W. F. FRASER.

CAR DOOR SEAL.

APPLICATION FILED JUNE 11, 1914.

1,141,895. Patented June 1, 1915.

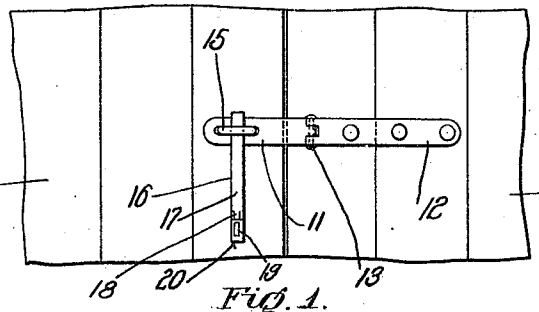


Fig. 1.

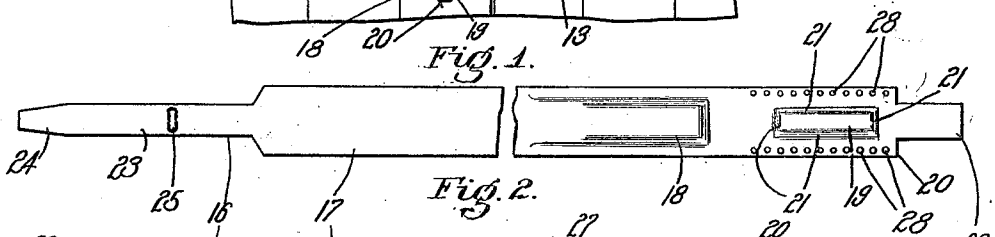


Fig. 2.

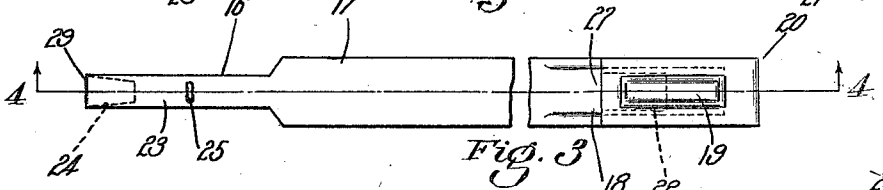


Fig. 3

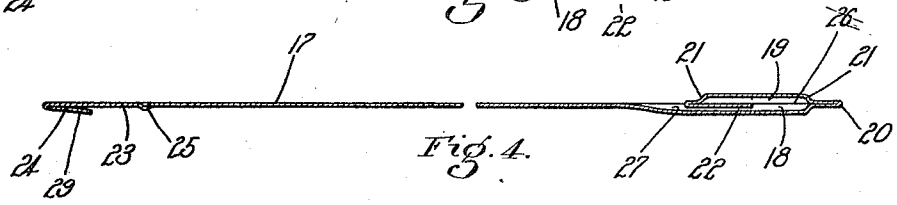


Fig. 4.

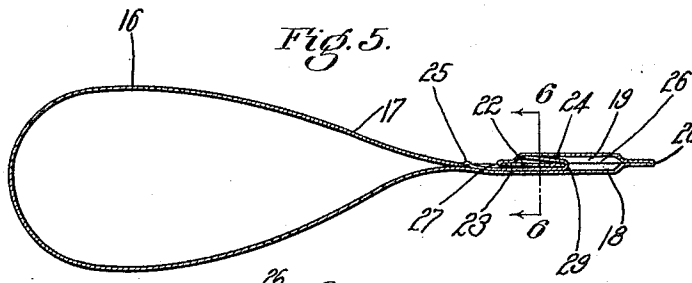


Fig. 5.

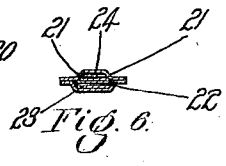


Fig. 6.

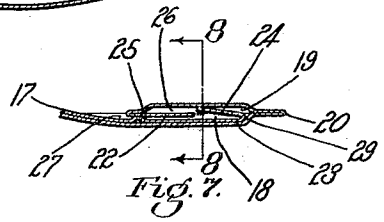


Fig. 7.

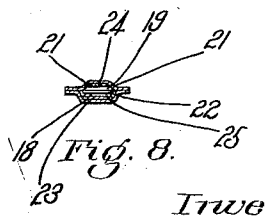


Fig. 8.

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by his attorney Charles J. Gooding.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WARREN F. FRASER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO FRASER-TUFTS MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CAR-DOOR SEAL.

1,141,895. Specification of Letters Patent. Patented June 1, 1915.

Application filed June 11, 1914. Serial No. 844,561.

To all whom it may concern:

Be it known that I, WARREN F. FRASER, a subject of King George V of England, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Car-Door Seals, of which the following is a specification.

This invention relates to a seal for freight car doors.

The object of the invention is to provide a seal for freight car doors which cannot be picked or detached from the staple without its being evident at a glance that the seal has been tampered with.

It is further the object of this invention to provide a device of the character set forth which can be made very cheaply by automatic machinery.

The invention, therefore, consists in a seal constructed as hereinafter set forth in the specification and particularly as pointed out in the claims.

Referring to the drawings: Figure 1 is a front elevation of a portion of a car with my improved seal attached thereto. Fig. 2 is a plan view of the blank from which the seal is constructed, the same being shown broken. Fig. 3 is a plan of the seal, with its ends bent to form a hook and chamber or socket therefor, also shown broken. Fig. 4 is a longitudinal section taken on line 4—4 of Fig. 3. Fig. 5 is a longitudinal sectional elevation of the seal with its hooked end inserted in the chamber as the same appears when in use. Fig. 6 is a transverse section taken on line 6—6 of Fig. 5. Fig. 7 is a longitudinal section illustrating the relative position of the parts as they would be placed if it were being attempted to pick the seal. Fig. 8 is a transverse section taken on line 8—8 of Fig. 7.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 10 is a portion of a body of a car, 11 is a hasp and 12 a plate to which the hasp is pivoted at 13. The plate 12 is fastened to the door 14 of the car and the pivoted hasp 11 is constructed to engage a staple 15 fast to the body portion of the car.

16 is a seal consisting of a flexible strip of metal comprising a body portion 17 substantially of uniform width throughout and having two depressions 18 and 19 formed in one face thereof adjacent to each other and extending longitudinally of said strip of metal. The depression 19 nearest the end 20 of the strip is shorter than the depression 18 adjacent thereto and has its opposite side walls 21 converging. The end 20 of the strip terminates beyond the depression 19 in a tongue 22 which is narrower than the width of the longer depression 18 and is wider than the narrowest portion of the shorter depression 19. The end 23 of said strip terminates in another tongue 24 which is narrower than the width of said longer depression and has its sides tapered so as to converge toward the extreme end of said strip at 23, thus forming a portion narrow enough to project into the depression 19, substantially to the bottom thereof. A projection 25 is formed in the tongue 24 upon the face of said strip opposite that in which the depressions 18 and 19 are formed, this projection constituting, in the completed seal, a guard to assist in preventing the same from being picked. The wedge-shaped end of said tongue 24 is bent backwardly upon the strip of metal to form a hook 29 on the opposite face of said strip from that upon which the depressions 18 and 19 are formed, said hook being narrow enough to enter the depression 19.

In forming the seal from the blank illustrated in Fig. 2 the strip is bent transversely thereof to fold the tongue 22 backwardly over the depression 19 and said strip is then bent backwardly on itself between said depressions 18 and 19 until said depressions are oppositely disposed to each other, forming a chamber 26 into which said tongue 22 projects, the upper half of said chamber being formed by the short depression 19 and the lower half of said chamber being formed by the long depression 18, so that there is an entrance to said chamber at 27 formed by a portion of the depression 18 and the tongue 22 projects into the chamber 26 adjacent to and above the opening 27. The upper half of the chamber 26, formed by the depression 19, has converging side walls.

The strip, when it is stamped out, is provided with projections 28 along the edges of the strip upon opposite sides of the depression 19 and when the strip is bent, as hereinbefore described, the abutting edges of said strip adjacent to said chamber are welded together by means of an electric welding machine, so that the portion of the

strip containing the shorter depression 19 cannot be folded back.

In use the seal is bent intermediate its ends and the two ends thereof are passed down through the staple 15 and around the hasp 11. The hooked end 23 of the strip is then passed through the entrance 27 and into the chamber 26 and drawn backwardly until the hook 29 engages the tongue 22, whereupon the two ends of the seal will be locked together and cannot be separated without so badly injuring or defacing the seal that it will be evident at a glance that it has been tampered with.

It will be understood that the metal strip forming the seal 16 is flexible thin metal and in order to pick the seal after its two ends have been attached together, as hereinbefore described, it would be necessary to inset a piece of metal through the opening 27 between the tongue 22 and the tongue 24. The first difficulty which would be encountered in this case would be that the picking tool would meet the obstruction or guard 25, but assuming that this obstruction could be passed, then it would be necessary for the picking tool to pass up into the upper half of the chamber 26. This upper half of the chamber 26, however, is formed by the depression 19 which has converging walls and while the wedge-shaped hook 29 can enter this upper half of the chamber the tongue 22 cannot on account of its width, so that there would be no possibility of inserting the picking tool above the hook 29 (Fig. 7) in order to pull said hook downwardly so that the same may be withdrawn from the chamber 26. In other words, the tongue 22 forms a block or stop to prevent the picking tool from being inserted in the upper half of the chamber 26 and above the hook 29 and this position of the parts, whereby the device is prevented from being picked, is rendered possible by the fact that the tongue 22 is of less width than that of the depression 18 but is of greater width than the narrowest portion of the depression 19 while the hook 29, being wedge-shaped, is narrow enough to project upwardly into the upper half of the chamber 26 with its converging walls 21 engaging the converging sides of said hook.

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

1. A seal formed of a strip of flexible sheet metal bent backwardly upon itself at one end thereof to form a chamber with an entrance at one end of said chamber in its lower half and a tongue projecting into said chamber adjacent to and above said entrance, the upper half of said chamber having converging side walls, and the opposite end of said strip being bent to form a hook with sides converging toward the end of said hook, said strip capable of being bent between its ends, whereby said hook may be inserted in said chamber engaging the tongue therein and with the end of said hook projecting into the upper half of said chamber and with the converging sides of said hook engaging the converging side walls of said chamber.

2. A seal formed of a strip of flexible sheet metal having two depressions adjacent to each other extending longitudinally of said strip of metal at one end thereof, the depression nearest said end being shorter than the other of said depressions and having its opposite sides converging, the end of said strip being bent backwardly upon itself between said depressions to form a chamber, said end terminating beyond said shorter depression in a tongue narrower than said longer depression and wider than the narrowest portion of said shorter depression, said tongue also being bent backwardly over said shorter depression to lie within said chamber, the opposite end of said strip terminating in another tongue narrower than said longer depression and having its sides converging at the free end thereof.

3. A seal formed of a strip of flexible sheet metal having two depressions adjacent to each other extending longitudinally of said strip of metal at one end thereof, the depression nearest said end being shorter than the other of said depressions and having its opposite sides converging, said end terminating beyond said shorter depression in a tongue narrower than said longer depression and wider than the narrowest portion of said shorter depression, said tongue being bent backwardly over said shorter depression and said strip being bent backwardly on itself between said depressions until said depressions are oppositely disposed to each other forming a chamber with said tongue projecting thereinto, the opposite end of said strip terminating in another tongue narrower than said longer depression and having its sides converging at the end thereof and a portion thereof bent backwardly upon itself to form a hook on the opposite face of said strip from said depressions, said strip of metal capable of being bent between its ends and said hook inserted in said chamber engaging the tongue therein, with the end of said hook projecting into that portion of said chamber formed by said shorter depression.

4. A seal formed of a strip of flexible sheet metal having two depressions adjacent to each other extending longitudinally of said strip of metal at one end thereof, the depression nearest said end being shorter than the other of said depressions and having its opposite sides converging, said end terminating beyond said shorter depression in a

tongue narrower than said longer depression and wider than the narrowest portion of said shorter depression, said tongue being bent backwardly over said shorter depression and said strip being bent backwardly on itself between said depressions until said depressions are oppositely disposed to each other forming a chamber with said tongue projecting thereinto and with the abutting edges of said strip adjacent to said chamber welded together, the opposite end of said strip terminating in another tongue narrower than said longer depression and having its sides converging at the end thereof and a portion thereof bent backwardly upon itself to form a hook on the opposite face of said strip from said depressions, said strip of metal capable of being bent between its ends and said hook inserted in said chamber engaging the tongue therein, with the end of said hook projecting into that portion of said chamber formed by said shorter depression.

5. A seal formed of a strip of flexible sheet metal having two depressions adjacent to each other extending longitudinally of said strip of metal at one end thereof, the depression nearest said end being shorter than the other of said depressions and having its opposite sides converging, said end terminating beyond said shorter depression in a tongue narrower than said longer depression and wider than the narrowest portion of said shorter depression, said tongue being bent backwardly over said shorter depression and said strip being bent backwardly on itself between said depressions until said depressions are oppositely disposed to each other forming a chamber with said tongue projecting thereinto, the opposite end of said strip terminating in another tongue narrower than said longer depression and having its sides converging at the end thereof and a portion thereof bent backwardly upon itself to form a hook on the opposite face of said strip from said depressions and a projection on said face constituting a guard, said strip of metal capable of being bent between its ends and said hook inserted in said chamber engaging the tongue therein, with the end of said hook projecting into that portion of said chamber formed by said shorter depression.

6. A seal formed of a strip of flexible sheet metal having a body portion of uniform width throughout, said body portion having two depressions adjacent to each other extending longitudinally of said strip of metal at one end thereof, the depression nearest said end being shorter than the other of said depressions, said end terminating beyond said shorter depression in a tongue slightly narrower than the width of said longer depression, the opposite end of said strip terminating in another tongue narrower than the width of either of said depressions.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WARREN F. FRASER.

Witnesses:
CHARLES S. GOODING,
SYDNEY E. TAFT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."