C. H. HOPKINS.
Seal-Bolt.

No. 206,238. Patented July 23, 1878.

Fig 1.

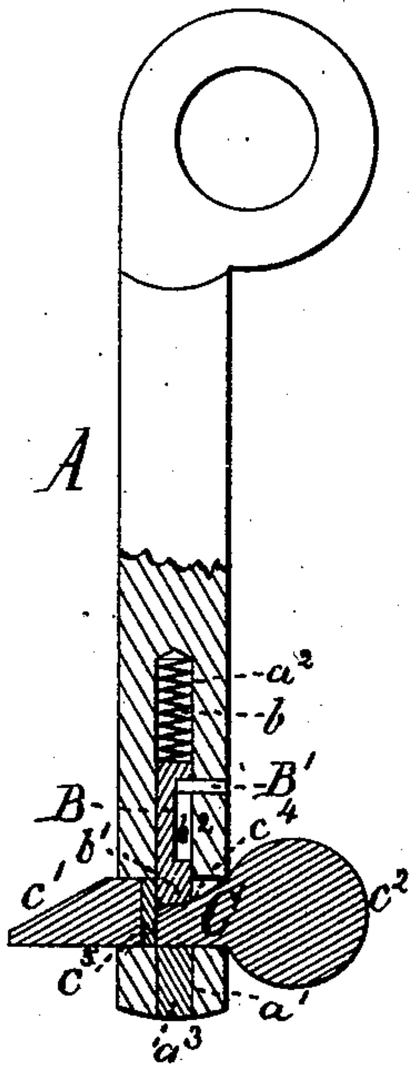


Fig 2.

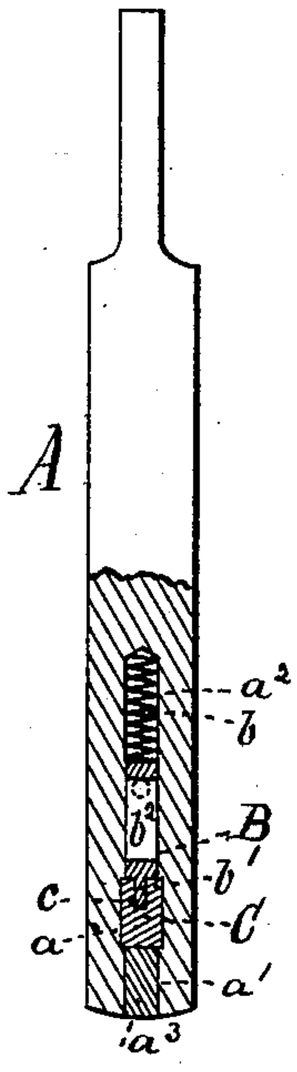


Fig 3.

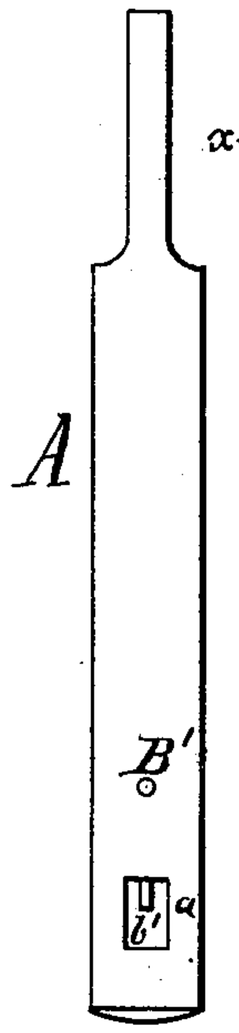


Fig 5.

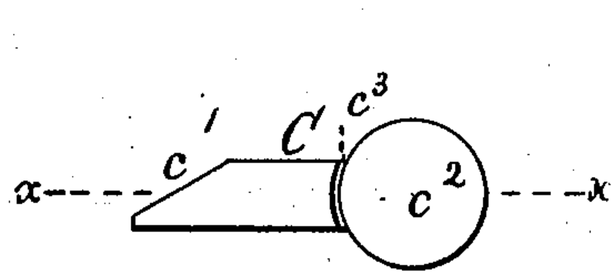


Fig 6.

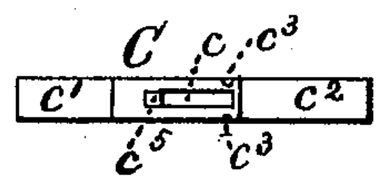


Fig 6.

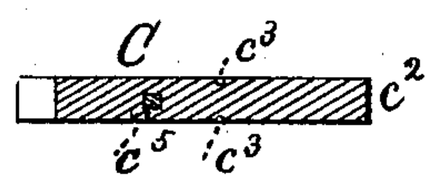


Fig 7.

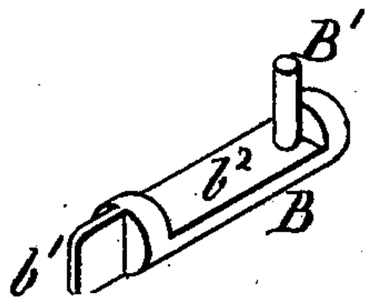


Fig 8.

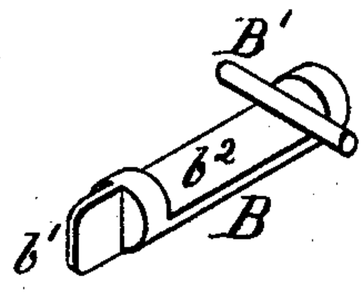
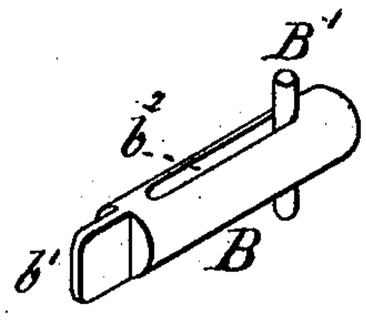


Fig 9.



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UNITED STATES PATENT OFFICE.

CHARLES H. HOPKINS, OF LYNDONVILLE, VERMONT.

IMPROVEMENT IN SEAL-BOLTS.

Specification forming part of Letters Patent No. **206,238**, dated July 23, 1878; application filed June 12, 1878.

To all whom it may concern:

Be it known that I, CHARLES H. HOPKINS, of Lyndonville, in the county of Caledonia and State of Vermont, have invented a new and useful Improvement in Seal-Bolts for Railroad-Cars, Mail Bags, and analogous uses; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of the upper part of my seal-bolt and a section of the lower part, containing the sealing device. Fig. 2 is a similar view of the same turned at a right angle to the view shown in Fig. 1. Fig. 3 is a rear elevation of the same. Fig. 4 is a detail view of the removable portion of the seal-bolt. Fig. 5 is a top view of the same. Fig. 6 is a horizontal section of the same in the line $x\ x$ of Fig. 4. Fig. 7 is a perspective view of a spring bolt and check used with my seal-bolt, and Figs. 8 and 9 are modifications of the same.

The nature of my invention consists in certain constructions, combinations, and arrangements of parts, hereinafter fully described and specifically claimed, whereby a seal-bolt especially adapted for locking and sealing railroad-cars, mail-bags, &c., against "picking" is produced.

In the accompanying drawings, A represents the body of a seal-bolt, which is provided with an oblong transverse mortise, a, and an axial bore, $a^1\ a^2$. The lower part, a^1, of the bore is provided with a plug, a^3, as shown, by which the end of the bolt is closed after all the parts constituting the bolt proper, A, are in place.

Into the bore $a^1\ a^2$ a spring, b, and a bolt, B, are inserted. This spring-bolt has a tenon, b^1, at its lower end, which projects below the portion a^2 of the bore into the mortised portion of the bore a distance about equal to half the length of the mortise a; and it also has a depression, b^2, upon which the flat end surface of a stop pin or check, B′, bears, said check being inserted in the seal-bolt A far enough to pass beyond shoulders at the top and bottom of said depression b^2. By this construction the bolt B and its tenon b^1 are prevented from turning, while the upper termination or shoulder of the depression b^2 abuts against the pin B′, and thus limits the "throw" of the bolt B and prevents the spring b from pushing the same too far down into the mortised portion of the bore $a^1\ a^2$.

Into the mortise a a sealing-pin, C, of either soft metal, such as lead, or of hard metal, is inserted. I prefer to employ a soft-metal sealpin, and to guard against its destruction by a hard-metal portion inserted through it, as hereinafter described. This sealing-pin is provided with a mortise, c, for receiving the tenon b^1; and an inclined surface, c^1, is formed on it for pushing up the bolt B while the sealing-pin is being inserted into the mortise a of bolt A.

The sealing-pin C is provided with a head, c^2, which abuts against the seal-bolt A above and below the mortise a, and thereby securely closes it against the insertion of picking instruments on either the upper or lower side of the sealing-pin.

At the junction with the head c^2 the sealing-pin C is provided with two-side grooves or nicks, c^3, which weaken the connection between the body of the sealing-pin and its head c^2, and thus facilitate the breaking off of the head after the sealing-pin has performed its service.

The mortise c which is provided in the sealpin C is in form of a three-sided cavity, with an inclined bottom, which rises gradually toward the head c^2, as shown in Fig. 1, in order to facilitate the withdrawal of the pin C from the mortise a after the head c^2 is broken off. The tenon of the bolt B, in the act of withdrawing the pin C, readily slides up on the inclined bottom c^4 and allows the seal-pin C to pass out on the side opposite that where it was inserted.

The front side of the mortise c is, like the side walls thereof, vertical, and abuts against the vertical front side of the tenon, and thus makes the withdrawal of the sealing-pin C backward impossible, and hence the head c^2 must be broken off from the body of the pin to effect its withdrawal.

In order to provide against gradual working or grinding down of the front side of the mortise c upon the tenon b^1 in cases where the sealing-pin C is made of soft metal, such as

lead, and also to resist the passage of a cutting-tool, which the soft metal would not do in an attempt to violate the seal-pin at its front end, a piece of hard metal, c^5, is inserted through the seal-pin at the front side of the mortise, which piece of metal abuts against the tenon b^1.

If the tenon b^1 was of the same thickness as the sealing-pin C it would be easy for a burglar to force a thin picking-tool between the side of the sealing-pin and the side wall of the mortise a and lift the bolt B sufficiently to allow pin C to be withdrawn without breaking off the the head c^2 or without leaving other indications or marks of violence made during the work of opening and robbing the car; but by inserting a thin tenon into the body of the pin C, as in my invention, the tenon cannot be reached and the bolt B thereby lifted by any picking-tool, and hence the pin C cannot be withdrawn until it has been so damaged as to give rise to suspicion from its appearance that the car has been robbed.

I prefer to make the seal-pin C of soft metal, because any attempt to violate or pick the seal-bolt will cause the seal-pin to become indented or marred, and so expose such attempt.

I have shown, in Figs. 8 and 9, two modified constructions of my spring-bolt B and check B′, wherein the check is placed across the face of the depression b^2 in the first case and through a longitudinal slot, b^2, in the second case. Both modifications serve the same purpose as the construction shown in Fig. 1, and are the equivalents of the same.

Operation: The seal-bolt A is inserted into the staple which holds the hasp or hasps of the car-door, and the sealing-pin C is inserted into the mortise a of the bolt A. During this act the inclined surface c^1 moves under and lifts the tenon b^1 and bolt B gradually to the full height of the width of the body of the sealing-pin, over the top of which it passes until it arrives at the mortise c, into which it drops as soon as the head c^2 of the sealing-pin C touches the upper and lower edges of the mortise a. The car, by this means, is locked and sealed, and remains so until its reaches its destination, when the head c^2 of the pin C is broken off at the nicks c^3, thus enabling the operator to pull out the sealing-pin on the side of the bolt A opposite to that where it was inserted, the tenon b^1, during the act of withdrawing the pin, sliding upon the inclined bottom c^4 of the mortise c and over the broken end of the seal-pin C.

Having described my invention, what I claim as new therein is—

1. A seal-bolt, A, provided with a spring-bolt, B, the lower end of which has a tenon, b^1, narrower than the thickness of the body of the sealing-pin, in combination with a sealing-pin, C, provided with a mortise, c, constructed with a flat end and side walls and an inclined bottom, whereby lateral and end access to the end of the seal-pin by picking-instruments is prevented, while at the same time the pin cannot be withdrawn backward, substantially as and for the purpose set forth.

2. The combination of the seal-bolt A, having a mortise, a, the spring-bolt B, having the tenon b^1, and the sealing-pin C, having the mortise $c\,c^4$, with flat end and side walls and an inclined bottom and a head, c^2, substantially as and for the purpose described.

3. The seal-bolt A, provided with a spring-bolt, B, which is prevented from turning, and is limited in its "throw" with respect to the mortise a, in combination with a seal-pin, C, having the inclined surface c^1 and the mortise c, with inclined bottom and a flat end and side walls, substantially as and for the purpose described.

4. A soft-metal seal-pin, C, provided with a hard-metal wearing and protection portion, c^5, substantially as and for the purpose described.

CHARLES H. HOPKINS.

Witnesses:
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