

No. 751,690.

PATENTED FEB. 9, 1904.

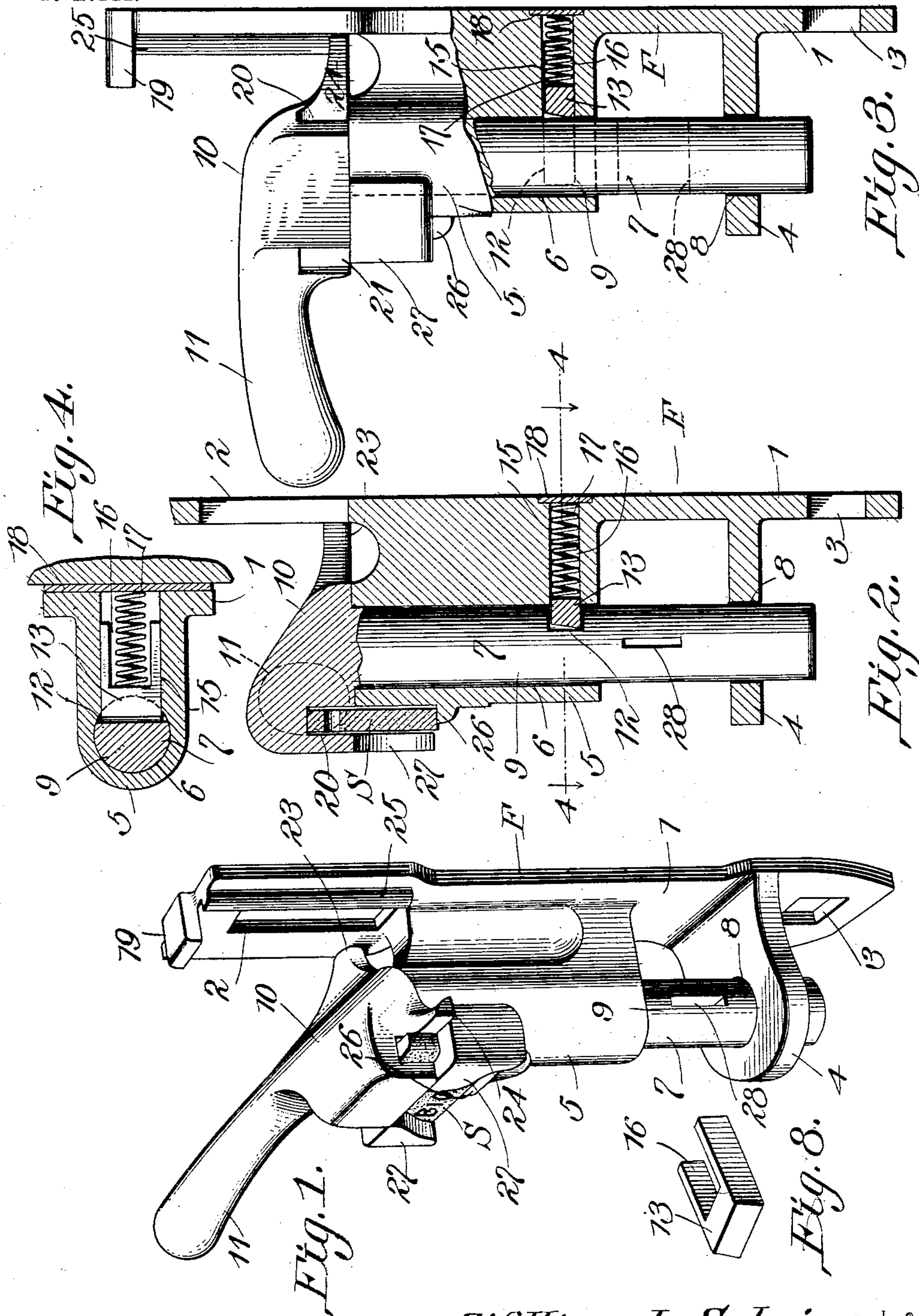
W. L. SEBRING.

SEAL LOCK.

APPLICATION FILED AUG. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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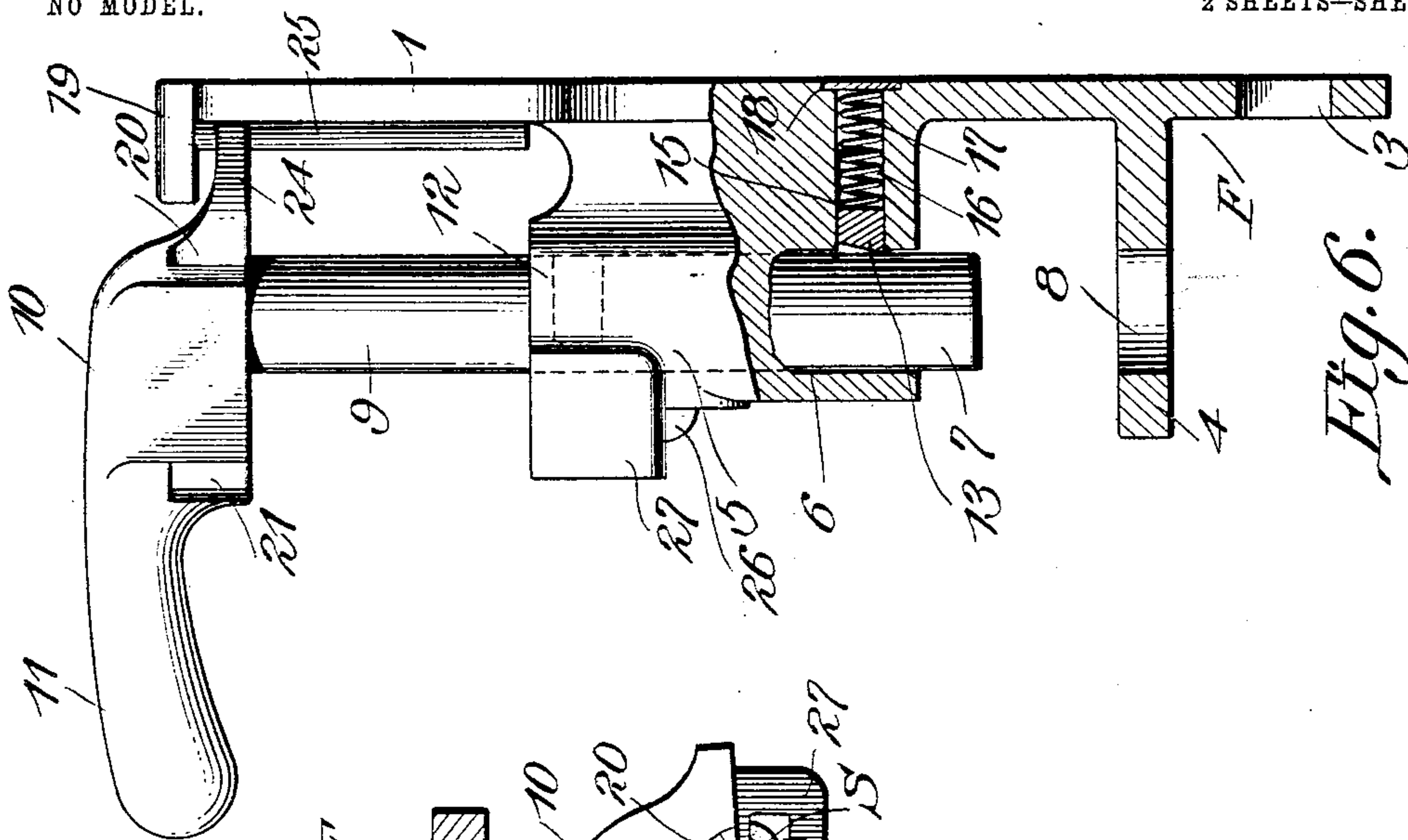


Fig. 6.

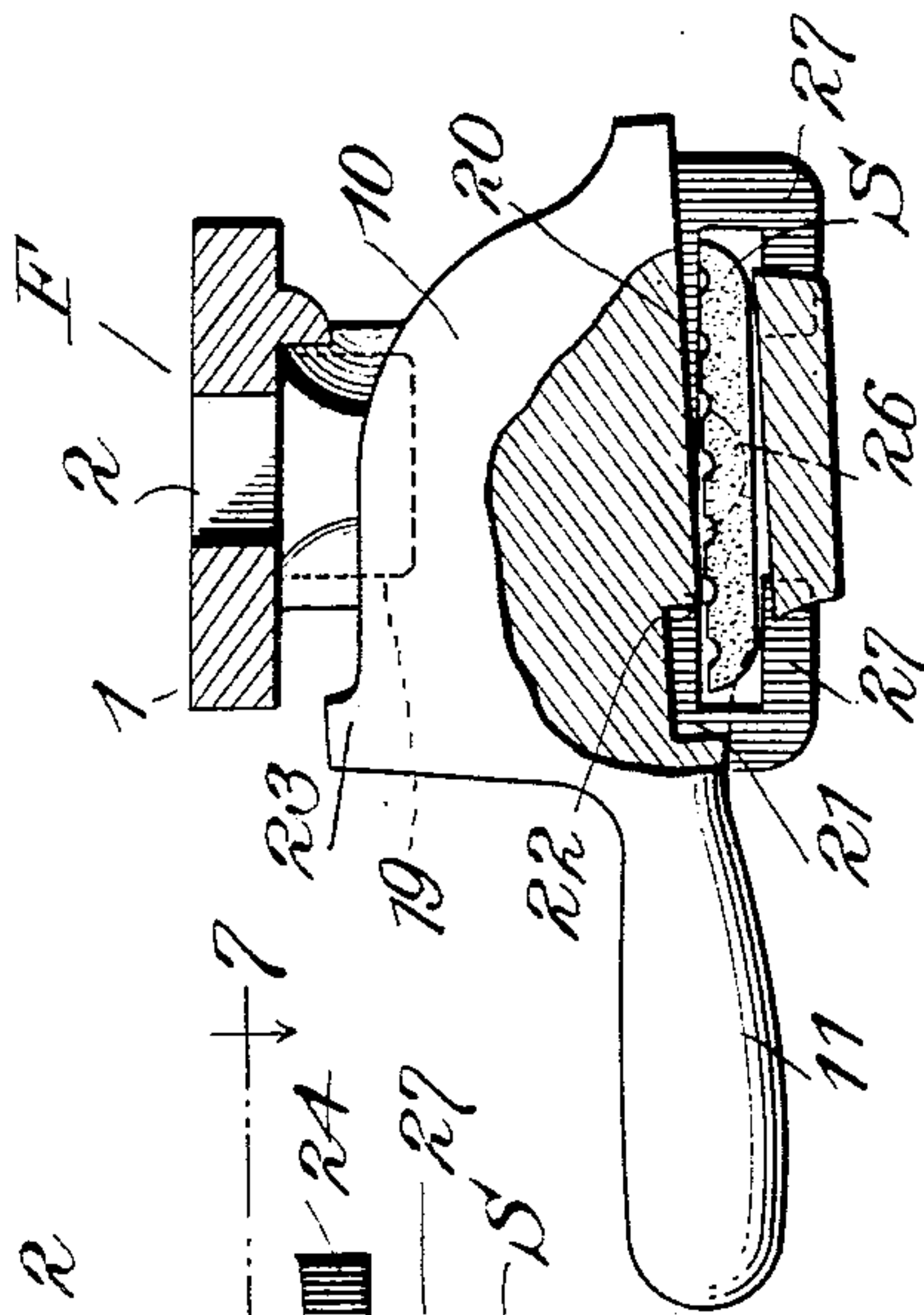


Fig. 7.

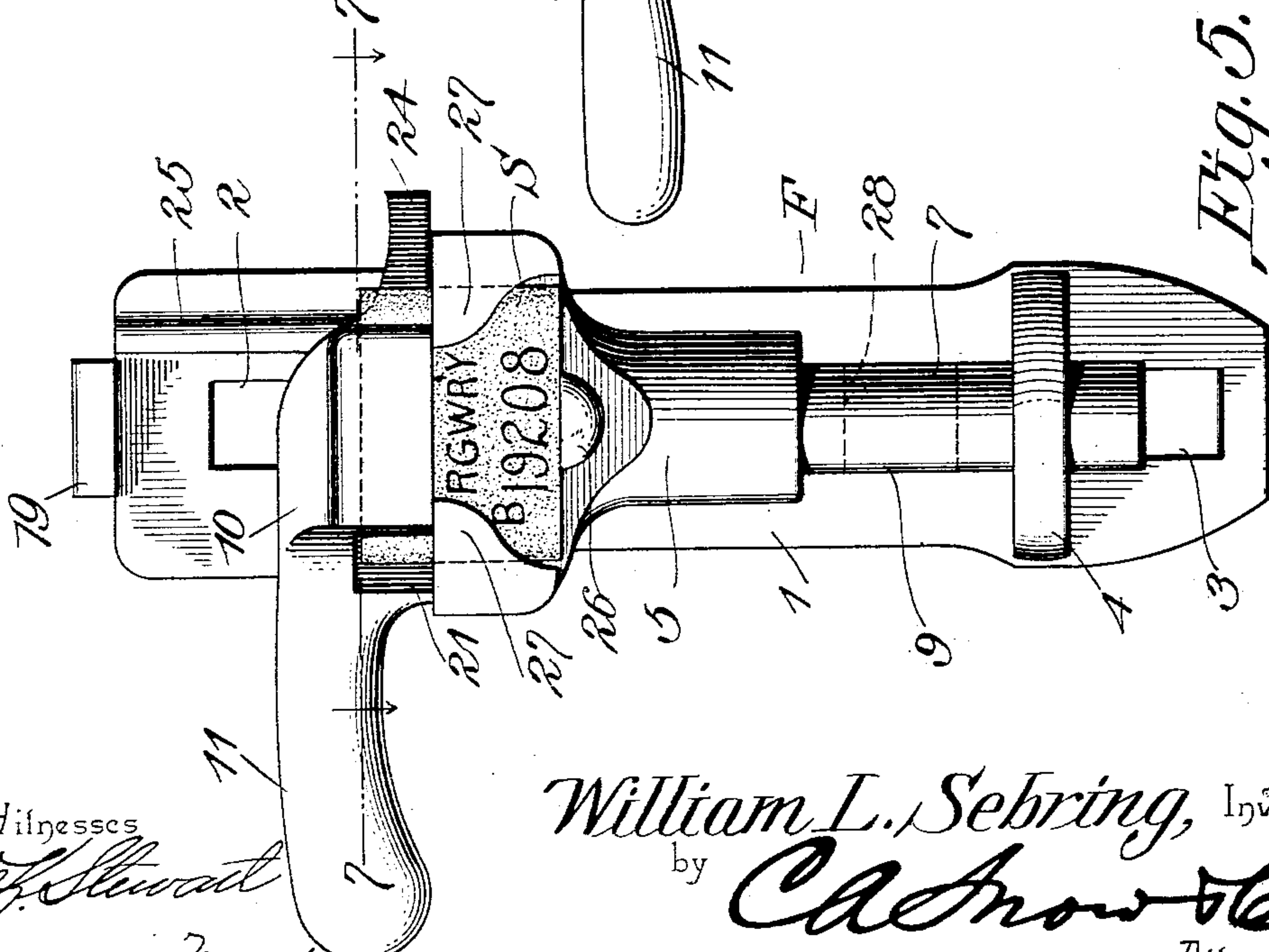


Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM L. SEBRING, OF COLORADO SPRINGS, COLORADO.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 751,690, dated February 9, 1904.

Application filed August 27, 1903. Serial No. 171,013. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. SEBRING, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Car Seal-Lock, of which the following is a specification.

This invention relates to seal-locks of the type commonly employed in securing the doors of freight-cars.

The invention consists in certain improvements upon the seal-lock patented to me June 30, 1903, by Letters Patent No. 732,593.

The object of the invention is threefold in character, and comprises the provision of means to prevent accidental breakage of the seal by the oscillatory movement of the locking-bolt occasioned by the jolting of the car while in motion, the provision of means to prevent the exposure of the recess in the locking-bolt with which the spring-latch engages, and the formation of the seal-retaining portions of the locking-bolt and bolt-support in such manner that the breaking of the seal is facilitated when an effort is made to break the seal.

The practical use of the form of lock shown in the prior patent above mentioned has shown conclusively that the form of head on the locking-bolt shown in that patent is not entirely suitable, because when the bolt is turned in the socket provided therefor in the bolt-support in order to break the seal the engagement of the end of the seal with the end of the slot in the bolt-head and with the opposite end of the seal-seat makes it necessary to overcome a considerable resistance, which would be entirely obviated if the slot in the bolt-head were open at the ends and so formed that the point of engagement of the bolt-head with the seal when the bolt is turned in order to break the seal were upon the inner face of the seal nearer the middle.

Experience with the bolt shown in the prior patent has also shown that it is eminently desirable to form the bolt-support in such manner that when the bolt is raised to permit the insertion of a seal into the seal-seat the latch-receiving recess in the bolt will not be raised above the top of the bolt-support, for when

the lock is so constructed that the latch-receiving recess is exposed when the bolt is raised it will be easy for any one who wishes to obtain fraudulent access to the car to fill up the recess with any suitable material, so as to prevent the engagement of the latch with the recess when the bolt is lowered into the usual locking position.

In overcoming the defects mentioned in the foregoing paragraphs and in attaining the other objects above mentioned I make use of the construction and combination of parts of a seal-lock hereinafter described, illustrated in the accompanying drawings, and having the novel features thereof particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in perspective of the lock with a seal in the seal-seat and the locking-bolt in operative position. Fig. 2 is a vertical section through the lock with the parts in the relation shown in Fig. 1. Fig. 3 is a view, partly in side elevation and partly in section, of the lock with the bolt turned into position to break the seal. Fig. 4 is a sectional view on the line 4 4 of Fig. 2. Fig. 5 is a front elevation of the lock with the parts in the position shown in Fig. 1. Fig. 6 is a view, partly in elevation and partly in section, showing the bolt raised to permit the introduction of a seal into the seal-seat. Fig. 7 is a sectional view on the line 7 7 in Fig. 5 looking in the direction of the arrows, the locking-bolt being turned slightly in the direction necessary to break the seal and showing the way in which the bolt-head and the seal-seat cooperate in breaking the seal. Fig. 8 is a detail view in perspective of the block forming the latch which retains the bolt in its socket.

Referring to the drawings, in which corresponding parts are designated by the same characters of reference, F designates a frame, which may be of any suitable structure, but which comprises, preferably, a plate 1, having openings 2 and 3 for the reception of suitable means for fastening the frame to a car. Projecting forward from the plate 1, near the lower end thereof, is a keeper 4, over which the ordinary hasp of the car-door is slipped. At some distance above the keeper 4 is the

bolt-support 5, which is provided with a vertical opening 6 for the passage of the bolt, (designated generally as 7.) The bolt 7 extends downward below the bolt-support and passes through an opening 8 in the keeper immediately beneath the opening in the bolt-support. The bolt 7 consists of a cylindrical portion 9, a head 10, and a handle-lever 11, disposed substantially at right angles to the cylindrical portion of the bolt. About mid-way of its length the cylindrical portion 9 of the bolt is provided with a transverse recess 12 for the reception of a spring-pressed latch 13, which is preferably of the form shown, consisting of a block slidably mounted in a way 15 in the bolt-support and provided at its rear end with a slot 16 for the reception of a spring 17. At its forward end the latch is formed with a slightly-inclined face, but is adapted when in engagement with the recess in the bolt to contact with the bottom thereof entirely across the recess, so as to hold the bolt securely against oscillatory movement in the opening provided for it in the bolt-support. The latch fits within the way provided for it in the bolt-support as closely as possible without interfering with its free movement under the influence of the spring, and the spring is retained in position by means of a small plate 18 let into the back of the plate 1.

To prevent the complete removal of the bolt from the support, a lug 19 is provided at the top of the plate 1 in the path of the bolt-head, as shown in Fig. 7, the plate being bent backward when the bolt is placed in the support to permit the head to pass the lug 19 and then being straightened before application to a car. The contact of the bolt-head with the lug prevents the bolt from rising so high that the recess 12 will be raised above the top of the bolt-support and exposed to view.

The head 10 of the bolt is provided on its under surface with a seal-receiving slot 20, whose width exceeds the thickness of the seal, as best seen in Fig. 7, and which extends entirely through the head of the bolt from side to side. The slot 20 is preferably provided at the end adjacent to the handle-lever 11 with a recess 21 opening thereinto, so as to present a shoulder 22 for engagement with the inner face of the seal, (designated generally as S.) The head 10 is also provided with projections 23 and 24, adapted to contact with the face of the plate 1 and the rib 25, respectively, so limiting the rotative movement of the bolt in the socket provided in the bolt-support and preventing the turning of the bolt into such position that it might be withdrawn from its socket in the bolt-support.

The seal-seat is formed upon the bolt-support and comprises a bottom lug 26 and side lugs 27, which latter are bent so as to inclose a space large enough to receive the seal. The bottom lug 26 is so placed that when the

seal is in position in the seat the upper portion of the seal will project above the top of the bolt-support to engage with the slot in the bolt-head, as best seen in Figs. 1 and 5.

The constructive features of the seal-lock described in the foregoing paragraphs include all those necessary for a lock intended for use with frangible seals of clay or other similar material; but in order to adapt the lock for use with an ordinary wire seal I provide in the lower portion of the bolt a transverse opening 28, through which the wire of a seal may be passed.

In operation the seal-lock forming the subject-matter of this application is in the main similar to other seal-locks of the same type, but presents one feature of difference. As the slot in the bolt-head which receives the upper portion of the seal is wide enough to permit the bolt to be turned to the extent shown in Fig. 7 before the sides of the slot contact with the faces of the seal, it is possible for the operator to impart to the bolt-head a certain amount of momentum before the sides of the slot in the bolt-head contact with the faces of the seal, and consequently when the seal is engaged by the sides of the slot the impact of the bolt-head is effective in at once fracturing the seal. In the ordinary type of seal-locks the faces of the seal are in contact at all times with the operative parts of the seal-breaking devices, and in order to break the seal the strain brought to bear upon the seal must be gradually increased until it exceeds the resistance opposed by the seal. Owing to the brittle character of the material of which the seal is formed, it will be very easy to fracture a seal by impact; but when the strain is gradually applied it is comparatively difficult and requires the expenditure of much greater effort than when the impact of a moving body may be utilized. Consequently the fracture of the seal when it is desired to open the lock will be materially easier with the lock above described than with a lock of the ordinary type.

When the head of the lock is constructed in the manner described, the fracture of the seal may be brought about by the oscillation of the bolt occasioned by the jolting and lateral vibration of the car in transit. It is therefore necessary to provide means for positively preventing such movement of the bolt. In the present instance the means employed is the special form of latch 13, which, as already explained, contacts with the bottom of the recess 12 in the bolt entirely across the bottom thereof, and so holds the bolt securely against movement.

To introduce a seal into the seat, the bolt is raised in the usual manner, as shown in Fig. 6, and after the seal has been seated the bolt will be lowered to the position shown in Fig. 1.

Having thus described the construction and advantages of my invention, what I claim as

new, and desire to secure by Letters Patent, is—

1. The combination in a seal-lock, of a bolt-support having a seal-seat, a bolt longitudinally and rotatably movable in said support, said bolt being provided with a head having on the under side thereof a slot with open ends for the reception of the upper portion of a seal when positioned in the seal-seat, said slot being of greater width than the thickness of the seal and having at one end thereof a lateral recess to present a shoulder for engagement with the inner face of the seal, means upon the bolt-head for rotating the bolt in the bolt-support, and means provided in the bolt-support to hold said bolt against longitudinal movement in the bolt-support when a seal is positioned in the seal-seat and the bolt is brought into engagement therewith.
2. The combination in a seal-lock, of a bolt-support having an elongated bolt-receiving opening, a bolt rotatably and longitudinally movable in said opening, said bolt being provided about midway of its length with a recess, cooperating seal-retaining devices on said bolt-support and said bolt, a latch in said

bolt-support adapted to engage said recess, and means provided on said bolt-support to limit the longitudinal movement of the bolt in the opening provided in the support so that the recess in the bolt will never be exposed.

3. The combination in a seal-lock, of a bolt-support having a seal-seat, a frangible seal disposed in said seal-seat, a bolt longitudinally and rotatably movable in said support and having its head provided with seal-engaging means, said bolt being provided intermediate of its ends with a transversely-disposed latch-receiving recess, and a spring-pressed latch in said bolt-support, said latch comprising a block slidably movable in the bolt-support and having a slot in the rear end thereof, and a spring lying in the slot in said block and forcing the block normally forward.

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

WILLIAM L. SEBRING.

Witnesses:

A. S. POPE,
N. W. TERRILL.