

D. D. DAVIS.

SEAL.

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994,103.

Patented May 30, 1911.

Fig. 1.

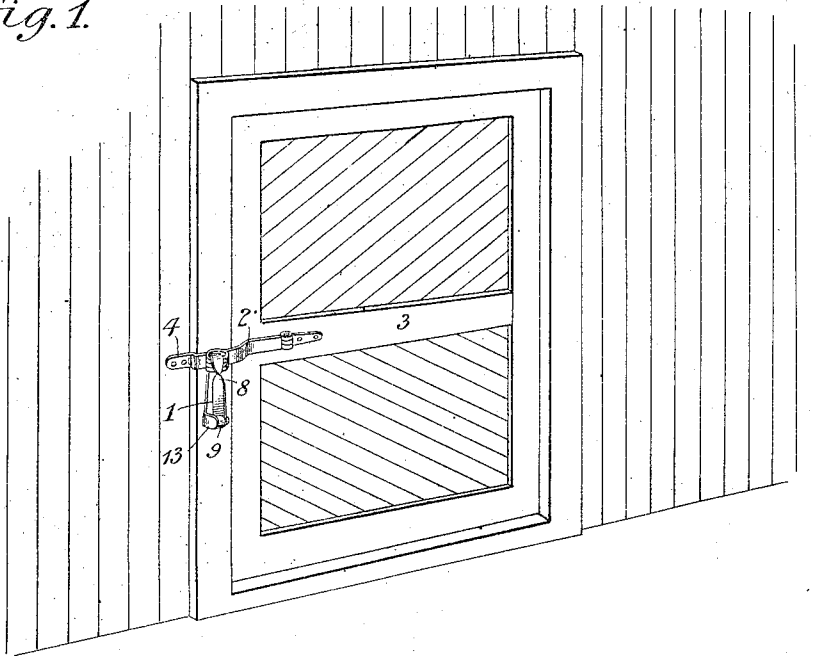


Fig. 2.

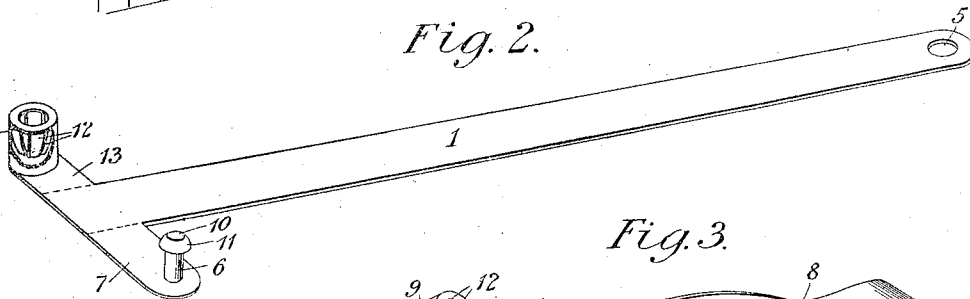


Fig. 3.

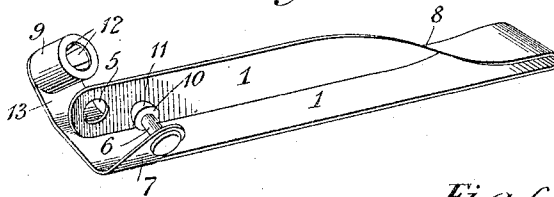


Fig. 5.

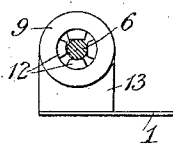


Fig. 4.

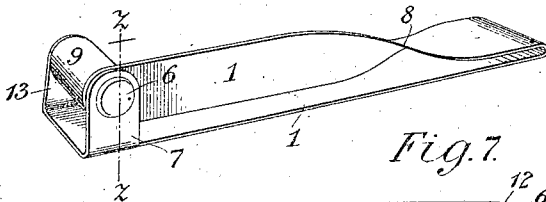


Fig. 7.

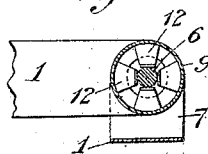
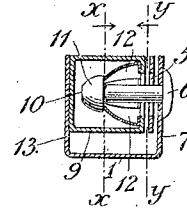


Fig. 6.



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UNITED STATES PATENT OFFICE.

DON D. DAVIS, OF SAGINAW, MICHIGAN.

SEAL.

994,103.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DON D. DAVIS, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented a new and useful Improvement in Seals, of which the following is a specification.

My invention relates to seals, and particularly to that class commonly termed car seals, usually employed to indicate whether the door of a freight car has been opened or tampered with while the car is in transit, but is also capable of use as a seal to be applied to any container or article to which it may be attached, and which it is desired shall not be opened or tampered with save by the proper parties.

One object of this invention is to simplify and improve seals for these and other purposes.

Another object is the provision of a seal of this character which, when once locked, cannot accidentally come apart, a further object being to provide a seal which must be torn or cut apart beyond the possibility of repair when the closure to which it is applied is opened, or the parts separated, thereby preventing its reemployment.

To these and other ends my invention consists in certain novel features and combinations, such as will be more fully described hereinafter and particularly pointed out in the following claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a freight car, equipped with my invention, Fig. 2, is a perspective view of my invention, prior to its application, and partly broken away, Fig. 3 is a similar view showing the arrangement of the various parts of the invention just prior to locking, Fig. 4 is a similar view showing the seal when locked, Fig. 5 is a cross-section through the fastening means, taken on line $y-y$ of Fig. 6, looking in the direction of the arrow, Fig. 6 is a cross-section through the fastener, taken on line $z-z$ of Fig. 4, and Fig. 7 is a cross-section on line $x-x$ of Fig. 6, looking in the direction of the arrow.

The seal comprises a flexible metallic tie or strap 1 designed to connect the movable and stationary parts of the structure to which it is applied, or the movable parts of an article, or what not. In the present instance, I have shown such strap as passing through the eyes of a hasp 2, hinged to the

usual slidable car door 3, and through the eye of a staple 4 affixed to the car, adjacent the door, the eyes in the hasp adapted to register with that of the staple. The strap is bent intermediate its ends so that they depend in two plies from the hasp and staple. The device may thus operate as a lock to prevent the accidental disconnection of the hasp and staple, as well as a seal to indicate whether the door has been opened. It will be understood that other methods of attaching the invention to a car door, container or article may be employed. One end of the strap is perforated, as at 5, to accommodate a bolt or stud 6 borne by the strap at or near its opposite end and preferably projecting from an ear 7 extending laterally from the strap.

To seal the car against unauthorized intrusion, one arm of the strap 1 is twisted, as at 8, and the ear 7 carrying the bolt or stud 6, is bent upwardly, as in Figs. 3 and 4, so that said bolt or stud may pass through the perforation, after which the free end of the stud or bolt is entered in the single opening of a socket 9 formed in or secured to the strap at that end adjacent the stud or bolt, though it may be otherwise located if desired. The socket is imperforate except at that end entered by the stud or bolt, which latter is provided with a head 10, preferably having a beveled periphery 11, and terminating in a square shoulder at its point of connection with the stem of the stud or bolt. As the head of the stud is pressed manually into the socket, its beveled periphery crowds aside or spreads apart the free ends of a series of resilient locking fingers or prongs 12 circularly arranged about the orifice of the socket, and extending inwardly, partway toward the closed end of the socket, said locking fingers being constricted to form a frusto-conical passageway. The stud or bolt is longer than the prongs, and continued pressure on the stud forces the head of the latter past the inner ends of the prongs, which immediately close or snap toward each other around the shank or body of the stud, and take behind or set against the square shoulder forming the under face of the head to prevent the withdrawal, accidental or otherwise, of the stud, and thereby lock the stud in sealed position to prevent the separation of the two plies of the strap or tie. Owing to the arrangement of the prongs about the stud, and their constriction

toward a common center, any force exerted to separate the socket and stud will operate to cause the prongs or locking fingers to hold the stud more tightly in place to prevent the breaking of the seal, nor can access be had to the interior of the socket, since the stud closes the only opening therein. Said socket is shown as carried by a second ear 13 projecting laterally from the strap opposite the stud-carrying ear 7, and when in use, said ear 13 is bent to lie about parallel with the ear 7, (said ears 7 and 13 when in use lying at substantially right angles to the strap) with the socket extending across the strap to take up the space between the ears and reduce the amount of play of the perforated end of the strap on the stud, when the seal is locked.

Prior to applying the seal to its purpose, the strap and ears lie in the same plane and form, preferably, a substantially T-shaped device, as seen in Fig. 2, which permits the seals to be packed in small compass for shipment, the strap also being less liable to kink or tangle than is the wire tie commonly used.

To break the seal, the strap must be severed, thereby rendering it unfit for further use; it being impracticable to pull the ends apart for the purpose of the reemployment of the seal for deception or otherwise.

Changes may be made in the form and arrangement of the several parts without departing from the spirit and scope of my invention.

What I claim as new is:—

1. A seal comprising a strap having oppositely projecting flexible ears at or near one end thereof, to be bent at about right angles to the strap and about parallel with each other, the opposite end of the strap being held between the ears, a stud on one ear to pass through a perforation in said oppo-

site end of the strap, and a locking socket on the opposite ear into which the stud is entered to lock the ends of the strap together.

2. A seal comprising a metallic strap having laterally projecting ears designed to be bent to lie about parallel with each other and at right angles to the strap, an inwardly-projecting stud carried by one ear to pass through a perforation in the opposite end of the strap, and a locking socket on the opposite ear, said socket extending across the space between the ears, and in which socket the stud is entered to lock the ends of the strap together.

3. A car seal comprising a flexible strap having oppositely-located ears adjacent one end thereof and bent upwardly at about right-angles to the strap, a locking stud on one of the ears, the opposite end of the strap being twisted to register an aperture therein with the stud, and a locking socket on the opposite ear, in which the stud is entered, to lock the two ends of the strap together.

4. A car seal comprising a flexible strap having oppositely located ears adjacent one end thereof and bent upwardly at about right-angles to the strap, a locking stud on one of the ears to pass through an aperture in the opposite end of the strap, and a locking socket fastened to the opposite ear in which the stud is entered, said socket comprising a hollow body portion having an orifice for the accommodation of the stud, and a series of locking fingers arranged about the orifice within the body to prevent the withdrawal of the stud.

In testimony whereof, I have signed my name, in the presence of witnesses.

DON D. DAVIS.

Witnesses:

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DOMINIC SANZONE.