(No Model.) 3 Sheets—Sheet 1.

D. E. HUNTER.

DEVICE FOR LOCKING DRAWERS OF CABINETS.

No. 591,552. Patented Oct. 12, 1897.

Fig. 1.

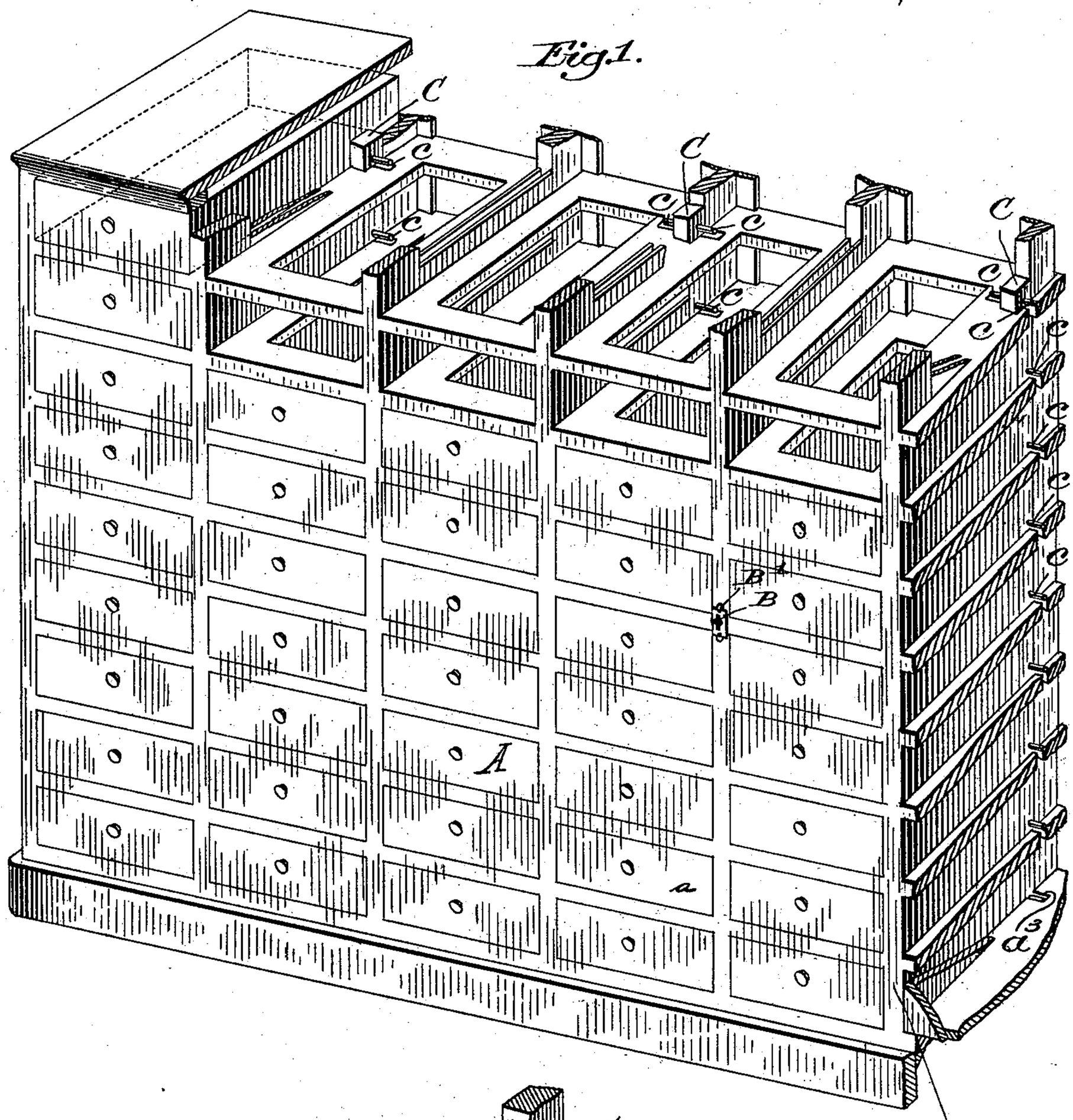
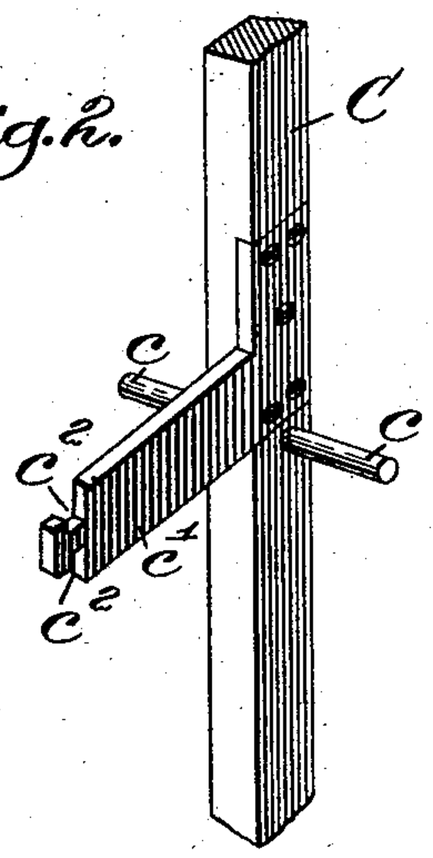


Fig. 2.



Witnesses.
Fred. S. Grunleaf.
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Inventor:
David E. Hunter
By Crosby Gregory, Attys.

(No Model.) 3 Sheets—Sheet 2.

D. E. HUNTER.

DEVICE FOR LOCKING DRAWERS OF CABINETS.

No. 591,552. Patented Oct. 12, 1897.

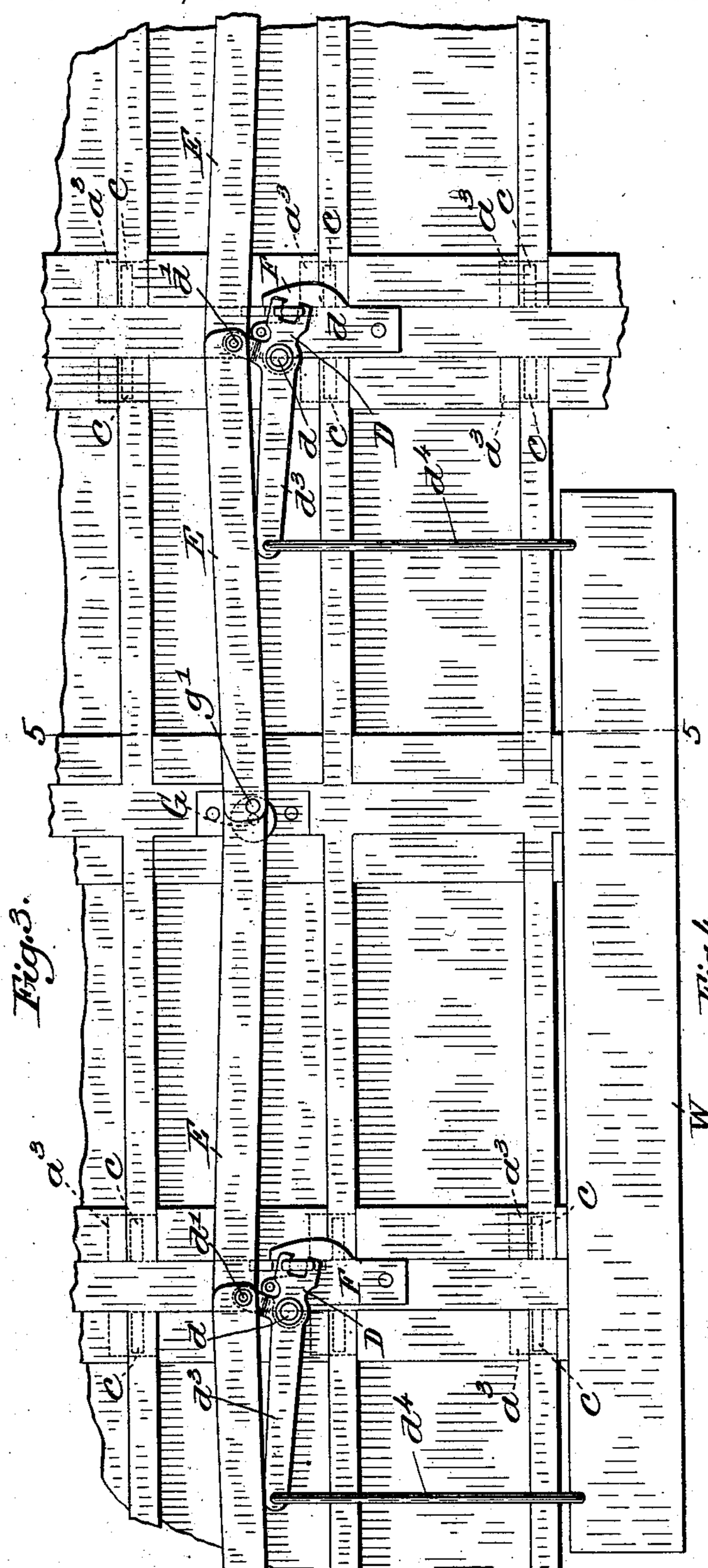

Fig. 3.

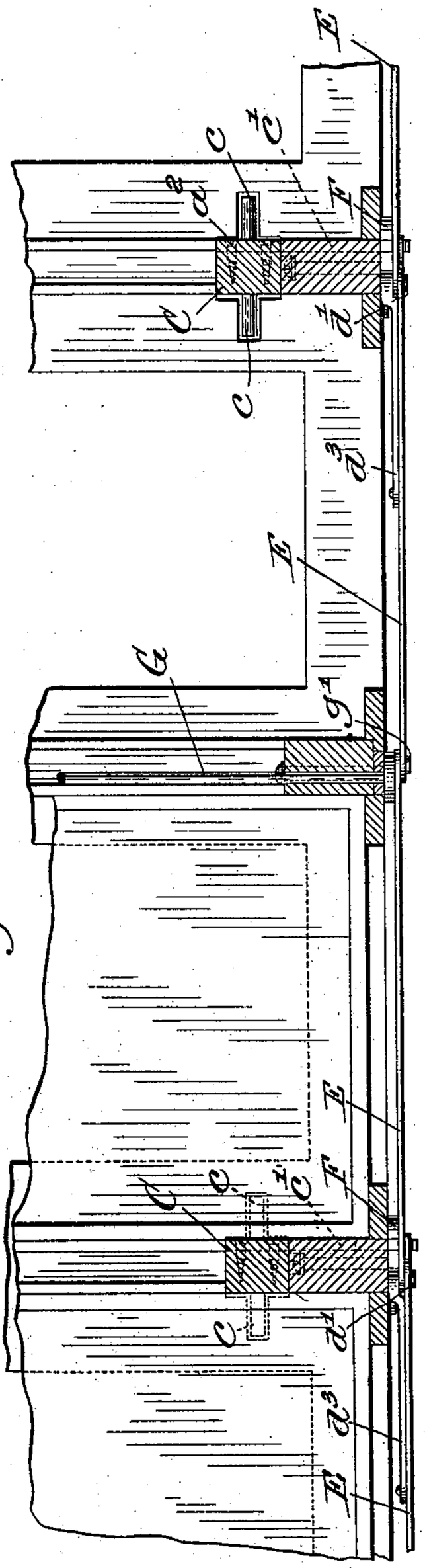

Fig. 4.

Witnesses.
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(No Model.) 3 Sheets—Sheet 3.

D. E. HUNTER.

DEVICE FOR LOCKING DRAWERS OF CABINETS.

No. 591,552. Patented Oct. 12, 1897.

Fig. 5.

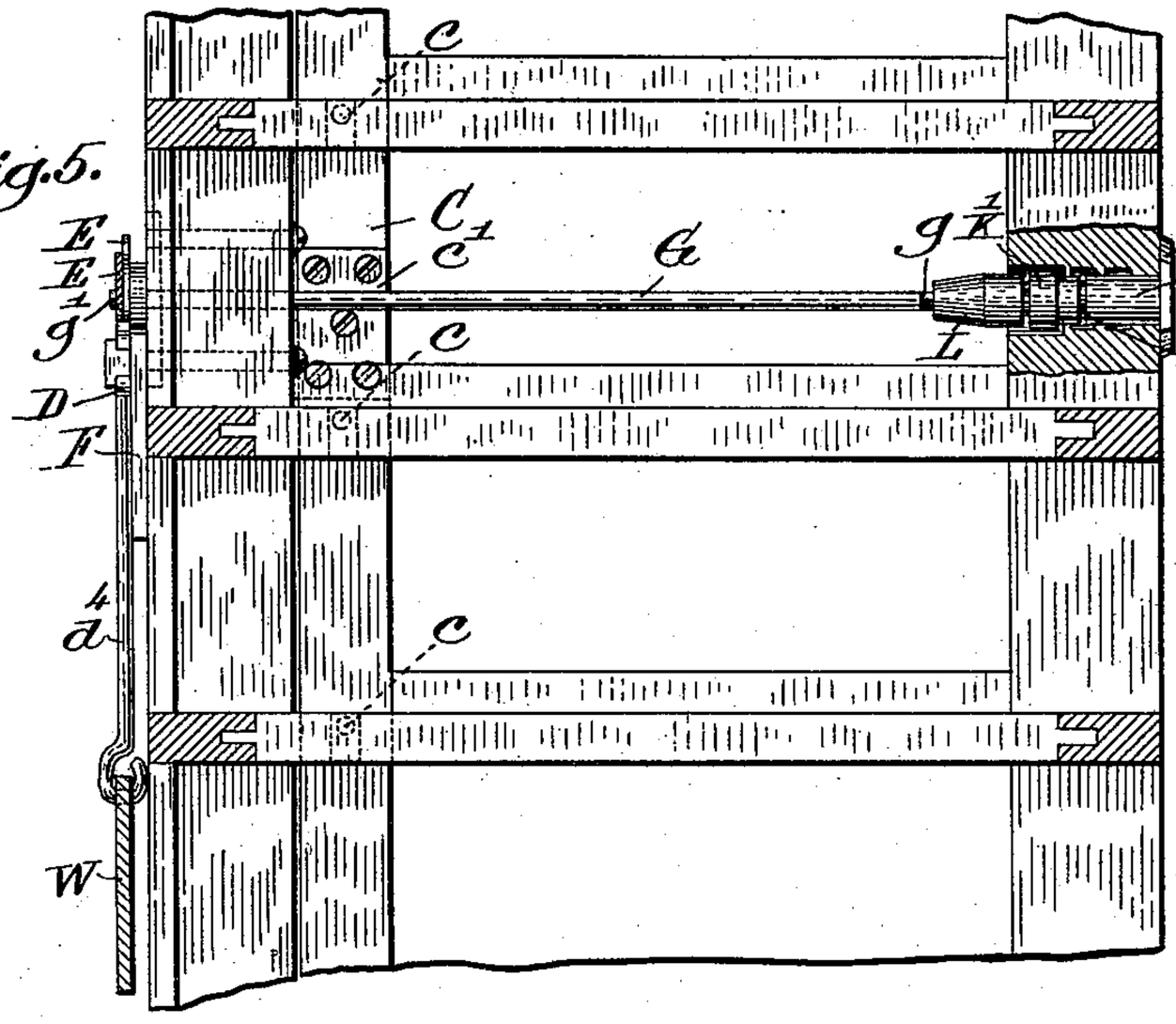


Fig. 8.

Fig. 6.

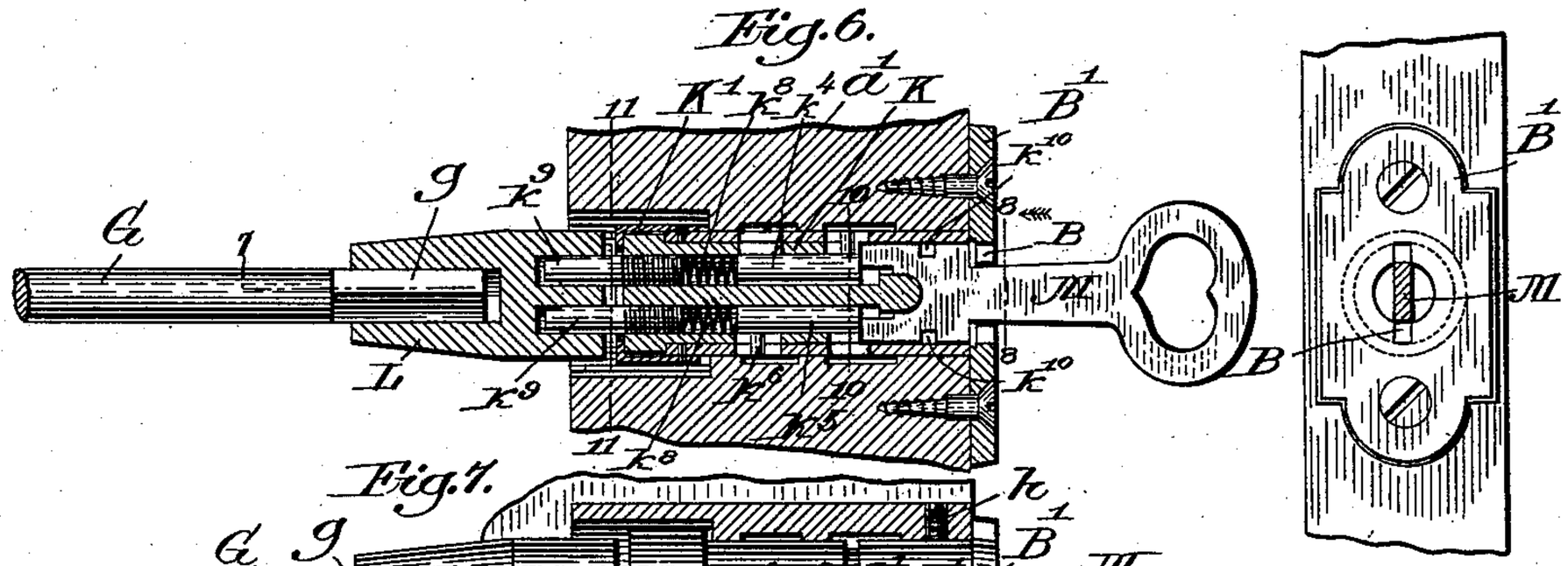


Fig. 7.

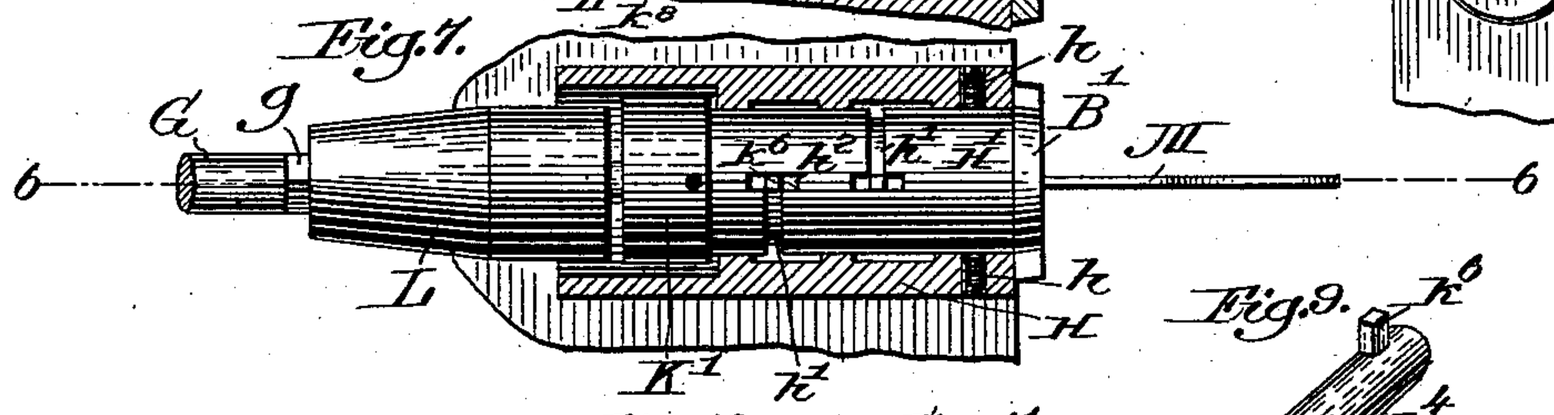


Fig. 9.

Fig. 10.

Fig. 11.

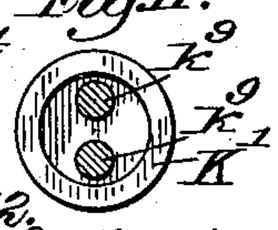


Fig. 14.

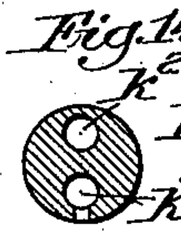


Fig. 12.

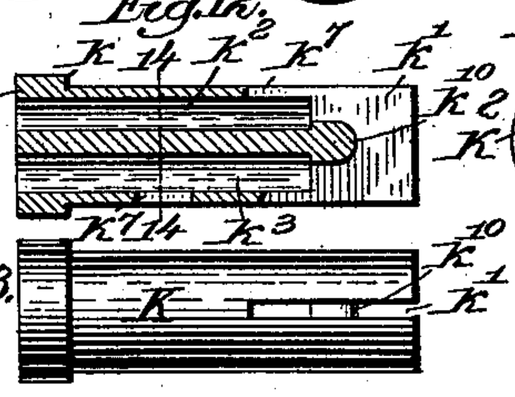


Fig. 13.

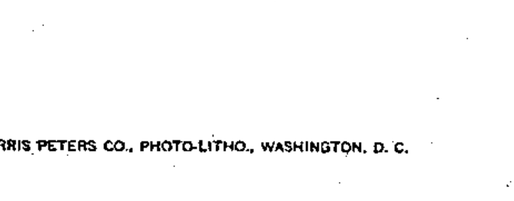
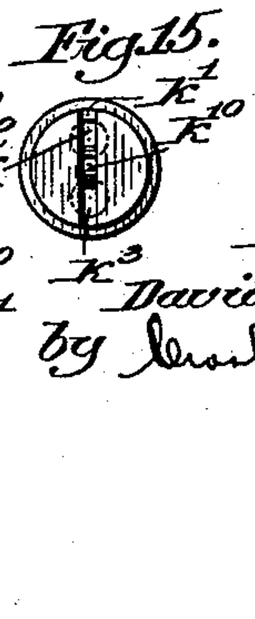


Fig. 15.



Witnesses:
Fred. S. Grundlach.
T. J. Drummond.

Inventor.
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by Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

DAVID E. HUNTER, OF CAMBRIDGE, MASSACHUSETTS.

DEVICE FOR LOCKING DRAWERS OF CABINETS.

SPECIFICATION forming part of Letters Patent No. 591,552, dated October 12, 1897.

Application filed January 4, 1897. Serial No. 617,899. (No model.)

To all whom it may concern:

Be it known that I, DAVID E. HUNTER, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Devices for Locking the Drawers of a Cabinet, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is an improved device for simultaneously locking and unlocking all the drawers of a cabinet, being particularly adapted to card-catalogue cases, file-cabinets, card records or indexes, &c.; and it has for its object the provision of a counterbalanced apparatus capable of being readily operated by a single slight key for a large series of drawers. The prevailing systems of records, &c., employed in libraries and mercantile establishments extend frequently to hundreds of drawers, the number being increased as the business increases, and it is the purpose of my invention to afford a locking device which is adapted to lock and unlock all the drawers of a system, be it large or small, my locking device being also capable of indefinite extension to suit a growing business.

My invention provides mechanism that is simple and compact and therefore not easy to get out of order, and besides the counterbalance feature above alluded to, which insures ease of operation, the device of my invention is light and is extremely rigid and accurate in operation.

The details of my invention and further advantages thereof will be fully explained hereinafter, and the invention will be defined in the appended claims.

In the accompanying drawings, illustrative of one embodiment of my invention, Figure 1 is a perspective view of a portion of a cabinet provided with my improved locking device, certain of the drawers being removed and broken away to show the interior construction. Fig. 2 is an enlarged detail, in rear perspective, showing a pair of locking pins or dogs and a main actuating-bar and locking-rod. Fig. 3 is a rear elevation, in broken detail, showing two sets of locking-pins, the operating mechanism therefor, and a counterbalance. Fig. 4 is a horizontal section of Fig. 3, taken through the key-rod. Fig. 5 is a vertical cross-section on line 5 5, Fig. 3. Fig. 6 is a vertical longitudinal section of the special lock, taken on line 6 6, Fig. 7. Fig. 7 is a horizontal section on line 7, Fig. 6, showing the lock in top plan view. Fig. 8 is a vertical cross-section of Fig. 6 on line 8 8. Fig. 9 is a perspective view of one of the lock-tumblers. Figs. 10 and 11 are vertical cross-sections of Fig. 6 on lines 10 10 11 11, respectively. Fig. 12 is a vertical longitudinal section, and Fig. 13 is a top plan view, of the lock-bolt. Fig. 14 is a section on line 14 14, and Fig. 15 is a front end elevation of Fig. 12.

The cabinet or case A, containing a plurality of drawers, files, or other movable members a, movable in the frame a', are of any usual or preferred construction.

Referring to Fig. 1, it is supposed that about half of the series of drawers of the cabinet there represented are shown, all the drawers being controlled by one key entering a keyhole B and operating the locking mechanism, here shown as at the rear of the case or cabinet.

The drawers a are engaged by locking pins or dogs c, carried by rods C, herein shown as extending vertically between adjacent vertical tiers of drawers and sliding in ways a^2, provided therefor in the frame a'. I prefer to employ rigid pins c, extending laterally in pairs, stops or recesses a^3 being provided in the bottoms of the drawers to receive the pins for locking engagement in pairs, the apparatus being shown in locking position in Fig. 1 and in unlocking position in Fig. 3.

The rods C are preferably set edgewise toward the front of the case, as in Fig. 1, for greater strength, the oppositely-extended pins also strengthening each other, one receiving the torsional strain on the rod C as the opposite one is pulled upon by any attempt to open a drawer. Extending rearwardly from each rod C is a rigid arm c' in loose engagement with an operating-lever D, pivoted at d to the frame and pivotally connected at d' to the shifting bars or links E. The bifurcated end d^2 of the lever D engages the notches c^2 of the arm c' to positively raise and lower the rod C as the links E are shifted one way or the other. A bracket F maintains the arm c' in proper alinement and

keeps it from accidentally escaping from the bifurcated end of the lever D. The bracket F also serves as a convenient bearing for the pivot d. The lever D is rearwardly extended at d^3 beyond its pivot d and weighted to approximately counterbalance the rod C and the operating mechanism, this weighting being shown as preferably consisting of a weight W, suspended by links d^4 from two adjacent levers D. Separate weights for each lever or any other counterbalancing means may be provided. By thus counterbalancing the moving parts of my locking mechanism I am enabled to operate an extensive apparatus with ease and certainty from one central point and by a key of ordinary size and appearance.

G designates a key-rod rotatably mounted in the frame of the case, squared at its forward end g, and carrying an eccentric wrist-pin g' at its rear end in pivotal engagement with the shifting bars or mechanism E, the rotation one way or the other of the key-rod G serving to correspondingly shift the bars E and through the latter to raise and lower the locking-rods C, as desired. The key-rod G is rotated by means of the lock shown in detail in Figs. 6 to 15. A piece H, fixedly set into the frame a', holds a barrel H' by the set-screws h, the barrel H' being provided with slots h', terminating in T shape at each end h^2, two of these slots being shown, each passing half-way around the barrel but in opposite directions.

Within the barrel H' is a rotary plug K, shouldered at k, (shown in detail in Figs. 12 to 15,) held in place by a flanged cap K' on the barrel H', and provided with a central key-slit k' at its front end and two tubular apertures k^2 k^3 to contain the tumblers k^4 k^5, the latter having nibs k^6, projecting through elongated openings k^7 in the outer walls of the apertures k^2 k^3 and entering the slots h', respectively.

The tumblers k^4 k^5 are normally pressed forward to engage the forward ends of the T-slots h^2 by springs k^8, adjustably held in place by spindles k^9, tapped into the rear end of the plug K and extending beyond the latter to enter a socket-piece L in engagement with the squared end g of the key-rod.

M designates a key adapted to fit the key-hole B of the escutcheon B' and the key-slit k' and notched suitably to receive such wards k^{10} as may be provided. The proper key, therefore, will press back the nibs k^6 of the tumblers k^4 k^5 just half-way in the T-slots h^2, so as to permit the key to turn the plug K, socket-piece L, and key-rod G to lock the drawers, the latter being accomplished by a half-turn of the key, bringing the nibs k^6 into the reverse position from that shown in Fig. 6, so that upon removal of the key the springs k^8 will interlock the nibs k^6 with the T-slots h^2 at the opposite ends of the slots h'. In case the wrong key is used either it will not fit the wards k^{10} or it will not depress the plungers the precise distance required, a very slight error in either direction in this latter respect being sufficient to lodge the nibs k^6 in one or the other end of the T-slots h^2, thereby holding the plug K against turning. Upon turning the key to the right, as shown, all the drawers will be locked, the key-rod, through its eccentric-pin g', shifting the shifting bars E to the right, Fig. 1, (left Fig. 3,) swinging the levers D on their pivots d, so as to raise their bifurcated ends d^2, thereby lifting the rods C and simultaneously locking all the drawers in the case or cabinet, the counterbalancing weight or weights W making this movement possible by means of the ordinary key M. A reverse movement of the key M serves to unlock all the drawers, the rods C, &c., and weights W again counterbalancing each other. Besides this all the locking-rods C, no matter how extensive they may be, are operated by one transverse shifting bar or device, thus reducing the moving parts to the utmost simplicity and compactness.

While I have described particular mechanism—as, for instance, the shifter made up of links, &c.—I wish it understood that I do not restrict my invention in this respect or in regard to any details thereof to the precise mechanism shown and described, inasmuch as many changes and substitutions in form, proportions, and arrangement of parts may be resorted to without departing from the spirit and scope of my invention.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a case or cabinet of drawers, the combination with a plurality of longitudinally-movable locking-rods, carrying locking devices, adapted to engage stops of the drawers, of a transverse shifting-bar, pivoted levers loosely connecting said bar to said rods, said levers having an arm pivoted to said bar and an arm connected to said rod, and two of said levers have each a third arm extended laterally, and a counterbalance-weight suspended from said third arms, substantially as described.

2. In a device of the class described, a locking-rod, carrying locking devices, adapted to engage drawer-stops intermediate the lengths of the drawers, a flat arm rigidly extending vertically edgewise therefrom to the rear of the case, a bracket provided with an alining slot for said arm, a shifting-bar, connections between said arm and shifting-bar, and means to operate said shifting-bar, substantially as described.

3. In a case or cabinet of drawers, the combination with a plurality of longitudinally-movable locking-rods, carrying locking devices, adapted to engage stops of the drawers, of a plurality of shifting-links pivotally connected to each other and extending across the case, pivoted levers, each having an arm connected to an adjacent locking-rod and an

arm connected to the shifting-links, and a key-rod extending to the front of the case and eccentrically connected at its rear to said links, substantially as described.

4. In a case or cabinet of drawers, the combination with a plurality of longitudinally-movable locking-rods, carrying locking devices, adapted to engage stops of the drawers, of a plurality of shifting-links pivotally connected to each other and extending across the case, pivoted levers, each having an arm connected to an adjacent locking-rod and an arm connected to the shifting-links, and certain of said levers having third arms extending horizontally, a counterbalance-weight suspended therefrom, and a key-rod extending to the front of the case and eccentrically connected at its rear to said links, substantially as described.

5. The combination with a stationary barrel, provided with peripheral slots, having offset ends at each end of said slots, of a plug fitted to rotate within said barrel, tumblers carried by said plug, said tumblers being adapted to work in said slots, and means to normally engage said tumblers with said offsets, said plug being adapted to be rotated by a key, substantially as described.

6. The combination with a stationary barrel, provided with peripheral slots, having T-shaped opposite ends, of a plug fitted to rotate within said barrel, tumblers carried by said plug, said tumblers being adapted to work in said slots, and means to normally engage said tumblers with said T-shaped ends, said plug being adapted to be rotated by a key, substantially as described.

7. The combination with a stationary barrel, provided with peripheral slots, having offset ends, and a plug fitted to rotate within said barrel, of locking-rods, and operating mechanism therefor, a rotatable key-rod being included in the latter, a socket-piece interlocked with said key-rod, and spindles adjustably secured in said plug and extending beyond the latter into said socket-piece, substantially as described.

8. The combination with a stationary barrel, provided with peripheral slots, having offset ends, tumblers, nibs on the latter to operate in said slots, and a plug fitted to rotate within said barrel, of locking-rods, and operating mechanism therefor, a rotatable key-rod being included in the latter, a socket-piece interlocked with said key-rod, spindles adjustably secured in said plug and extending beyond the latter into said socket-piece, and springs between said adjustable spindles and said tumblers, substantially as described.

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

DAVID E. HUNTER.

Witnesses:

GEO. H. MAXWELL,

FREDERICK L. EMERY.