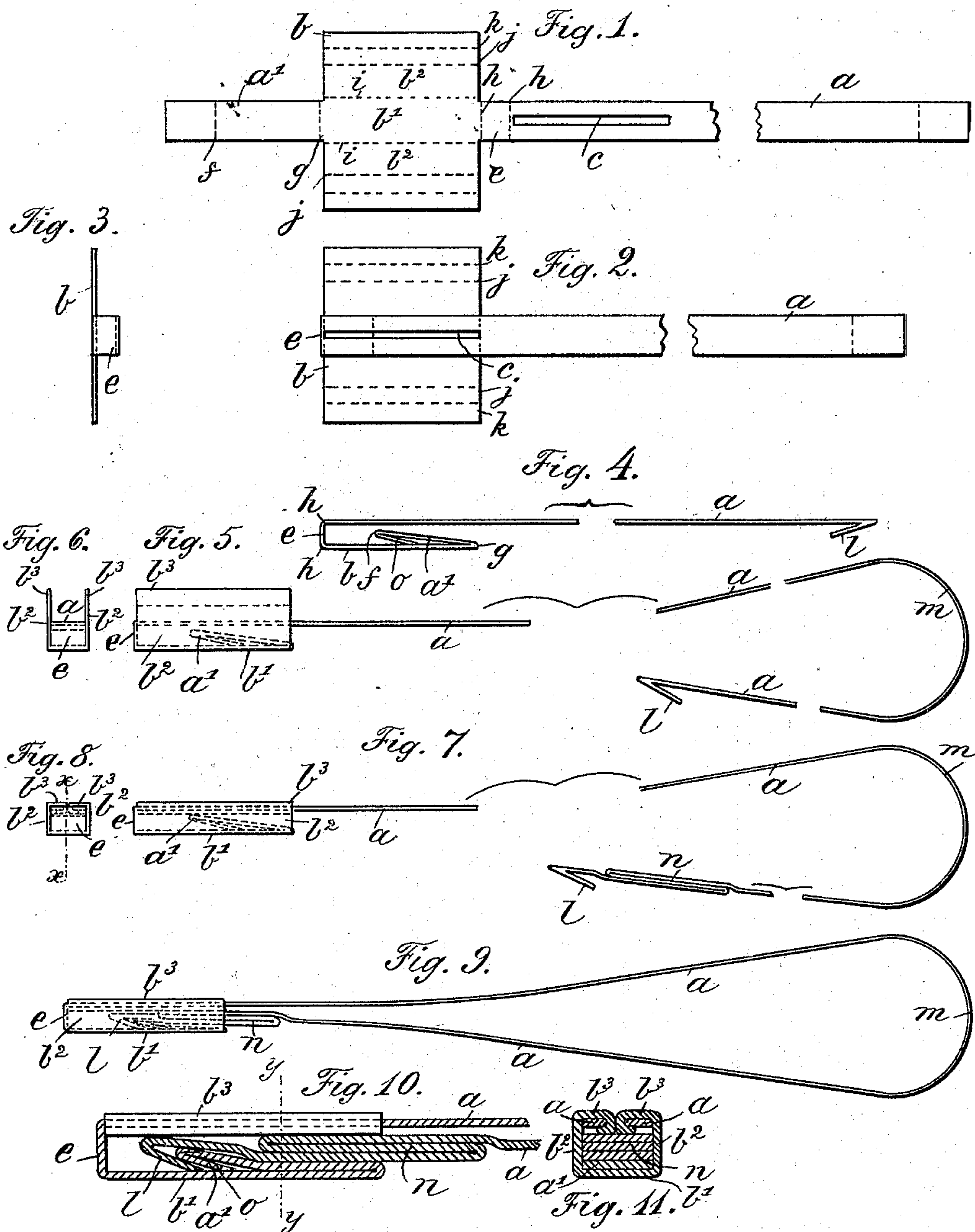


(No Model.)

F. W. WOOD.  
SEAL.

No. 568,011.

Patented Sept. 22, 1896.



WITNESSES.

Ernst Lundgren

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# UNITED STATES PATENT OFFICE

FRANK W. WOOD, OF PORT CHESTER, NEW YORK.

## SEAL.

SPECIFICATION forming part of Letters Patent No. 568,011, dated September 22, 1896.

Application filed July 1, 1895. Serial No. 554,576. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK W. WOOD, a citizen of the United States, and a resident of Port Chester, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Seals, of which the following is a specification.

My invention consists of improvements in the construction of seals for car-doors and other objects, whereby it is designed to provide simple and cheap but efficient seals of thin sheet metal, and contrived for greater security against fraudulent use, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a plan view of the blank as I prefer to make it for producing the seal of a single piece of sheet metal. Fig. 2 is a plan of the same partly folded. Fig. 3 is an end elevation of the partly-folded blank of Fig. 2. Fig. 4 is a side elevation of the partly-folded blank of Fig. 2. Fig. 5 is a side elevation of the device, showing another step in the process of folding. Fig. 6 is an end elevation of the device as represented in Fig. 5. Fig. 7 is a side elevation of the seal complete and ready for being locked. Fig. 8 is an end elevation of the complete seal, as in Fig. 7. Fig. 9 is a side elevation of the complete seal locked as in use. Fig. 10 is a longitudinal section of the seal on line *xx*, Fig. 8, enlarged; and Fig. 11 is a transverse section on line *yy*, Fig. 10.

I produce a blank of tin or other thin sheet metal in any approved way, consisting of the strip *aa'*, of suitable length and breadth, with an intermediate wider portion *b*, preferably making it in one integral piece, but it may be made in two or more parts which may be connected together in any approved way.

The part *a* is slotted longitudinally along the middle at *c*, the slot being located near the wide part *b* of the blank, but a short intermediate plain section *e* is reserved between the wide part *b* and one extremity of the slot. The part *a'* of the strip is doubled back on itself at the dotted line *f*, or thereabout, and is also doubled back at the line *g* on the part *b* of the strip, forming a hook, as best shown in Fig. 4, said part being hereinafter designated hook *a'*.

The part *a* of the strip is doubled back at

lines *h*, over hook *a'*, and the wide part *b* of the strip also, as best shown in Fig. 4.

The wide part *b* of the blank is then bent up, as shown in Figs. 5 and 6, on the dotted lines *i* of Fig. 1, and it is also bent on the lines *j* over the slotted part *c* of the strip, and again bent on the lines *k*, and its edges are inserted through the slot *c* and clenched inside of the slotted part of the strip, as shown in Figs. 8, 10, and 11, thus providing at one extremity of the strip a hook-engaging box whereof the middle portion of the wide part of the strip forms the bottom *b'*, the intermediate parts form the sides *b<sup>2</sup>*, the slotted part of the strip and the clenched margins *b<sup>3</sup>* of the said wide part form the top, and the part *e* of the strip intermediate of the part *b* and the slot forms one closed end, the other end of said box being open.

The other extremity of the strip *a* has the hook *l*, and the part of the strip *a* which may be considered the shank of the hook is reinforced by being made considerably thicker at *n* than the rest of the hook and the strip, preferably by doubling the strip back on itself, as shown, but its thickness may be increased in any other approved way, as by soldering or otherwise securing one or more layers of like material thereon.

The strip *a* is bent double to form a loop *m*, as required in such seals, and for inserting the hook *l* in the hook-box for engagement with the box-hook *a'*.

It will be seen that the box-hook is a fixture within the box, and the box has only one opening and one part to be inserted for effecting the locking connection of the seal, and said opening is arranged in the relation to the part of the strip joined to the box whereby it forms a gage or guideway which facilitates the inserting of the hooked end of the strip, which is especially advantageous in the dark.

While I prefer to form box-hook *a'* as an integral part of the blank, it may of course be made in a separate piece and be soldered or riveted to the bottom part *b'* of the box, as will be plainly understood by reference to Figs. 10 and 11. It will be seen that the edges of the sides of the box being inserted through the slot and clenched effectually secures the folded parts, so that the box cannot be opened



without destroying the seal, and effectually preventing its use again without detection.

In Fig. 10 it is plainly shown that when hook *l* is inserted past the end of the box-hook *a'* the point of hook *l* springs over the end of hook *a'* and engages it, so as to prevent disengagement except by such destruction as would prevent reuse of the seal without detection, and it will be seen that the thickened shank *n* of hook *l* entirely closes the open end of the hook-box through which the hook is inserted, so that no instrument of any kind can be inserted for disengaging the hooks. The said opening is necessarily made wider than the thickness of the strip to admit the hook.

It will also be seen that the part *o* of hook *a'* looped back under the point serves as a spring to thrust up the point for more certain action in engaging hook *l*, and for subsequently maintaining such engagement.

These seals will be consecutively or otherwise numbered, and records will be kept identifying them with the stations according as they are distributed for use, whereby when violated the locality of the violation may be more definitely determined, and together with the numbering they may be marked with other characters, as the names or initial letters of the names of the stations, for additional means for the same purpose.

It is to be understood that the basis of my invention is a contrivance for the construction of seals from a single blank of thin sheet metal comprised in one piece, one end portion of the strip being formed into the hook-engaging box, and the other end portion being a narrow thin strip having the hooked extremity and the reinforced part for closing the open end of the box, said reinforced portion being a folded part comprising a practically solid section, such as cannot be reduced in thickness by stretching and be again restored to the original condition without showing manifest indications of the violation, as a merely corrugated reinforcing-section is liable to be treated.

I am aware of the Patent No. 538,892, in which the shank of a hooked wire is corrugated to close the hook-receiving space to prevent the use of instruments for disengaging the hook, and I disclaim such device.

I claim—

1. The improved seal consisting of the me-

tallic strip having the hook at one end, and the hook-engaging box at the other end, said box formed of the laterally-extended parts of both edges of the strip near one end doubled back on the strip and folded over on the back of the strip, with the edges of these folded parts inserted through a slot of the strip and clenched inside of the box, said box being opened at one end to receive the hook of the other end of the strip, and having a hook to engage it substantially as described.

2. The improved seal consisting of the metallic strip having the hook at one end and the hook-engaging box at the other end, said box formed of the laterally-extended parts of both edges of the strip near one end doubled back on the strip and folded over on the back of the strip with the edges of these folded parts inserted through a slot of the strip and clenched inside of the box, said box containing a hook for engaging the hook at the end of the strip, and having an opening in the end which joins the strip, to admit the hooked end of the strip and being in such relation to the part of the strip joined to the box that said part of the strip forms a guide-way to facilitate inserting the hooked end of the strip, and the shank of the hook at the end of the strip having a practically solid reinforced section adapted to fill said opening substantially as described.

3. The improved seal consisting of the metallic strip having the hook at one end and the hook-engaging box at the other end produced from the strip, said box being open at one end to receive the hook of the other end of the strip, and having the box-hook to engage said other hook, said box-hook having the part looped back under the point for a spring to thrust up the point to engage the strip-hook, and the shank of the latter hook having a practically solid reinforced section to fill the opening in the end of the hook-box, and being incapable of reduction by stretching, and of restoration by compression substantially as described.

Signed at New York city, in the county and State of New York, this 28th day of June, A. D. 1895.

FRANK W. WOOD.

Witnesses:

W. J. MORGAN,  
A. P. THAYER.