E. REICH.

SEAL.

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1,324,566. Patented Dec. 9, 1919.

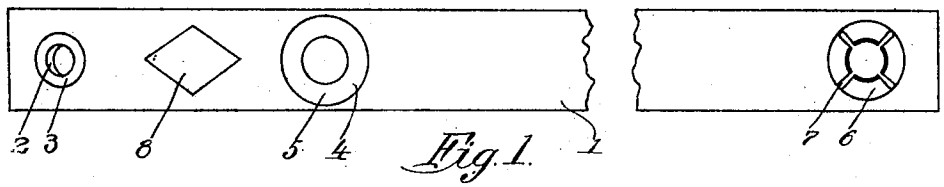


Fig. 1.

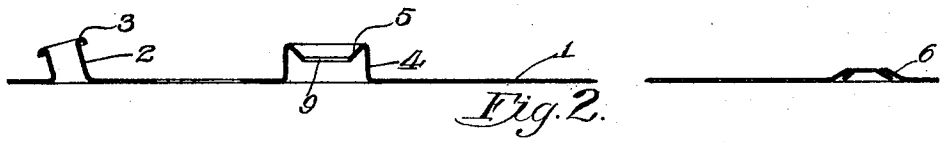


Fig. 2.

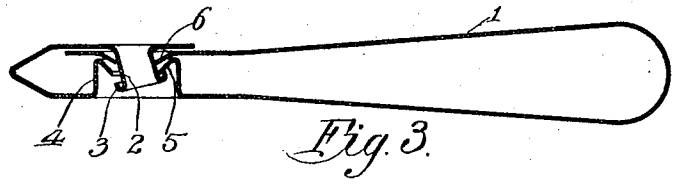


Fig. 3.

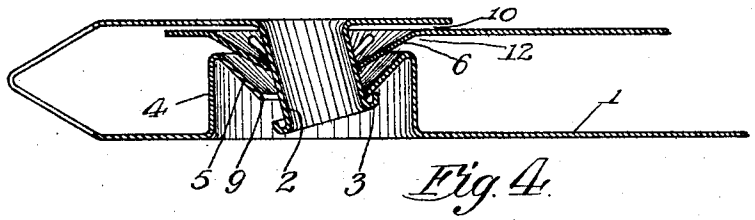


Fig. 4.

WITNESSES

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SEAL.

1,324,566. Specification of Letters Patent. **Patented Dec. 9, 1919.**

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To all whom it may concern:

Be it known that I, ERNEST REICH, a citizen of Hungary, but having declared his intention of becoming a United States citizen, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Seals, of which the following is a specification.

The invention relates to seals preferably used upon car doors, although they may be employed wherever seals of this character are required.

It is an object of the invention to provide a seal which positively obviates any possibility of opening the seal without destroying the same or without mutilating its parts.

Another object of the invention resides in the provision of means for preventing relative movement of the locking members when the seal is tampered with.

A further object of the invention is the novel arrangement of the locking parts whereby the same may be brought into locking position without the use of tools and without appreciable physical effort.

Still a further object of the invention consists in constructing a seal which is not liable to become deranged and which will obviate the possibility of imperfect sealing.

The invention also aims at the construction of a seal which is of simple construction and may be produced at small cost.

To the accomplishment of the general objects stated and others that will be apparent as the description proceeds, the preferred embodiment of the invention consists in the novel arrangement and construction of parts, as illustrated in the drawing, described in the specification and defined in the appended claims. In the accompanying drawing—

Figure 1 is a top plan view of the seal made in accordance with the invention.

Fig. 2 is a longitudinal section of the seal taken on a central line.

Fig. 3 is a longitudinal section of the seal in closed position and

Fig. 4 is a longitudinal section of the seal proper.

Referring to the drawing 1 designates a strap of tin or other suitable metal or material and of a length to lend itself readily to the requirements of its employment. From the strap 1 at one end thereof a locking member 2 of tubular or other suitable form is stamped out, however, if desired the member 2 may be made separate and secured to the strap 1 in any approved or suitable manner. The member 2 at its upper extremity is bent back on itself to form an annular flange or bead 3. As is obvious from the drawing the member 2 assumes a slanting position with respect to the plane of the strap for a purpose hereinafter further specified.

At a suitable distance from the member 2 a tubular locking member 4 is stamped out from, or may be made separate and secured to, the strap 1 and its upper portion is turned inwardly to form a flaring part 5 whose smaller diameter is at its lower extremity. At the other end of the strap 1 another member 6 is stamped out in the form of a truncated cone having the larger diameter at its base. If desired the member 6 may be made separately and may be secured to the strap in any approved or suitable manner. In order to enhance the resiliency of the member 6 a plurality of slots 7 are provided, but if desired the slots may be dispensed with without affecting the operativeness of the seal. From the drawing it is apparent that the slots may be made deep enough to obtain a plurality of lugs which act independently from one another.

As is obvious from Figs. 3 and 4, the strap 1 is folded in order to arrange the member 6 upon the member 4, whereby the former partially enters the flaring portion 5 of the member 4 and engages the upper edge of member 4. In order to facilitate folding of the strap and to predetermine accurately at which line the strap shall crease an opening 8 is provided between the member 2 and member 4 so as to weaken the cross-section of the strap. The member 6 being arranged as mentioned, the opposite end of the strap is folded and the member 2 is inserted and is forced through the members 6 and 4 under the application of slight pressure, whereupon the seal is locked. The outer diameter of the flange 3 of the member 2 is so chosen that the latter may easily pass through the narrow opening of the flaring portion 5, but cannot be withdrawn after having passed through the part 5. Owing to the fact that the member 2 assumes a slanting position with respect to the plane of the strap its flange 3 will not engage the entire periphery of the edge 9 of the flaring portion 5 which accounts for the ease with which the parts

may be locked, since upon inserting the member 2 it will only contact at two diametrically opposite points with the edge 9. Notwithstanding this, the arrangement of the parts affords ample security that the engaging parts have sufficient contact surface to form a complete lock and to obviate any possibility of opening the seal without mutilation or complete breaking of its component parts. If preferred the member 2 may be formed to extend in vertical direction, while the member 4 assumes a slanting position with respect to the plane of the strap.

I have provided the member 6 to exclude relative movement of the members 2 and 4 when the seal is tampered with, thus eliminating any possibility of turning the flange 3 so that the same forms an extension of its integral part 2 which might be effected by pressure being persistently exerted on the member 2 if the member 6 were not present, and, for instance, merely an opening were provided to secure the respective end of the strap between the members 2 and 4.

The member 6, being extremely resilient, does not offer any appreciable resistance to the introduction of the member 2 into the member 4 and in addition positively prevents opening of the seal without mutilation of the parts. To illustrate the effectiveness of my seal it may be assumed that a knife blade or any other flat bar or the like is introduced into the space 10 confined between the member 2 and the member 6. Irrespective of the direction in which the blade is turned it is apparent that a downward pressure acts on the member 6 whereby the same is forced into intimate circumferential engagement with the middle portion of the member 2, thus preventing the same from being raised and from exerting an undue pull on its flange 3 by virtue of the engagement between said flange and the edge 9 of the member 4. If, on the other hand, a blade is inserted into the space 12 confined between the members 4 and 6 an upward pressure acts on the member 6 forcing it into intimate circumferential engagement with the member 2 and locking the same in place. It is obvious that no matter in what manner the seal is tampered with a relative movement of the members 2, 4 is entirely eliminated due to the presence of the member 6 which may be termed a counter-lock.

While the preferred embodiment of the invention has been illustrated in the drawing by way of example it is within the ability of the expert to make obvious changes and alterations embodying the principle of the invention, and I want to avail myself of such departures which necessarily come within the scope of my invention as defined in the appended claims.

I claim:

1. A seal comprising a strap, a tubular member stamped out therefrom having a flange at its upper end, another tubular member stamped out from said strap having a flaring portion adapted to permanently engage the flange of said first named member after the same is brought into engagement with said second named member by manual pressure, and resilient means for preventing relative movement of said members.

2. A seal comprising a strap, a tubular member stamped out therefrom having a flange at its upper end, another tubular member stamped out from said strap having a flaring portion adapted to permanently engage the flange of said first named member after the same is brought into engagement with said second named member by manual pressure, and means in engagement with said first named member for resisting the separation of the tubular members.

3. A seal comprising a strap, a cylindrical member stamped out therefrom having a flange at its upper end, another cylindrical member stamped out from said strap having a flaring portion adapted to permanently engage the flange of said first named member after the same is brought into engagement with said second named member by manual pressure, and means integral with said strap for preventing separation of the tubular members.

4. In a seal, a strap, a member stamped out therefrom and comprising a cylindrical body and an annular flange, another member comprising a tubular portion and a flaring portion integral therewith, said flaring portion being adapted to permanently engage the flange of said first named member after the latter is brought into engagement with said second named member by manual pressure, and means integral with said strap and interposed between said members to prevent separation of the tubular members.

5. As an article of manufacture, a tubular member having an annular flange at one extremity, a second tubular member of larger diameter than the first mentioned member having integral therewith a flaring portion extending into the interior thereof, said flaring portion being adapted to engage permanently the flange of said first member after the same is brought into engagement with said second member by manual pressure, a strap interconnecting said first and second members, and means integral with an extension of said strap adapted to be interposed between said tubular members for preventing separation of the tubular members.

6. In a seal, a tubular member having an

annular flange at one extremity thereof, a second tubular member of larger diameter than the first mentioned member having an integral flaring portion extending into the interior thereof, said flaring portion being adapted to engage permanently with its free edge the flange of said first mentioned member after the same is brought into engagement with said second member by manual pressure, a strap interconnecting said first and second members, and a flaring portion stamped out from an extension of said strap and adapted to be interposed between said engaging members, substantially as described.

7. A seal comprising a strap, a pair of tubular members, one of said members comprising a cylindrical body and a flange at its upper extremity, the other of said members comprising a tubular body and a flaring portion extending into the interior thereof and adapted to engage permanently the flange of said other member after the members have been brought into engagement with one another by manual pressure, and means integral with said strap and adapted to circumferentially engage said first named member so as to prevent separation of the tubular members.

8. In combination with a seal comprising a flanged tubular member, a cylindrical body having an inwardly extending flaring portion adapted to engage the flange of said tubular member when the same is brought into engagement with said cylindrical body by manual pressure, and a strap interconnecting said tubular member and said cylindrical body, of a resilient member formed integral with said strap and adapted to be interposed between said engaging parts, said resilient member being adapted to circumferentially engage said tubular member and to enter into more intimate engagement therewith upon manipulation of the seal.

9. A seal comprising a strap, a tubular member secured to said strap having an annular flange at its upper end, said member extending in slanting direction with respect to the plane of said strap, another member extending in vertical direction secured to said strap and having a flaring portion adapted to permanently engage the under side of the flange of said tubular member after the same is brought into engagement with said other member by pressure, and means integral with said strap and adapted to be interposed between said members to interlock said members so as to prevent relative movement of the same upon manipulation of the seal.

10. A seal comprising a strap, a tubular member stamped out therefrom having an annular flange at its upper end, said member extending in slanting direction with respect to the plane of said strap, another tubular member extending in vertical direction stamped out from said strap and having a flaring portion adapted to permanently engage the under side of the flange of said first named member after the same is brought into engagement with said second named member by pressure, and a flaring portion provided on said strap adapted to be interposed between said members, and to circumferentially engage said first named member so as to prevent its movement relative to said second named member upon manipulation of said seal.

11. A seal comprising a strap, a tubular member stamped out therefrom having an annular flange at its upper end, said member extending in slanting direction with respect to the plane of said strap, another member extending in vertical direction stamped out from said strap and having a flaring portion adapted to permanently engage the under side of the flange of said first named member after the same is brought into engagement with said other member by pressure, and a member stamped out from said strap adapted to be brought in superposing relation to said second mentioned member and to circumferentially engage the first named member, whereby the same is prevented from moving relative to the second mentioned member upon manipulation of the seal.

12. A seal comprising a strap, a tubular member stamped out therefrom having an annular flange at its upper end, said tubular member extending in slanting direction with respect to the plane of said strap, a member extending in vertical direction stamped out from said strap and having a flaring portion adapted to permanently engage the under side of the flange of said tubular member after the same is brought into engagement with said second named member by pressure, and a member stamped out from said strap provided with a plurality of slots and adapted to be brought in superposing relation to said second mentioned member and to circumferentially engage the tubular member whereby the same is prevented from moving relative to the second mentioned member upon manipulation of the seal.

13. A seal comprising a strap, a tubular member stamped out therefrom having an annular flange at its upper end, said member extending in slanting direction with respect to the plane of said strap, another member extending in vertical direction stamped out from said strap and having a flaring portion adapted to permanently engage the under side of the flange of said first named member after the same is brought into engagement with said second named member by pressure, and a plurality

of resilient lugs stamped out from said strap and adapted to be arranged between the members and to engage intermediate portions of said first named member, whereby the same is prevented from moving relative to the second mentioned member upon manipulation of the seal.

14. A seal comprising a strap, a tubular member stamped out therefrom having an annular flange at its upper end, said member extending in slanting direction with respect to the plane of said strap, another member extending in vertical direction stamped out from said strap and having a flaring portion adapted to permanently engage the under side of the flange of said tubular member after the same is brought into engagement with said other member by pressure, and a counterlock interposed between said members adapted to prevent relative movement between said members, upon manipulation of the seal.

15. A seal comprising a socket member, a plug member provided with means for interlocking with said first named member under the application of manual pressure, a strap to which said first and second named members are secured, and an element adapted to oppose separation of said members.

16. A seal comprising a socket member, a plug member provided with means for interlocking with said first named member under the application of manual pressure, a strap to which said members are secured, and an element interposed between said members and adapted to oppose separation thereof.

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

ERNEST REICH.

Witnesses:
I. HOFFMAN,
D. BECHER.