

(No Model.)

E. B. WEIGLE.
SEAL LOCK.

No. 560,954.

Patented May 26, 1896.

Fig. 1.

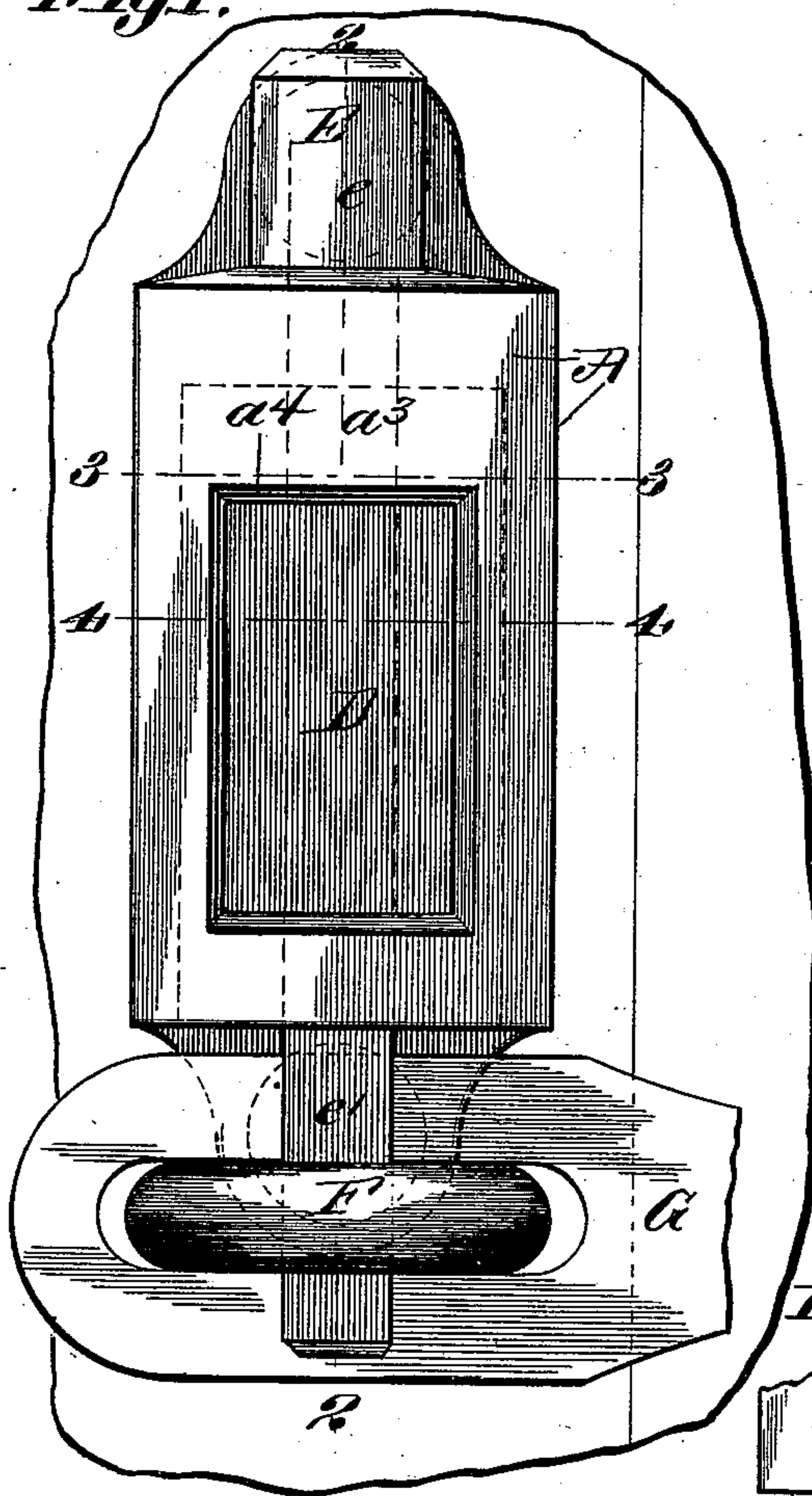


Fig. 2.

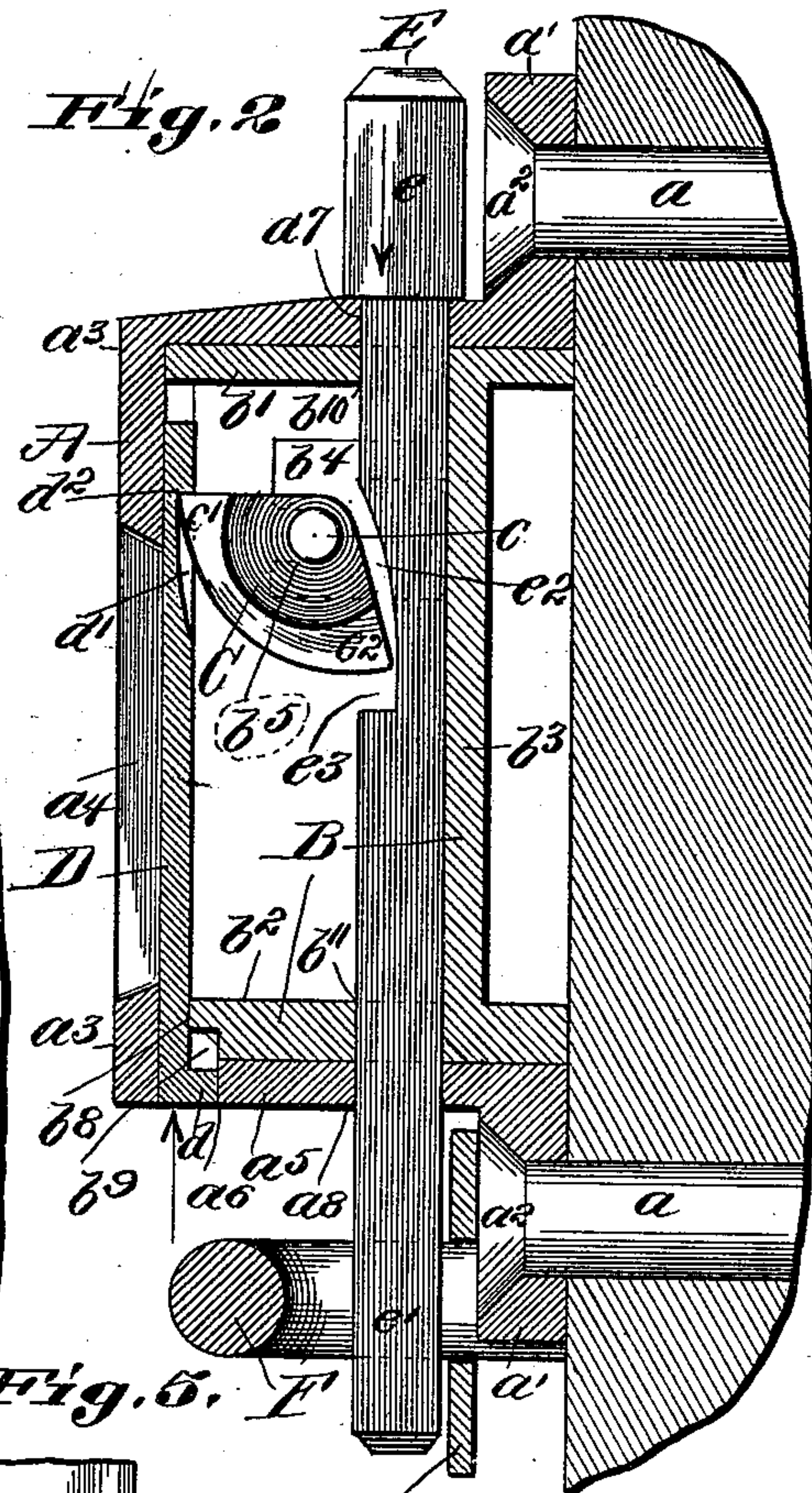


Fig. 3.

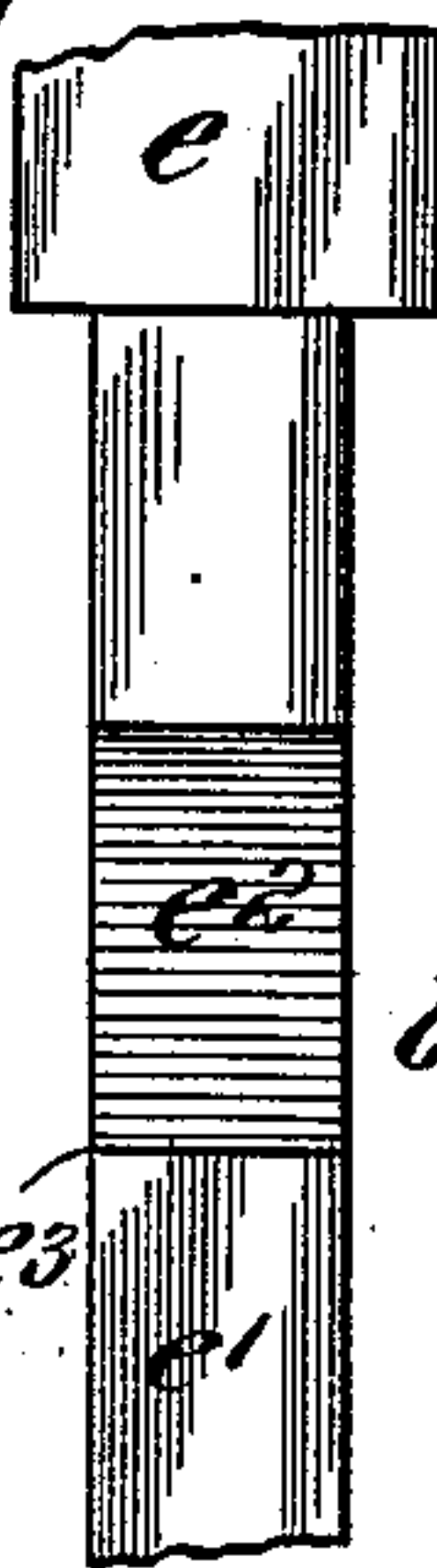


Fig. 4.

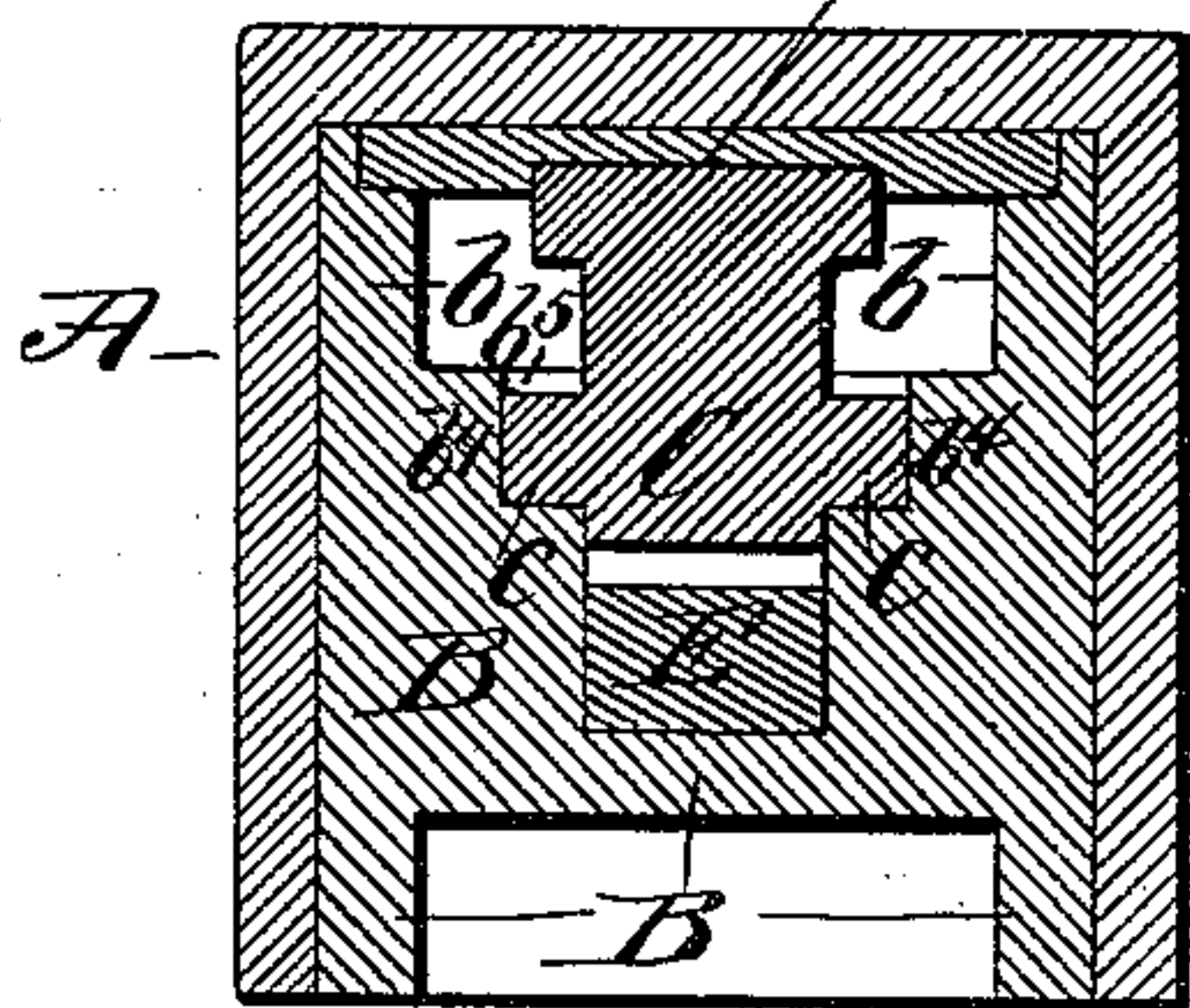


Fig. 5.

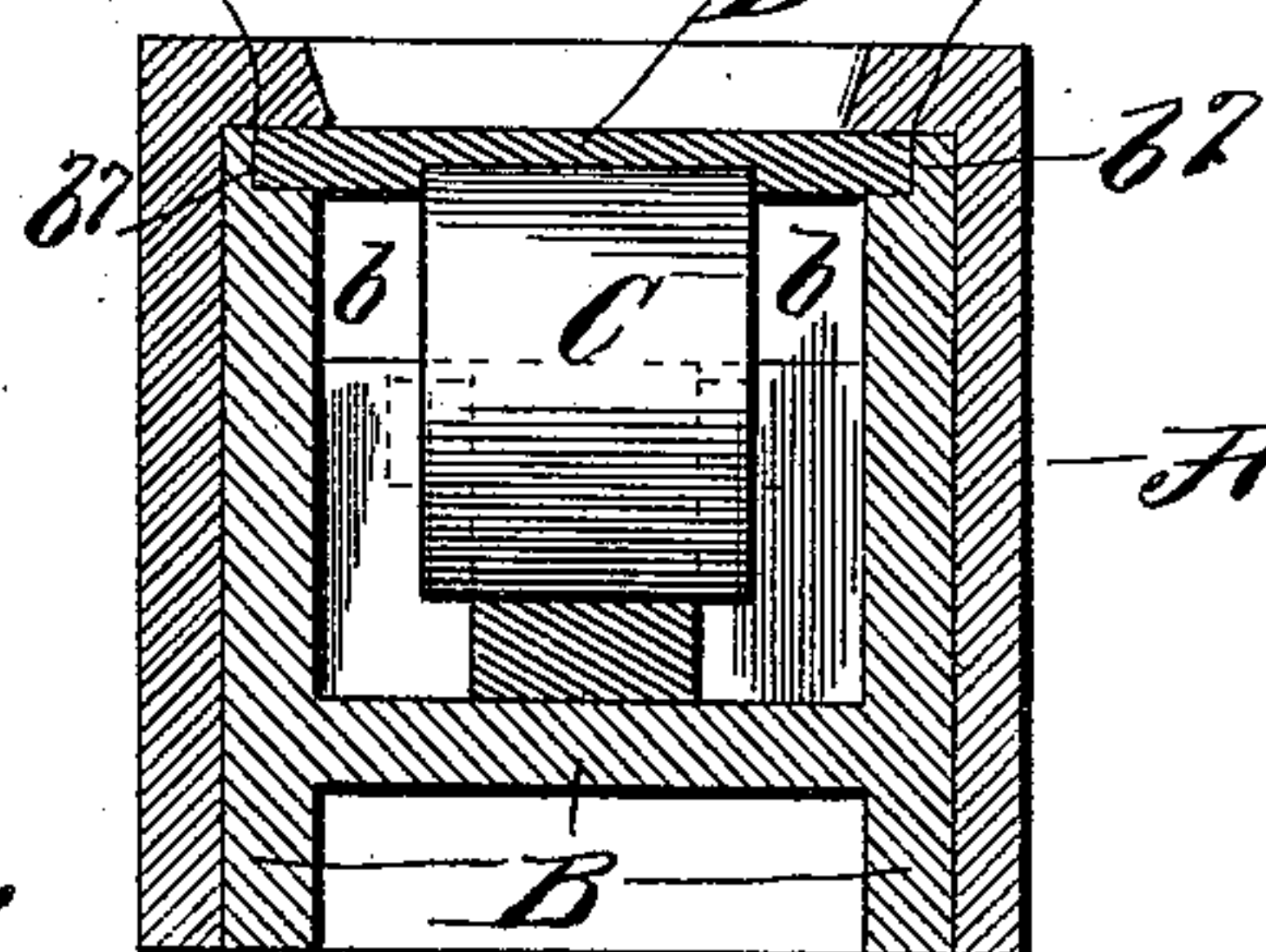
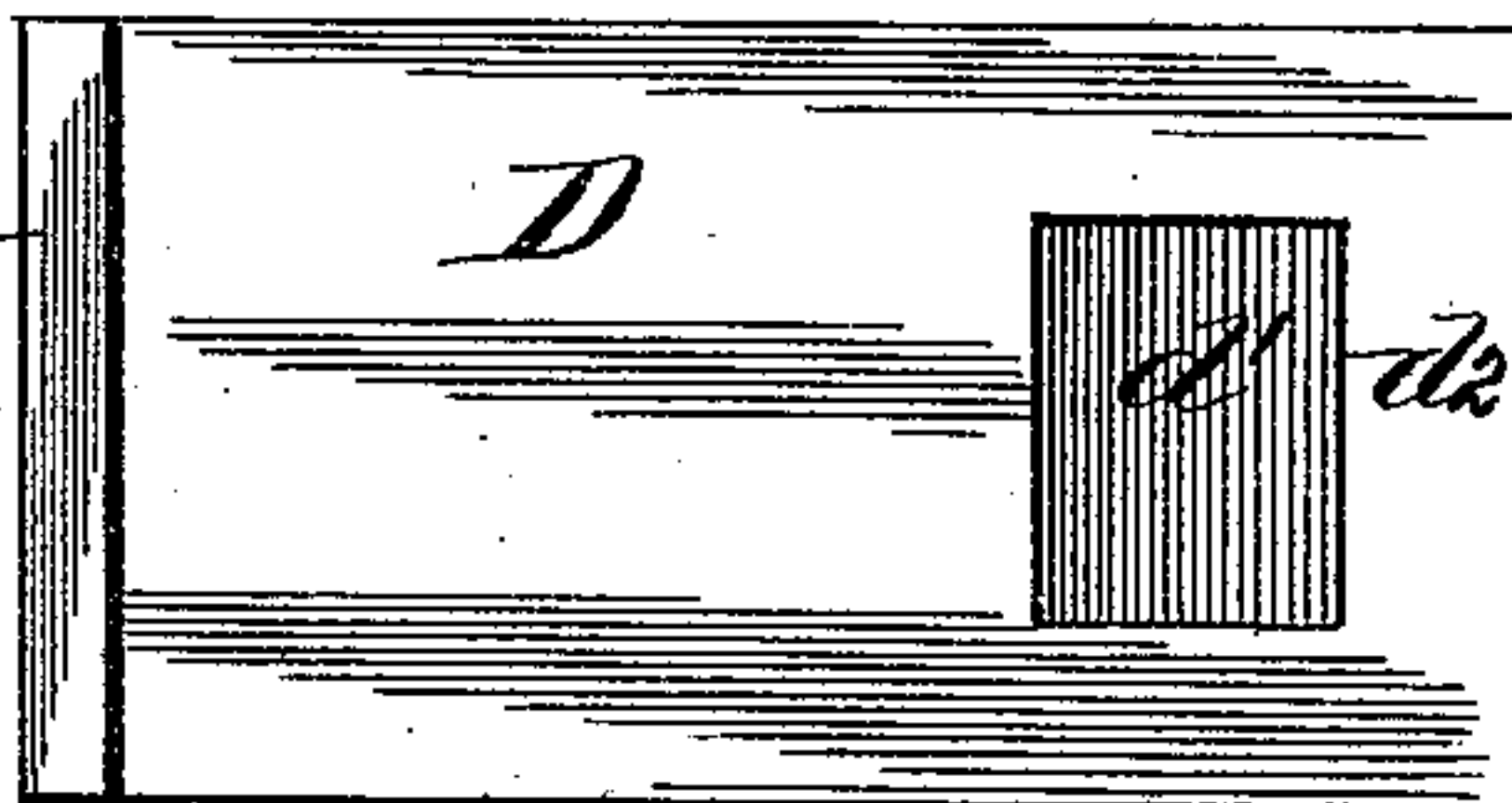


Fig. 6.



Attest;
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Edward B. Weigle
by Alex. Moody
his Atty.

UNITED STATES PATENT OFFICE.

EDWARD B. WEIGLE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
JOHN J. KINNEY, OF SAME PLACE.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 560,954, dated May 26, 1896.

Application filed June 24, 1895. Serial No. 553,847. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. WEIGLE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Locks, of which the following is a specification.

My invention relates, chiefly, to improvements in what are known as "car-seal locks;" and the object of my improvement is to provide a lock which can only be opened while in place by breaking one of the parts, and which will be simple, cheap, strong, and durable.

The accompanying drawings illustrate the preferred forms of the mechanism by which I attain said object.

Figure 1 is a front elevation of the entire device. Fig. 2 is a vertical section of the lock on the line 2 2, Fig. 1. Fig. 3 is a cross-section on the line 3 3, Fig. 1. Fig. 4 is a cross-section along the line 4 4, Fig. 1, showing the parts as they appear when viewed from beneath. Fig. 5 is a front elevation of the pin or bolt with its lower end and the top of its head broken away, and Fig. 6 is a rear elevation of the slide used to close the front of the lock-case.

Similar letters refer to similar parts throughout the several views.

A is the lock-case. It is preferably attached in place in a substantially vertical position by screws or bolts a , passing through lugs or projections a' , extending from the top to the bottom of the case. The heads a^2 of the fastenings a are preferably countersunk in the lugs a' , substantially as shown. The front plate a^3 contains an opening a^4 . The bottom a^5 of the case contains a transverse slot a^6 , and substantially vertical bolt or pin holes a^7 and a^8 pass through the top and bottom of the case.

Within the casing A a lining B is shown, consisting of sides b , a top piece b' , a bottom piece b^2 , a vertical cross-piece b^3 , and brackets b^4 , in which bearings b^5 are formed for the trunnions of the tumbler, hereinafter described. The rear edges of the sides b of the lining B may rest against the side of the car or other structure to which the lock is attached, and the front edges may rest against

the casing A. Said front edges of the sides b are preferably rabbeted at b^6 , so as to form slots b^7 between them and the casing A. A transverse slot b^8 is formed in the bottom b^2 of the lining at its front edge, and the bottom of the lining is rabbeted at b^9 . The slot b^8 is preferably narrower than the slot a^6 through the bottom of the casing A. The top and bottom of the lining B are pierced by bolt-holes b^{10} and b^{11} , which, when the lining is in place, register with the bolt-holes a^6 and a^7 through the casing. As will be obvious, the case A and lining B above described may all be made of one piece instead of two, and whether made in one or two or more pieces the operation of the lock will be the same.

C is a pivoted tumbler. It is preferably provided with trunnions c , which turn in the bearings b^5 . It is also provided with two projections c' and c^2 , whose exact form is not material. They may be formed as shown in the drawings, and are preferably so located with reference to the pivotal point as to prevent the tumbler from being forced out of engagement either by a pull on the pin in the absence of the seal D or by a pull on the seal in the absence of the bolt E; but this is not essential.

D is a seal used to close the opening a^4 in the lock-case A. It is preferably provided with a lip d , and is shown notched at d' . The top d^2 of the notch is preferably at right angles to the face of the seal, so as to form a shoulder or stop. The seal is inserted in position by pushing it up through the slot a^6 in the bottom of the lock-case and the slot b^8 in the lining B, while its edges occupy the slots b^7 . When pushed up in this manner, the projection c' of the tumbler C is pushed out of its path and the tumbler caused to make a partial revolution; but when the seal D is pushed up far enough to carry the top d^2 of the notch d' above the projection c' the latter is forced by gravity to drop into the notch, and thus engages the seal D. The lip d of the seal enters the slot a^6 in the bottom of the casing, and when the seal is in place its bottom preferably comes about flush with the lower end of the lock-case. The lip d prevents anything from being passed up into the

interior of the casing through the slots a^6 and b^8 . As will be obvious, the lip d of the seal D is not an essential element, though a desirable one, and when it is understood that the only object in having the inner face of the seal D notched at d' is to provide a part, such as d^2 , which will come in contact with the projection c' when an attempt is made to push or pull the seal D downward, it will be seen that either one of a very large number of different well-known forms of stops or projections might be substituted for the one shown without in any way changing the mode of operation of the device, and I desire not to be limited to the notch described, but to cover all equivalents. The seal D is preferably made of a brittle material—such, for instance, as cast-iron or glass. Upon the outer face of that portion of the seal D which comes opposite the opening a^4 of the lock-case any desired identifying letters and words may, where the seal is of cast-iron, be cast thereon—such, for instance, as the name of the town from which the car comes and the initials of the road which received the load from the shipper.

E is a bolt having a head e , and whose lower end is lettered e' . It is preferably either rectangular or oblong in cross-section; but it is not essential that it should be so. The bolt E is preferably notched at e^2 , so as to provide a shoulder e^3 , which will engage the under side of the projection c^2 of the tumbler C when an attempt is made to withdraw the bolt. What has been said concerning the notch in the seal D is equally applicable to the notch in the bolt. I do not desire to be confined to the use of a notch for providing a shoulder or stop for engagement with the projection c^2 of the tumbler C, but desire to cover all equivalents. The bolt E preferably passes down through the lock-case A, as shown, and when in place its head e preferably rests upon the top of the case A, while its lower end projects down through the bottom of the case A and passes far enough into or through a staple F to prevent the withdrawal of the hasp G, and when in that position its head e guards the head a^2 of the screw or other fastening behind it, while the lower end guards the head of the fastening a , passing through the lower lug a' of the case. As will be obvious, however, it is not necessary to the operation of the lock that the head of the bolt or pin E should project above the top of the case A, or that it should be removable through the top of the case, though I prefer the form of device shown.

A car may be locked with my device as follows: The car-door being closed and the hasp G being in place, the bolt E is pushed down into position and through the staple F. When the bolt E is inserted, the tumbler C swings to one side, so as to permit it to pass; but when it is far enough down, the projection c^2 is caused by gravity to swing into the notch e^2 of the bolt, and in the form of my

device shown in the drawings the bolt cannot be withdrawn thereafter by pushing or pulling it. If an attempt is made to pull or push the bolt E upward, the shoulder e^3 is brought into contact with the projection c^2 , and the tumbler is prevented from turning up out of the way by the bolt itself, as will be obvious. The tumbler could at this stage be disengaged, however, by inserting the fingers through the opening a^4 in the case and disengaging it by pulling the projection c^2 back far enough to allow the shoulder e^3 to pass. To make the locking complete, the seal D is next pushed up into position. The projection c' of the tumbler C gives way before it and permits the top of the seal to pass. As soon as the shoulder d^2 passes above the projection c' , however, the projection c' is caused by gravity to drop into the notch at d' , and if the seal D is then allowed to drop the shoulder d^2 comes to rest upon the top of the projection c' . Where the projection c' is formed so that there is not room for it to turn down out of the way of the shoulder d^2 , as it is in the construction shown in the drawings, it is impossible when the seal D is locked to withdraw it without either breaking it or taking the lock off the car, even where the projection c^2 does not bear against the bolt E or an equivalent stop; but where it does bear against the bolt E the bolt E operates as a stop to prevent its turning, whether otherwise revoluble out of engagement or not. The seal D, on the other hand, would prevent the disengagement of the projection c^2 from the shoulder e^3 of the bolt E, if it were otherwise possible. When it is desired to open the car, the seal D is broken by a blow or otherwise. An opening being thus made, the tumbler C is caused to turn so as to disengage the bolt or pin E, which may then be lifted up high enough to permit the disengagement of the hasp. The broken pieces of the seal are also removed and a new seal inserted when the car is started out again.

I claim—

1. The combination in a car-seal lock of a case having an opening therein, a sliding seal closing said opening, and a pivoted tumbler, which turns to admit said seal, and is caused by gravity to engage and lock it, substantially as described.

2. The combination in a car-seal lock, of a case having an opening, a seal closing said opening; a reciprocating bolt; and a pivoted tumbler, which automatically locks said seal and bolt, substantially as described.

3. The combination in a car-seal lock of a case, having an opening in one of its faces; a seal, closing said opening, which has a lip along the inner side of its outer end, which rests in a recess when the seal is in place; and a pivoted tumbler within said case, engaging and locking said seal.

4. The combination in a car-seal lock, of a case having an opening in one face; a seal having a lip along the inner side of its lower

end, closing said opening; a bolt passing through said case, having a head at one end resting against the case, and at its other end projecting beyond the case; and a pivoted tumbler within said case, automatically engaging said seal and bolt when they are in position; substantially as described.

5. In a car-seal lock, a case having an opening through one of its faces, and within said case the tumbler C; and a pivotal support for said tumbler; the axis upon which the tumbler turns, being substantially horizontal and said tumbler C having a part c' whose weight tends to force it outward toward said opening, and another part c^2 , which gravity tends to force inward far enough to project within a vertical plane parallel with the axis of the tumbler and passing through said axis, substantially as shown and described.

6. The combination in a car-seal lock of a reciprocating bolt; a stop positively limiting the movement of the bolt in the direction in which it is shot; a pivoted gravity-tumbler automatically engaging said bolt when shot, and preventing its retraction; and means making it impossible to disengage the tumbler by revolving the bolt; so that, when the car-seal is locked the bolt cannot be unlocked

either by turning it or moving it longitudinally.

7. The combination in a car-seal lock, having an opening through one face of a sliding seal, closing said opening and having on its inner side, a stop and a pivoted tumbler, whose pivotal point is nearer the end of the case, from which the seal is inserted, than said stop, and rests against said seal between said stop and the opening through which the seal is introduced, at an angle which prevents its being turned out of position by an attempt to remove the seal, substantially as described.

8. The combination in a car-seal lock of a bolt having a stop on one side thereof; and a pivoted tumbler, whose pivotal point is farther from the point of the bolt than said stop, and which tumbler rests against such bolt on the side of said stop, farthest from the point of the bolt, at an angle which prevents its turning, to permit the passage of the stop, when pressure is brought to bear upon the end of the bolt, substantially as described.

Witness my hand this 22d day of June, 1895.

EDWARD B. WEIGLE.

Witnesses:

BENJ. F. REX,

MARK MOODY.