

E. J. BROOKS.

SNAP SEAL.

APPLICATION FILED FEB. 6, 1909.

919,315.

Patented Apr. 27, 1909.

Fig. 1.

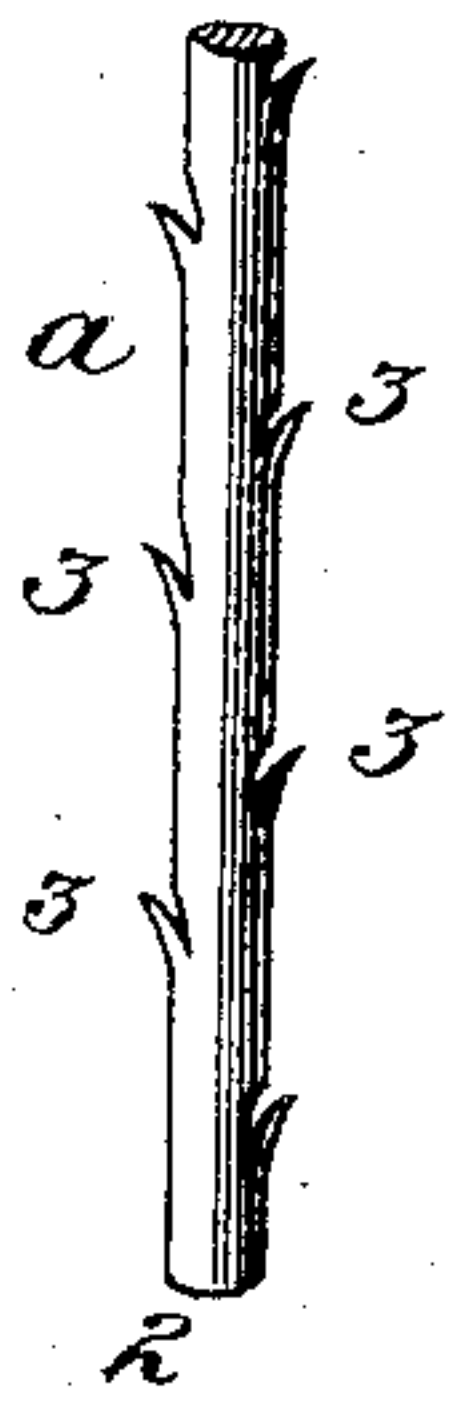


Fig. 5.

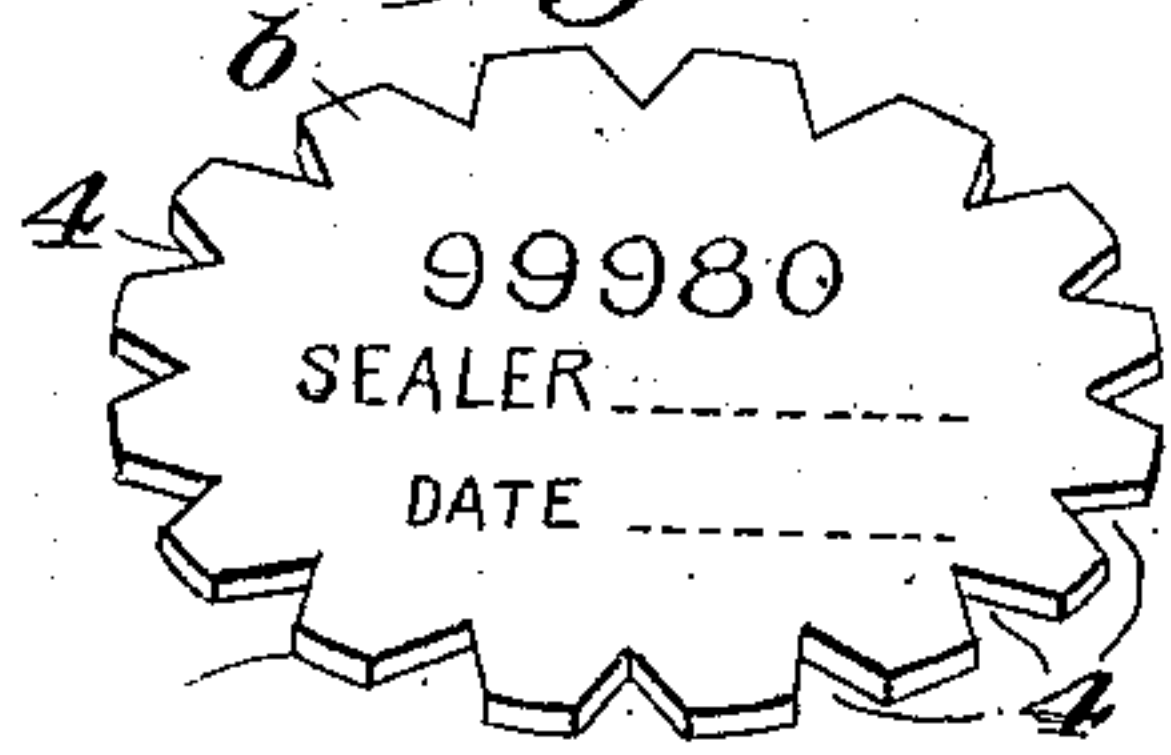


Fig. 6.

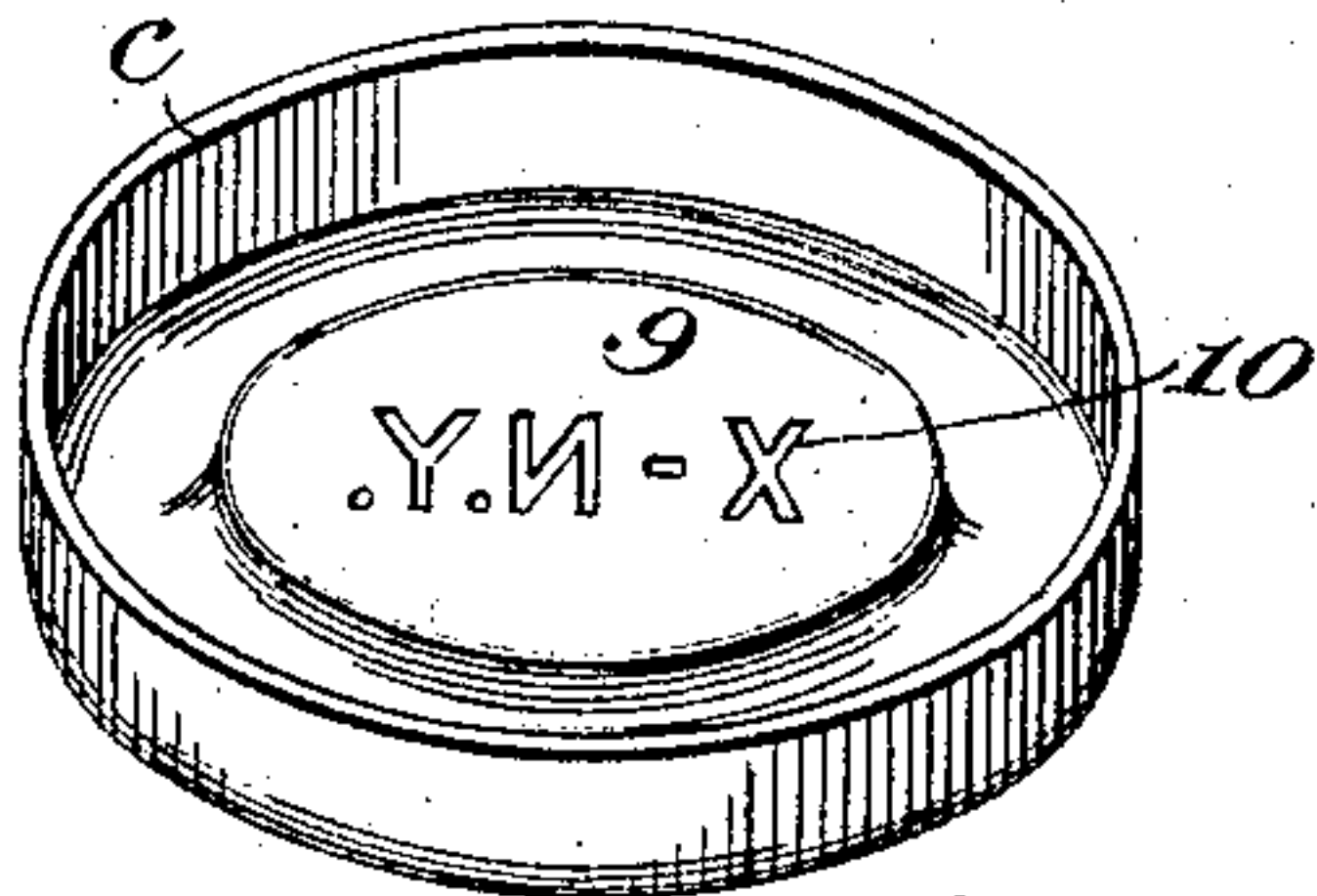


Fig. 2.

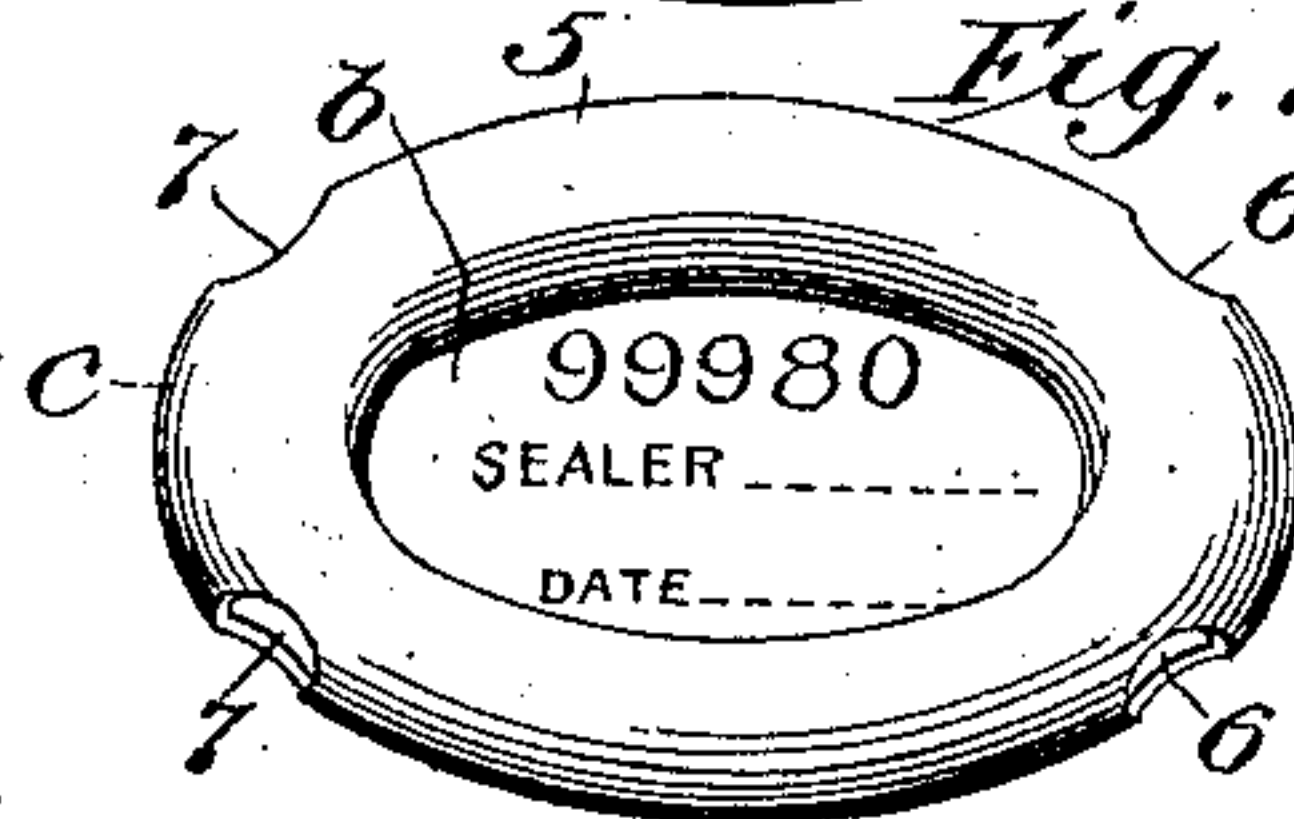
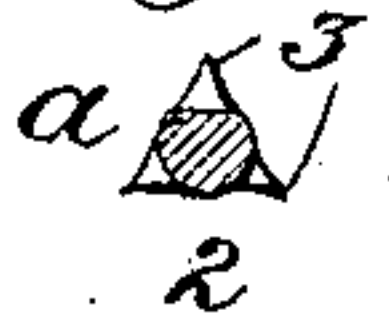


Fig. 7.

Fig. 11.

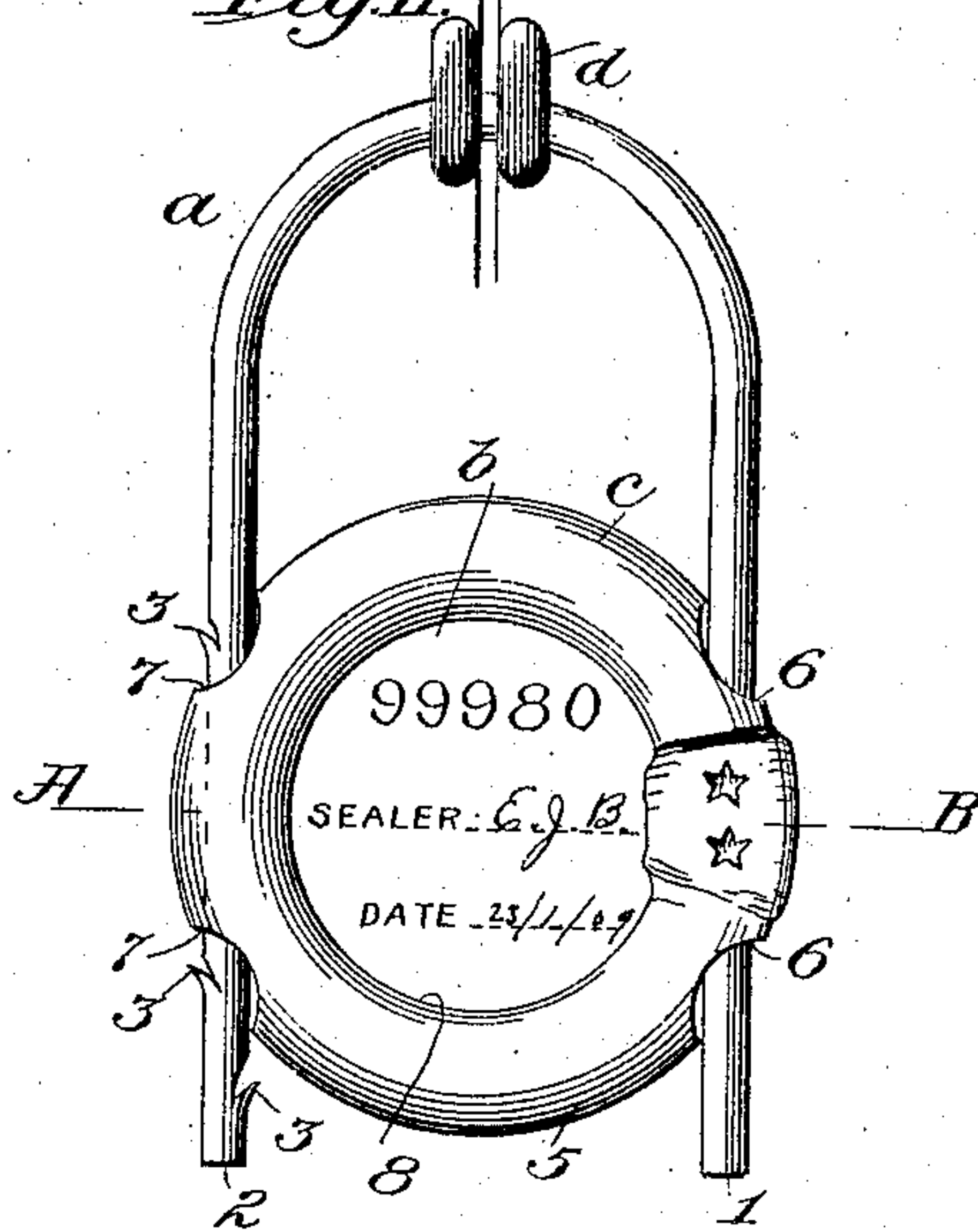


Fig. 3.



Fig. 8.

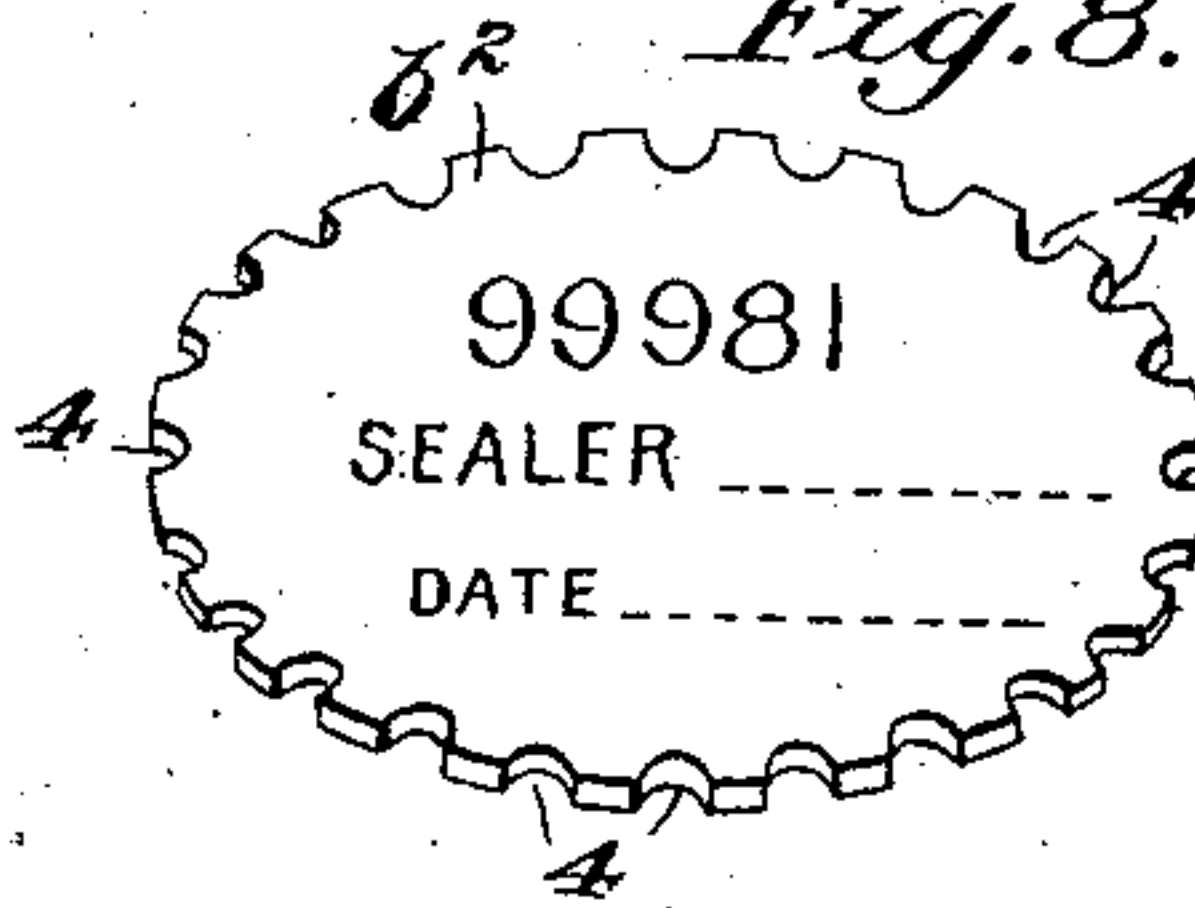


Fig. 9.

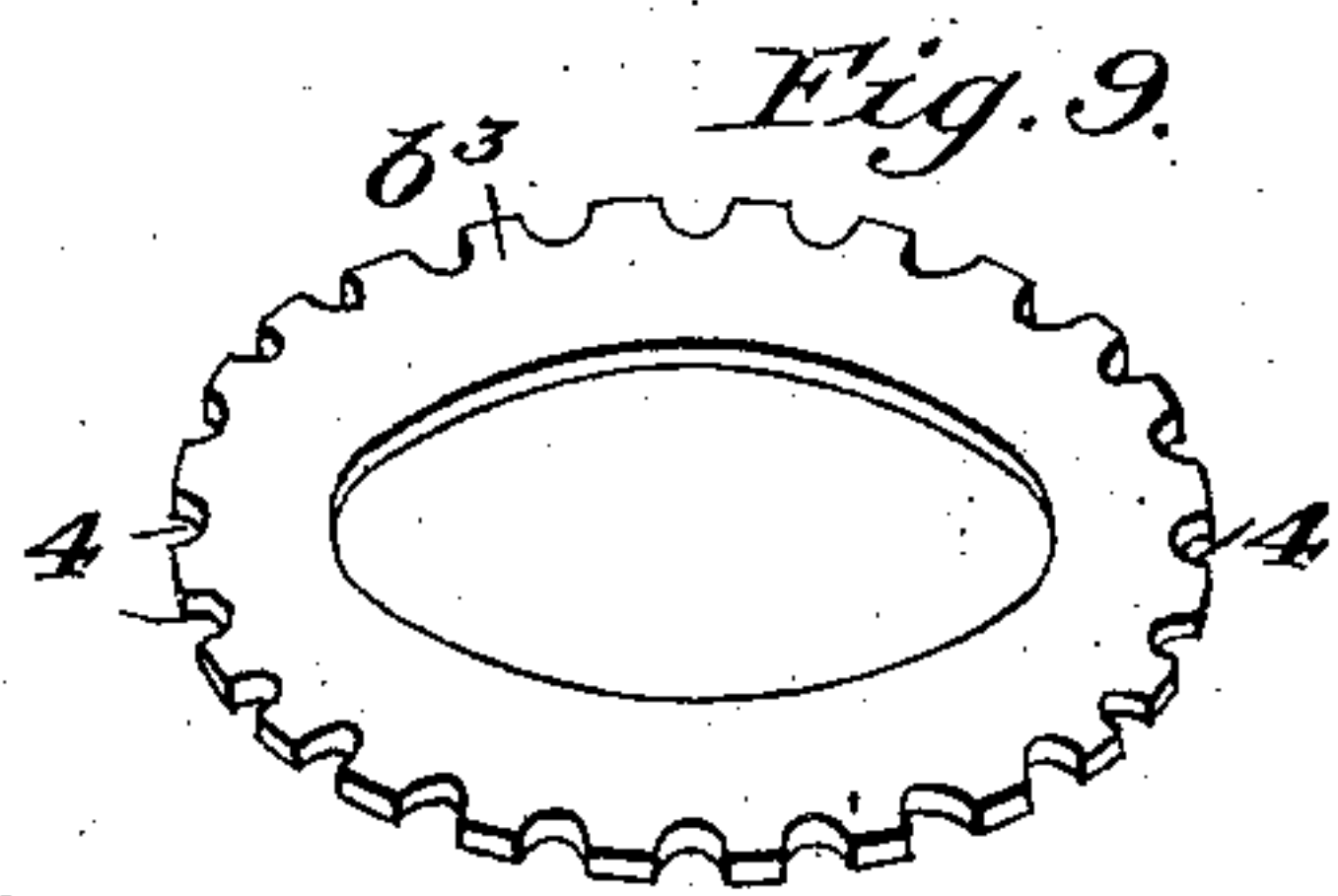


Fig. 4.



Fig. 12.

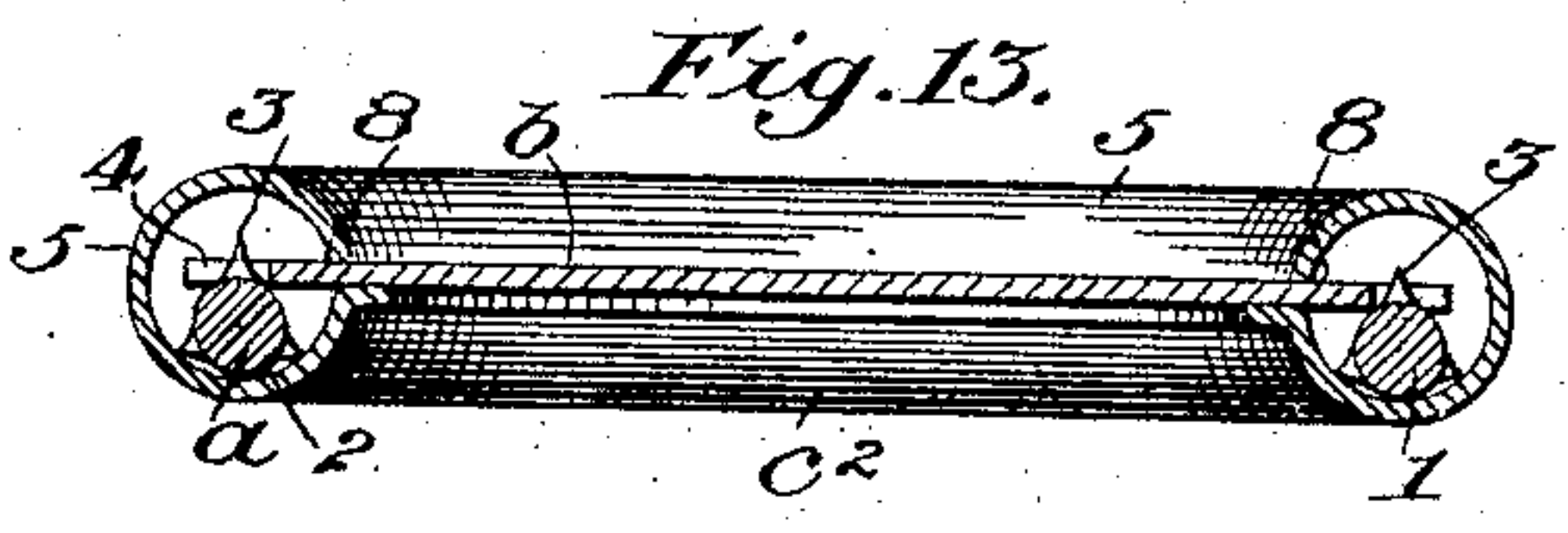


Fig. 13.

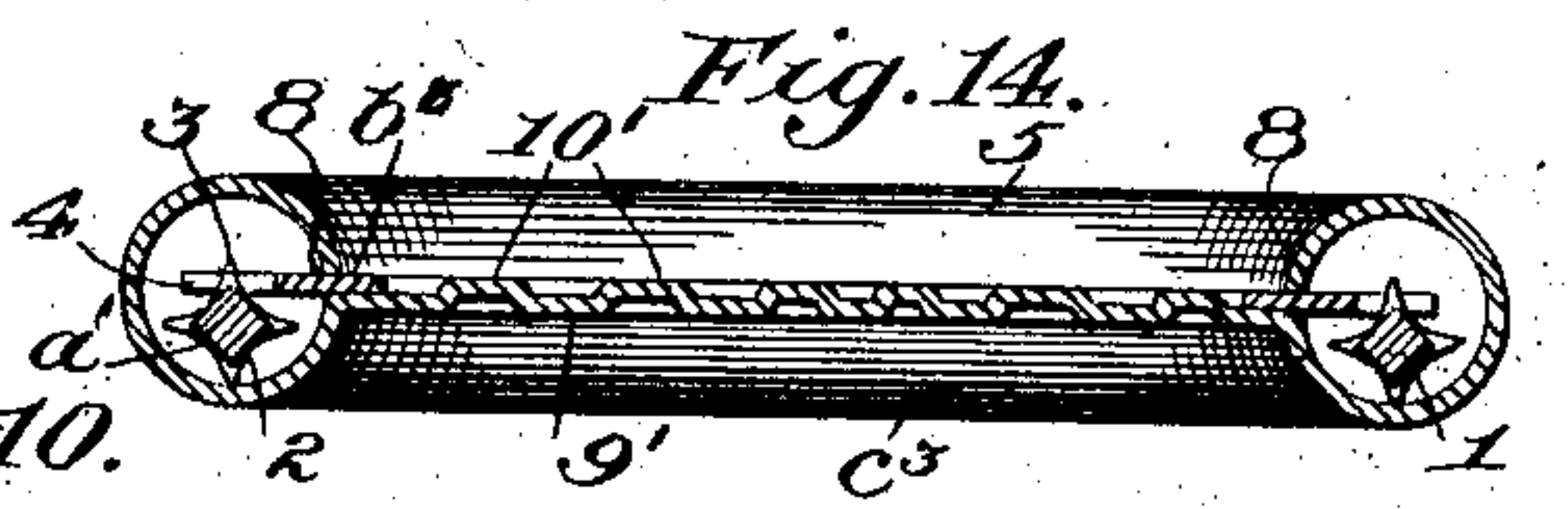
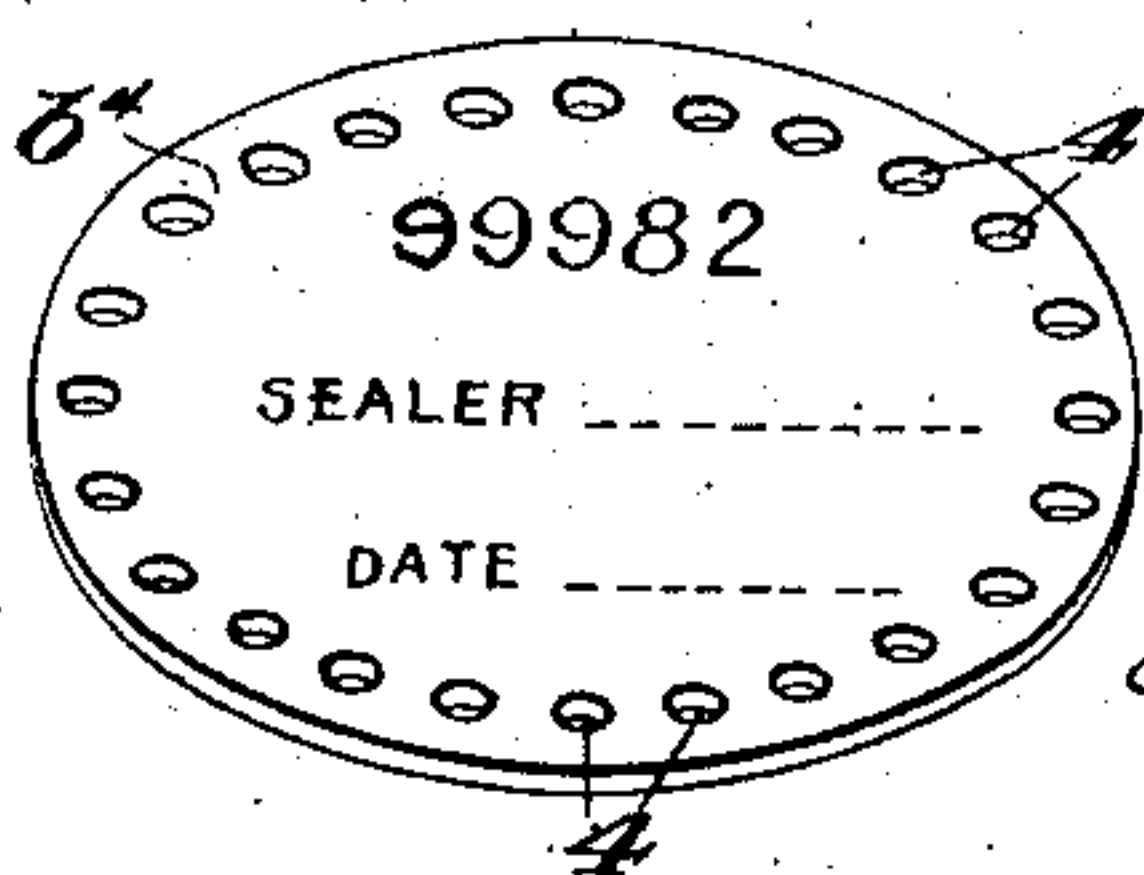


Fig. 14.

Fig. 10.



Witnesses:

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*Edward J. Brooks*  
*by his attorney*  
*W. L. Davis*



# UNITED STATES PATENT OFFICE.

EDWARD J. BROOKS, OF EAST ORANGE, NEW JERSEY.

## SNAP-SEAL.

No. 919,315.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed February 6, 1909. Serial No. 476,476.

*To all whom it may concern:*

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

This invention relates, in common with previous improvements, to self-fastening seals, or "snap seals" as they are commonly termed, for use, as substitutes for lead and wire seals and other press-fastened or press-fastenable sealing devices, to secure the doors of railway freight cars and for other like purposes.

The present invention is more particularly additional to the improvement in snap seals set forth in my specification forming part of United States Letters Patent No. 654,598, dated July 31, 1900. The distinguishing characteristic of that improvement is a seal part formed from a single piece of suitable sheet metal, such as tin plate, and having a tubular or partly tubular rim. It is also additional to my patented improvements in press fastened or press fastenable seals having tubular-rim seal parts of sheet metal, and especially the label-seal improvement described and claimed in my specification forming part of United States Letters Patent No. 909,363, dated January 12, 1909.

The present invention consists in certain novel combinations of parts and in an improved snap seal embodying such combinations or any of them, all as hereinafter more particularly described and claimed.

The leading object of this invention is to utilize the resiliency of a label disk or the like, in a tubular-rim sheet-metal seal part, to render such seal part self fastening on a flexible shackle of round or square wire.

Another object is to make an improved snap seal, of the wire shackle type, the parts of which may be inseparably united with each other by press fastening one shackle end at the factory.

Other objects will be set forth in the general description which follows.

A sheet of drawings accompanies this specification as part thereof.

Figures 1 and 2 are a perspective view and a cross-section representing one or each end of a shackle of round wire; Figs. 3 and 4 are like views of one or each end of a shackle of square wire; Figs. 5 and 6 are perspective views of the respective parts of

a combined label and seal disk as they appear before being united; Fig. 7 is a perspective view of the same united and with the tubular rim of the seal disk provided with threading holes; Figs. 8, 9 and 10 are perspective views of alternative forms of the resilient part; Fig. 11 is a face view of an improved seal having the respective ends of its shackle press-fastened and snap-fastened; Fig. 12 represents a section on the line A—B, Fig. 11, on a larger scale; Figs. 13 and 14 are like cross-sections, representing other species of seals of the same genus.

Like reference characters refer to like parts in all the figures.

The improved snap seal includes a flexible shackle of round wire, *a*, or square wire, *a'*, having one or each of its ends, 1 and 2, provided with ratchet barbs, 3, as shown in Figs. 1 to 4, inclusive, above mentioned and more particularly set forth with reference to a press fastenable seal in my specification forming part of United States Letters Patent, No. 349,873, dated September 28, 1886. Such barbs are rigid but their oblique or "ratchet" form and their projection radially in three or more directions, adapt them to interact with a resilient snap-seal member. I have discovered that an effective resilient member for such interaction is formed by cutting away portions, 4, of the margin of a flat label disk or the like, *b*, or *b*<sup>2</sup> or *b*<sup>3</sup> or *b*<sup>4</sup>, so as to render the same indented or perforated, and then uniting the same with a sheet-metal part, *c*, or *c*<sup>2</sup> or *c*<sup>3</sup>, having a tubular rim, 5, provided with threading holes, 6 and 7, and a butt joint, 8, at the inner circumference of said tubular rim, within which said flat part is fastened in the act of forming the tubular rim and uniting the parts, said margin with its cut-away portions projecting within the tubular rim as in Figs. 12–14. Such resilient part may be otherwise a label of stiff waterproof paper or the like, or preferably of thin sheet metal, as represented in Figs. 5, 7, 8, 10 and 11, or it may be a flat ring of like materials, as represented by Fig. 9; and the cut-away portions 4, may be notches of different shapes, as represented in Figs. 5, 8, and 9, or perforations, as represented in Fig. 10. The label features of said resilient part, when it is designed and adapted to operate additionally as a label, may consist of or include a serial number and designated blanks for the signature or mark of the sealer and the date



of sealing, as represented in said Figs. 5, 7, 8, 10 and 11.

In the species represented by Figs. 11 and 12, in connection with Figs. 1, 2, 5, 6 and 7, the shackle ( $a$ ) is of round wire and its ends 1 and 2 are respectively of the plain wire and barbed; and the sheet-metal part  $c$  is originally cup or dish shaped with a flat central portion 9, Figs. 6 and 12, underlying the label forming resilient part  $b$ , and embossed with additional permanent distinguishing marks 10; said shackle end 1 of plain wire being threaded through the threading holes 6, and press fastened by flattening and stamping the tubular rim 5 at the factory as part of the process of manufacture. At the sealing operation, after filling the blanks of the label part  $b$ , the shackle wire  $a$ , is passed through a pair of cardoor staples,  $d$ , or the like, and inserted endwise through the threading holes 7, and in this act is permanently snap fastened against withdrawal without such mutilation of the seal as will insure detection.

In the species represented by Fig. 13, both ends of the shackle wire ( $a$ ) are barbed and snap fastened; the resilient part may be the label part  $b$ , Fig. 5, as indicated, and the sheet-metal part  $c^2$ , is annular being otherwise identical with said sheet-metal part  $c$ .

In the species represented by Fig. 14, both ends of the square shackle wire  $a'$ , Figs. 3 and 4, are barbed and snap fastened; the resilient part is the annular part  $b^3$ , Fig. 9, and the sheet-metal part  $c^3$  has its flat portion, 9', embossed with distinguishing marks, 10' arranged to be read through the central opening of said annular part.

The shackle wire may obviously be either round or square in each of the species or of equivalent shape in cross-section, triangular, for example; any of the label parts  $b$  or  $b^2$  or  $b^4$  may be used in said first and second species; the cut-away portions 4 of the annular resilient part  $b^3$  may be of any of the forms shown in Figs. 5, 8, 9 and 10; said sheet-metal part  $c$ , Figs. 6 and 7, may be used in connection with shackle wire  $a$  or  $a'$  barbed at both ends; said sheet metal parts  $c^2$  and  $c^3$ , Figs. 13 and 14, may be combined with shackle wire  $a$  or  $a'$  barbed at only one

end and press fastened at its other end as in Figs. 11 and 12; and other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention, and desire to patent under this specification:

1. The combination, in a self-fastening seal, of a sheet-metal seal part having a tubular rim provided with threading holes and forming a butt joint at its inner circumference, a flat part of resilient material fastened in said butt joint and having a margin which projects within said rim and is provided with cut-away portions, and a flexible shackle wire constructed with ratchet barbs to interlock with said cut-away portions within said tubular rim.

2. The combination, in a self-fastening seal, of a sheet-metal seal part having a tubular rim provided with threading holes and forming a butt joint at its inner circumference, a flat resilient part of thin sheet metal fastened in said butt joint and having a margin which projects within said tubular rim and is provided with cut-away portions, and a flexible shackle wire constructed with ratchet barbs to interlock with said cut-away portions.

3. The combination, in a self-fastening seal, of a sheet metal seal part having a tubular rim provided with two pairs of threading holes and forming a butt joint at its inner circumference, a flat part of resilient material fastened in said butt joint and having a margin which projects within said tubular rim and is provided with cut-away portions, and a flexible shackle wire having one end threaded through one pair of said threading holes and preliminarily press fastened by compressing said tubular rim thereat and its other end provided with ratchet barbs to interlock with said cut-away portions within said tubular rim at the self-fastening operation, substantially as hereinbefore specified.

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Witnesses:

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