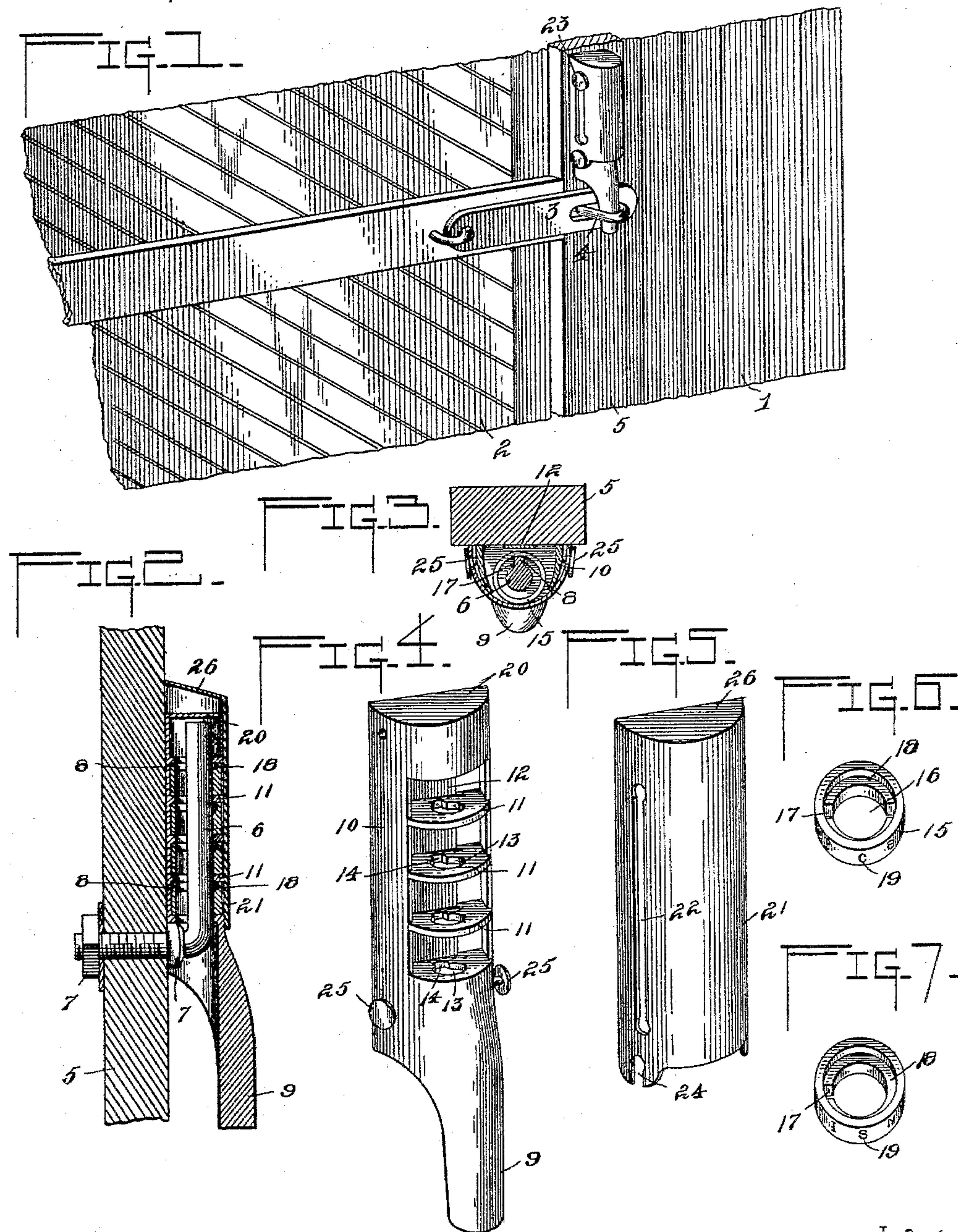


(No Model.)

J. T. ELDRIDGE.
COMBINATION LOCK.

No. 597,712.

Patented Jan. 25, 1898.



Inventor
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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN TURNER ELDRIDGE, OF MURFREESBOROUGH, NORTH CAROLINA.

COMBINATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 597,712, dated January 25, 1898.

Application filed October 12, 1896. Serial No. 608,615. (No model.)

To all whom it may concern:

Be it known that I, JOHN TURNER ELDRIDGE, a citizen of the United States, residing at Murfreesborough, in the county of Hertford and State of North Carolina, have invented a new and useful Combination Door-Lock, of which the following is a specification.

This invention relates to combination door-locks, and has for its object to provide a safe, reliable, and durable lock which is particularly designed to be applied to the outside of box-cars, storehouses, barns, &c., and be operated without the aid of a key, the said lock being constructed so as to be water and rust proof, not liable to freeze, and being capable of being easily taken apart for the purpose of cleaning and oiling the several parts thereof and changing the combination whenever required or deemed advisable. The bolt and lock-case are formed in one piece, the lock mechanism being carried by the bolt, and the bolt being made removable, so that it, together with the lock mechanism, can be easily detached for cleaning or repairs.

The invention consists in an improved combination door-lock embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view showing a portion of a car and car-door with the improved lock applied thereto. Fig. 2 is a longitudinal section through the lock. Fig. 3 is a cross-section through the same. Fig. 4 is a detail perspective view of the combined bolt and lock-case. Fig. 5 is a similar view of the inclosing case. Fig. 6 is a detail perspective view of one of the tumblers. Fig. 7 is a similar view of another tumbler of slightly-different form.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

1 designates a portion of a car-body, and 2 a portion of a sliding car-door. The car-door is provided with the usual hasp 3, and a staple 4 is driven into the car-body, preferably into the door-post 5, in the ordinary manner, said staple being adapted to receive the hasp.

6 designates a stationary rod or bar, which is shown as applied to the door-post above the

staple. This rod or bar is bent at its lower end and extended through the door-post and secured by one or more nuts 7 or in any other convenient manner, while the main body of the rod or bar extends vertically and in parallel relation to the door-post, being spaced a slight distance therefrom and provided at its inner side with nibs or projections 8 at spaced intervals.

9 designates the bolt, which is adapted to enter the staple 4 and prevent the escape of the hasp. This bolt has formed integrally with it and at its rear end a lock-case 10, which is substantially semicylindrical in cross-section. The lock-case is of oblong form and is provided at regular intervals with cross webs or partitions 11, forming integral parts of the lock-case and connected and braced at the inner side of the case by means of a longitudinal integral bar 12. These webs or partitions, as well as the end walls of the lock-case, are provided with corresponding and longitudinally-alined circular openings 13 for the reception of the rod or bar 6, and each and all of these openings are provided with longitudinally-alining notches 14, forming radial extensions of the openings and adapted to permit the passage of the nibs or projections 8 on the rod or bar 6 when the bolt and lock-case are slid longitudinally of said rod or bar. In the intervening spaces between the webs or partitions 11 and the end walls of the lock-case are arranged rotary tumblers 15 in the form of disks or cylinders, as shown in Figs. 6 and 7. These tumblers are insertible and removable through the front wall of the lock-case, and each tumbler is provided with a central circular opening 16 and one or more notches 17, the said openings and notches corresponding to those in the webs or partitions 11, above described, and adapted to aline therewith. Each of the tumblers is also provided at one side with an annular rabbet 18, which will admit of the tumbler being rotated while the nib or projection 8 of that particular tumbler rests in such rabbet. In order to slide the bolt, the tumblers must be rotated until the notches 17 of the tumblers are brought into alinement with the notches 14 in the lock-case, whereupon the combined bolt and lock-case may be slid longitudinally of the rod 6 and withdrawn from the staple 4.

The tumblers are brought into the proper position for unlocking the bolt with the aid of letters, numbers, or other characters 19, represented on the peripheries of such tumblers.

5 By bringing these characters into a predetermined relation to each other the notches 17 will be caused to register with the notches 14, allowing the bolt to be moved. The tumblers are preferably made of the same size, so that
10 they may be readily interchanged for varying the combination of the lock. The end of the lock-case is closed by an imperforate wall 20 for excluding rain, ice, snow, &c.

21 designates an inclosing case or cover
15 which is of substantially semicylindrical form and slidingly mounted on the combined bolt and lock-case. This case or cover is provided near its opposite edges with longitudinal slots 22, through which extend headed studs 23 on
20 the lock-case. This construction permits the cover to be slid on the lock-case so as to expose the tumblers to view or entirely conceal the same. The inner end of the cover 21 is also provided with open slots or notches 24,
25 which engage headed studs 25 on the lock-case to prevent the cover from rocking and rattling while the car is in motion. The upper end of the cover 21 is closed by an inclined end wall 26, which serves to shed the water,
30 cinders, and dirt falling thereon and prevents the same from entering the operative parts of the lock.

While the improved lock has been shown and described as applied to a sliding car-door,
35 it will be apparent that the same may be used in connection with the doors of storehouses, barns, &c., either with or without the hasp and staple, and that it may be secured to the door or door-post either in a vertical or horizontal position. It will be seen that the lock
40 mechanism is carried by and contained within the bolt or the lock-case, which forms a part thereof, so that when the bolt is detached the lock mechanism is at the same time removed
45 therewith, thus allowing the several parts of the lock to be taken apart, cleaned, or repaired, and again assembled, either in the same or a different order, for changing the combination.

50 It will also be understood that the lock is susceptible of changes in the form, proportion, and minor details of construction which may accordingly be resorted to without departing from the spirit or sacrificing any of
55 the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a lock, a bolt adapted to be removably inserted in an opening, a lock-case rigidly attached to the bolt and movable therewith, said case being adapted to fit over a fixed rod or bar, and mechanism carried by the case to lock it to the bar, substantially as described.

65 2. In a lock, a sliding bolt, and a lock-case forming an integral part of said bolt, in combination with lock mechanism arranged in

said case and carried by and movable with the bolt, substantially as described.

3. In a lock, a stationary rod or bar having spaced nibs or projections, in combination with a bolt adapted to be removably inserted in an opening, a lock-case adapted to fit over said bar and being rigidly connected to and movable with the bolt, and a series of tumblers mounted in said case and adapted to engage said rod or bar and its nibs or projections, substantially as described.

4. In a lock, the combination with a stationary bar provided with spaced nibs, of a bolt adapted to be removably inserted in an opening, a lock-case adapted to fit over said bar and being rigidly connected to and movable with the bolt, and a series of cylindrical tumblers revolubly mounted in the case and adapted to engage with said stationary bar, substantially as described.

5. In a lock, a bolt adapted to be removably inserted in an opening and having an enlarged portion integral therewith and provided with a longitudinal recess, a longitudinal series of tumblers revolubly mounted in said recess and provided with alining openings having radial notches or extensions adapted to be moved into or out of longitudinal alinement, in combination with a stationary bar having spaced projections, substantially as and for the purpose described.

6. In a lock, a sliding bolt provided with a longitudinal recess, cross webs or partitions arranged at intervals therein and provided with openings and notches as described, and a series of revoluble tumblers arranged between said webs and provided with openings and notches, in combination with a stationary bar having a series of nibs or projections, substantially as and for the purpose described.

7. In a lock, a sliding bolt having an integral extension forming a lock-case, and a series of revoluble tumblers mounted therein and each provided with a central circular opening and a notched radial extension of said opening, and also having an annular rabbet at one side, in combination with a stationary bar having projections for engagement with the tumblers, said tumblers having characters represented on their peripheral surfaces, substantially as described.

8. In a lock, a stationary bar, in combination with a bolt, a lock-case integral with the bolt and adapted to fit over said bar, mechanism carried by said case to lock it to the bar, and a hasp and staple with which the bolt is adapted to engage, substantially as described.

9. A bolt having an integral extension forming a lock-case, and lock mechanism mounted therein, in combination with an inclosing case or cover slidingly mounted on said lock-case and provided with longitudinal slots, and studs on the lock-case for engaging said slotted cover, substantially as described.

10. In a lock, a sliding bolt having a longitudinal recess therein, and a series of cross

webs or partitions located in said recess and provided with openings as described, in combination with a series of revoluble and interchangeable tumblers mounted between
5 said webs and having characters represented on their peripheries, substantially as described.

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

JOHN TURNER ELDRIDGE.

Witnesses:

D. A. DAY,
J. E. EVANS.