H. HANSON.

LOCK FOR DECK PLATES.

APPLICATION FILED MAY 18, 1912.

1,065,358. Patented June 24, 1913.

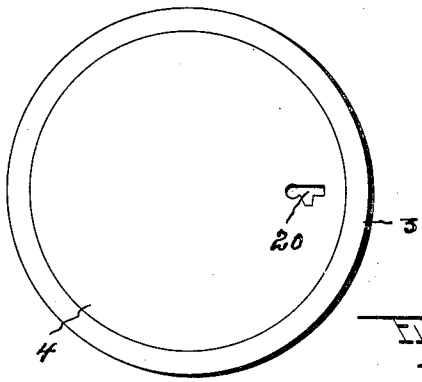

Fig. 1.

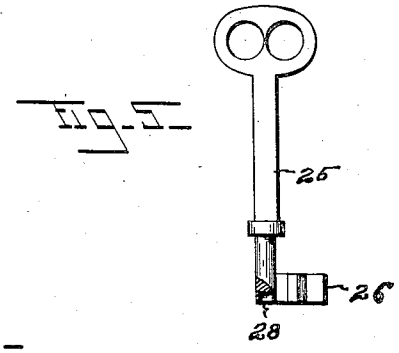

Fig. 5.

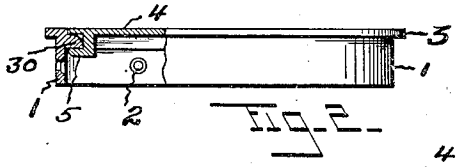

Fig. 2.

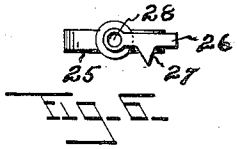

Fig. 6.

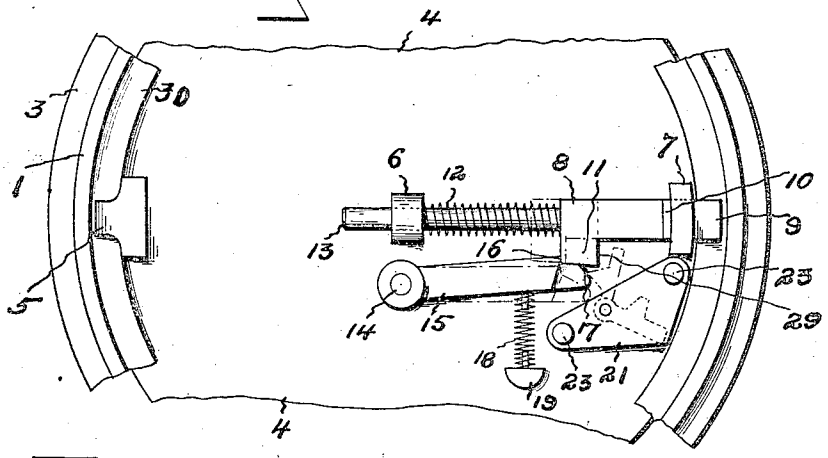

Fig. 3.

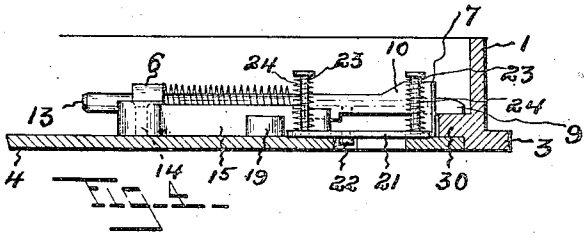

Fig. 4.

WITNESSES:

Florence H. Monk.

Samuel A. Gardner

INVENTOR

Henry Hanson

BY George E. Wells

ATTORNEY

UNITED STATES PATENT OFFICE.

HENRY HANSON, OF MIDDLETOWN, CONNECTICUT.

LOCK FOR DECK-PLATES.

1,065,358. Specification of Letters Patent. Patented June 24, 1913.

Application filed May 18, 1912. Serial No. 698,133.

To all whom it may concern:

Be it known that I, HENRY HANSON, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Locks for Deck-Plates, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a new and improved lock for deck plates, having for its object, among other things, to provide a simple and effective lock to secure the cap in its closed position, and means for preventing the admission of dirt or other foreign matter into the operative mechanism of the lock.

To these, and other ends, my invention consists in the deck plate lock, having certain details of construction, and combinations of parts, as will be hereinafter described and more particularly pointed out in the claim.

Referring to the drawings, in which like numerals of reference designate like parts in the several figures: Figure 1 is a plan view of my improved deck plate lock; Fig. 2 is a side elevation thereof, partly in section; Fig. 3 is an enlarged view of the underside thereof, showing the locking mechanism; Fig. 4 is a side elevation thereof, partly in section; Fig. 5 is an elevation of the key, partly in section; and Fig. 6 is a view of the key looking toward the bottom of Fig. 5.

Heretofore the locking mechanism connected with the cap of a deck plate has consisted of a cabinet or other ordinary lock attached thereto, but this form of lock has not accomplished the results desired, because the locks are not constructed for such purpose, the bolt does not secure a proper hold upon the rim, they are not designed to prevent dirt and other foreign matter entering the lock and interfering with the proper operation thereof, and the cost of the lock, plus the assembling thereof upon the cap, makes the combination rather costly in practice.

In my invention I have eliminated these objections, and have provided a bolt that has a long stroke and mounted so as to have a strong and rigid connection with the rim, and so combined with coöperative parts, few in number, that they are simple in operation, may be manufactured at the minimum cost, and assembled with little or no mechanical skill, a closure plate to keep dirt and other foreign matter out of the lock being also provided.

Referring to the drawings, the numeral 1 designates the rim, having the usual overhanging flange 3, which is secured to the deck by screws, bolts, or other fastening means, which pass through the radial openings 2, and are concealed when the cap is secured in position.

The cap 4 is of the ordinary construction, having upon one side thereof the retaining lug 5, as is usual. Reciprocably movable within the lugs 6 and 7, upon the underside of the cap, is the bolt 8, having a head portion 9, a stop shoulder 10 adjacent thereto, that contacts with the lug 7 and limits the outward movement of said bolt, and a laterally projecting wing portion 11. A spring 12 surrounds the shank 13 of said bolt and exerts its normal tendency so as to move the bolt outwardly and hold the stop shoulder 10 against the lug 7.

Adjacent to the bolt, and pivotally mounted upon the stud 14, connected with the cap 4, is the tumbler 15, having a notch near its outer end, the stop face 16 thereof forming a stop for the wing 11, and the other end thereof being provided with a key face 17. Constant pressure is exerted upon one side of the tumbler 15 to move the same inwardly by the spring 18, which abuts at one end against a lug 19 upon the cap 4 and at the other end against the tumbler 15.

The usual key hole 20 extends through the cap and is covered upon the inside by a closure device, comprising a plate 21, having a key stud 22 fixed therein concentric with the circular portion of the key hole and guided at each end by fixed studs 23, each of which is surrounded by a spring 24 that abuts at one end against the head of said stud and at the other end against said plate, the normal tendency of said springs being to hold said plate against the inside of the cap, as shown in Fig. 4.

The key 25 may be of any preferred form or construction, but as herein shown, is provided with a bit 26, having a tumbler lug 27 upon one side thereof.

In operation, the key bit 26 is inserted through the key hole 20, and the key stud 22 enters the pocket 28 in the end of the key. A slight endwise pressure is now exerted upon the key and the plate 21 is pushed

away from the cap 4 against the tension of the springs 24 until the space therebetween is sufficient to permit the rotation of the key bit. The key is now rotated, being guided by the key stud 22, until the lug 27 contacts with the key face 17 upon the tumbler 15, its then position being shown by broken lines in Fig. 3. The continued rotation of the key in the same direction moves the tumbler 15 so that the stop face 16 thereon is disengaged from the wing 11, at which time the face of the bit 26 adjacent to the lug 27 contacts with the face 29 on the bolt wing 11, and the bolt then moves inwardly against the tension of the spring 12, withdrawing the head 9 from its contact with the inwardly projecting flange 30 upon the rim 1, at which time the cap can be removed from the rim by a slight pull upon the key, which lifts it out of its engagement therewith. The position of the tumbler 15, after it is moved by the key, is shown by broken lines in Fig. 3, wherein it is seen that the path of the wing 11 upon the bolt is entirely free from obstruction. The movement of the key in the reverse direction from that above described permits the spring 12 to throw the bolt outwardly again, and the spring 18 will move the tumbler 15 inwardly so that the stop face 16 thereon is in the path of the wing 11. When the bit 26 is again in register with the key hole 20 it is withdrawn and the plate 21 follows it, closing and covering the key hole. The use of this closure device prevents dirt or other foreign matter working into the lock and also prevents the picking thereof or improper manipulation of the tumbler, so as to move the bolt, without the proper key. If a limited quantity of dirt should in fact drop through the key hole and rest upon the plate 21, it would cause no inconvenience, as the key bit 26 will sweep it off the plate 21 without coming into contact with any of the operative parts of the lock.

The embodiment of this invention may be accomplished by the use of parts differing in form and detail from those herein shown and described, and applicant does not therefor limit himself to the exact construction herein shown and described, but claims all that falls fairly within the spirit and scope of his invention.

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

A lock for deck plates and the like comprising a bolt, means carried by the deck plate cap for guiding the bolt, a spring for normally maintaining the bolt projected to locking position, a projection carried by the bolt coöperating with one of the guiding means to limit the movement of the bolt toward locking position, a lug extending at right angles from the bolt intermediate its guiding means, a tumbler pivotally mounted upon the cap and formed at its free end with a notch to receive the lug for locking the bolt against retraction, the forward edge of the tumbler in advance of the notch being inclined with respect to the adjacent face of the lug to present an angular aperture between said inclined edge of the tumbler and adjacent face of the lug, whereby through a suitably formed key, pressure upon said inclined surface will swing the tumbler in a direction from the bolt to release the latter for retraction.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY HANSON.

Witnesses:
G. E. Doebener,
G. Overhysser.