

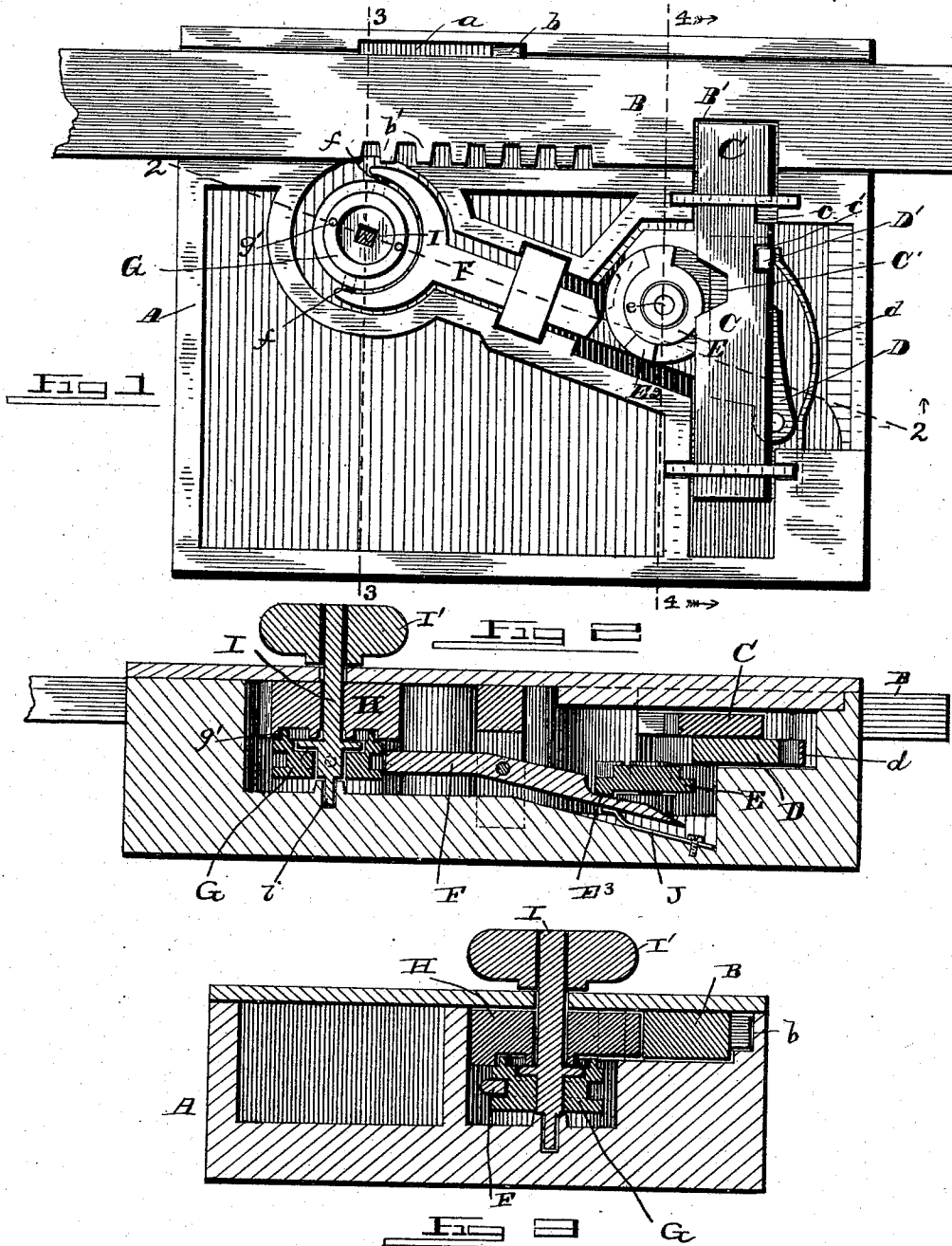
(Model.)

2 Sheets—Sheet 1.

A. C. COLLEY.
LOCK.

No. 470,474.

Patented Mar. 8, 1892.



WITNESSES
Jas. R. Mansfield.
Arthur E. Fowell.

INVENTOR
Andrew C. Colley

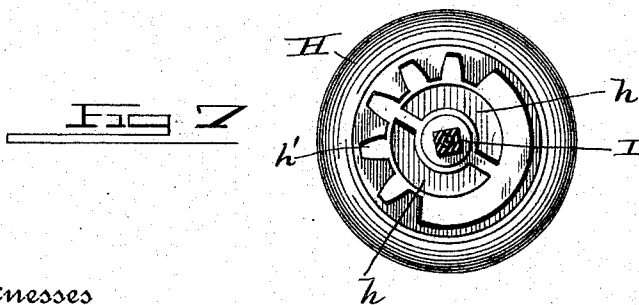
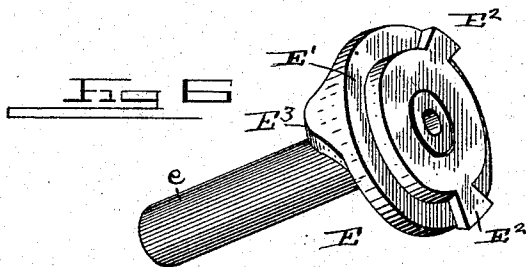
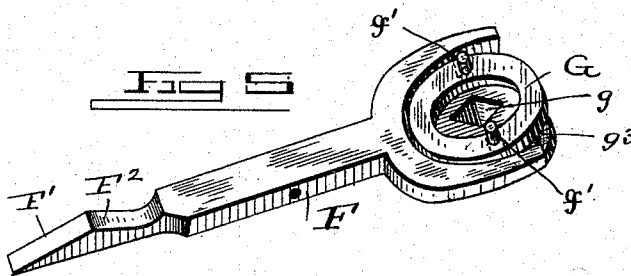
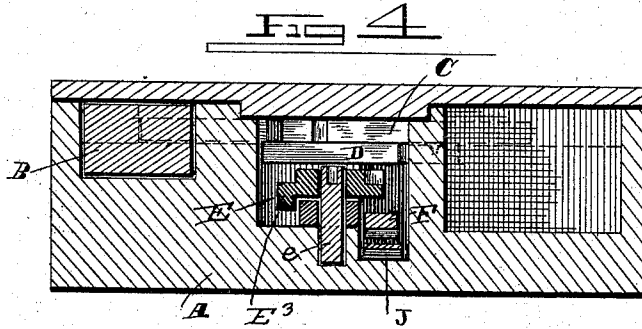
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UNITED STATES PATENT OFFICE.

ANDREW C. COLLEY, OF ECLECTIC, ALABAMA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 470,474, dated March 8, 1892.

Application filed August 8, 1891. Serial No. 402,139. (Model.)

To all whom it may concern:

Be it known that I, ANDREW C. COLLEY, of Eclectic, in the county of Elmore and State of Alabama, have invented certain new and useful Improvements in Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a face view of my improved lock with the cover removed. Fig. 2 is an oblique transverse sectional view on line 2 2, Fig. 1. Fig. 3 is a vertical sectional view on line 3 3, Fig. 1. Fig. 4 is a transverse vertical sectional view on line 4 4, Fig. 1. Fig. 5 is a view of the oscillating lever detached. Fig. 6 is a view of the cam-disk detached. Fig. 7 shows the toothed segment detached.

This invention is a lock; and its objects are to provide improved means for operating the bolt independently of the key and yet control the operating devices by mechanism operated by the key in dogging or releasing the bolt, so that the bolt cannot be operated, even if the positive dogging device be thrown back or released until the bolt-operating devices are thrown into gear; and to these ends the invention consists in the novel construction and combination of parts hereinafter fully described, and summarized in the claims.

Referring to the drawings by letters, A represents the case; B, the bolt sliding longitudinally in the case in proper guides and having a stop-lug *b* playing in a recess *a* in the case to limit its throw; and a recess B', which may be engaged by a sliding dog C, moving in suitable guides in the case and lying at right angles to the bolt. The dog can only engage the bolt when the latter is projected or "locked." The dog overlies a pivoted tumbler D, which is pressed toward and beneath the dog by a spring *d*. Said tumbler has an upstanding tooth D', which is adapted to engage either of two notches *c c'* in dog C and lock the same in or out of engagement with bolt B. The inner face of dog C is notched, as at C', and the tumbler D projects beyond

the point of the notch, so that if a key be turned in the notch the tumbler will be forced back disengaging its tooth from dog C and allowing the latter to be moved up or down by the key. Below and to the inside of the dog and tumbler is a small cam-disk E, journaled on a round stud *e*, fixed to the case. The disk partially underreaches the edge of the dog, and on its upper face, near its periphery, is a series of grooves or recesses E' E', separated by lugs or stops E². On the lower face of the disk is a single rounded lug or cam E³, which is adapted to engage the end of an oscillating lever F, which is pivoted near its center in a loop or lugs attached to the frame and lies obliquely in the frame, its lower end underlying the edge of disk E and being doubly beveled, as at F' F², so that as the disk is turned right or left its cam E³ will engage and depress the end of the lever. The opposite end of the lever is bifurcated and partly embraces a grooved clutch-wheel G, having studs *f*, which enter the peripheral groove *g*³ of said clutch, so that if the lever be oscillated the clutch G will be raised or lowered and yet at all times can be revolved freely with the shaft. This clutch has an angular bore *g* and upstanding pins or lugs *g'* on its face, which are adapted to enter recesses *h h* on the inner face of a revoluble tumbler or segment H, which is loosely mounted on a shaft I, which is squared near its inner end to fit the bore of clutch G, and has a reduced journal *i* on its end bearing in a proper recess in the case, while its outer end is journaled in a bearing in the front or cover of the case, and on said shaft may be fixed knobs or handles I' for revolving it.

J designates a spring placed between the beveled end of lever F and the rear of case and forces said end outward against the disk E, thus normally keeping pins *g'* of wheel G out of engagement with the recesses *h* of segment H. The segment has a series of teeth *h'*, which engage teeth *b'* on the bolt B.

The operation is about as follows: When the bolt is properly projected, (locked,) as shown in Fig. 1, it is dogged by the engagement of dog C with recess B' and thus posi-

tively fastened, and the dog is secured by tumbler D, while the cam E³ is out of engagement with lever F. Consequently clutch G is disengaged from segment H, and the shaft I can be revolved without any effect on the segment. To unlock or throw back the bolt, a key is inserted through the key-hole above disk E, the key being so constructed that the bottom edge of its flange will engage one of the stops E² and revolve the disk, and its end will enter the notch in dog C as the key is turned, and first force back tumbler D and then withdraw dog C out of engagement with bolt B, and as the disk is revolved cam E³ engages and oscillates lever F, throwing clutch G into engagement with segment H, so that when it is again turned by shaft I the bolt can be slid back or forth thereby. The locking operation is the reverse, except that as disk E is turned backward in throwing dog C into engagement with the bolt, its cam E³ disengages lever F and spring J instantly shifts the lever so as to disengage clutch G from segment H. Thus in order to operate the bolt it is necessary, first, to disengage dog C therefrom, and, second, to properly rotate disk E, so as to operate lever F, and both these operations should occur, and by a proper key can be produced, simultaneously.

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

1. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, and the oscillating lever and devices for causing said segment to revolve with the shaft when the lever is shifted in one direction, substantially as described.

2. The combination of the toothed bolt, the revoluble shaft and toothed segment loosely mounted thereon engaging the bolt, and the oscillating lever and devices for causing said segment to revolve with the shaft when the lever is shifted in one direction, with the revoluble cam-disk for shifting said lever, adapted to be operated by a key, substantially as specified.

3. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, the oscillating lever and devices for causing said segment to revolve with the shaft when the lever is shifted in one direction, and the dog for positively locking said bolt, substantially as set forth.

4. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, the oscillating lever and devices for causing said segment to revolve with the shaft when the lever is shifted in one direction, the cam-disk for operating said lever, a dog for positively locking the bolt, and the tumbler for locking the dog, substantially as described.

5. The combination of the sliding toothed bolt, the toothed segment engaging the same,

the oscillating lever, the clutch carried thereby and adapted to be interlocked with the segment when thrown into contact therewith, and devices for shifting said lever, substantially as and for the purpose set forth.

6. The combination of the sliding toothed bolt, the toothed segment engaging the same, the oscillating lever, the clutch carried thereby and adapted to be interlocked with the segment when thrown into contact therewith, devices for shifting said lever, and the dog and tumbler for positively locking the bolt, substantially as specified.

7. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, and the clutch thereon revolving therewith and adapted to engage with the segment when shifted thereagainst, so as to revolve it, with means, substantially as described, for shifting said clutch into engagement with the segment, substantially as described.

8. The combination of the sliding toothed bolt, the revoluble shaft, the segment loosely mounted thereon, and a dog engaging said bolt, with mechanism, substantially as described, operated by a key, whereby said dog is thrown back and said segment caused to rotate with the shaft, substantially as described.

9. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, and the clutch thereon revolving therewith and adapted to engage with the segment when shifted thereagainst, so as to revolve it, with means, substantially as described, for shifting said clutch into engagement with the segment and a locking-dog for the bolt adapted to be disengaged therefrom simultaneously with the engagement of the clutch and segment, substantially as specified.

10. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, and the wheel thereon revolving therewith, with an oscillating lever adapted to throw said wheel into engagement with said segment to cause it to revolve and the cam-disk for operating said lever, substantially as described.

11. The combination of the sliding bolt, the revoluble shaft, the segment loosely mounted thereon, and the clutch thereon revolving therewith and adapted to engage with the segment when shifted thereagainst, so as to revolve it, with means, substantially as described, for shifting said clutch into engagement with the segment and the dog for positively locking said bolt, substantially as and for the purpose described.

12. The combination of the sliding bolt, the revoluble shaft, the toothed segment loosely mounted thereon and engaging the bolt, and the revoluble wheel on said shaft, adapted to revolve said segment when shifted there-

against, with the spring-controlled oscillating lever adapted to throw the wheel into engagement with the segment, the cam-disk for operating said lever, the dog engaging the bolt, and spring-controlled tumbler engaging the dog, all constructed and arranged to operate substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

A. C. COLLEY.

Witnesses:

G. F. SEDBERRY,
W. A. AUSTIN.