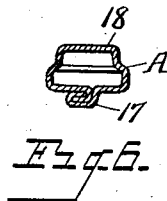
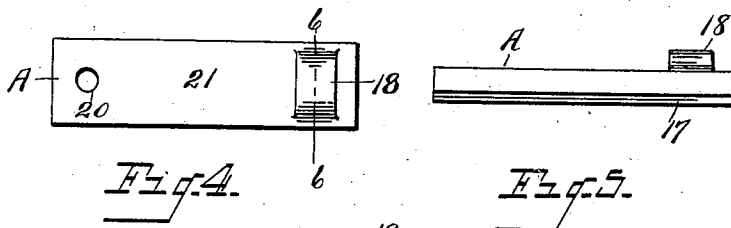
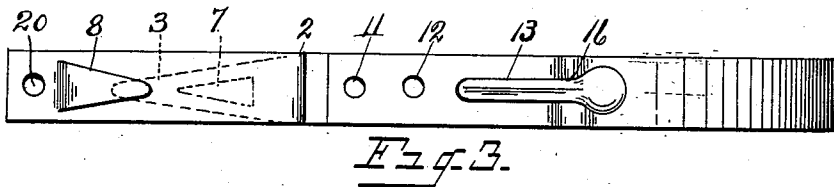
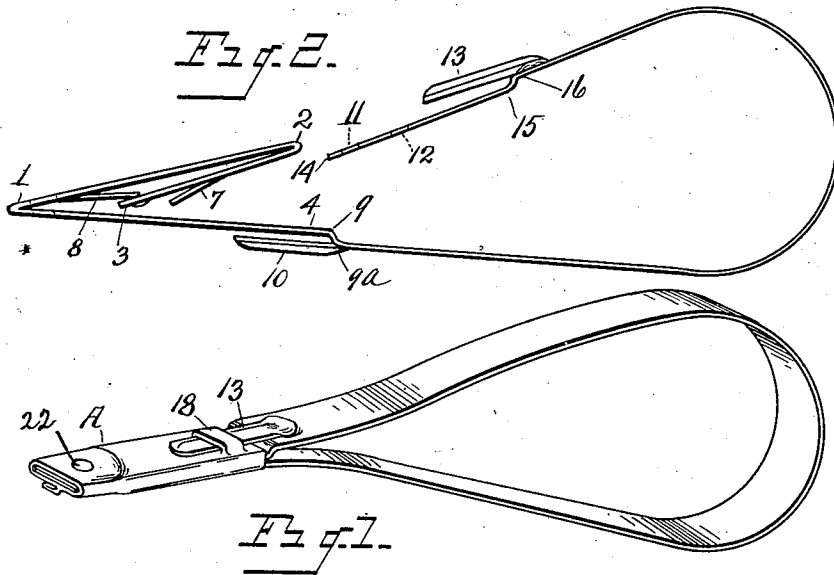


M. G. EWER.
 AUTOMATIC LOCKING SEAL.
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1,011,766.

Patented Dec. 12, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

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AUTOMATIC LOCKING-SEAL.

1,011,766.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MALCOLM G. EWER, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Automatic Locking-Seals, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to automatic locking seals which has for its object an improved seal of the character used to indicate the integrity of the contents of a receptacle.

The seal has a housing in which lies one end of a strip of sheet metal, folded twice within the housing and having that portion of the strip between the end of the strip and the adjacent fold formed into tongues. The portion of the strip outside of the housing is bent into a loop and near the end of this strip are a number of apertures therein, which, when the end of the strip is inserted in the housing, are engaged by the tongues which point inward so that the end of the strip can not be again withdrawn.

In the drawings:—Figure 1, is a perspective showing the assembled and locked seal. Fig. 2, is a side elevation of the strip of metal with the housing removed showing the various holes and tongues which effect the interlocking action. Fig. 3, is a plan view showing that face which is at the upper side of Fig. 2. Fig. 4, is a plan view of the housing showing that side which lies adjacent to the upper side of the strap. Fig. 5, is a side view of the housing. Fig. 6, is a cross section of the housing at the line 6—6 of Fig. 5.

The strap is a straight piece of metal bent acutely on itself at one end at 1, again acutely on itself, at 2, making a three ply fold in which the extreme end from 2 to 3 lies between that part of the strap which extends between 1 and 2 and that part which extends between 1 and 4 (considering that part of the strap between 1 and 4 as a fold). The extreme terminal at 3 is pointed and the fold of the metal between 3 and 2 widens from 3 toward 2 and at 2 the metal is of the full width of the strap. An auxiliary

tongue 7 is struck from the metal between 3 and 2 and is sprung toward the fold 1—4. A small tongue 8 is struck in the fold of the metal from 1 to 2 with its point turned toward the end 3 and with its point slightly overlapping the extreme point 3.

In the finished article there are holes through both folds one and three of the metal for a rivet. These holes are formed after the strap is inserted in the housing and register with holes that are in the walls of the housing. Between 4 and the middle part of the strap is a short double bend at 9, and from 9 toward the angle 1 a tongue of metal 10 is struck which points toward the angle 1, and is spaced from the fold of metal from 1 to 4 by the distance of the cross bend between 9 and 9^a. The tongue is dishd with the cavity lying toward the fold from 1 to 4. The second end of the strap which is intended to be inserted in the housing after the loop of the strap has been placed in position of use, is provided with two holes 11 and 12, one of which is adapted to engage over the extreme point 3, and the other of which is adapted to engage over the point of the tongue 7. At a distance back from the terminal 14 where it will properly engage the housing, a double bend is made in the strap and a tongue 13 is struck, the main part of which is spaced from the strap; this tongue is dishd with the cavity lying toward the body of the strap. The dish of the tongue extends back of the bend from 15 to 16, but the tongue is not cut from the metal back of the bend, so that if the end 14 be inserted in the housing with the tongue engaging outside of the housing at the instant when the point 3 and the point 7 snap through the holes 11 and 12, the bend from 15 to 16 abuts against the housing 21, and the end of the strap may be retracted to a slight degree until the wider metal back of the point 3 and the wider metal back of the point 7 prevent its further retraction. It can, however, be retracted until the extreme terminal 14 passes the end of the tongue 8, and the tongue 8 then engages under the extreme terminal 14, and the strap can no longer be withdrawn from the housing, but will only move to a very limited degree in either direction.

The housing 21 is made in box form of sheet metal that is bent and the edges dou-

ble seamed at 17; opposite the double seam a loop 18 is struck from the metal with an opening underneath the loop so that the tongue 13 may engage under the loop 18.

5 On the opposite side the tongue 10 engages on the outside of the housing. The two tongues 13 and 10 prevent the introduction of any thin article into the mouth end of the housing after the parts have been once
10 assembled and the locking parts all inserted that properly should be inserted. The end of the strap having the fold from 1 to 2 and the fold from 1 to 4 is inserted in the housing until the angle 2 is fully covered
15 by the housing, at which time the angle at 1 should be substantially at the opposite end of the housing, a hole 20 is then punched through the end of the box. The hole passing through the folds 1 to 2 and 1 to 4,
20 and rivet 22 is inserted through the holes and riveted down, securing the housing and the strap together with the second end of the strap as yet unconnected with the ends which bears the catches or tongues 3, 7 and
25 8 to lock the device. It is only necessary to push the end 14 into the housing until the parts are properly engaged after which they cannot be withdrawn without destroying the structure.

30 What I claim is:—

1. In an automatic locking seal, in combination with a housing, a strap having one end folded at two places and with the terminal fold located between the second and
35 third folds, the terminal fold being pointed at its free end and being provided between its point and the first bend with a tongue projecting toward the third fold member, the second fold member being provided with
40 a tongue projecting toward the terminal fold and overlapping the point thereof, the strap being provided at its second end with holes adapted to engage over the point of and over the tongue of the terminal fold, said housing
45 being adapted to cover the three members of the fold and to extend to the end thereof in both directions, substantially as described.

2. In an automatic locking seal, the combination of a strap having one end folded at
50 two places, and with the terminal fold member lying between the second and third folds, the terminal fold being pointed at its free end and being provided between its point and the first bend with a tongue projecting toward
55 the third fold member, the second end of said strap being provided with holes to engage one over said point and one over said tongue, a housing-overlapping tongue struck
60 from the strap and arranged to project therefrom and to engage over the terminal fold and the second fold at their junction, said tongue being spaced from the body of said strap by a distance to engage over said
65 folds and the wall of the inclosing housing,

a housing adapted to engage over the folded part of said strap and under said spaced tongue, the housing being provided with a loop to engage over said spaced tongue and confine said tongue to the housing, substantially as described. 70

3. In an automatic locking seal, in combination with a strap having one end folded at two places and with the terminal fold arranged between the second and third
75 folds, the terminal fold being pointed at its free end, a housing-engaging tongue struck from said strap projecting therefrom on the side opposite the first and second folds thereof, a second housing-engaging tongue struck
80 from said strap and projecting therefrom on the same side thereof as the first engaging tongue, but adapted to engage the opposite side of the housing when the strap is bent into a loop form, a housing adapted to
85 cover the folded part of said strap and to engage therewith with both said housing-engaging tongues engaging outside of the housing, and means for securing said housing to the folded end of said strap, substantially
90 as described.

4. In an automatic locking seal, in combination with a housing, a strap having one end folded at two places, and with the terminal fold arranged between the second and
95 third folds, the terminal fold being pointed at its inner end and provided between its inner end and the first bend with a tongue projecting toward the third member of the fold, a tongue struck from the second fold
100 member projecting toward the terminal member and with its point overlapping the point of said terminal member, the strap being provided at its second end with holes adapted to engage over the point of the terminal member and over the point of the
105 tongue struck from the terminal member, said housing being adapted to cover the three members of the fold and to extend to the ends thereof in both directions, a rivet securing the housing to the second and third members of the fold, substantially as described. 110

5. In an automatic locking seal, the combination of a strap having one end folded at
115 two places, and with the terminal fold member lying between the second and third folds of said strap and provided with a point, a tongue struck from the terminal member intermediate its ends, the second end of said
120 strap being provided with holes to engage over the point of said terminal member and over the point of the tongue struck therefrom, a housing-engaging tongue struck from the strap at the end of the third fold
125 member thereof projecting from said strap on the side opposite the folds and spaced from the body of said strap by a distance to engage over the wall of an inclosing housing, a housing adapted to engage over the fold 130

members of said strap and under said housing-engaging tongue, and a securing rivet passing through the housing and a member of said fold inclosed within said housing, substantially as described.

6. In an automatic locking seal, in combination with a strap having one end folded at two places to make a three-part fold, and with the terminal fold member arranged between the second and third of said folds, the second end of said strap being provided with holes to engage over the point of the terminal fold, a housing-engaging tongue struck from said strap projecting therefrom on the side opposite to said fold, a second housing-engaging tongue struck from said strap projecting therefrom on the same side

thereof, but adapted to engage the opposite side of the housing when the strap is bent into a loop, a housing adapted to cover the fold members of said strap and to engage therewith with both of said housing-engaging tongues engaging the outside of said housing, a loop struck from said housing adapted to engage over one of said tongues, and means for securing said housing to the folded end of said strap, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

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Witnesses:

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