

No. 749,317.

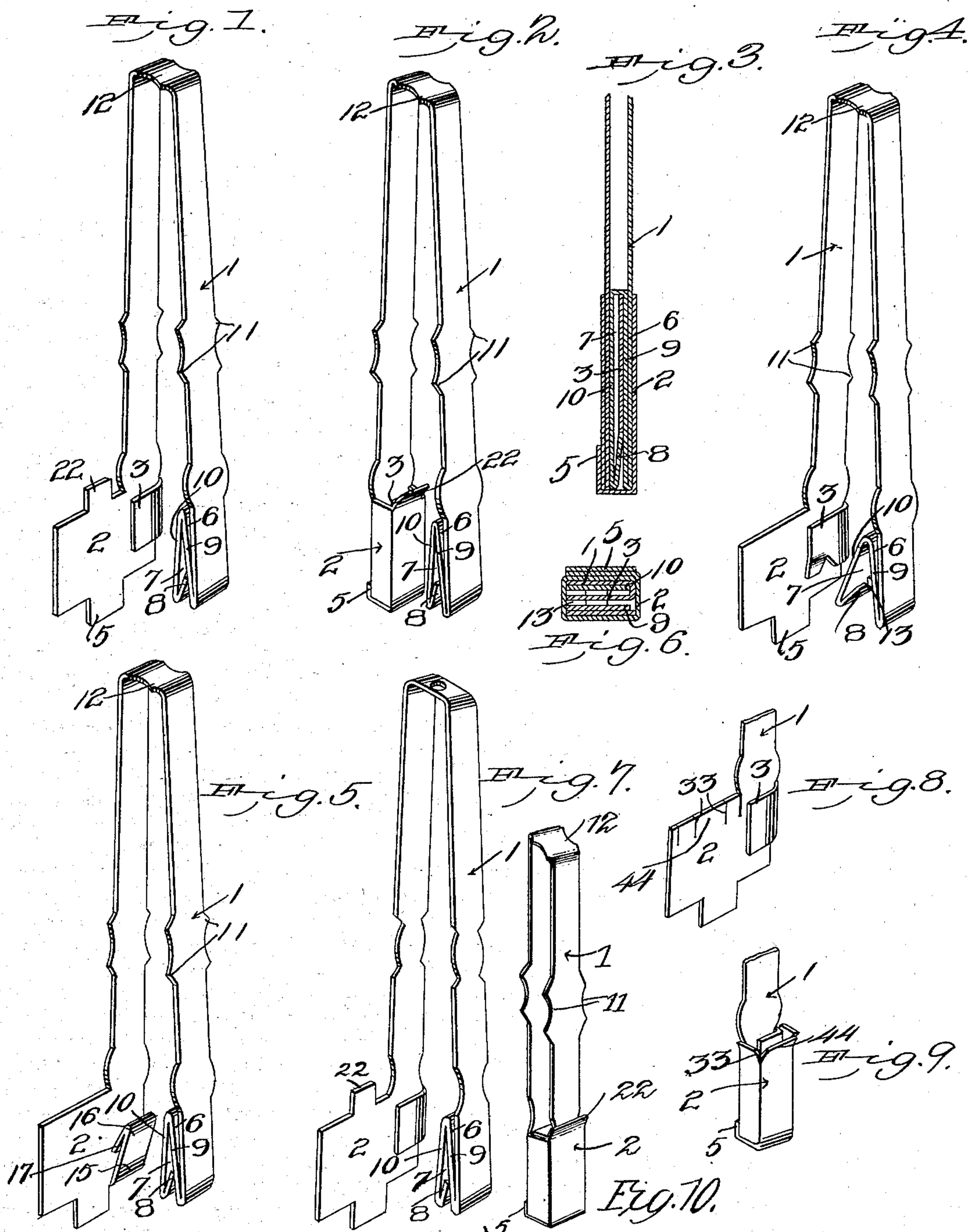
PATENTED JAN. 12, 1904.

A. W. MORGAN.

CAR SEAL.

APPLICATION FILED JUNE 4, 1902.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

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TO JOSEPH STUBER AND HENRY G. KUCK, OF PEORIA, ILLINOIS.

CAR-SEAL.

SPECIFICATION forming part of Letters Patent No. 749,317, dated January 12, 1904.

Application filed June 4, 1902. Serial No. 110,216. (No model.)

To all whom it may concern:

Be it known that I, ALFRED WHITE MORGAN, a citizen of the United States, residing at Urbana, in the county of Champaign and State of Illinois, have invented a new and useful Car-Seal, of which the following is a specification.

This invention relates to car-seals or that class of devices which are used for sealing the doors of freight-cars and the like, so that they may not be opened or tampered with by an unauthorized person without the fact of such tampering becoming known by the breaking of the seal, and it has particular reference to such seals of this class as may be locked or secured in position without the use of tools of any kind.

My invention has for its object to provide a seal which shall be simple in construction, inexpensive, and efficient in operation, and which shall be so constructed and arranged that its interlocking part may not in any way be reached or acted upon by means of a probe introduced between its members.

A further object of my invention is to so construct the seal that if it should be cut and the cut end afterward be introduced into the locking part the evidence of such tampering shall instantly appear.

With these and other objects in view my invention consists in the improved construction of the device, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view showing a preferred form of my invention, the parts composing the seal having been partially bent in the process of manufacture. Fig. 2 is a perspective view showing a seal of the same form in its completed state and ready to be locked. Fig. 3 is a longitudinal sectional view showing the seal illustrated in Figs. 1 and 2 locked. Fig. 4 is a perspective view showing the ends of a seal of a somewhat-modified form partially bent in the process of manufacture. Fig. 5 is a perspective view illustrating another modification. Fig. 6 is a transverse sectional view taken through the interlocked ends of a seal

constructed as illustrated in Fig. 4. Fig. 7 is a perspective view illustrating a modified form of the strip of my improved car-seal. Figs. 8 and 9 illustrate a modified construction of the locking box or chamber. Fig. 10 is a perspective view showing one of my improved car-seals after having been tampered with.

Corresponding parts in all the figures are indicated by like characters of reference.

My improved car-seal is in all cases formed from a strip or blank 1 of tin or other suitable sheet metal, and said strip or blank is in all cases provided at one end with an enlarged portion or blank 2, from which the locking part of the seal is formed by bending. While this enlarged portion or blank is usually and preferably formed of a single piece integral with the strip 1, this is not necessarily the case, inasmuch as it may be formed of several pieces soldered or otherwise secured together. In the accompanying drawings, however, the several forms of my improved seal have been shown as being constructed each of a single piece of metal, inasmuch as this is the construction which will be ordinarily employed.

In the preferred forms of my invention the blank 2 extends originally on each side of the strip 1, the extension on one side of said strip being of suitable size and shape to form when bent upon the face of the strip (but not closely in contact therewith) the lock-lip 3. The edge of the latter, as will be seen plainly in Figs. 1 and 4, extends almost to the edge of the strip 1 opposite to that with which it has connection. The part of the blank 2 extended from the opposite side of strip 1 is of suitable size and shape to be folded over the lock-lip 3, but not in close contact therewith, and to be turned over the opposing edge of the strip 1, where its edge is to be secured by soldering. A lip 5, projecting from the part of the blank 2 thus bent, is adapted to be turned over the end of the strip 1 and secured by soldering, thus forming a complete chamber inclosing the lock-lip 3, which may be described as lying free within said chamber and connected therewith at one of its edges only.

The blank 2 is provided at its upper edge with a lip 22, which is bent outwardly at the

upper edge of the box or chamber, so as to facilitate the entrance thereinto of the locking device, to be presently described. This lip may be formed as an extension to the blank 2, as shown in Figs. 1, 2, and 7, or the said blank may have incisions formed therein, as shown at 33 in Figs. 8 and 9, enabling lips, as 44, to be bent outwardly at the front and sides of the box, or any other construction may be resorted to whereby the said box or chamber shall be provided with a flaring mouth or inlet. Be it understood, however, that the flaring mouth or inlet may be wholly dispensed with when desired, inasmuch as the remaining features of the device are usefully operative without it. It is my preference, however, to use it, as it increases the practical value of the complete article.

The locking-hook at the opposite end of the strip 1 is formed by bending or doubling the said strip upon itself twice, so as to form two oppositely-facing recesses 6 and 7, the latter of which, facing outwardly, accommodates the inturned hook 8, which forms the locking-hook. It will be particularly noticed that this hook lies inclosed between and is protected by adjacent parts of the strip, the portion 9, first doubled upon the strip and forming the inwardly-facing recess 6, may lie closely against the strip, but the portion 10, forming the outwardly-facing recess 7, must be at a sufficient distance from the portion 9 to provide for the accommodation of the locking-hook 8, as well as for the lock-lip 3, when the parts of the seal are brought together in the act of locking the same. The relative position of the different parts will be readily understood by reference to the several figures of the drawings.

By the preferred construction of my invention (illustrated in Fig. 1 of the drawings) I provide the edges of the strip 1 with projecting portions 11, which may be ornamental in design and which are located equidistantly from the locking members at the ends of said strip—that is, corresponding projecting portions or patterns are to be disposed equidistantly from the said locking members. Additional similar projections or ornamentations are formed upon the strip 1 centrally between the locking members of the ends thereof, as shown at 12. The purpose of these projections or ornaments will be hereinafter described; but I desire here to state that with regard to the character thereof I do not by any means limit myself to that shown in the drawings hereto annexed. Indeed, instead of projections recesses or indentations might be made with equal practical effect, as shown in Fig. 7, the purpose being simply to provide the strip with properly-located indicating or gaging marks not only visible, but capable of also being identified by the sense of feeling for the purpose to be set forth. This may be found necessary, especially where car-door fastenings are used in which the slots for the admission of the seal-

strips are too narrow to admit a strip having projecting portions on the sides thereof.

By the modification of my invention illustrated in Figs. 4 and 5 of the drawings the meeting or opposing edges of the lock-lip 3 and the locking-hook 8 are provided with V-shaped notches 13, adapted to engage with each other, the parts adjacent to said notches being slightly turned or twisted in opposite directions, as will be most clearly seen by reference to Fig. 4. By this construction I have thought that the lock-lip and the locking-hook will more readily engage each other when the parts are brought together in the act of locking the seal.

Another modification in the construction of the device has been shown in Fig. 5 of the drawings, by reference to which it will be seen that the lock-lip instead of being bent from the side of the strip 1 is composed of a longitudinal extension 15 of the same, which is bent or doubled upon the strip to form the hook 16, the end of which is again bent in an inward direction to form the lip 17. While I have thought that by resorting to this construction material may be saved when the device is constructed of a single piece of metal, it is not the construction which I prefer to employ, and I have shown it merely to show the possibilities of my invention.

The operation of my invention will be readily understood. After adjusting the strip carrying the locking members in the hasps or eyes provided for its reception the locking member carrying the hook 8 is inserted into the chamber constituting the other locking member. The end or portion of the strip 10 having the hook 8 will engage on one side of the lock-lip 3, while the body of the strip and the bent portion 9 of the same will engage from the opposite side of the lock-lip. After pushing the hook-carrying part in to its limit it will be found that from attempting to withdraw it the hook 8 will engage the lower edge of the lip 3, thus positively preventing its withdrawal or the opening of the seal. It is also to be seen that while it may be possible to insert a probe either in the recess 6 between the body of the strip and the bent portion 9 or between the bent portion 10 and the wall of the lock-chamber the interlocking parts will in neither case be reached and it will be found absolutely impossible to surreptitiously operate the lock in this manner.

In case the seal should be tampered with by cutting the strip and afterward inserting the cut end into the lock-chamber, such tampering will be instantly detected, owing to the displacement of the indicating projections, patterns, or ornamentations 11 and 12. The devices 11 upon the arms of the seal-strip, which are normally in alinement or coinciding with each other, would thus be carried out of alinement, and the central devices 12, which may be described as normally disposed

between the arms, would be carried to one side, making the displacement so obvious as to be instantly detected upon the most casual investigation. This displacement has been 5 illustrated in Fig. 10 of the drawings, by reference to which it will be seen that the devices 11, 11, and 12 have been so displaced as to make the displacement obvious at a glance. This I consider a very important feature of 10 my invention, inasmuch as without an indicating device of this character a seal of this kind might be cut and its cut end inserted into the lock-chamber and held therein with sufficient security to defy detection unless closely 15 inspected. By making these identifying-marks in the manner herein described in the form of tangible projections, recesses, or indentations their presence and location may be felt and tampering detected in the dark quite 20 as well as in daylight, which, as will be readily understood, is a consideration of no little importance in an article of this class. I therefore desire to be understood that I do not limit myself to the form of such indicat- 25 ing device herein shown and described, but consider myself to be entitled to any changes and modifications therein which may be resorted to without departing from the spirit of my invention.

30 Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A car-seal comprising a strip, a casing formed at one end of said strip and containing one locking member and having a lip bent 35 outwardly to form a flaring mouth or entrance-passage for the admission of the other locking member formed at the opposite end of the strip, substantially as set forth.

40 2. In a car-seal, a box or chamber containing one locking member, said box or chamber being formed from a blank having incisions at its upper edge, the lips thus formed

being bent outwardly to form a flaring mouth or entrance-passage for the admission of the 45 other locking member, substantially as set forth.

3. A car-seal comprising a foldable metallic strip or body and co-operating locking members at the ends of the arms of said strip, said 50 arms being provided with marginal, coinciding and normally registering indices and the central portion of the strip between the arms being likewise provided with marginal indices whereby, when the seal is tampered with 55 by cutting the strip and inserting the cut end in the casing forming one of the locking members, the marginal indices upon the arms and upon the strip between the arms will be carried 60 out of alinement.

4. In a car-seal, the combination of a strip, a casing formed at one end thereof, a lock-lip within said casing, a locking-hook formed at the opposite end of the strip and adapted to 65 enter the casing and engage the lip, said hook and lip being provided with incisions in their meeting edges, substantially as set forth.

5. In a car-seal, the combination with a strip, of locking members formed at the ends thereof and comprising respectively a lock- 70 lip arranged freely between the sides of the box or casing, and a locking-hook disposed between two adjacent hook members, the opposing or meeting edges of said lip and hook being provided with notches and having the 75 portions adjacent to said notches bent or twisted in opposite directions, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 80 the presence of two witnesses.

ALFRED WHITE MORGAN.

Witnesses:

C. A. FRANK,
C. C. DAVIS.