

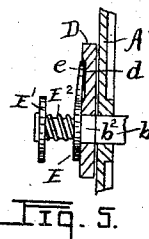
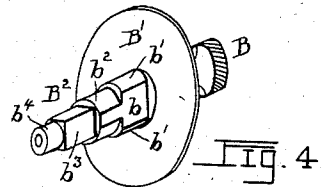
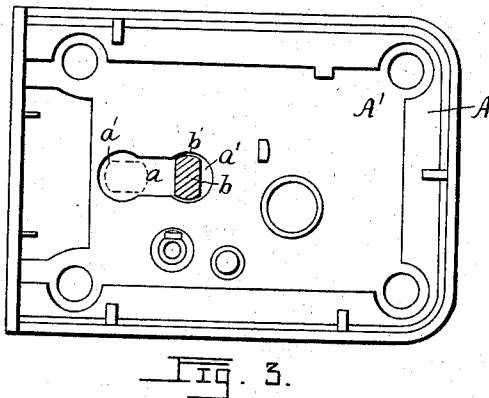
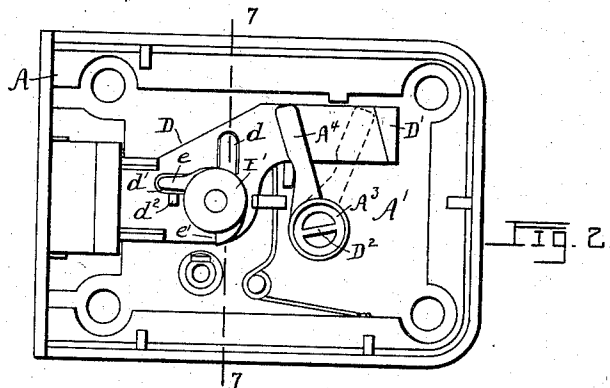
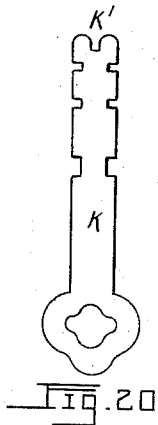
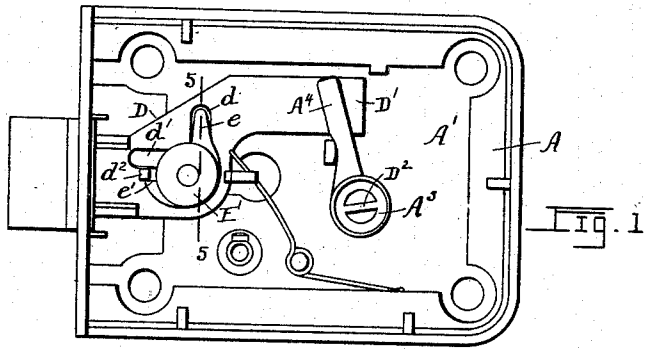
(No Model.)

2 Sheets—Sheet 1.

W. F. TROAST.
LOCK.

No. 565,648.

Patented Aug. 11, 1896.



Witnesses
H. M. Hall.
C. H. Bassler

By Attorney

Inventor
Wm. F. Troast.

Wm. R. Gerhart

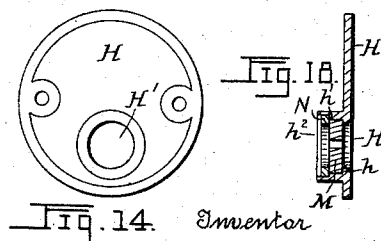
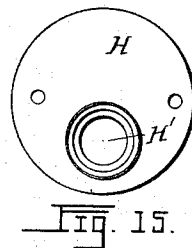
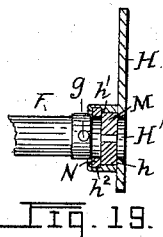
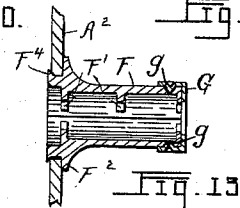
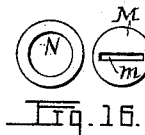
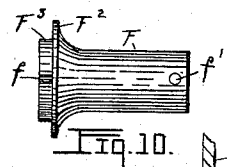
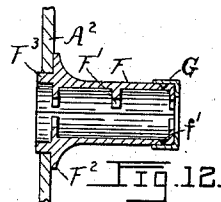
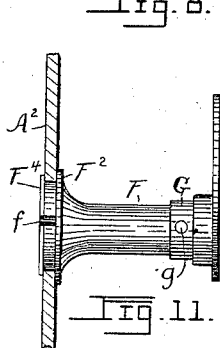
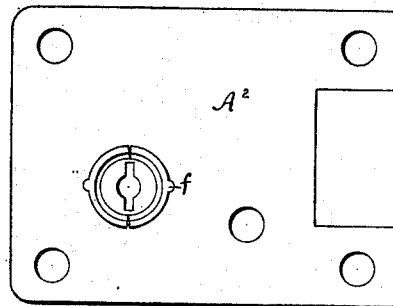
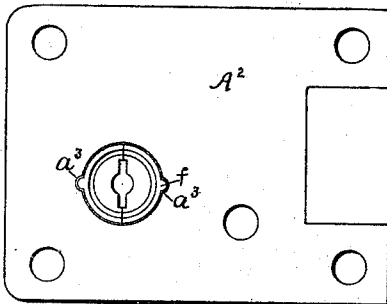
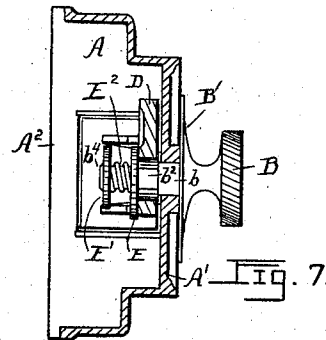
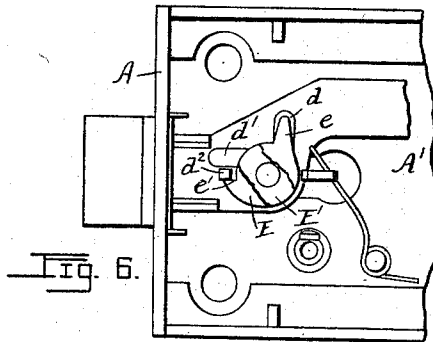
(No Model.)

2 Sheets—Sheet 2.

W. F. TROAST.
LOCK.

No. 565,648.

Patented Aug. 11, 1896.



Witnesses

W. M. Hall

C. H. Bauler

By Attorney

Wm. F. Troast

UNITED STATES PATENT OFFICE.

WILLIAM F. TROAST, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO THE
SLAYMAKER-BARRY COMPANY, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 565,648, dated August 11, 1896.

Application filed April 16, 1895. Serial No. 545,858. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. TROAST, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Dead-Locks, of which the following is a specification.

This invention relates to improvements in that class of locks commonly known as "dead-locks;" and the object of the invention is to produce a lock cheap and simple in construction and strong and reliable in use.

The invention consists in the construction and combination of the various parts, as hereinafter fully described, and then pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a rear face view of the lock, the back plate being removed and showing the bolt in its normal position; and Fig. 2, a similar view, but showing the bolt in a retracted position. Fig. 3 is a rear face view of the interior of the lock-case, the operating mechanism being removed and the stem of the handle shown in section. Fig. 4 is an inner perspective view of the handle. Fig. 5 is a vertical section on broken line 5 5 of Fig. 1. Fig. 6 is a rear face view of a portion of the interior of the lock, parts being cut away. Fig. 7 is a section on broken line 7 7 of Fig. 2. Fig. 8 is an inner face view of the back plate, showing the key-guide engaged therewith but not secured in place; and Fig. 9, a similar view showing the key-guide fastened in the back plate. Fig. 10 is a side view of the key-guide detached; Fig. 11, a similar view showing the key-guide engaged with the escutcheon and the back plate, the latter being in section; Fig. 12, a vertical section of the same, showing the key-guide engaged with the back plate but not secured therein; and Fig. 13, a similar view, but showing the key-guide fastened in the back plate. Fig. 14 is an outer face view of the escutcheon; Fig. 15, an inner face view thereof; Fig. 16, a face view of the keeper and the guard-plate; Fig. 17, an outer end view of the key-guide, showing the cap thereon; Fig. 18, a vertical section of the escutcheon, the washer being in place but not secured; and Fig. 19,

a similar view of the escutcheon, showing the washer fastened therein and the key-guide engaged with the escutcheon. Fig. 20 is a face view of the key.

Referring to the details of the drawings, A indicates the body of the case, which has an elongated slot *a* in the front plate A' thereof, the ends *a'* of said slot being circular and of greater diameter than the width of the intermediate part *a*, as shown in Fig. 3.

B is a handle, B' the guard-plate formed therewith, and B² the stem of the handle. The butt or inner end of the stem plays in slot *a* *a'*, and it is flattened on opposite sides *b* thereof, so that the diameter between those sides is such as to permit it to engage and slide in the part *a* between the circular ends *a'*; but the sides *b'*, between sides *b*, are convex or rounded, and the diameter of the butt through them is greater than the width of slot *a* and such as to permit the butt to revolve in circular ends *a'*, so that when said butt is in ends *a'* and the handle is turned with the sides *b* at right angles with the sides of slot *a* the butt is locked in ends *a'* thereof. Section *b*² of stem B² engages and is revoluble in an opening in bolt D, adapted to slide longitudinally in the case, as is usual with this class of locks. Section *b*³ of the stem passes through a thin plate, E, which plays longitudinally thereon and is adapted to rest on the bolt. A similar plate E' engages, and is rigidly secured to, the outer end, *b*⁴, of the stem, a spring E² being coiled around section *b*³ thereof and having its ends bearing against plates E and E'. In the face of bolt D, adjacent to plate E, are formed two elongated recesses *d d'*, radiating at right angles with each other from stem B² and constructed to be engaged by a spring-finger *e* on plate E. Finger *e* is formed with plate E, and is of spring metal and normally bent outward from said plate, as shown in Fig. 5. When the handle is turned with the sides *b* of the butt parallel with the sides of slot *a*, finger *e* is engaged with recess *d*, and when the handle is turned with said sides *b* perpendicular to the sides of slot *a* the finger engages recess *d'*. The sides of recesses *d d'* and of the finger are beveled, as shown,

so that said finger may be disengaged from the recesses by turning the handle. The finger is held in engagement with the recesses by the pressure of spring E^2 on plate E and prevents the accidental turning of the handle, to which positive force must be applied to disengage the finger from said recesses. The revolution of the handle is limited in one direction by the engagement of finger e with a stud d^2 on the bolt and in the other direction by the engagement of a shoulder e' on plate E with said stud, as seen in Fig. 6.

In the back plate A^2 a circular opening is formed opposite the tumbler A^3 , which has an arm A^4 thereon, adapted to engage a shoulder D' on the bolt and retract the same, said tumbler being turned by the engagement of studs K' on the end of key K with a rib D^2 of the tumbler. The opening in back plate A^2 is engaged by the inner end of a key-guide F , divided longitudinally into sections and having inside thereof suitable wards F' . Near the inner end of the key-guide is formed a collar F^2 , which bears against the outer face of the back plate; and outside of said collar is an annular flange F^3 , which engages the opening in the back plate and is adapted to be riveted or expanded over the rim of said opening, as illustrated at F^4 , Figs. 9, 11, and 13. On flange F^3 are studs f , adapted to engage notches a^3 in the opening in the back plate to prevent the key-guide from turning therein.

In the sides of the key-guide are formed one or two recesses f' near its outer end; and that end of the key-guide is embraced by a cap G , secured thereto by indenting the metal of said cap, so that the teats g , formed by such indenting, engage recesses f' . This cap may be of any depth necessary to properly bind the key-guide sections together.

The cap itself fits into a socket on the escutcheon H . This escutcheon is externally of the ordinary construction, and is secured to the door in the usual manner; but on the inner face of the escutcheon and around the key-opening H' is formed an annular bearing h , and around the bearing is an annular shoulder h' , around which, again, is a rim h^2 . In the socket formed by shoulder h' is located a revoluble guard-plate M , having the usual key slot or opening m ; and on the shoulder there rests a ring or annular keeper N , the inner edge of which laps the guard-plate. The keeper is secured in place by riveting over rim h^2 , and cap G bears against the face of said keeper within the socket formed by riveted-over rim h^2 , as shown in Fig. 19. This construction for securing the guard-plate is simple and cheap, and both holds said plate firmly in place and yet allows it to be turned with perfect freedom.

I do not confine myself to the details of construction herein shown and described, as it is obvious that many changes may be made therein without departing from the principle and scope of my invention.

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

1. The combination, in a lock, of a sliding bolt, a handle having a stem passing through said bolt and revoluble therein, and a spring-actuated finger connected with the stem and adapted to engage recesses in the bolt, for the purpose specified.

2. The combination, in a lock, of a sliding bolt having recesses in its face, a handle having a stem passing through said bolt and revoluble therein, a spring-finger revoluble with the stem and having a movement on the same longitudinally thereof, and a spring actuating the finger to engage the recesses in the bolt, for the purpose specified.

3. The combination, in a lock, of a sliding bolt, a handle having a stem passing through said bolt and revoluble therein, a spring-actuated finger connected with the stem and adapted to engage recesses in the bolt, and a stop limiting the movement of the finger, for the purpose specified.

4. The combination, in a lock, of a sliding bolt having recesses in its face, a handle having a stem passing through said bolt and revoluble therein, a plate engaging an angular section of the stem adjacent to the bolt and movable on said stem longitudinally thereof, a finger on the plate adapted to engage the recesses in the bolt, and a spring coiled around the stem and bearing on said plate and on a rim outside of the plate, for the purpose specified.

5. The combination, in a lock, of a sliding bolt having recesses in its face, a handle having a stem passing through said bolt and revoluble therein, a plate engaging an angular section of the stem adjacent to the bolt and movable on said stem longitudinally thereof, a finger on one side of the plate adapted to engage the recesses on the bolt, a shoulder on another side of said plate, a stop adjacent to one of said recesses in the path of travel of said finger and shoulder, and a spring coiled around the stem and bearing on said plate and on a rim outside of the plate, for the purpose specified.

6. The combination, in a lock, of a lock-plate provided with a slot having an end of greater diameter than the width of the body thereof, a sliding bolt having recesses in its face, a handle having a stem passing through said slot and the bolt and revoluble in the bolt, the section of said stem engaging the slot being of less diameter in one direction than the width of the body of said slot and in the other direction of greater diameter than the width of the body of said slot, and a finger on the stem adjacent to said bolt and adapted to engage the recesses therein, for the purpose specified.

7. The combination, in a lock, of a lock-plate provided with a slot having an end of greater diameter than the width of the body thereof, a sliding bolt having recesses in its

face, a handle having a stem passing through said slot and the bolt and revoluble in the bolt, the section of said stem engaging the slot being of less diameter in one direction than the width of the body of said slot and of greater diameter than the width of the body of said slot in the other direction, a spring-actuated finger on said bolt adapted to engage the recesses therein, and a stop to limit the movement of the finger, for the purpose specified.

8. The combination, in a lock, of a lock-plate provided with a slot having an end of greater diameter than the width of the body thereof, a sliding bolt having recesses in its face, a handle having a stem passing through the slot and the bolt and revoluble in the bolt, the section of said stem engaging the slot being of less diameter in one direction than the width of the body of said slot and of greater diameter than the width of the body of said slot in the other direction, a plate engaging an angular section of the stem adjacent to the bolt and movable on said stem lengthwise thereof, a finger on the plate adapted to engage the recesses in the bolt, a shoulder on another side of said plate, a stop adjacent to one of said recesses in the path of travel of said finger and shoulder, and a spring coiled around the stem and bearing on said plate and on another plate outside of the first plate, substantially as and for the purpose specified.

9. The combination, in a lock, of a lock-plate having an aperture therein, and a key-guide divided longitudinally into sections, an end of said key-guide engaging said aperture and adapted to be riveted over the edge thereof, for the purpose specified.

10. The combination, in a lock, of a lock-plate having an aperture therein, a key-guide divided longitudinally into sections, a collar on the key-guide bearing against the face of said plate, and a flange on the front of said collar engaging the aperture in the plate and adapted to be riveted over the edge thereof, for the purpose specified.

11. The combination, in a lock, of a lock-plate having an aperture therein with notches in the rim thereof, a key-guide divided longi-

tudinally into sections, a flange on the end of the key-guide adapted to be riveted over the edge of the aperture, and studs on said flange engaging the notches in the rim of said aperture, for the purpose specified.

12. The combination, in a lock, of a lock-plate having an aperture therein with notches in the rim thereof, a key-guide divided longitudinally into sections, a collar on the key-guide bearing against the face of said plate, a flange on the front of said collar engaging the aperture in the plate and adapted to be riveted over the edge thereof, and studs on said flange engaging the notches in the rim of said aperture, for the purpose specified.

13. The combination, in a lock, of a key-guide divided longitudinally into sections, means for securing the key-guide in the lock-plate, a cap embracing the outer end of said key-guide, and means for securing the cap thereon.

14. The combination, in a lock, of a key-guide divided longitudinally into sections and having a recess formed in the side thereof, means for securing the key-guide in the lock-plate, a cap embracing the outer end of said key-guide, said cap being indented to form a teat engaging the recess in the key-guide, for the purpose specified.

15. The combination, in a lock, of a plate having an annular bearing around the key-opening therein, a shoulder formed around said bearing, a revoluble guard-plate on the bearing, a keeper on the shoulder lapping the guard-plate, and means for securing the keeper in place.

16. The combination, in a lock, of a plate having an annular bearing around the key-opening therein, a shoulder formed around said bearing, a revoluble guard-plate on the bearing, a keeper on the shoulder lapping the guard-plate, and a rim surrounding the keeper and adapted to be riveted over the same, for the purpose specified.

WILLIAM F. TROAST.

Witnesses:

WILLIAM H. KELLER,
WM. R. GERHART.