S. Colton,

Permutation Lock.

No. 3,395. Patented Jan. 6, 1844.

Fig. 1.

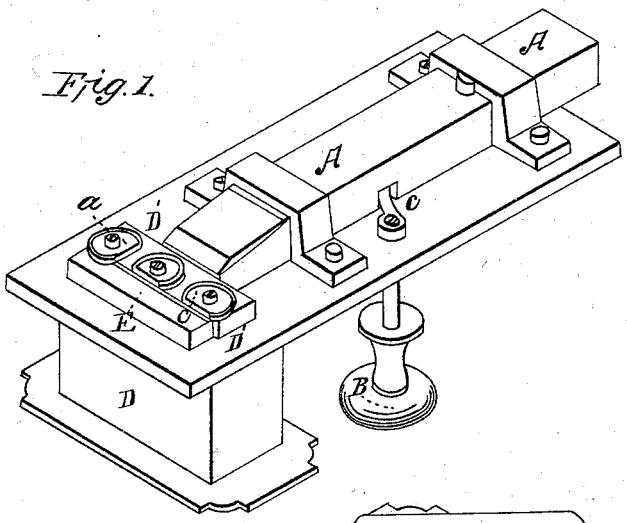


Fig. 3.

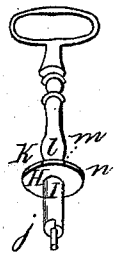


Fig. 4.

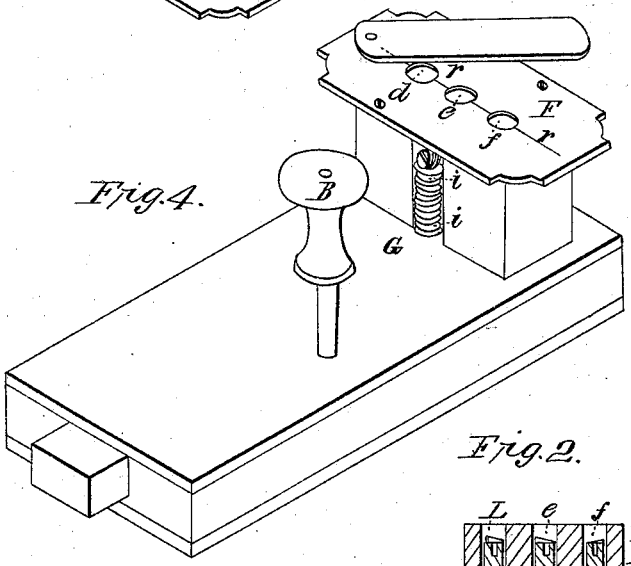
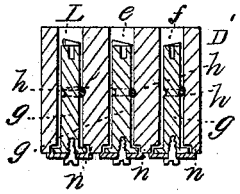


Fig. 2.



AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

SABIN COLTON, OF PHILADELPHIA, PENNSYLVANIA.

COMBINATION-LOCK.

Specification of Letters Patent No. 3,395, dated January 6, 1844.

To all whom it may concern:

Be it known that I, SABIN COLTON, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Mode of Constructing Combination-Locks for Doors and for other Purposes; and I do hereby declare that the following is a full and exact description thereof.

Figure 1, in the accompanying drawing represents the interior of the lock; the box or case being removed for the purpose of showing the parts ordinarily concealed by it.

A, A, is the bolt which is to be moved backward and forward by means of the knobbed handle B, and the bit C. On the opposite side of the lock plate and in the rear of the bolt, there is a box D, which should project from the lock plate to a distance equal to the thickness of the door, in which there is to be a mortise to receive it. The box D contains a rectangular slide D′ shown in section in Fig. 2, which is capable of being forced out so as to occupy the space between the back end of the bolt, and the projecting piece E, making a part of the lock plate. When said slide is entirely within the box D, the bolt may be moved back, but when the bolt is shot forward, and the slide is forced out of the box, against the rear end of the bolt, it will be firmly held in that situation. The pieces marked *a*, *b*, *c*, are three circular buttons, affixed by screws to the ends of three cylindrical shafts, contained within the slide, and which may be turned separately by a key constructed for that purpose. The buttons *a*, *b*, *c*, are not perfect circles, a piece being cut off from the edge of each of them, as represented, so that when made to project with the slide, and turned by the key, their circular edges will lap over, and button upon, the projecting piece E. When they are thus buttoned the slide will be so held that it cannot pass back into the box D, until each of the buttons is brought into a position by which it is released from its bearing upon the piece E. When this has been done the slide will be drawn back into the box by the action of a spiral spring, and the bolt may be then turned back.

Fig. 2, is a section through the slide contained within the box D. Three or more holes, *d*, *e*, *f* are drilled through the slide to admit the shafts *g*, *g*, *g*, which are to be turned by the key and which carry the buttons *a b*, *c;* there are check pins at *h*, *h*, *h*, which are received within a groove on the shafts, and allow them to turn around without slipping endwise. I also form heads *n*, *n*, *n*, upon the inner ends of the shafts which heads are received within recesses in the slide, and upon these the buttons *a*, *b*, *c*, are screwed. The key, Fig. 3, is employed to turn the shafts *g*, *g*, *g*, and the buttons *a*, *b*, *c*, upon them for which purpose it is to be passed into the holes *d*, *e*, *f*. These holes are shown on the key hole plate F Fig. 4 which covers the box D, and the slide within it. At *i*, *i*, there is a spiral spring which bears by one end upon the lock plate G, and at the other presses against a pin projecting out from the slide, which it consequently forces toward the plate E, removing it from behind the bolt when the buttons *a*, *b*, *c*, are relieved from their bearing on the projecting piece E. The end *j*, of the key, Fig. 3, has a lip or offset upon it which bears against corresponding lips on the ends of the shafts *g g*, *g*, so formed that said shafts can be turned by it in one direction only, which is that which tends to tighten the screws by which the buttons are attached to the shafts.

H, is a circular plate surrounding the shaft I, of the key, which shaft is to enter the holds *d*, *e*, *f*. Upon the edge of the plate H, there are made any desired number of divisions as at *k*, *l*, *m*, *n;* these are to be marked by letters or figures which are to serve as guides in setting the buttons *a*, *b*, *c*, and in opening the lock. If it is thought proper to increase the number of shafts and buttons the combination will thereby be rendered more complex.

Operation: When it is desired to set the lock to any determined combination of letters ,or figures, the box or case, which covers the bolt, the end of the slide, &c., is removed as in Fig. 1; the screws which tighten the buttons *a*, *b*, *c*, on the ends of the shafts *g*, *g*, are loosened, and the key is then applied to the shafts in succession, the division of the plate H of the key, which may have been determined or is brought to coincide with the line *r*, *r*, on the key hole plate F, and the screws are then tightened upon the buttons, the flattened sides of which lie, during this operation, against the inner side of the projecting piece E. The box, or case of the lock is then screwed on, and it is ready for use. To lock it the bolt is to be shot forward by the action of the bit C;

the key is then passed into one of the holes *d*, *e*, *f* and the slide pressed forward so as to overcome the action of the spiral spring *i*, *i*; then on turning the key, the button will catch upon the top of the piece E; the other shafts are then, in like manner, to be turned and buttoned on the piece E. Until each of the buttons is brought to the proper position, in accordance with the combination, the bolt cannot be forced back, whatever violence may be used.

Having thus fully described the construction of my combination lock, and the manner in which the same operates, what I claim as my invention therein, is—

The manner in which I have combined the slide contained in the box D, and the shafts therein carrying the buttons on their ends which are made to catch on the piece E, when acted upon by the key; said apparatus operating as a whole, substantially as herein set forth.

SABIN COLTON.

Witnesses:
JAMES YOUNG,
EDWARD BROWN.