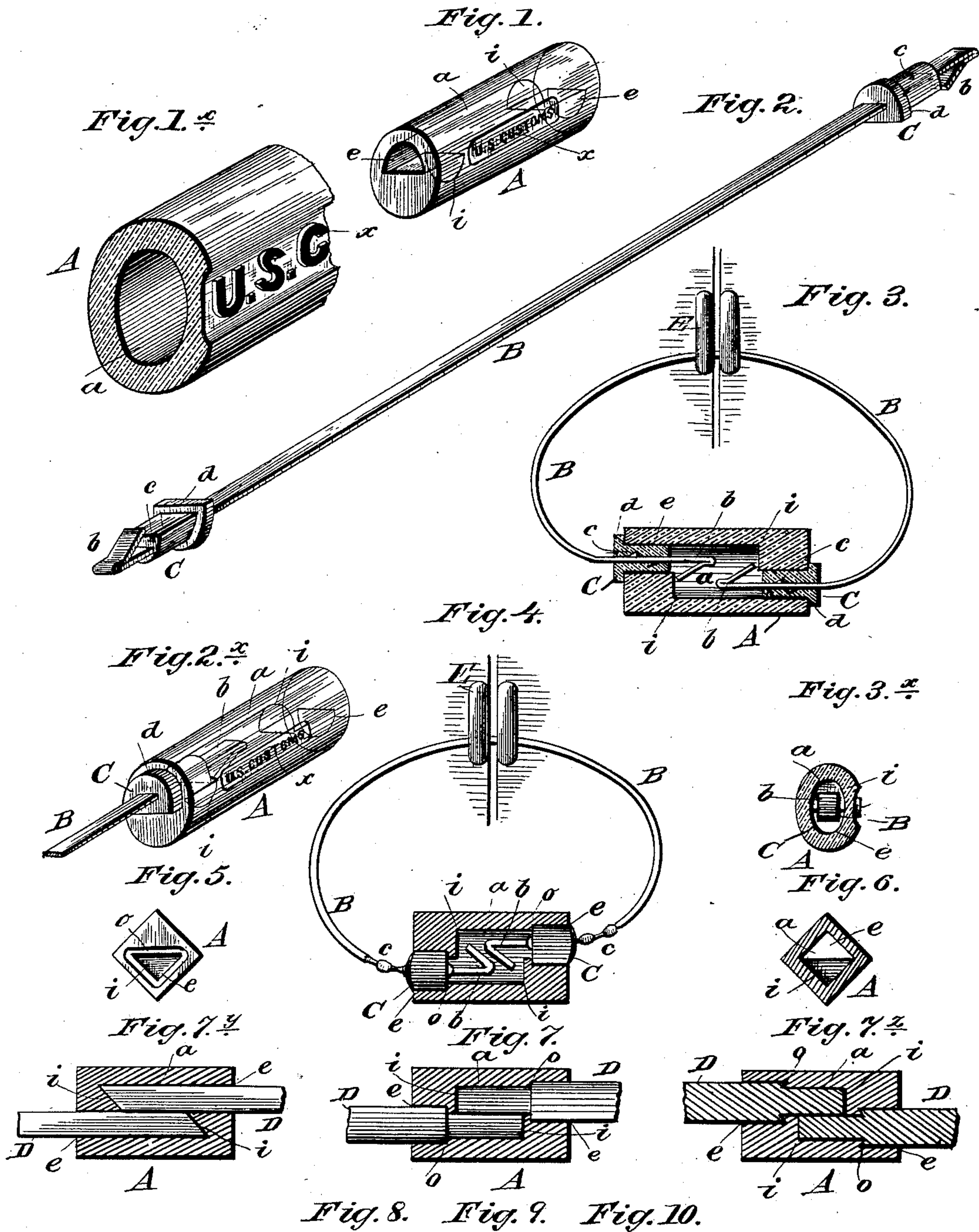


(No Model.)

E. J. BROOKS.
SELF FASTENING SEAL.

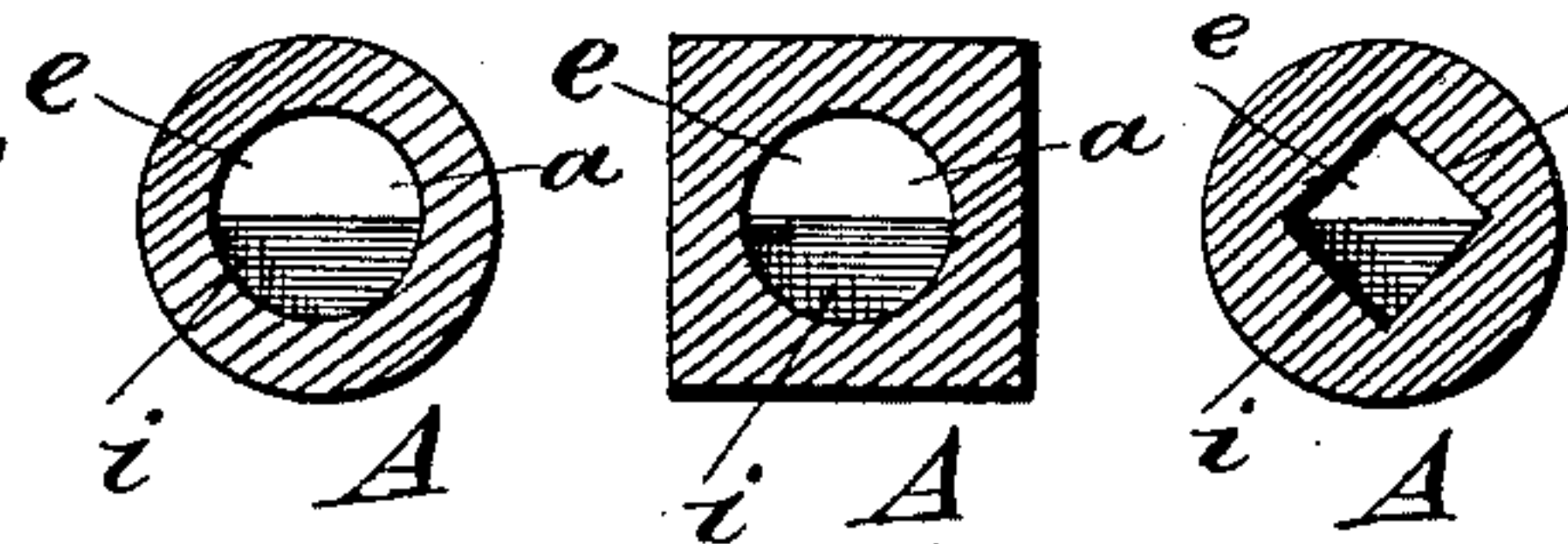
No. 353,246.

Patented Nov. 23, 1886.



Witnesses:

Phil. Dietrich
Joseph Becker



Inventor:
Edward J. Brooks.
by: L. L. Swin,
Attorney.

UNITED STATES PATENT OFFICE.

EDWARD J. BROOKS, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO E. J. BROOKS & CO., OF NEW YORK, N. Y.

SELF-FASTENING SEAL.

SPECIFICATION forming part of Letters Patent No. 353,246, dated November 23, 1886.

Application filed October 2, 1886. Serial No. 215,170. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. BROOKS, a citizen of the United States, and a resident of East Orange, in the State of New Jersey, have
5 invented a new and useful Improvement in Self-Fastening Seals, of which the following is a specification.

This invention relates to additional improvements in those classes of self-fastening or
10 "snap" seals set forth in my previous specifications, forming part of Letters Patent No. 340,932, dated April 27, 1886, and No. 345,764, dated July 20, 1886; and it consists in certain peculiarly-constructed parts and combinations
15 of parts, as hereinafter set forth and claimed.

The objects of this invention are, first, to form a compact and secure self-fastening seal adapted to have its parts preliminarily united with facility, and to admit of the employment
20 of tubular seal parts of different lengths without adjusting the snap-catches and guards of the shackles to each; secondly, to facilitate making cast or molded seal parts preferably of transparent glass; thirdly, to provide for the
25 employment of non-circular guards and non-circular sockets therefor in seal parts of any preferred external shape, so that different external shapes and different combinations may distinguish or aid in distinguishing the seals
30 of different users, as different railroads; and, fourthly, to insure securely fastening a "single" snap-catch in a seal part of small size by compelling the sealer to insert the catch in one position only, in which position it will
35 properly engage a catch-shoulder confined to one side of the guard socket or entrance to the seal part.

A sheet of drawings accompanies this specification as part thereof.

40 Figures 1 and 2 of these drawings are perspective views of the seal part and shackle, respectively, of a self-fastening seal constructed according to the present invention. Fig. 1^x represents a magnified sectional perspective
45 view of said seal part, showing its lettering. Fig. 2^x is a perspective view of the parts as preliminarily united; and Figs. 3 and 3^x represent sections of the fastened seal, the former showing a front view. Fig. 4 represents a sectional
50 front view of a modified seal illustrating

ing the same invention. Fig. 5 is an end view of its seal part. Fig. 6 represents a cross-section thereof, and Fig. 7 represents a longitudinal section of the seal part, with elevations of the cores by which its interior is shaped. Figs. 55 7^y and 7^z are like views representing additional modifications of the cores. Figs. 8, 9, and 10 represent cross-sections of seal parts illustrating additional modifications of this invention.

Like letters of reference indicate corresponding parts in the several figures.

Each seal part A is cast or molded of suitable material, rendering it hard or rigid, and preferably frangible and transparent. All these qualities belong to ordinary bottle-glass,
65 untinted or of light colors, which is consequently preferred; but the seal parts may be of any other suitable material—such as type-metal. A middle chamber, *a*, of any convenient shape in cross-section, diagonally-opposite entrances *e*, non-circular in cross-section, at the respective ends of said chamber, and catch-shoulders *i i*, extending in opposite directions from the inner ends of the respective
70 entrances, complete the internal features of each seal part. Externally the seal part is preferably of a distinctive shape, corresponding or contrasting with that of its entrances, so as to distinguish or aid in distinguishing
75 the seals of a given road or other user of this make of seals, as oval and half-oval in the seal represented by Figs. 1 to 3^x; square and triangular, Figs. 4 to 7; round and half-round, Fig. 8; square and half-round, Fig. 9; round
80 and triangular, Fig. 10.

Each shackle B is of flexible metallic wire, and is provided at each end with snap-catches *b*, projecting in opposite directions, and adapted to automatically interlock with said shoulders *i* within said chamber *a* of the seal part when
90 properly inserted through the entrances *e*. Each shackle end is further provided with roughening projections or indentations *c* near the catch *b*; and upon the roughened "necks" of the shackle so formed entrance-guards C
95 C are cast or molded, being preferably of transparent glass, so as to expose to view said projections or indentations. These "guards" are fitted to said entrances *e*, and stop-shoulders *d* or *o*, formed either on the guards (as *d*) or
100

within the entrances, (as *o*,) limit their insertion, so that the respective catches just clear the shoulders, with which they interlock when fully inserted. Their inspection through a transparent seal part is thus facilitated, and interference between the catches at the fastening operation is prevented.

To insure inserting the respective catches *b* so as to properly interlock with the shoulders *i*, the non-circular entrances *e*, forming the sockets for said guards *C*, are so shaped, together with the latter, that the guards can only be inserted in one, which is the proper position. Any irregular non-circular shape will suffice for this purpose, such as either of those hereinbefore specified.

Said chamber *a*, entrances *e*, and shoulders *i* within the seal part are readily formed by a pair of simple metallic cores, *D D*, as illustrated by Fig. 7, and, if desired, the respective shoulders may be undercut by the same means, as illustrated by Figs. 7¹ and 7², so as to increase the security of the seal. This would be especially desirable in seals of large size.

I prefer to make the seal part very small—say an inch long, more or less—so as to economize material and shipping expenses, and to facilitate carrying the seals, as also to facilitate the unsealing operation. To facilitate reading the necessarily minute lettering or distinguishing-marks *x*, Fig. 1^x, on such seal parts of small size, I form the same by raised characters, preferably within a depressed panel, and color their outermost faces with waterproof ink or paint, which can readily be applied by means of a soft roller by hand or in an automatic machine.

One end of the shackle may be fastened within the seal part at the factory to preliminarily unite the parts, so as to facilitate handling the seals, as represented by Fig. 2^x. To seal a car-door, for example, the other end of the shackle is passed through the customary staple, *E*, or the like, and its catch *b* is inserted into the open entrance *e*, followed by the guard *C* on said shackle end, and before the latter is arrested by said stop-shoulder *d* or *o* the catch “snaps” behind the corresponding catch-shoulder, *i*, with an audible “click.”

The fastened seal (represented by Figs. 3, 3^x, and 4) can only be opened by breaking the seal part or cutting or breaking the shackle. In either case detection of its violation is insured.

Having thus described my said improvement in self-fastening seals, I claim as my invention and desire to patent under this specification—

1. In a self-fastening seal, a tubular seal part having a middle chamber and an entrance and catch-shoulder at each end, in combination with a flexible shackle having snap-catches at its respective ends, which interlock independently with the respective catch-shoulders, substantially as herein specified.

2. In a self-fastening seal, a cast or molded seal part having a middle chamber, diagonally-opposite entrances at the respective ends of said chamber, and diagonally-opposite catch-shoulders in line with the respective entrances, substantially as herein specified, whereby the interior is adapted to be readily shaped by a pair of cores, in the manner set forth.

3. In a self-fastening seal, a seal part having a middle chamber, a pair of entrances in its respective ends, which are non-circular in cross-section, and a pair of internal catch-shoulders, and constructed with a distinctive external shape, to distinguish or aid in distinguishing seals of different owners, substantially as herein specified.

4. In a self-fastening seal, a guard of irregular non-circular shape, as semi-oval, in cross-section, in combination with a hollow seal part having an entrance of like irregular non-circular shape in cross-section, and a catch-shoulder at one side of said entrance, and a shackle upon, which said guard is fast, having a single snap-catch at its extremity, to interlock with said shoulder, whereby the insertion of the catch in the proper position to so interlock with said catch-shoulder is insured, substantially as herein specified, for the purpose set forth.

EDWARD J. BROOKS.

Witnesses:

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