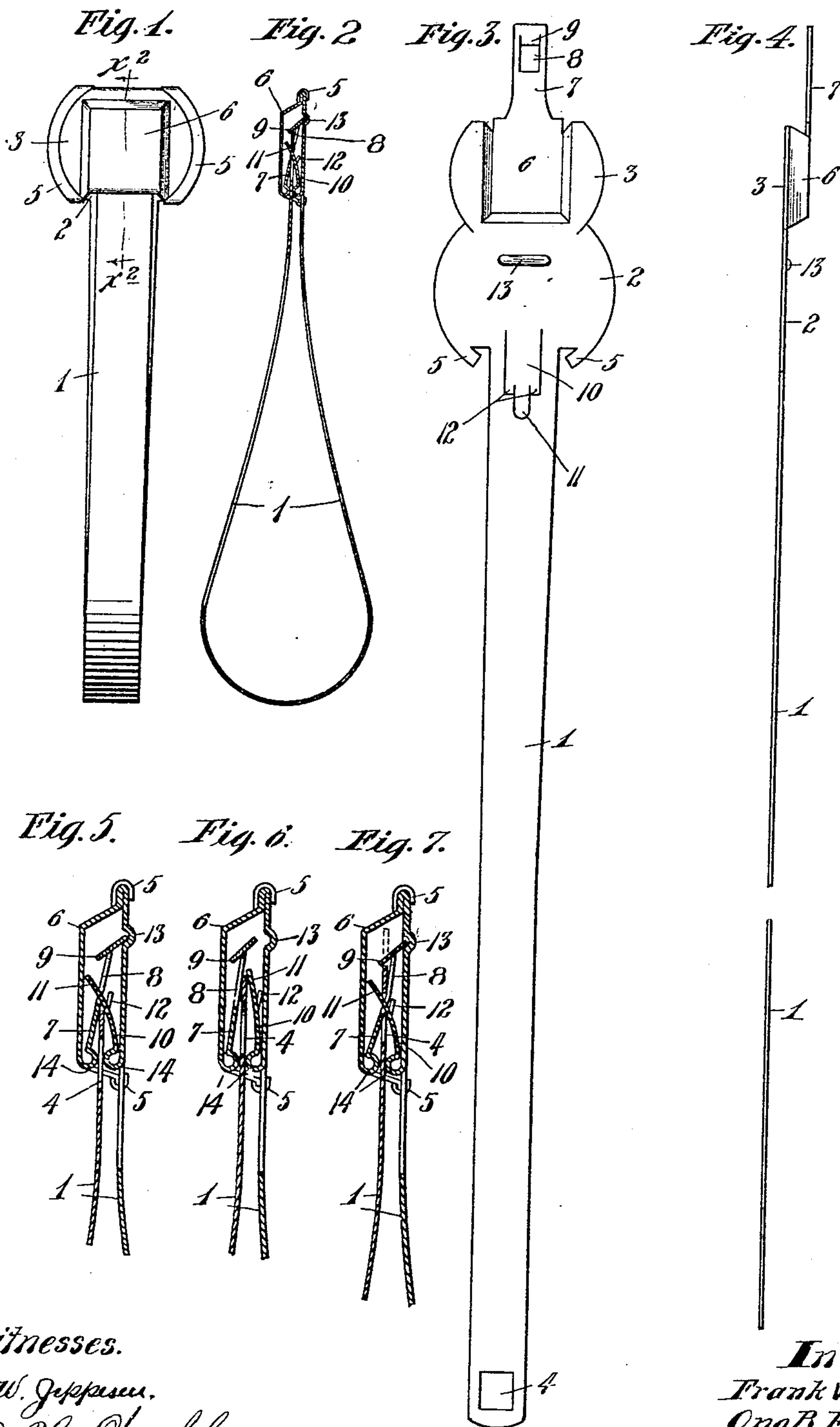


No. 834,200.

PATENTED OCT. 23, 1906.

F. W. GREENE & O. B. EMERSON.
CAR SEAL.

APPLICATION FILED NOV. 8, 1905.



Witnesses.

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FRANK W. GREENE AND ONO B. EMERSON, OF WATERVILLE,
MINNESOTA.

CAR-SEAL.

No. 834,200.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FRANK W. GREENE and ONO B. EMERSON, citizens of the United States, residing at Waterville, in the county of Le Seuer and State of Minnesota, have invented certain new and useful Improvements in Car-Seals; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to car-seals, and has for its object to provide a seal adapted for use in sealing cars and also for various other purposes which while efficient for the purposes had in view is of small cost and is capable of being very quickly and easily applied in working position. The seal herein illustrated is very much in the same line, but is designed as an improvement on the seal disclosed and shown broadly in application Serial No. 282,361, filed by Ono B. Emerson on October 12, 1905.

The device specifically illustrated in the said prior application was formed at that end of the ribbon-like body which was to be inserted into the lock pocket or head with laterally-bent lips for engagement with lock-prongs within the said pocket or head. These laterally-bent lips, while efficient for the purposes had in view, are quite likely to be flattened down or bent out of shape in handling and shipment.

In the present device herein illustrated the insertible end of the ribbon-like body of the seal is made perfectly flat and is simply provided with a single perforation in which lock-springs within the lock pocket or head of the seal are adapted to engage.

The present device, like the device disclosed in said prior application, is made from a single thin piece of sheet metal stamped and bent to proper form.

Another feature of improvement found in the present device is in the arrangement of interlocking parts whereby the two ends of the ribbon-like body are interlocked so that they cannot be given even limited endwise movements to any perceptible extent when interlocked.

The improved seal is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a front elevation showing the complete seal with its ends interlocked. Fig. 2 is a view, partly in side elevation and partly in section, on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a plan view showing the seal opened up and laid out substantially flat. Fig. 4 is a side elevation of the parts shown in Fig. 3, and Figs. 5, 6, and 7 are enlarged sections taken on the line $x^2 x^2$ of Fig. 1.

Referring first to the blank shown in Figs. 3 and 4, the numeral 1 indicates a long ribbon-like body of the seal, the same having at one end an integrally-formed head 2 3 and having at its other end a perforation 4. The head 2 3 is made up of two parts that are adapted to be folded together to form the lock-pocket of the completed seal, and they are provided with interlocking or interfolding marginal portions 5. These folded edges 5 may, if desired, be further secured together by solder, rivets, or by brazing. The part 3 has a depression or laterally-offset portion 6, that forms the seat or cavity in the pocket of the completed seal, and this laterally-offset portion is provided with a flat portion or extension 7. Said extension 7 is stamped or cut from the same piece of metal from which the part 3 is made and may be cut and formed in various different ways and shapes and may be bent and turned in any one of numerous ways.

The extension 7 is formed with a perforation 8 and with a lip 9, which latter is bent at an oblique angle to the portion 7. The extension 7 is rolled or bent inwardly and downwardly over the part 6 of the head 3 and is provided with the curved portion 14, and this rolling and bending give the curved portion 14 and the extension 7 the resiliency and character of a spring. The spring 10 is stamped or cut from the same piece of metal from which the head 2 is made and may be cut in various forms and shapes and may be bent and turned in any one of numerous ways. It is bent or rolled inwardly and upwardly over the head 2 and is also provided with a curved portion 14, and this rolling and bending give the curved portion 14 and the spring 10 resiliency and the character of a spring. When the head 3 is turned down and clamped over the head 2 to form the pocket of the completed seal, the curved portions 14 come into contact and effectually close the door or opening into the pocket of

the seal. The spring 7 normally points upwardly inside the pocket, and its own resiliency and spring character cause it to seek the inner face of the pocket on the side formed by the head 2 and cause the lip 9 to rest in the groove or bulge 13 before the seal is placed in a locked position, and the spring 10 points upwardly inside the pocket and its own resiliency and spring character cause it to seek the inner face of the pocket on the side formed by the head 3, and in doing so the lip 11 of said spring 10 projects through the perforations 8 of the spring 7.

When the blank is formed into the completed seal and before use, the curved portions 14 close the opening into the pocket, their outer faces being in contact, and the springs 7 and 10 yielding only when the outer end of the seal is forced through the door or opening between the curved portions 14 guide the outer end of the seal into proper place when the device is put in a locked position. On these accounts the springs 7 and 10 are the essential and governing members of the interlocking mechanism, no matter how much the other elements of the interlocking mechanism may be varied. On account of the resiliency of these two springs the perfect action of the seal whenever used is assured, for the outer end of the seal when forced into operative position must force its way between these two springs, and when the perforation 4 passes the lip 11, said lip immediately springs upward through the said perforation, while the spring 7 will always force itself and the lip 9 down through the perforation 4. By first forcing the outer end of the seal up to the head of the pocket and then drawing the ribbon outwardly, the end thereof is pulled over and below the lip 9, thus preventing unlocking and play, and the spring-tension of the curved portions 14 assists in securing the device in its locked position. The portion 2 is preferably formed with a short transverse groove or bulge 13.

When the lock-pocket is completed, the two springs 7 and 10 are bent within the same and the lip 11 normally projects through the perforation 8 of the spring 7, as shown in Figs. 2 and 5. At points where the springs 7 and 10 join with the parts 3 and 2, respectively, are closely-engaging bowed portions 14, between which is the door or opening passage for the loose end of the seal into the lock-pocket.

Fig. 5 shows the perforated end of the seal body or band slightly inserted into the lock-pocket. Fig. 6 shows the said perforated end of the seal-body inserted into the lock-pocket far enough to carry the lip 11 of the spring 10 out of the perforation 8 of the spring 7. The next step of movement given to the perforated end of the band 1 will force the same completely to the top of the pocket, as shown by dotted lines in Fig. 7, in which

position the beveled lip 9 is permitted to pass to the right through the perforation 4 and into engagement with the groove 13. Then by pulling outward on the perforated end of the seal the end portion thereof beyond the perforation 4 is drawn below the lower end of the oblique lip 9 and is forced against the inner side of the lip 11 and will then be caught and held by the said two lips 9 and 11 and by the perforated portion of the spring 7 in such manner that the perforated end of the seal-body 1 cannot then be moved either upward, downward, or laterally. This final interlocked position of the parts is shown in Fig. 7, by reference to which it will be seen that the lips 12 engage the perforated portion of the spring 7 as stops to prevent the same and the spring 10 from being forced further laterally under a downward strain or pulling action on the perforated end of the seal-body. It is also important to note that when the parts are interlocked, as shown in Fig. 7, the perforated end of the body 1 locks together the two springs or prongs 7 10, so that they cannot be separated. Hence if the locked end of the body 1 should be cut off and the cut-off end again perforated it cannot be inserted into the pocket and locked by the said springs.

What we claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A seal constructed of a single piece of metal comprising a receiving-pocket at one end thereof, interlocking springs disposed within said pocket, and curved resilient portions arranged at the mouth of the pocket and normally in contact to close entrance into the pocket, said piece of metal having at its other end a flat perforated head insertible into said pocket and adapted to be engaged and held by said interlocking lock-springs.

2. A seal constructed of a single piece of metal comprising a receiving-pocket arranged at one end thereof, interlocking lock-springs disposed within said pocket, said springs being provided with curved resilient portions located at the mouth of the pocket and normally in contact to close said mouth; said piece of metal having at its other end a flat perforated head insertible into said pocket and adapted to be engaged and held by said interlocking lock-springs.

3. A car-seal constructed from a piece of flat metal bent at one end to form a lock-pocket and internal lock-springs 7 and 10, said spring 7 having the perforation 8 and oblique lock-lips 9, and said spring 10 having the lock-lips 11 and 12, said seal having at its other end a flat head perforated at 4, the said flat head being insertible into said lock-pocket and being adapted to be engaged by said lock-lips 9 and 11, and to be thereby held against said spring 7 in such manner that it cannot be moved in either direction,

said lock-lip 11 being then passed through said perforation 8, substantially as described.

4. A car-seal constructed from a single piece of flat metal bent at one end to form a lock-pocket and internal lock-spring 7 and internal lock-spring 10, which springs 7 and 10 are cut from the same piece of metal from which the seal is made and are bent and provided with the curved portions 14 adapted to give resiliency to said springs 7 and 10 and adapted to close the door or opening into the pocket, before the seal is placed in a locked position, said spring 7 having the perforation 8 and oblique lock-lip 9, and said spring 10 having the lock-lips 11 and 12, said seal having at its other end a flat head perforated at 4, the said flat head being insertible into the

said lock-pocket between said resilient curved portions 14, and being adapted to pass outside of both said springs and to be drawn back over the spring 7 and lip 9 and to be engaged by said lock-lips 9 and 11, and to be thereby held against said spring 7 in such manner that it cannot be moved in either direction, said lock-lip 11 being then passed through said perforation 8, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK W. GREENE.
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Witnesses:

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