

C. F. BROSHKEWITZ.

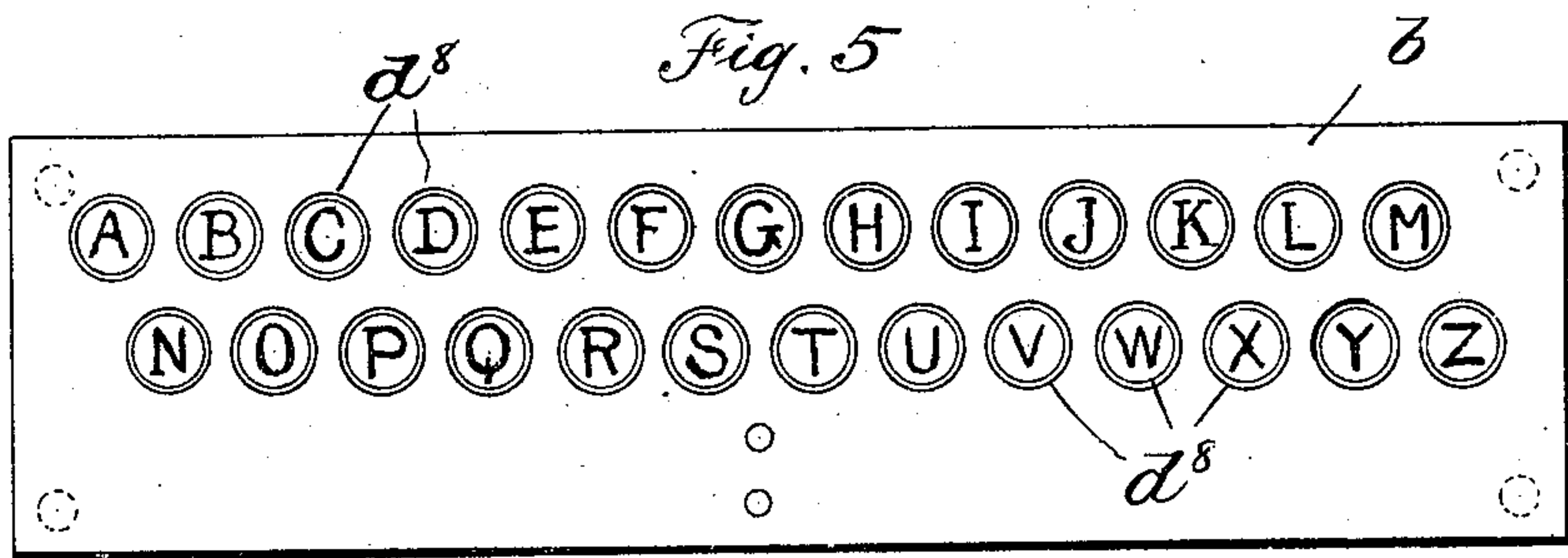
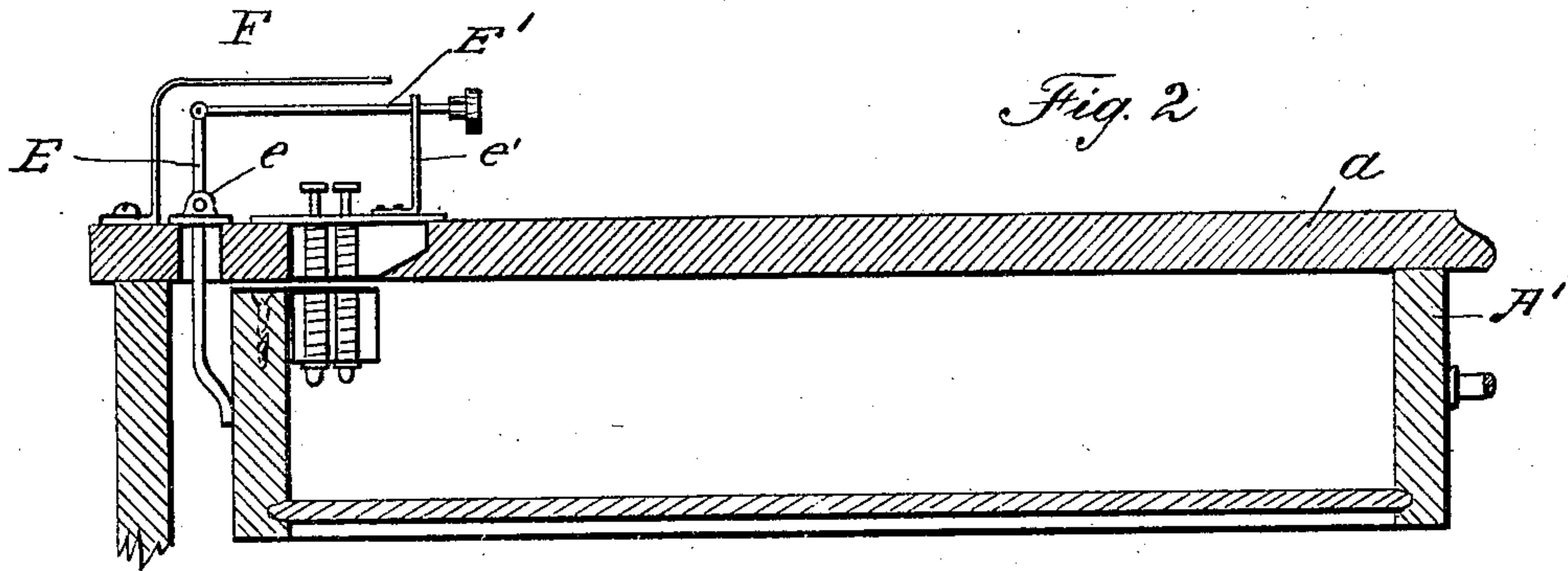
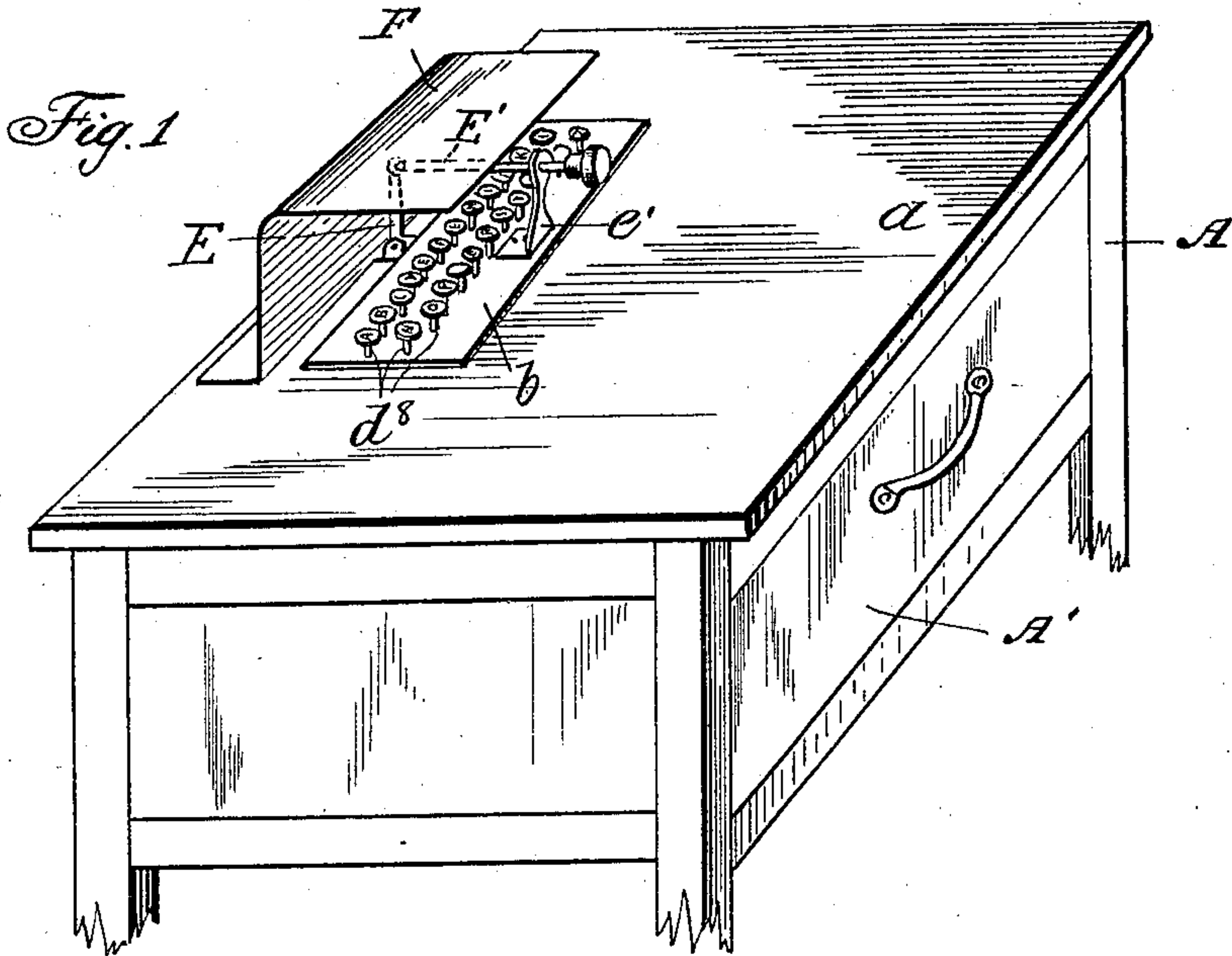
LOCK.

APPLICATION FILED DEC. 30, 1907.

903,170.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 1.



WITNESSES
H. R. Weigle
Joseph Schlenker

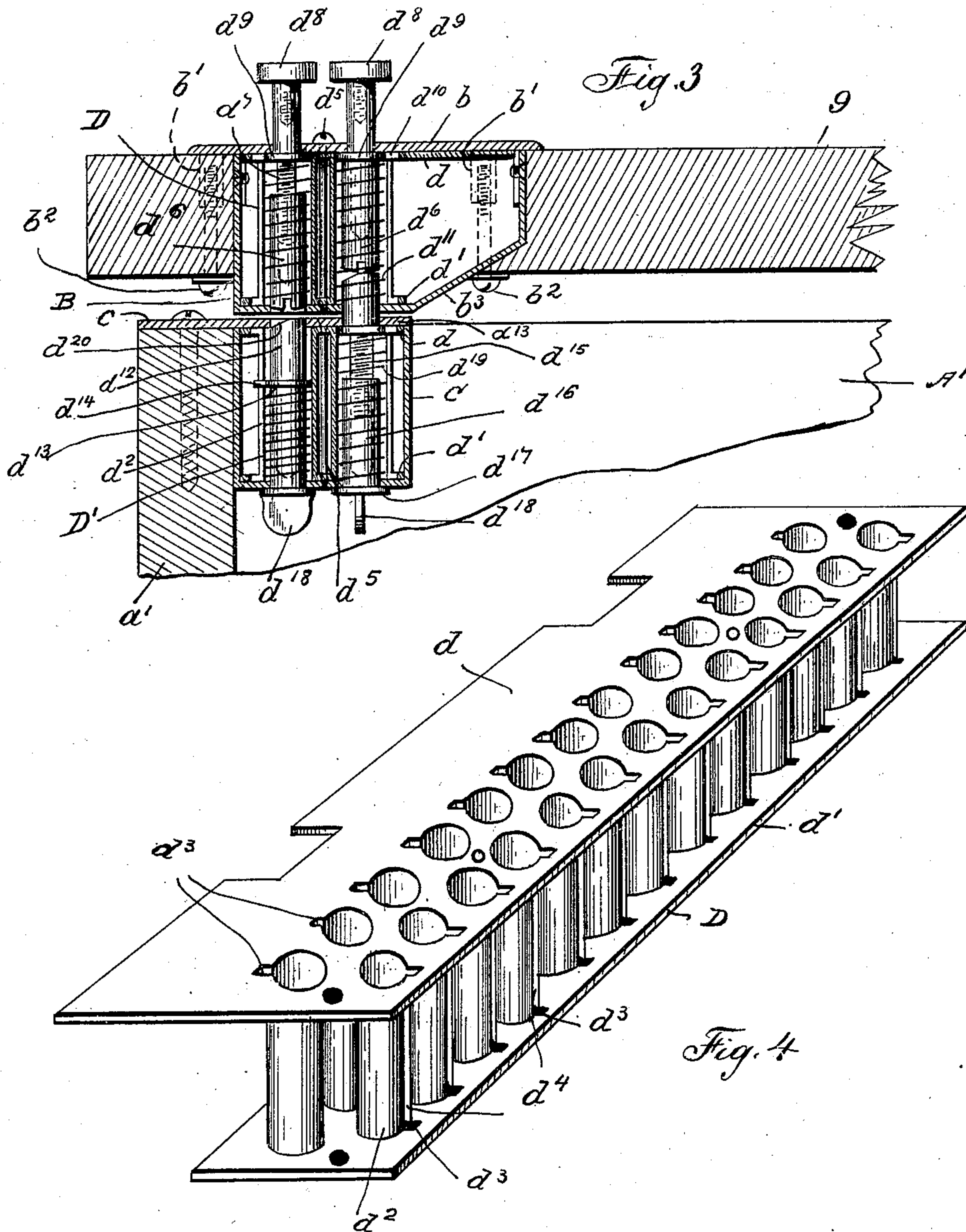
INVENTOR
Carl F. Broshkevitz
By Robt. H. H. H.
Atty.

C. F. BROSHKEWITZ,
LOCK.
APPLICATION FILED DEC. 30, 1907.

903,170.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 2.



WITNESSES
H. R. Weigl
Joseph Schlenker

INVENTOR
Carl F. Broshkevitz
By Robt. M. Kley
Atty.

UNITED STATES PATENT OFFICE.

CARL FRIDERICH BROSHKEWITZ, OF CHICAGO, ILLINOIS.

LOCK.

No. 903,170.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed December 30, 1907. Serial No. 408,479.

To all whom it may concern:

Be it known that I, CARL F. BROSHKEWITZ, a subject of the Emperor of Germany, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Locks, of which the following is a complete specification.

This invention relates to improvements in locks and more particularly to a combination lock of that class having changeable, key operated combinations.

The object of the invention is to provide a lock for cash drawers and the like, in which the locking mechanism may be readily adjusted to provide any desired combination, so that if one combination is detected by an unauthorized person, a change may be quickly made to another combination.

It is a further object of the invention to provide a lock having a plurality of bolts, co-acting in pairs, and provided with mechanism causing them to either lock or remain neutral.

It is a further object of the invention to provide a lock having an actuating key board from which the combination is operated, and also to provide a very simple construction in which it is possible to provide an approximately unlimited variety of combinations.

The invention consists of the matters hereinafter described in the specification and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a perspective view of a stand having a cash drawer provided with a lock embodying my invention. Fig. 2 is a transverse section of the same. Fig. 3 is an enlarged, fragmentary, transverse section of the stand and drawer with parts removed. Fig. 4 is a perspective view of one of the bolt carriers. Fig. 5 is a plan view of the key board.

As shown in said drawings: A indicates a stand, cabinet or other device having a slidable drawer A' therein beneath its top a. In said top a and near the rear thereof, is set a housing B of slightly greater depth than the thickness of said top, and the top plate b of which projects beyond the side and end walls, and, as shown, is provided on its under side with internally threaded lugs b' adapted to receive retaining screws b² which project upwardly thereinto through the top a and secure the housing in place.

Rigidly engaged in the rear of the drawer and flush with the top thereof, is a housing C, the top plate c of which extends rearwardly therefrom and is adapted to be bolted or otherwise secured to the back a' of the drawer.

In each housing is rigidly engaged a bolt carrier, indicated respectively by D and D', which are substantially alike and each of which comprises a top and bottom plate indicated respectively by d and d'. Said plates are connected together by means of longitudinally slotted sleeves or barrels d² which open at their ends through said plates, the latter being provided with notches d³ registering with the ends of the slots d⁴ in said sleeves. The sleeves may be arranged in any preferred manner but as shown more clearly in Fig. 4, they are arranged in two rows longitudinally of the carrier, and those of one carrier are staggered with respect to those of the other. The tops and bottoms of the housings B and C are provided with apertures which register with the bores of said sleeves but are of slightly less diameter as shown more clearly in Fig. 3. Said carriers may be secured in place in any preferred manner but, as shown, bolts d⁵ extend therethrough and through the tops and bottoms of the housings.

In the sleeves of the carrier D are the actuating bolts d⁶, each of which is provided in its upper end with a threaded bore in which engages the threaded end d⁷ of the actuating key d⁸. Said keys project upwardly through the apertures in the top plate b and each is provided beneath said plate with a flange d⁹ having a projection d¹⁰ on one side thereof adapted to engage in the slot in the sleeve and prevent the key from turning. A coiled spring d¹¹ fits closely in each sleeve and bears at one end on the bottom of the housing and at the other end on the flange d⁹ and acts to normally hold the key in its extended position. By means of the threaded connection between the bolts and keys, the former may be adjusted so that they will normally be flush with the bottom of the housing B, or may be retracted into the sleeve, both of which positions are clearly shown in Fig. 3. When the bolts are adjusted so that they abut against the flanges d⁹ the combined length of the key and bolt is such that when depressed the bottom of the bolt is flush with the bottom of the housing B.

The carrier D' is provided with locking

bolts d^{12} which are adapted to be projected upwardly through the plate c , and each of which is provided intermediate its ends with a flange d^{13} , which when the bolt is in one position, is adapted to abut against the plate c and limit the outward movement of the bolt. A projection d^{14} is provided on said flange and travels in the slot of the sleeve and prevents rotation of the bolt. The inner ends d^{15} of the locking bolts are threaded and engage in the threaded bores of elongated nuts d^{16} which project upwardly through the bottom of the housing C and are provided with flanges d^{17} adapted to engage against the bottom of the housing and limit the outward movement of the locking bolts. Said nuts are also each provided with a wing d^{18} by means of which they may be rotated to adjust the locking bolts. A coiled spring d^{19} is carried in each sleeve of the carrier D' and bears at one end on the bottom of the housing and at the other against the flange d^{13} and acts to normally force the locking bolt and nut longitudinally and hold the flange d^{17} against the bottom of the housing. The outer ends of said locking bolts are beveled on their rear sides as shown at d^{20} , and the forward portion b^3 of the bottom of the housing B is slanted upwardly and forwardly and acts, when said bolts are adjusted to normally protrude through the top of the housing C , to retract the bolts in closing the drawer.

The keys may be of any preferred number and provided with any suitable designating characters, but as shown they are provided with the letters of the alphabet. When it is desired to set a combination, any group or combination of letters are selected, preferably those spelling some word, and the actuating bolts of those keys are turned to retract them into the sleeves. The nuts of the locking bolts corresponding with those keys are operated to extend their bolts so that when the drawer is closed those bolts will project into the sleeves of the retracted actuating bolts. When it is desired to open the drawer the keys selected are operated and the actuating bolts force the locking bolts out of the housing B and permit the drawer to be opened.

Any preferred means may be employed to force the drawer outwardly and bring the locking bolts out of register with the sleeves of the actuating bolts when the keys of the combination are operated, but as shown a lever E is pivoted in a suitable bearing e at the rear of the board, and extends downwardly through the top a and engages against the rear of the drawer. A push rod E' is pivoted at one end to the upper end of said lever and extends forwardly over the key board and is slidably engaged in a bracket e' . When the keys of the combination are depressed the push rod is pushed inwardly and the lower end of the lever forces

the drawer outwardly a sufficient distance to carry the bolts out of register with the keys. In closing the drawer the beveled faces of the locking bolts contact with the inclined portion b^3 of the bottom of the housing B and the bolts are thereby retracted.

As shown a protecting hood F is secured on the rear of the top a and extends upwardly and forwardly over the key board and hides the latter from view.

Obviously a lock embodying my invention is capable of being adjusted to provide a great variety of combinations which are difficult for one not acquainted with the proper combination to detect and operate, since if any of the neutral keys are actuated their actuating bolts force the corresponding locking bolts inwardly and enter their sleeves, thus locking the drawer even though the keys of the combination are operated.

I claim as my invention:

1. In a device of the class described the combination with a pair of bolt carriers, of actuating bolts in one of the same, locking bolts in the other carrier, a key adjustably engaged to each actuating bolt, and means for adjusting the locking bolts.

2. In a device of the class described the combination with a pair of bolt carriers, of actuating bolts in one of the same, a key adjustably engaged to each bolt, locking bolts in the other carrier, means for adjusting said locking bolts, and means acting normally to force part of the locking bolts into the carrier of the actuating bolts.

3. In a lock, the combination with a pair of bolt carriers of actuating bolts in one of the same, keys adjustably engaged to said bolts and adapting the bolts to be adjusted flush with one side of the carrier or to be retracted therein, locking bolts in the other carrier, means for adjusting said bolts longitudinally, and means adapted to force said bolts into the carrier behind the retracted actuating bolts.

4. In a lock, the combination with a pair of bolt carriers, of actuating bolts in one of the same adapted to be adjusted flush with one side thereof or to be retracted thereinto, locking bolts in the other carrier adapted to be adjusted to project into the first carrier beneath the actuating bolts and means adapted to hold said actuating bolts and locking bolts from rotation.

5. In a lock, the combination with a pair of bolt carriers comprising a plurality of sleeves, of actuating bolts in the sleeves of one carrier, keys adjustably connected therewith, springs adapted to hold said bolts in adjusted position, locking bolts in the sleeves of the other carrier and adapted to register with the sleeves of the actuating bolts, means for adjusting the locking bolts longitudinally, and springs in said sleeves adapted to hold the locking bolts in adjusted position.

6. In a lock the combination with an upper and a lower bolt carrier, each comprising a plurality of sleeves, a bolt in each sleeve, those in one sleeve being in alinement with corresponding ones of the other, means adapted to hold said bolts from rotation, and means adapting the bolts of one carrier to enter the sleeves of the other carrier when the bolts of the latter carrier are retracted.
7. In a lock, the combination with contiguous housings, of a plurality of sleeves in each adapted to register with those of the other, a bolt in each sleeve, threaded means on each housing projecting into said sleeves and engaged to said bolts and adapted to adjust the bolts to permit those of one housing to enter the sleeves of the other, and means on one housing adapted to retract the bolts of the other.
8. In a lock, the combination with contiguous housings, of a plurality of sleeves in each, a longitudinally adjustable actuating bolt in each sleeve of one housing, means for holding said bolts in adjusted position, a locking bolt in each sleeve of the other housing, each adapted when in one position to enter a sleeve of the first housing, means holding said bolts from rotation and means for operating the actuating bolts.
9. In a lock, the combination with two housings, of sleeves in each housing adapted to register with those of the other when in locking position, actuating bolts in the sleeves of one housing, a key adjustably engaged to each bolt, and adapted to extend or retract the same, a spring for each bolt, a locking bolt in each sleeve of the other housing, a nut thereon adapted to be adjusted to extend or retract the bolt, a spring for each

locking bolt adapted to force the same into a sleeve of a retracted actuating bolt, and means holding said bolts from rotation.

10. In a device of the class described the combination with an upper and a lower housing, of slotted sleeves in each housing, those of each adapted to register with those of the other, an adjustable bolt in each sleeve and means thereon adapted to project into the slots of said sleeves and hold the bolts from rotation.

11. The combination with a fixed and a movable member, of a housing on each, sleeves in each housing, adjustable actuating bolts in the sleeves of the fixed housing, an operating key for each bolt, an adjustable locking bolt in each sleeve of the other housing adapted when in one position to project from the housing, and means on the housing of the fixed member adapted to retract said bolts when the movable member is actuated to bring the housings to locking position.

12. In a device of the class described the combination with an upper and a lower housing, of a bolt carrier in each, locking bolts in the lower carrier, an adjusting nut on each bolt, a spring for each locking bolt adapted to hold it in its locking position, actuating bolts in the upper carrier, an adjustable operating key for each actuating bolt and a spring for each actuating bolt acting normally to hold the bolt retracted.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

CARL FRIDERICH BROSHKEWITZ.

Witnesses:

G. KITZEMAN,
H. HOPPIE.