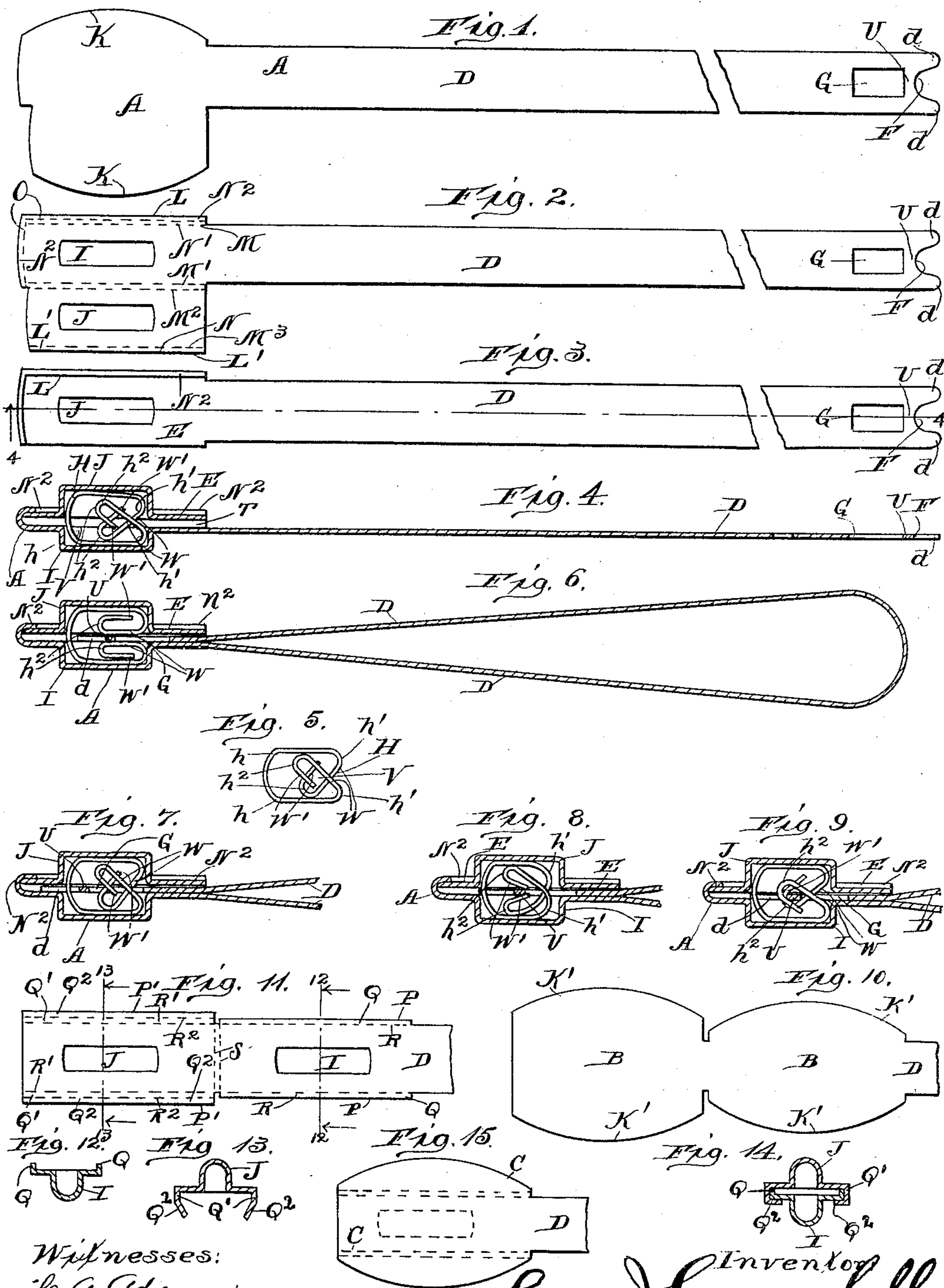


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L. J. CAMPBELL.  
SEAL FOR CARS, &c.  
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NO MODEL.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LEON J. CAMPBELL, OF CHICAGO, ILLINOIS.

## SEAL FOR CARS, &c.

SPECIFICATION forming part of Letters Patent No. 765,766, dated July 26, 1904.

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*To all whom it may concern:*

Be it known that I, LEON J. CAMPBELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have  
 5 invented certain new and useful Improvements in Seals for Cars and other Purposes, of which the following, when taken in connection with the drawings accompanying and forming a part hereof, is a full and complete description  
 10 sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to the class of seals which are designed to be used once to close or  
 15 seal a car, package, or other thing and to be destroyed or so defaced as to be incapable of further use when such car, package, or other thing is opened; and the object of this invention is to obtain a seal of the character named  
 20 which cannot be opened without breaking it—that is, which cannot be picked—to obtain a seal which is durable and not liable to get out of order, and a seal which is economical in construction, of few parts, and readily closed  
 25 by the operator thereof.

In the drawings referred to as forming a part of this specification, Figure 1 is a plan view of a blank cut out of sheet metal—as, say, tin—out of which the seal embodying this  
 30 invention may be formed up. Fig. 2 is a plan view of the blank illustrated in Fig. 1 with recesses in one end thereof pressed out of the body part and with broken lines indicating the places where such blank is to be bent up  
 35 to obtain a pocket. Fig. 3 is a plan view of a seal embodying this invention. Fig. 4 is a cross-sectional view on line 4 4 of Fig. 3 viewed in the direction indicated by the arrows. Fig. 5 is an elevation of a spring bent  
 40 up from wire or cut out of sheet spring metal, forming an element in the seal embodying this invention, such spring being shown in Fig. 4 of the drawings in the same position as in this Fig. 5 and shown in Figs. 6, 7, 8,  
 45 and 9 in the several positions the spring is forced into in closing the seal. Fig. 6 is a cross-sectional view of the seal embodying this invention on the same line as is Fig. 4 with the end of the ribbon part of the seal (which  
 50 is provided with an aperture therethrough)

partially inserted in the pocket in the opposite end of such ribbon part and with the spring which is illustrated in Fig. 5 moved by the end of the ribbon part into what may be termed the  
 “first” of its actuated positions. Fig. 7 is a  
 55 cross-sectional view of the seal embodying this invention on the same line as is Fig. 4 with the same end of the ribbon part of the seal inserted farther into the pocket than in Fig. 6 and with the spring which is illustrated in Fig. 5 there-  
 60 by moved into what may be termed the “second” actuated position thereof. Fig. 8 is a cross-sectional view of the seal embodying this invention on the same line as is Fig. 4 with the end of the ribbon part of the seal  
 65 which is inserted in the pocket in Figs. 6 and 7 partially drawn out again from the position thereof shown in Fig. 7, thereby moving the spring illustrated in Fig. 5 into what may be  
 70 termed the “third” actuated position thereof. Fig. 9 is a cross-sectional view of the seal embodying this invention on the same line as is Fig. 4 with the end of the ribbon part of the seal which is inserted in the pocket in Figs. 6,  
 75 7, and 8 withdrawn from the pocket slightly more than in Fig. 8, thereby moving the spring which is illustrated in Fig. 5 into its final and locking position, thereby closing the seal. Fig. 10 is a modification of the blank illustrated  
 80 in Fig. 1 of the drawings. Fig. 11 is a plan view of the blank illustrated in Fig. 10 of the drawings, with recesses therein drawn up from the body thereof and with broken lines showing where the same is bent up to obtain the  
 85 pocket of the seal. Fig. 12 is a cross-sectional view on line 12 12 of Fig. 11 viewed in the direction indicated by the arrows. Fig. 13 is a sectional view on line 13 13 of Fig. 11 viewed in the direction indicated by the arrows. Fig. 14 is a sectional view of the pocket of the seal  
 90 obtained from the blank illustrated in Fig. 10 with the recess in the walls of the pocket drawn up from the body part thereof, as illustrated in Fig. 11, and bent upon the lines indicated by broken lines in such Fig. 11, and Fig.  
 95 15 is an additional modification of the blank illustrated in Fig. 1 of the drawings.

In making a seal embodying this invention it has been my principal purpose to obtain a seal having but few parts, and in Figs. 1 100



and 10 I have illustrated blanks by the use of which, when bent up in the manner herein-  
after described, the seal will consist of but  
two parts—to wit, such blank and the spring  
5 illustrated in Fig. 5 of the drawings. When  
the blank illustrated in Fig. 15 is used, dupli-  
cates of the end of such blank which is shown  
in such Fig. 15 are bent up and secured to-  
gether to form the pocket of the seal. I use  
10 blanks shaped substantially like those illus-  
trated in Figs. 1 and 10 of the drawings in  
preference to the blank illustrated in Fig. 15  
of the drawings.

The modifications illustrated in the draw-  
15 ings are modifications of the form of the blank  
by means of which the pocket of the seal is  
obtained. In Figs. 1 and 10 different shapes  
are given to the blanks and different bends are  
made to obtain the pocket of the seal; but all  
20 the parts of the pocket are integral with the  
ribbon part of the seal. When the blank  
illustrated in Fig. 11 is used, duplicate parts  
are used to form the pocket of the seal, one  
of such duplicate parts not being integral with  
25 the ribbon part of the seal. Whichever of  
the several forms of the blank which are illus-  
trated is used the pocket and ribbon part of  
the seal are related in the same manner in the  
completed seal, and the spring illustrated in  
30 Fig. 5 of the drawings is located in the pocket  
in the same way, all the several parts operat-  
ing in the same manner and having the same  
functions.

A reference-letter applied to designate a  
35 given part is used to indicate such part  
throughout the several figures of the draw-  
ings.

A in Fig. 1, B in Fig. 10, and C in Fig. 15  
are respectively the blanks from which the  
40 shell of the pocket of the seal embodying this  
invention and also the ribbon portion of such  
seal may be obtained.

D is the ribbon part or portion of the seal,  
and E, Figs. 3, 4, 6, 7, 8, and 9, is the pocket  
45 of the seal.

I prefer to make a recess in the end  $d$  of  
the ribbon part D, and such recess is lettered  
F in the several figures of the drawings wher-  
ever the same is shown.

50 G is a hole in the ribbon adjacent to end  $d$   
of such ribbon. When the seal is used, the  
end  $d$  of the ribbon D (provided with the hole  
G) is inserted in mouth T of the pocket E,  
where it comes in contact with and is engaged  
55 by the spring H (see Fig. 5) and is thereby  
maintained in such pocket, as is hereinafter  
more fully described.

I and J are recesses in the pocket E.

Spring H is placed in recesses I J in sub-  
60 stantially the position thereof illustrated in  
Fig. 4 of the drawings.

When the blank illustrated in Fig. 1 is used,  
the lines K K of such blank are curved to pro-  
vide material which may be taken up in forc-  
65 ing out the metal to form the respective re-

cesses I J from the body thereof, (see Fig. 2,) and after such recesses are formed the surplus  
stock, if any there be remaining, is cut off on  
lines L L', respectively. The blank is then  
bent up on lines M, M', M<sup>2</sup>, and M<sup>3</sup>, obtain- 70  
ing edges N, N', and N<sup>2</sup>, after which the edge  
N<sup>2</sup> is bent down (on broken lines O O) and, if  
desired, soldered in the usual manner.

In the blank, one end whereof is illustrated  
in Fig. 10 of the drawings, the curved lines K' 75  
K' are used to provide material to be taken  
up by the forcing out of the recesses I and J  
from the body part thereof, and after such  
recesses have been forced or formed out there-  
from the blank is trimmed, if necessary, on 80  
lines P P and P' P', after which the edges Q  
Q are bent up on broken lines R R and edges  
Q' Q<sup>2</sup> are bent up on broken lines R' R<sup>2</sup> R' R<sup>2</sup>,  
respectively. The blank is then bent up on  
broken lines S S to bring the end of the 85  
blank which is provided with the recess J  
over onto the part of the blank which is pro-  
vided with the recess I. The edge Q<sup>2</sup> is then  
turned down to close contact with the body  
of the seal, and when preferred soldered in 90  
the usual manner.

Edge N in Fig. 2 and edges Q Q in Figs.  
11, 12, and 14 are of a depth substantially equal  
to the thickness of the sheet metal of which  
the seal is made, and the distance between the 95  
broken lines M and O in Fig. 2 and R' R<sup>2</sup> in  
Fig. 11 is substantially twice the thickness of  
the metal from which the seal is made, the  
purpose being when the several bends are  
made as hereinbefore described that the sides 100  
of the pocket will be separated from each  
other a distance substantially equal to the  
thickness of the sheet metal out of which the  
seal is made, and the overlapping edges N<sup>2</sup>,  
Fig. 2, and Q<sup>2</sup> Q<sup>2</sup>, Figs. 11, 13, and 14, will be 105  
in close contact to the side of the pocket which  
is adjacent thereto. When so made, the end  
 $d$  of the ribbon D may be readily inserted in  
the mouth T, Fig. 4, of the pocket E, and when  
so inserted no space is left for the insertion of 110  
an instrument to pick the seal.

The spring H is cut from a piece of sheet  
spring metal or bent up from wire to obtain  
a space, as in Fig. 5, entirely surrounded by  
portions of such spring, and the spring is 115  
placed in recesses I J of the pocket E, so that  
the part U of the end  $d$  of the seal (the part  
of the seal between the hole G and the recess  
F) is automatically forced into such space V  
when the end  $d$  of the seal is placed in the 120  
pocket E in the manner hereinafter described  
and is there held by such spring. In addition  
to obtaining the space V circumscribed by the  
spring such spring must be made so that as  
the end  $d$  is inserted in the pocket E it will 125  
automatically actuate such spring and also  
when an effort is made to withdraw end  $d$   
from the pocket the spring will again be  
automatically actuated, thereby placing part  
U of the ribbon in the circumscribed space V, 130



and for this reason I prefer to make the spring substantially of the shape illustrated in Fig. 5 of the drawings—that is, with angles  $h$   $h$ , angles  $h'$   $h'$ , (obtaining arms  $W$   $W$ ,) and angles  $h^2$   $h^2$ , (obtaining arms  $W'$   $W'$ .)

When spring  $H$ , made substantially of the shape illustrated in Fig. 5 of the drawings, is placed in the recesses  $I$   $J$  in the pocket  $E$  of the seal and end  $d$  of ribbon  $D$  (provided with hole  $G$ ) is inserted in the pocket  $E$ , the operation of the seal and the movement and relative position of the several parts of the spring  $H$  with such end of the ribbon is illustrated in Figs. 6, 7, 8, and 9 of the drawings and is substantially as follows:

When the end  $d$  of the ribbon  $D$  is inserted in pocket  $E$  to about the place illustrated in Fig. 6 of the drawings, the arms  $W$   $W$  and hooks  $W'$   $W'$  are forced into substantially the position shown in said Fig. 6 of the drawings by such end of the ribbon engaging with the arms  $W$   $W$ . Such position is what I have termed the “first” of the actuated positions of the spring. When the end  $d$  of the ribbon is forced still farther into the pocket  $E$  and to its extreme inward position, the spring  $H$  will assume substantially the position illustrated in Fig. 7 of the drawings, with the arms  $W$   $W$  and arms  $W'$   $W'$  both contained in hole  $G$  of the ribbon  $D$ , as shown in such Fig. 7 of the drawings, such position being due to the elasticity of the spring and constituting what is termed the “second” actuated position thereof.

When the end  $d$  of the ribbon is partially withdrawn from the position thereof in pocket  $E$ , (illustrated in Fig. 7 of the drawings,) the part  $U$  of the ribbon will force the arms  $W'$   $W'$  into substantially the position illustrated in Fig. 8 of the drawings, such being what has been heretofore termed the “third” actuated position of the spring. As the end  $d$  of the ribbon  $D$  is still farther withdrawn from the pocket  $E$  the ends of arms  $W'$   $W'$  will drag on the part  $U$  of the ribbon until such ends slide off the part  $U$ , when by the resiliency of the spring such arms will assume substantially the position thereof illustrated in Fig. 9 of the drawings, being what has been heretofore termed the “final” position of the spring, at which time the part  $U$  of the ribbon is inclosed by the spring, such part  $U$  being in what has been termed the “space”  $V$ . The seal is then closed and cannot be opened, and the thing closed by the seal can be opened only by breaking the seal, as by cutting or tearing such seal.

When the blank, one end whereof is illustrated in Fig. 15, is used, duplicates of the parts forming the pocket are placed together and secured, as by soldering or bending over one of such parts onto the other, in the ordinary way.

Wire which is round or rectangular in cross-section may be used to form up the spring  $H$ , as preferred.

I have described the ribbon and pocket at the end thereof as being made of sheet metal; but it is evident that other material may be used therefor, if desired—as, for instance, paper, papier-mâché, and the like. Further, the pocket may be made detached from the ribbon part of the seal, in which case such ribbon part may be provided with a hole  $G$  at both ends thereof, and by inserting both ends of the ribbon simultaneously in the mouth of the pocket they will both become engaged with the spring  $H$  in the manner hereinbefore described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a seal, a spring turned to obtain a  $U$ -shaped part and turned at the respective ends of such  $U$ -shaped part to extend diagonally toward opposite sides of the  $U$ -shaped part and turned at the inward ends of the respective diagonally-extending parts to return substantially parallel to such diagonally-extending parts; substantially as described.

2. In a seal, a ribbon provided with a pocket at one end thereof and provided with an aperture therethrough at the other end thereof, such pocket provided with recesses in the respective sides thereof, in combination with a spring in the recesses, such spring turned to extend substantially diagonally backward from the end of one of the recesses adjacent to the mouth of the pocket across such mouth toward the other end of the other one of the recesses and the inward ends of such diagonally-extending parts of the spring turned to return substantially parallel to the respective diagonally-extending parts; substantially as described.

3. In a seal, a sheet-metal ribbon provided with a pocket at one end thereof, and provided with an aperture therethrough at the other end thereof, such pocket provided with recesses drawn from the body of its sides, in combination with a spring in the recesses, such spring turned to extend substantially diagonally from the end of one of the recesses which is adjacent to the mouth of the pocket across such mouth toward the other end of the other one of the recesses and such diagonally-extending parts of the spring turned at the inward ends thereof to return substantially parallel to such diagonally-extending parts, respectively; substantially as described.

4. In a seal, a sheet-metal ribbon provided with a pocket at one end thereof, one side of such pocket integral with the ribbon, and such pocket provided with recesses drawn from the body of the metal constituting the sides of the pocket, and such ribbon provided with an aperture therethrough at the end thereof opposite to the pocket, in combination with a spring in the recesses of the pocket and across the mouth of the pocket, such spring, at the ends thereof adjacent to the mouth of the pocket

provided with arms extending from the respective ends of the spring inwardly and toward the opposite sides of the spring, and such arms respectively, provided with hooks  
5 at the ends thereof, the arm and hook on one end of the spring in a plane substantially parallel with the arm and hook on the other end of the spring, such arms and hooks in planes

substantially at right angles to the plane the sheet-metal ribbon is in; substantially as described. 10

LEON J. CAMPBELL

In presence of—

CHARLES TURNER BROWN,  
CORA A. ADAMS.