

No. 639,937.

Patented Dec. 26, 1899.

C. E. RICHARDSON.

SEAL LOCK.

(Application filed Mar. 20, 1899.)

(No Model.)

Fig. 1.

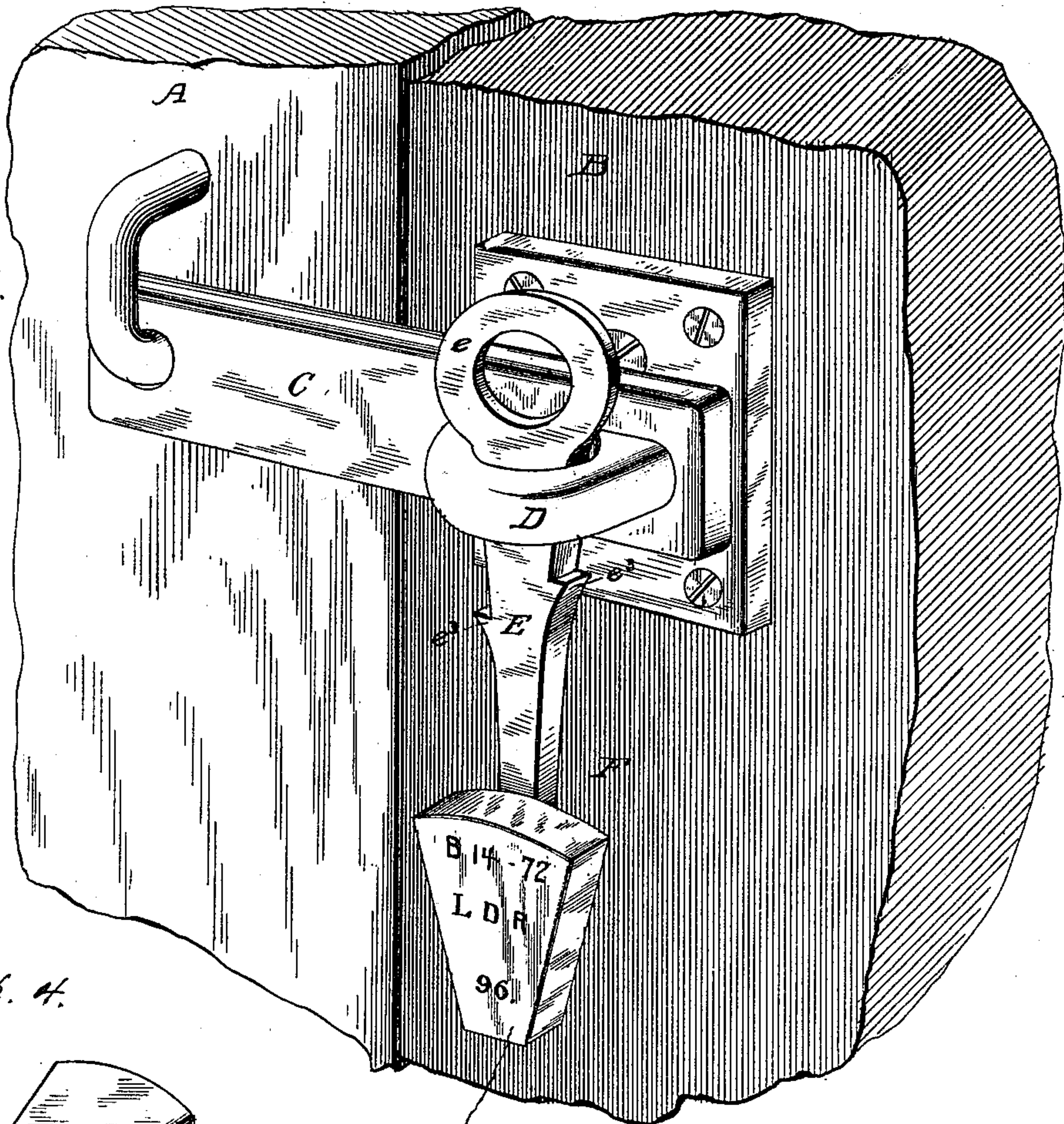


Fig. 4.

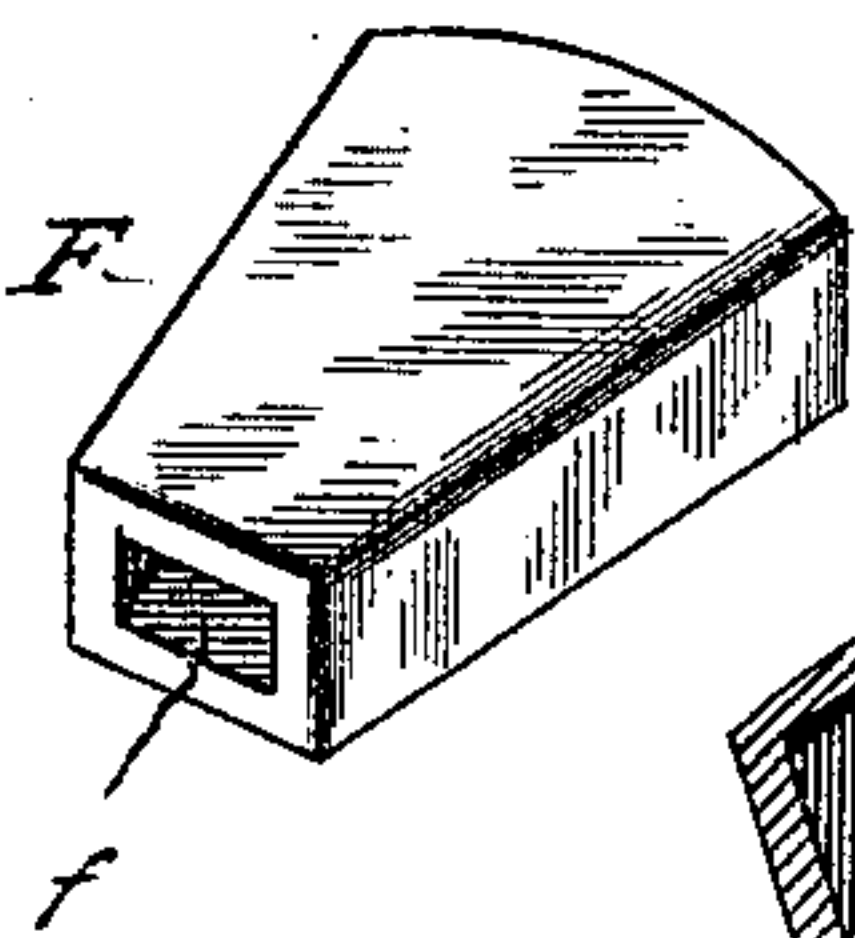


Fig. 2.

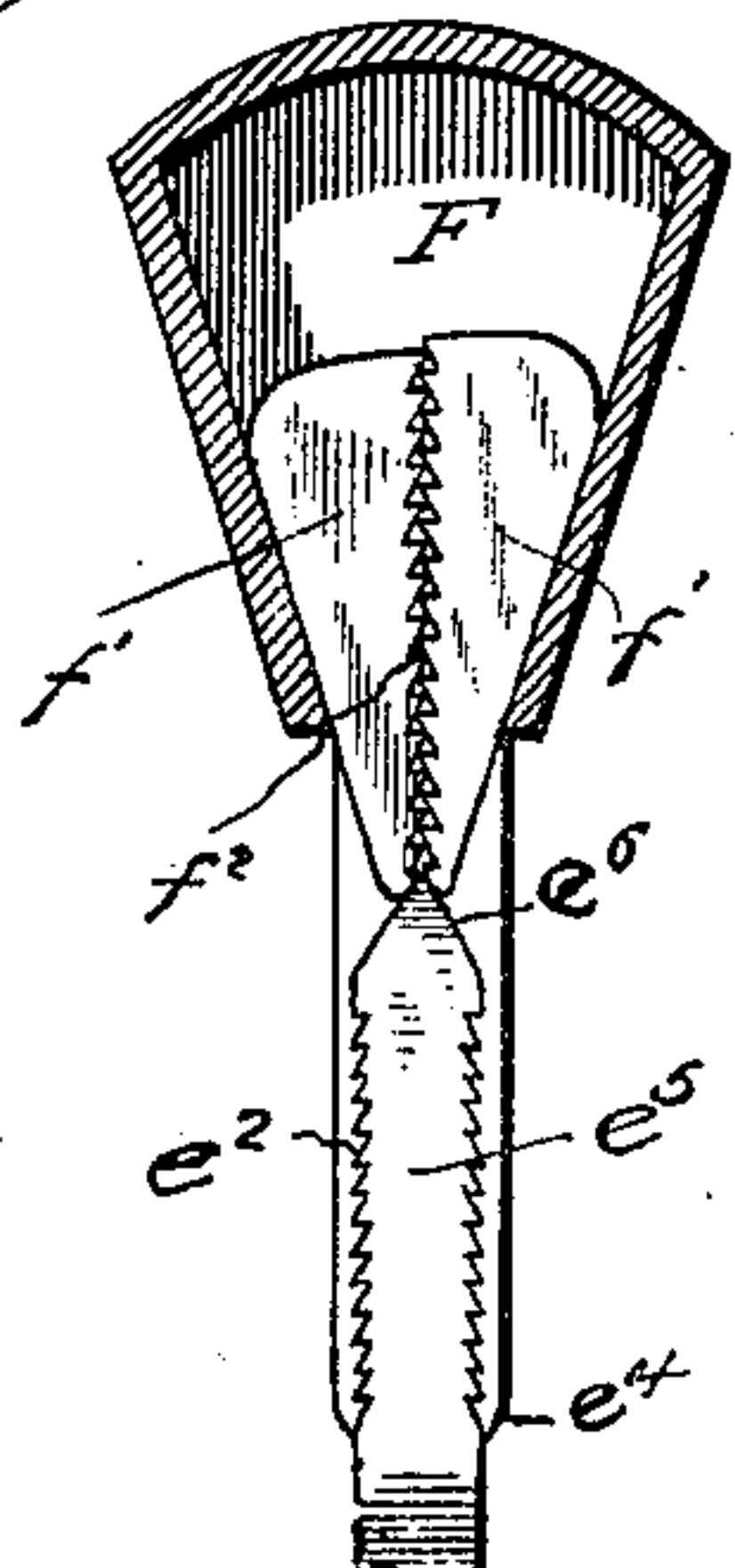


Fig. 5.

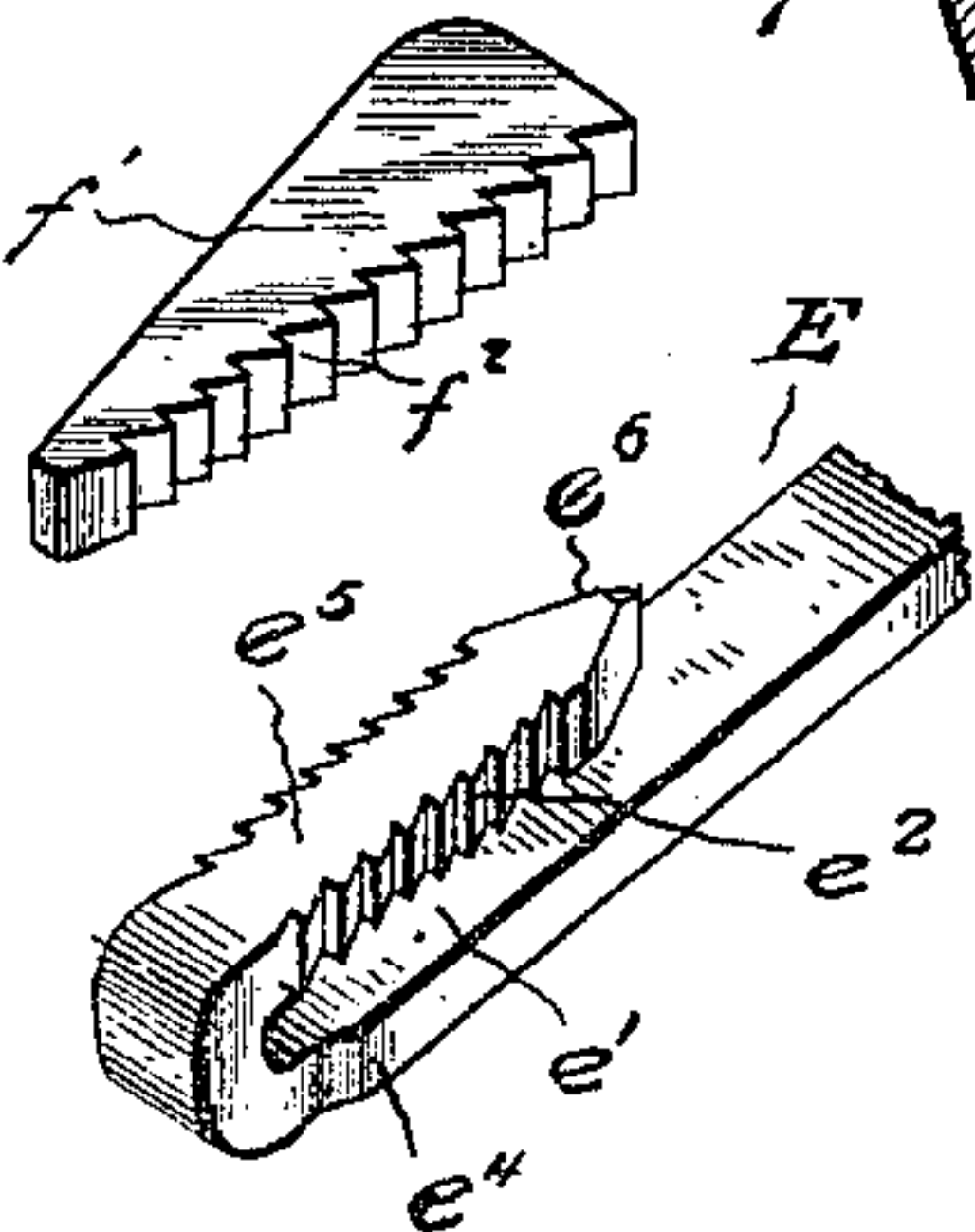


Fig. 3.

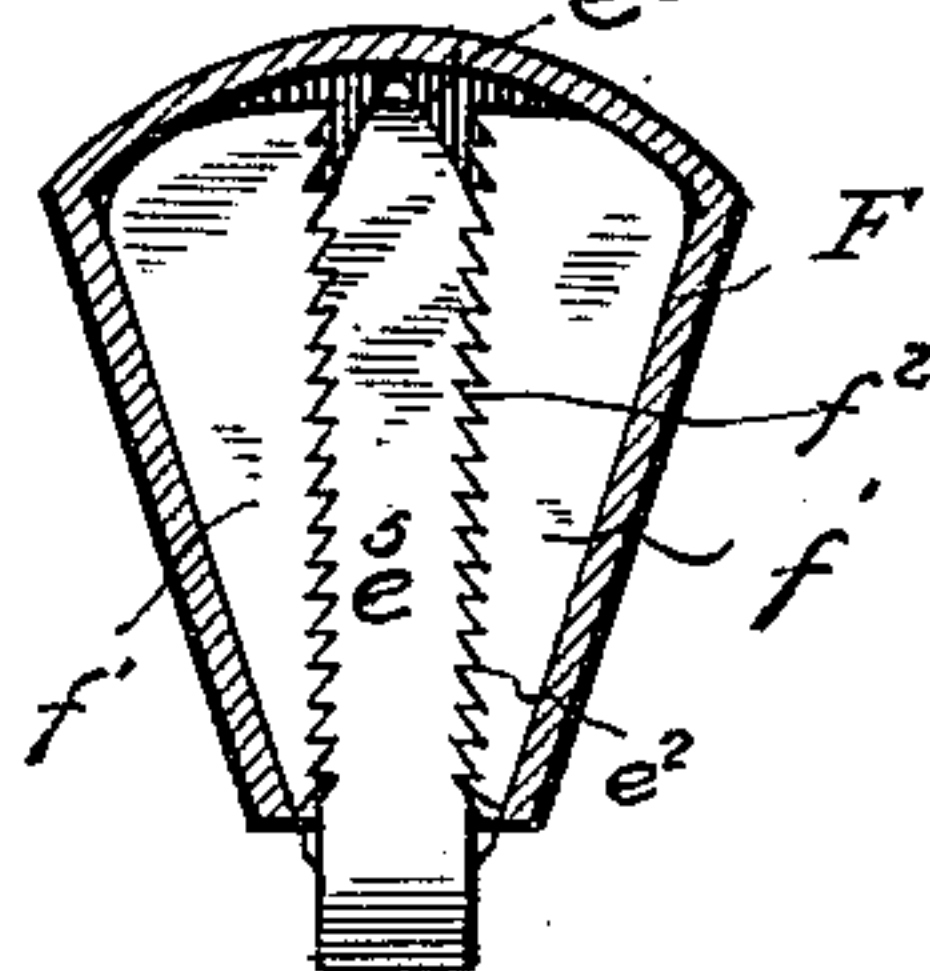


Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE.

CHAUNCEY E. RICHARDSON, OF DULUTH, MINNESOTA.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 639,937, dated December 26, 1899.

Application filed March 20, 1899. Serial No. 709,792. (No model.)

To all whom it may concern:

Be it known that I, CHAUNCEY E. RICHARDSON, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Seal-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in seal-locks for cars and other purposes; and it consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described and claimed.

One object of my invention is to provide a seal-lock which it is impossible to unlock, and thereby effect entrance to the car, without such unlocking or tampering with the lock being readily indicated and also to provide a seal which when unsealed or broken cannot be restored to its normal condition or partially restored so as to avoid detection.

Another object of my invention is to provide a seal-lock which does not require the construction of the door or staple and hasp to be changed and which is exceedingly simple in its construction and operation and durable, it not being possible for the seal to be accidentally broken during transit or the locking-bolt to become disconnected from the staple and hasp.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a car door and frame with my improved seal-lock applied thereto, the door being represented in a closed condition. Fig. 2 is a vertical longitudinal section through the lower portion of the locking-bolt and seal, the latter about to be entered upon the bolt. Fig. 3 is a vertical longitudinal section through the lower end of the locking-bolt and seal, the latter being in position upon the bolt. Fig. 4 is a perspective view of the housing of the seal. Fig. 5 is a perspective view of one of the wedge-shaped locking members of the seal, and Fig. 6 is a perspective view of the lower portion of the locking-bolt.

A in the drawings represents the car-door; B, the frame of the car; C, an ordinary hasp; D, the staple; E, a locking-bolt, and F my

improved seal. The hasp C is secured to the car by an ordinary staple D, as usual, and the hasp is applied over the staple D in the ordinary manner. The locking-bolt E is passed downwardly through the staple and in front of the hasp, as is ordinarily done. This locking-bolt is provided at its upper end with a suitable head *e*, which in the drawings is shown in the form of a ring; but it is obvious that it may be made in any other form and the same function be performed. The lower end of the locking-bolt is turned upwardly, as clearly shown in Fig. 6, to form an aperture *e'* for a purpose presently to be described. The sides of the turned-up portions are provided with serrations or teeth *e²*, which cooperate with the seal, as will be hereinafter explained. The turned-up portion *e⁵* may extend parallel with the body portion of the locking-bolt or may extend at an angle thereto. When the seal is in position on the locking-bolt, it serves, with the head *e* of the bolt, to prevent the said bolt from becoming disconnected from the staple D. The locking-bolt E is also provided at suitable points between its head and the turned-up portion *e⁵* with suitable-shaped projections *e³* *e³*, which are preferably arranged as shown and which prevent the seal, which latter is constructed of glass or other fragile material, from coming violently into contact with the staple during transportation and being accidentally broken as the locking-bolt swings back and forth and moves up and down with the movement of the train. The projections *e³*, however, are so arranged and constructed as to permit the locking-bolt to be readily passed through the staple D and withdrawn therefrom when the seal is not in position on the bolt by drawing the bolt through the same at the proper angle. The portion of the locking-bolt *e⁴* in Fig. 6 is made slightly wider than the turned-up portion, so that the teeth thereon will be protected and will not come in frictional contact with the sides of the staple in putting on and taking off the said locking-bolt and also so that the serrations or teeth will not be damaged by coming in contact with any portion of the car when the seal is not in position on the bolt and when the locking-bolt is swinging owing to the mo-

tion of the train, as it often happens that when the cars are empty the locking-bolt is kept in place on the staple by being suspended therefrom until brought into use.

5 The seal consists of an outer casing F, preferably made in the form of a keystone, though it may be made of any suitable shape and constructed of glass, clay, porcelain, earthenware, or any other suitable fragile material, and rendered hollow and open at one end, 10 as at *f*. The outer face of the seal is designed to receive indication and designation marks of any kind, which marks may be placed on the seal in any suitable manner during its 15 course of manufacture. The lower open end of the seal is designed to receive the turned-up portion *e*⁵ of the locking-bolt, the upper end of said turned-up portion being beveled, as at *e*⁶, to facilitate the entrance thereof. Before the seal is applied to the portion *e*⁵ two 20 wedge-shaped blocks *f'* *f'* are applied within the outer casing F, as clearly indicated in Figs. 2 and 3. This can be accomplished during the course of manufacture of the housing 25 or they can be applied after the housing is completed by inserting one block at a time, the aperture *f* being large enough to permit this; but when both wedges are inserted it is impossible for said wedges to become lost or to drop 30 out of place, so that the seal is always in condition for being applied to the turned-up end of the locking-bolt without the use of a clamping-tool or press of any kind. In order to lock the seal upon the lower end of the locking-bolt, 35 the wedge-shaped blocks are provided with serrations or teeth *f*² on their perpendicular faces, which are adjacent to and engage serrations or teeth *e*² on the upturned end *e*⁵ of the locking-bolt when said seal is applied to 40 the bolt, as clearly shown in Fig. 3, so that it will be impossible for the seal to be disengaged therefrom without said seal being broken, and thereby totally destroyed, as any attempt to move the seal upwardly only 45 causes the teeth on the wedge-shaped blocks to engage the teeth on the upturned portion of the locking-bolt more firmly. This result is brought about by reason of the fact that the blocks are made in wedge form and the 50 interior of the seal is also made in wedge form. In Fig. 2 I have shown the seal in the act of being applied to the locking-bolt, and from this it will be seen that the wedge-shaped blocks readily adjust themselves and 55 the teeth thereon engage the teeth on the locking-bolt, and after the locking-bolt has en-

tered the seal only a short distance it would be impossible to withdraw the same.

It will be apparent from the foregoing description that I have produced a seal-lock 60 which is very simple in its construction and perfect in its operation and which is always in condition for being applied to the locking-bolt without the use of any auxiliary tool or heavy press, and which when applied it is 65 impossible to remove without destroying the seal, and which is always in view to be clearly seen by an inspector or attendant. It will also be apparent that with my construction of seal-lock no construction of springs is employed, which I consider a very important 70 feature of my invention, and the seal, when applied to the locking-bolt, falling by gravity to its locking position thereon.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is— 75

1. In a seal-lock, the combination of a locking-bolt provided with a head and a turned-up end and a seal comprising a hollow fragile 80 casing provided with an opening said seal carrying disconnected gravitating wedge-blocks adapted to engage the locking-bolt and prevent the removal of the seal without destroying the same, substantially as de- 85 scribed.

2. In a seal-lock the combination of a locking-bolt provided with a head and a turned-up end, a seal comprising a hollow fragile 90 case provided with a wedge-shaped interior and an opening leading thereto and carrying two wedge-shaped disconnected gravitating blocks arranged within the said seal and adapted to engage the locking-bolt, substantially as described. 95

3. As an improved article of manufacture a hollow seal for a locking-bolt made of fragile material and having a wedge-shaped interior and an opening leading thereto and disconnected gravitating wedge-shaped lock- 100 ing-blocks arranged within the said seal, the said locking-blocks being capable of being separately introduced into the interior of the seal the construction and arrangement being such that one block holds the other in place 105 within the seal.

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

CHAUNCEY E. RICHARDSON.

Witnesses:

H. C. MEYNES,

CASELL SEVERANCE.