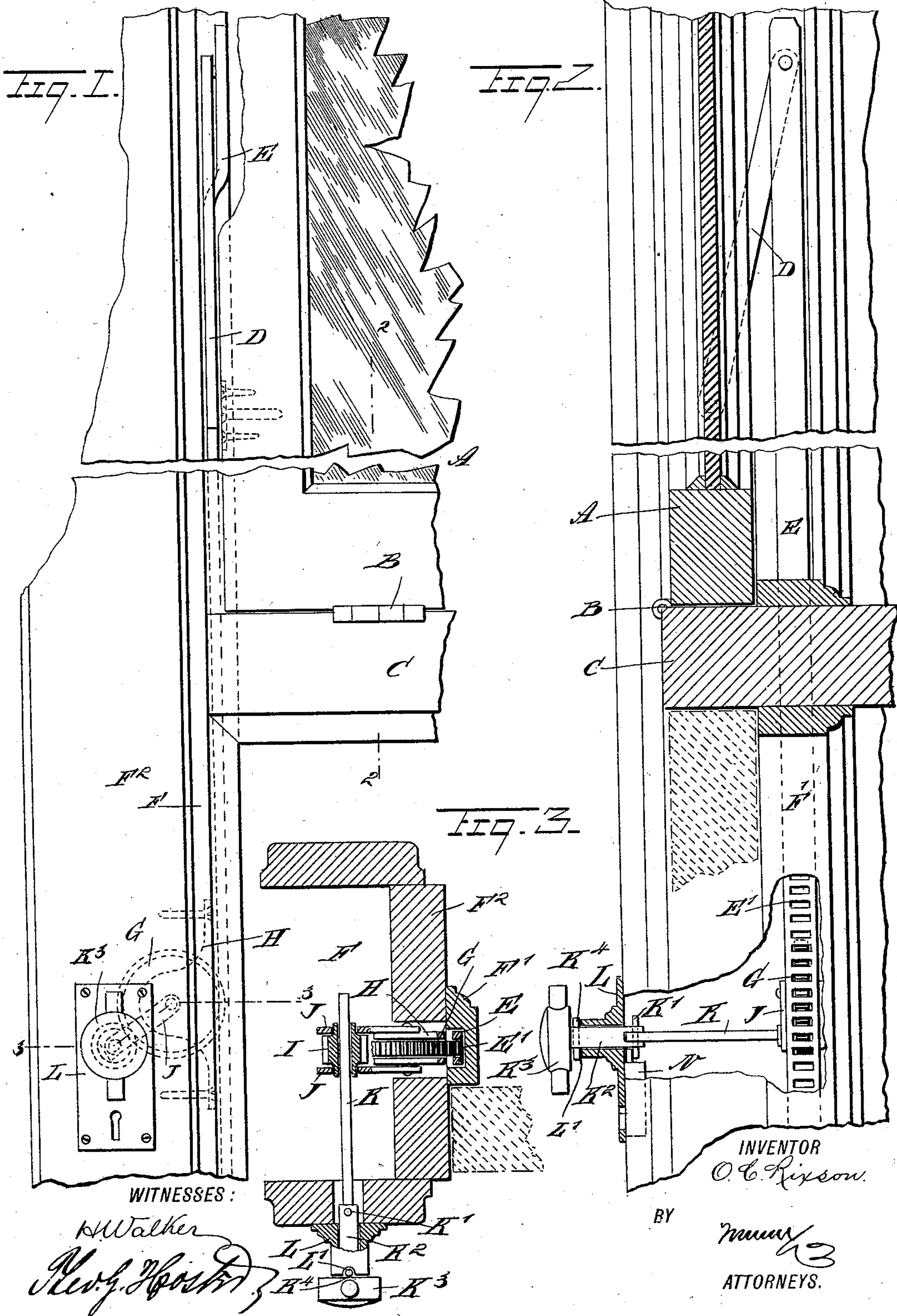
(No Model.)

2 Sheets—Sheet 1.

O. C. RIXSON.
TRANSOM LIFTER.

No. 601,104.

Patented Mar. 22, 1898.



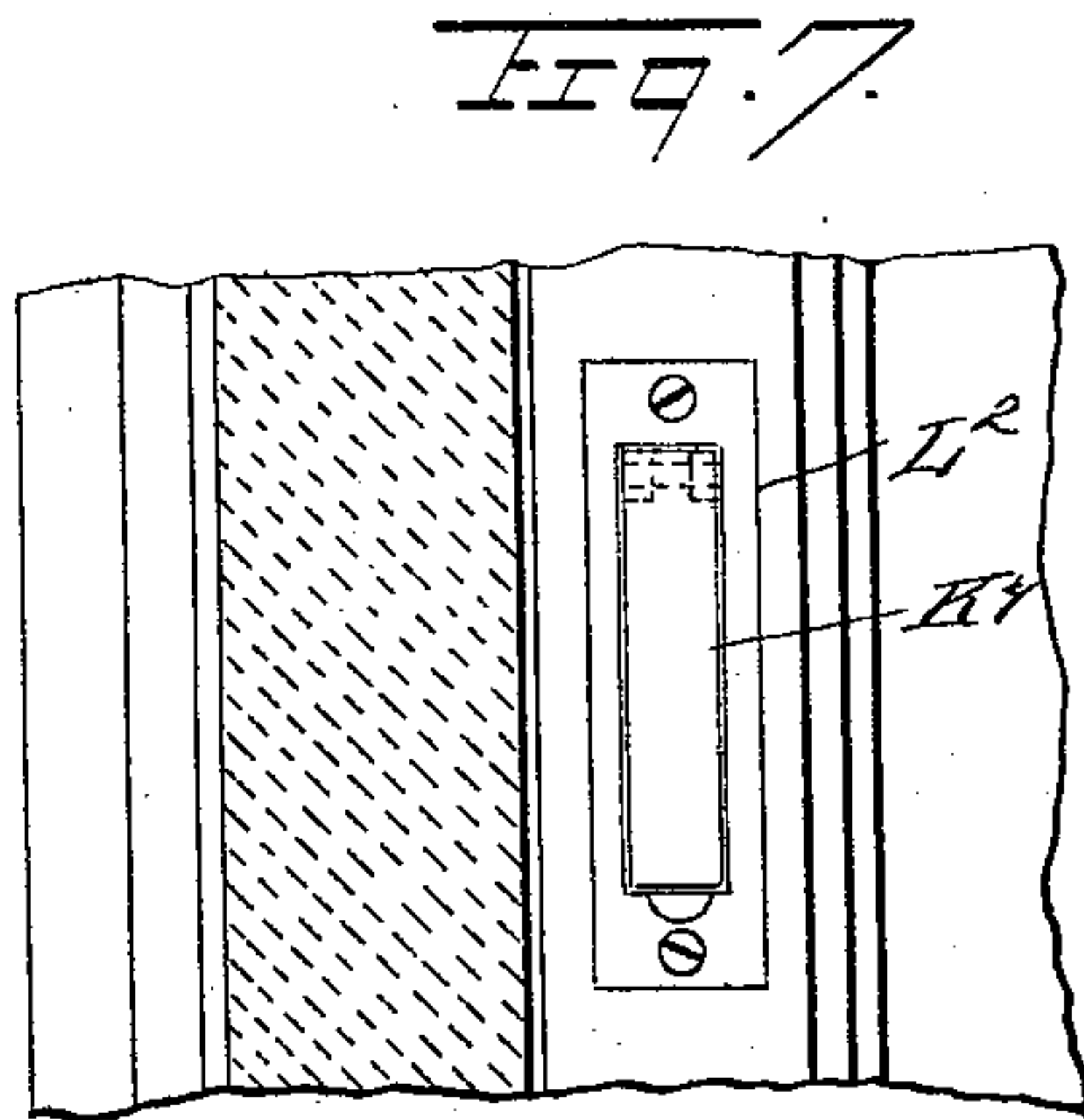
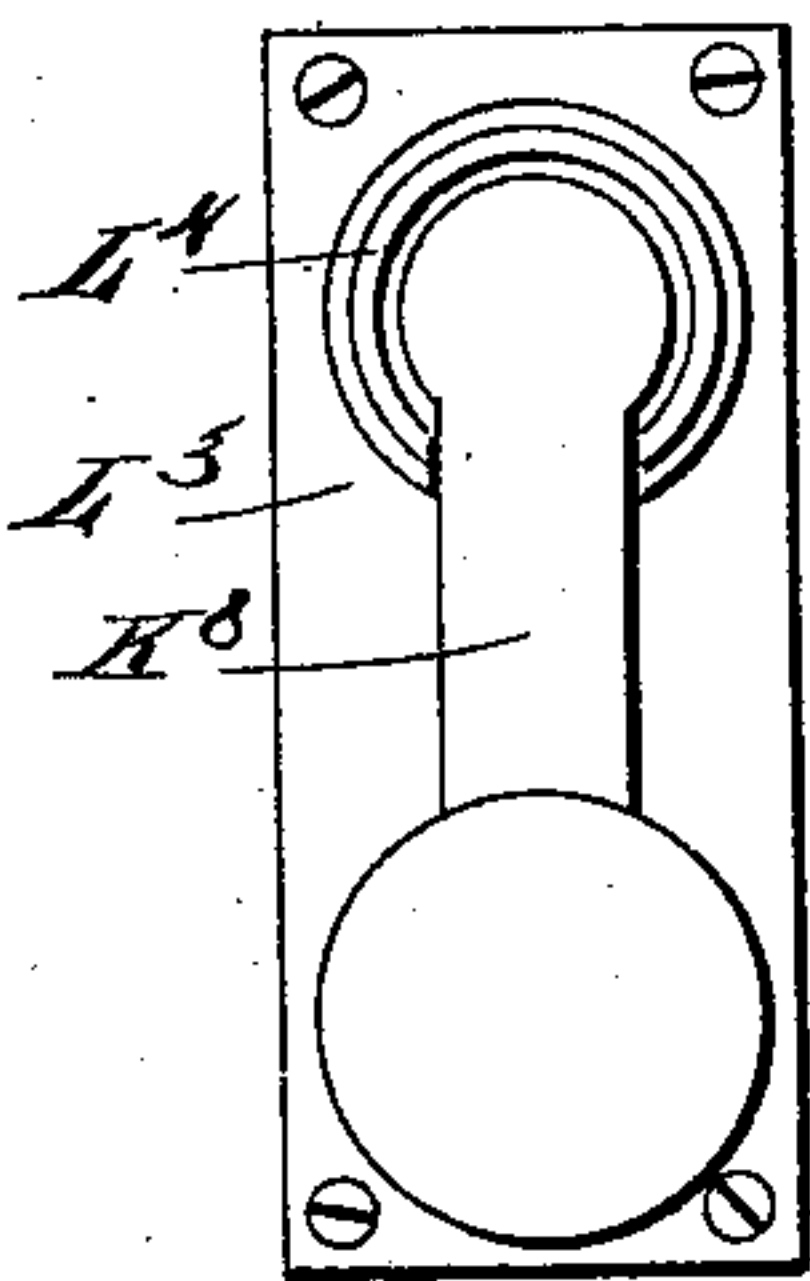
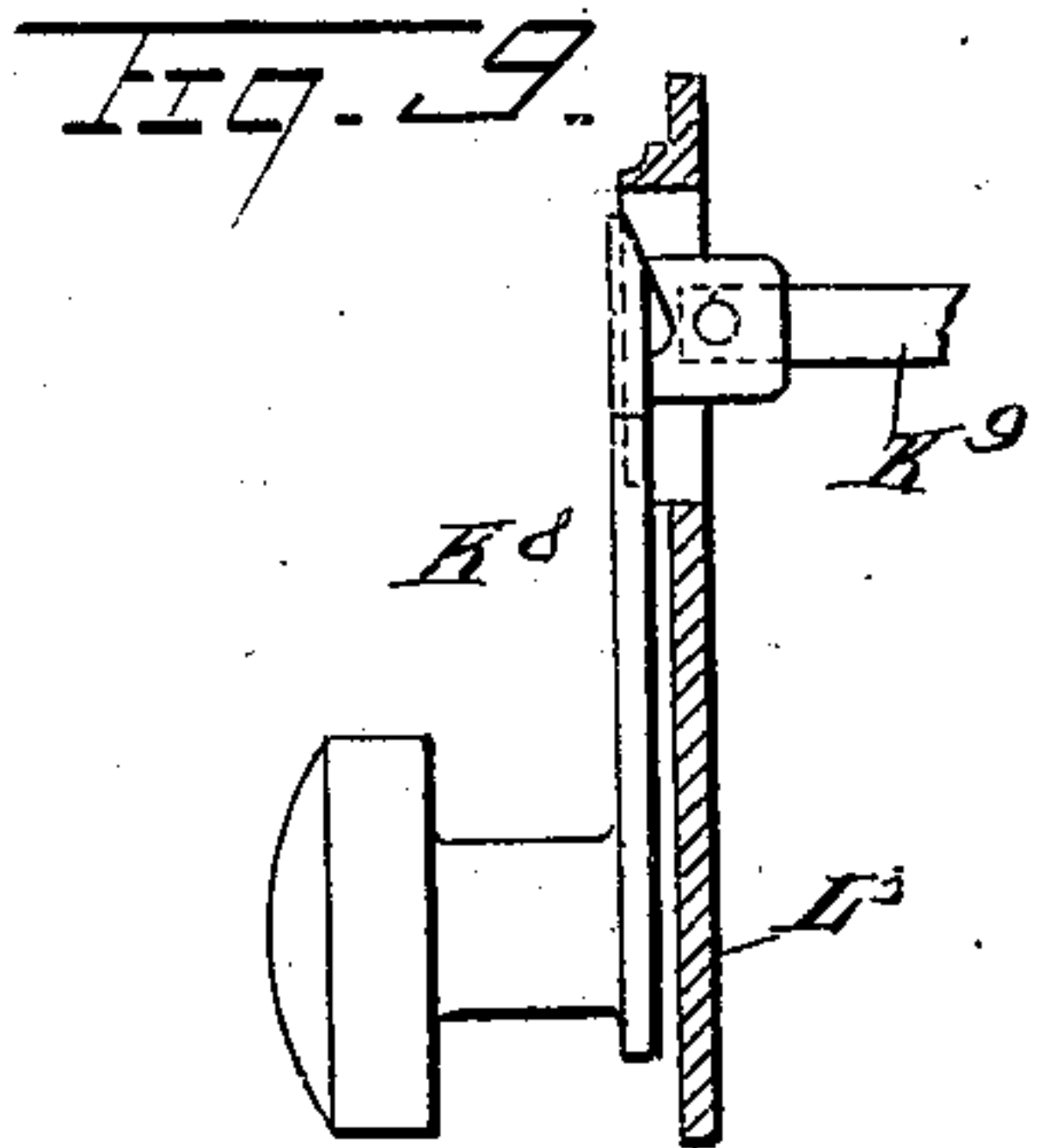
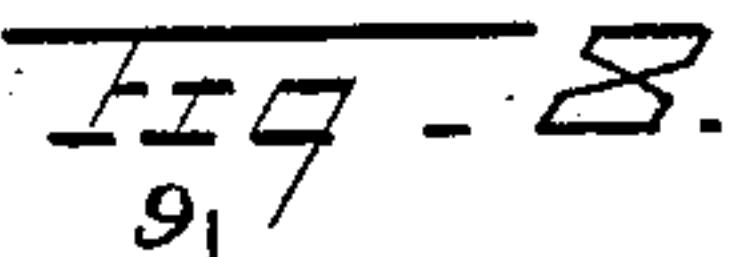
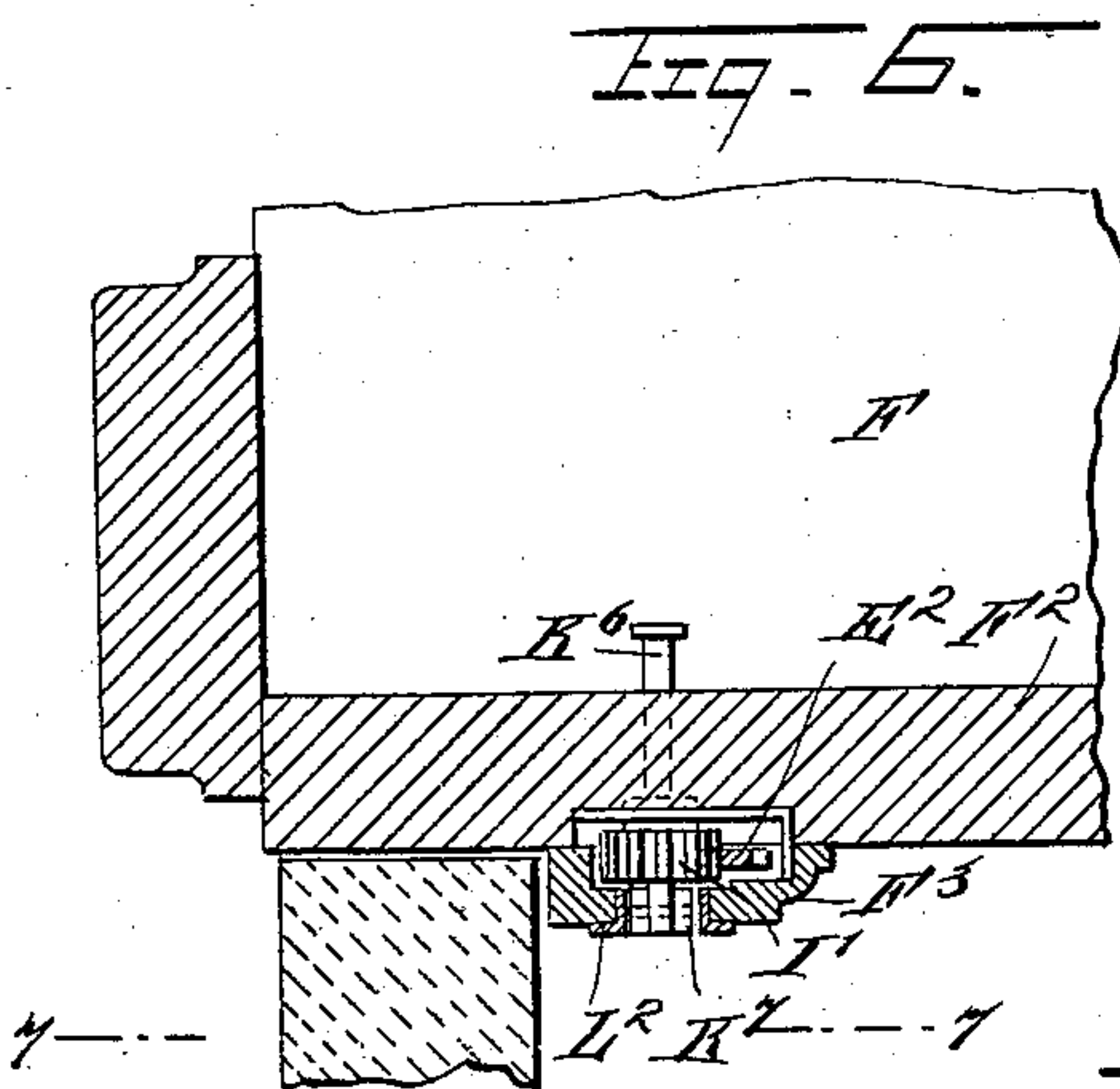
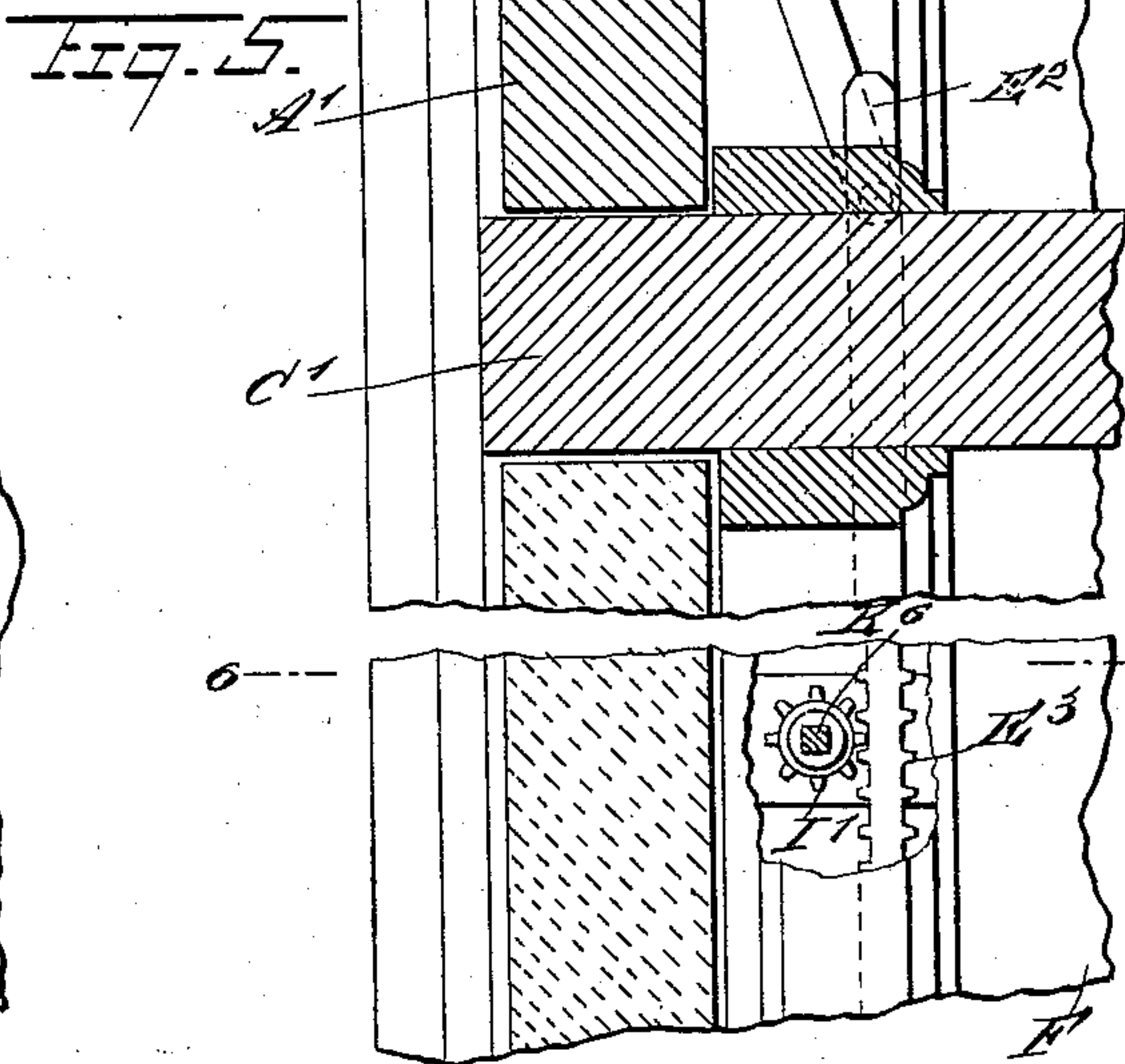
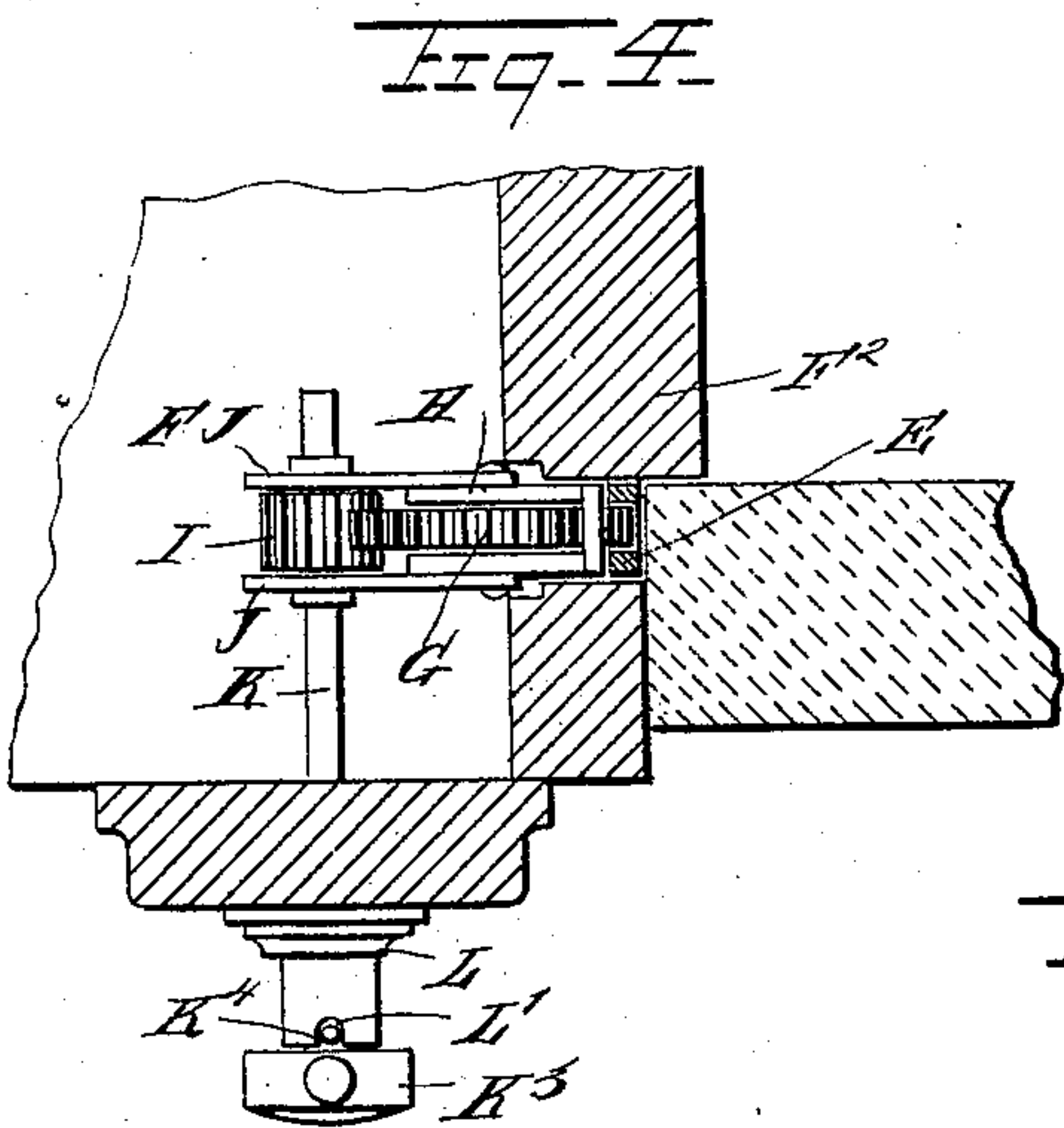
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

OSCAR C. RIXSON, OF CHICAGO, ILLINOIS.

TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 601,104, dated March 22, 1898.

Application filed February 15, 1897. Serial No. 623,446. (No model.)

To all whom it may concern:

Be it known that I, OSCAR C. RIXSON, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Transom-Lifter, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved transom-lifter which is simple and durable in construction, easily manipulated, applicable to transoms hinged either at the top, middle, or bottom, and arranged so as to be completely hidden from view.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improvement with parts broken out and applied to a transom hinged at the bottom. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1 and with parts broken out. Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 1. Fig. 4 is a similar view of the improvement, showing the rack-bar arranged in the door-jamb. Fig. 5 is a transverse section of the improvement as applied to a transom hinged at the middle or top. Fig. 6 is a sectional plan view of the same on the line 6 6 of Fig. 5. Fig. 7 is a sectional front view of the same on the line 7 7 of Fig. 6. Fig. 8 is a front elevation of a handle for a heavy transom, and Fig. 9 is a transverse section of the same on the line 9 9 of Fig. 8.

In the arrangement shown in Figs. 1, 2, and 3 the transom A is connected at its lower end by a hinge B with a transom-bar C, and one of the sides of the said transom is pivotally connected by a link D with a vertically-disposed rack-bar E, fitted to slide in a suitable guideway formed in the door-casing F—for instance, as shown in Fig. 3 in the door-stop F' and as shown in Fig. 4 in the door-jamb F²—but in such a manner that the bar is completely hidden from view. The lower end of the rack-bar E is provided with rack-teeth E', in mesh with the gear-wheel G, journaled in a suitable casing H, attached to the door-casing, preferably the jamb F², and this gear-wheel G is in mesh with a pinion I, journaled on arms J, fulcrumed loosely on the shaft for the

gear-wheel G. The polygonal bore of the pinion I is loosely engaged by a correspondingly-shaped spindle K, fitted to slide in the said pinion and adapted to turn the same, so as to rotate the gear-wheel G to move the rack-bar E up or down to cause a swinging of the transom A into a closed or open position by means of the link D. The spindle K is pivotally connected by a pin K' with an enlarged spindle part K², mounted to turn and to slide in an escutcheon L, secured to the door-casing, and on the extreme outer end of this spindle part K² is arranged a handle K³, adapted to be taken hold of by the operator to pull the spindle K outward and to turn the same in the escutcheon L to rotate the pinion I, as previously explained. On the spindle part K² is arranged a lock-pin K⁴, adapted to engage notches L' formed in the outer end of the escutcheon L, so as to lock the spindle in place to prevent the same from being turned without first pulling the spindle outward, as before mentioned.

Now by reference to Figs. 2 and 3 it will be seen that when the lock-pin K⁴ is in engagement with the notches L' the pin K' extends a suitable distance from the inner face of the escutcheon L, and when the operator desires to open or close the transom A he first pulls on the handle K³ to move the pin K⁴ out of the notches L', the outward movement being limited by the pin K' moving against the inner face of the escutcheon L. When it is desired to lock the device in place against operation by any unauthorized person, I provide a lock N on the lower portion of the escutcheon L, and the bolt of this lock is adapted to shoot into the path of the pin K', when the latter is in an outermost position, to prevent the spindle K from being turned.

In the modified forms shown in Figs. 5, 6, and 7 the transom A' is hinged at its upper end or at the middle to the transom-casing, and one side of the transom is pivotally connected by the link D' with the rack-bar E², formed at its lower end with teeth E³, directly engaged by a pinion I', engaged by a spindle K⁶, carrying a handle K⁷, normally resting in a recess formed in the escutcheon L², but fitted to be swung outward to permit the operator to turn the spindle K⁶, so as to

revolve the pinion I' to impart an up-and-down sliding motion to the rack-bar E², so as to open and close the transom A'.

As shown in Fig. 6, the rack-bar E² is fitted to slide in the door-stop F³, and the spindle K⁶ is journaled in a suitable casing attached to the jamb F² of the door-casing and is free to slide laterally to allow the turning of the handle K⁷, as before explained.

As shown in Figs. 8 and 9, the handle K⁸ is pivotally connected with the spindle K⁹ and normally engages a slot in an annular offset L⁴, formed integrally on the front face of the escutcheon L³. When it is desired to turn the spindle K⁹, the operator first swings the handle K⁸ into an angular position and then pulls out the spindle K⁹, so that the handle clears the outer edge of the projection L⁴ when turning the handle for imparting a rotary motion to the spindle K⁹ and the pinion for operating the rack-bar.

Now by the arrangement described the rack-bar is completely hidden from view and is not liable to be broken and does not form an unsightly obstruction on the outside of the door-casing, as is frequently the case with transom-lifters heretofore constructed.

By having the arms J carrying the pinion I, I am enabled to engage the pinion at any desired portion of the gear-wheel G, so as to bring the spindle K into the proper position for the escutcheon, so that the latter can be secured at the proper place to the door-casing, it being understood that the swinging of the arms J to the desired position does not move the pinion out of mesh with the gear-wheel G.

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

1. In a transom-lifter, the combination with a guideway within the door-casing, of a rack-

bar mounted to slide in the said guideway, a link pivotally connecting the rack-bar with the transom, a gear-wheel in mesh with the said rack-bar, a pinion in mesh with the said gear-wheel, and a spindle engaging the said pinion and under the control of the operator, substantially as shown and described.

2. In a transom-lifter, the combination with a guideway within the door-casing, of a rack-bar mounted to slide in the said guideway, a link pivotally connecting the rack-bar with the transom, a gear-wheel in mesh with the said rack-bar, a pinion in mesh with the said gear-wheel, a spindle engaging the said pinion and under the control of the operator, and means substantially as described, for locking the said spindle in place, as set forth.

3. A transom-lifter provided with a rack-bar connected by a link with the transom, a gear-wheel in mesh with the said rack-bar, a pinion in mesh with the said gear-wheel, arms fulcrumed on the shaft of the said gear-wheel and forming bearings for the said pinion, and a spindle engaging the said pinion for turning the latter, substantially as shown and described.

4. A transom-lifter provided with a rack-bar connected by a link with the transom, a gear-wheel in mesh with the said rack-bar, a pinion in mesh with the said gear-wheel, arms fulcrumed on the shaft of the said gear-wheel and forming bearings for the said pinion, a spindle engaging the said pinion for turning the latter, and an escutcheon in which the said spindle is mounted to turn and to slide, substantially as shown and described.

OSCAR C. RIXSON.

Witnesses:

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W. A. BALCH.