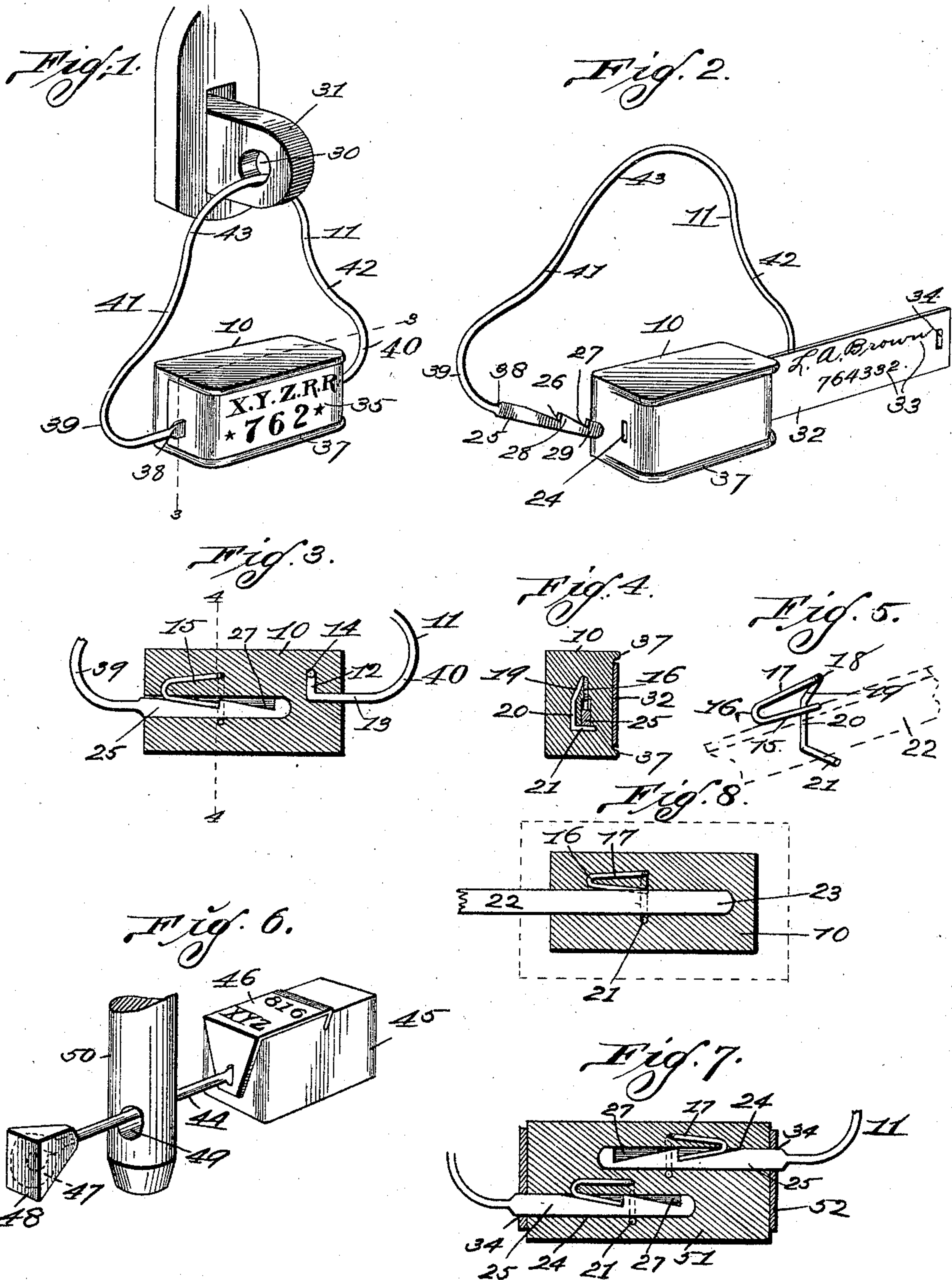


(No Model.)

L. A. BROWN.  
SEAL.

No. 586,007.

Patented July 6, 1897.



Attest  
W. Smith  
S. S. Wells.

Inventor:-  
Lewis A. Brown  
By Higdon, Longan & Higdon  
attys.



# UNITED STATES PATENT OFFICE.

LEWIS A. BROWN, OF ST. LOUIS, MISSOURI.

## SEAL.

SPECIFICATION forming part of Letters Patent No. 586,007, dated July 6, 1897.

Application filed August 3, 1896. Serial No. 601,506. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS A. BROWN, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Seals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to seals; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a perspective of my improved seal in position for use. Fig. 2 is a perspective of the seal shown in Fig. 1 before it has been locked in position for use. Fig. 3 is a longitudinal sectional view on the line 3 3 of Fig. 1. Fig. 4 is a vertical transverse sectional view on the line 4 4 of Fig. 3. Fig. 5 is a view in perspective of the spring-catch of which I make use in the construction of my improved seal. Fig. 6 is a view in perspective of a modified form of my seal. Fig. 7 is a vertical longitudinal sectional view of a modified form of seal. Fig. 8 is a sectional view illustrating the method of constructing the seal.

In the construction of my improved seal I make use of the body 10, which is composed of frangible material cast in the form desired. I find that the cubical rectangular forms which I have shown are very satisfactory.

The seal is applied and attached by means of the wire 11. One end of the wire 11 may be embedded in the body 10 during the operation of casting, as shown in Fig. 3. The portion 12 is bent upwardly to a position at right angles to the portion 13 and then the extreme end 14 is bent sidewise. All that is required is that the ends shall be of such a shape that they cannot be easily pulled out of the body 10. The spring-catch (shown in perspective in Fig. 5) is embedded in the interior of the body 10 during the operation of casting. The method of placing the catch in position is illustrated in Figs. 5 and 8.

The spring-catch is formed of wire, as shown in perspective in Fig. 5, and consists of the free end 15, the bent portion 16, from one end of which the free end projects, the straight portion 17, lying directly above the

free end 15, the bent portion 18, the inclined portion 19, which leads downwardly and sidewise from the bent portion 18, the vertical portion 20, which leads vertically downward from the lower end of the portion 19 and at a slight distance to one side of the free end of the catch, and the horizontal portion 21, which is attached to the lower end of the portion 20 at right angles and extends in a direction transversely of the free end 15. The wire thus formed is placed in position upon the core 22. (Shown in dotted lines in Fig. 5.) The free end of the catch 15 normally rests on the upper side of the portion 21 of the wire. When the core is inserted between the portion 21 and the free end of the catch, the spring is compressed until the catch 15 lies substantially in a horizontal position, as shown in Fig. 8.

In the upper edge of the end 23 of the core 22 is a semicircular groove, in which the end of the catch 15 fits closely. The core 22 is placed in the casting-box in the ordinary way, with the catch 15 approximately in the center of the interior of said box. After the body 10 has been cast and has been removed from the box the core 22 may be pulled out of the body, the end of the catch sliding in the groove in the end 23 of the core. As soon as the core has been removed from the body 10 the tension upon the spring-catch 15 is removed and said catch resumes its normal position, with its free end close to the portion 21 of the wire and in the opening 24 formed by the core 22.

The free end 25 of the wire 11 is flattened, and upon its upper face are formed notches 26 and 27. The front faces of the teeth 28 and 29 formed by said notches are rounded or inclined, while the rear faces of said teeth are vertical. The end 25 is designed to fit closely within the opening 24 in the body 10, and after the wire 11 has been passed through the aperture 30 in the pin 31 the end 25 is inserted in the opening 24 and the spring-catch 15 engages in either the notch 26 or the notch 27, as shown in Figs. 3 and 7.

A tin tag 32 has one of its ends embedded in the material of the body 10 during the operation of casting. The tin tag 32 is designed to have a secret memoranda, such as 33, writ-



ten upon its inner face. This memoranda may consist of the name of the agent applying the seal and the number of the station, or it may consist of any other desired matter.

5 In the free end of the tin tag 32 is an opening 34, and when said tin tag is bent around the body 10, as shown in Fig. 1, the opening 34 comes in alinement with the opening 24, and the end 25 of the wire passes through  
10 said opening 34 before passing into the opening 24. Upon the outer face of the tin tag 32 may be a memoranda, such as 35, and this memoranda may consist of the name of the railroad, the number of the car, the number  
15 of the station, or any other desired matter.

The flanges 37 project from the body 10 in position to come one at the top and one at the bottom of the tin tag 32 and form protection for the edges of said tin tag.

20 The wires 11 are made of a uniform size and shape in order that the inspector, who is familiar with their form, will determine at a glance whether or not the seal has been tampered with since it has been applied and that  
25 the inspector may also determine whether or not the seal is properly applied. The end 25 should be of such a length that the shoulder 38 between said end and the balance of the wire, which shoulder is formed by flattening  
30 said end 25 and leaving the rest of the wire round, will fit closely against the outer face of the tin tag 32 when said end 25 is properly inserted in the opening 24 and locked by the action of the spring-catch 15. If the inspector  
35 discovers that the shoulder 38 is not resting closely against the outer face of the tin tag, he is informed by such discovery that there is something wrong with the seal. It is either not properly locked or it is defective in some  
40 way. Both ends of the wire 11 as they pass into the body 10 are in horizontal positions. After extending a slight distance outwardly from the body 10 the portions 39 and 40 of the wire curve upwardly and inwardly. Then the  
45 portions 41 and 42 curve upwardly and slightly outwardly, and the upper ends of said portions are joined by the portion 43, which is substantially a semicircle. By becoming familiar with the distinctive curves of the wire  
50 the inspector can readily tell whether or not said wire has been tampered with.

In the modified form shown in Fig. 6 a straight wire 44 is used in place of the wire 11. The construction of the body 45 of the  
55 seal, and especially the interior thereof, is substantially the same as that before described. The tin tag 46 has all the essentials of the tag 32, and the end of the wire 44, which is inserted in the body 45, is substantially like the end 25 of the wire 11. The  
60 distinguishing difference between the two forms of devices is the fact that the wire 44 is not embedded in the body 45 during the operation of casting. The outer end 47 of  
65 the wire 44 is bent into the form of an eye, and said eye is inserted in the block 48 during the operation of casting. The wire 44

may be inserted through the eye 49 in the point of the pin 50 and the body 45 applied, as heretofore described. 70

In the form of the device as shown in Fig. 7 the block 10 is formed by inserting the core into the casting-box from each end, thus placing two of the spring-catches 15 within the block 51 and making two of the openings 24. 75 The tin tag 52 has an aperture 34 in each of its ends and is of a length sufficient to pass from one end of the block 51 around to the opposite end. Both ends of the wire 11 are free, and each end is designed to be inserted 80 into the block 51 and be engaged by a catch 15. In other respects the construction is the same as that before described.

When it is desired to remove the seal in order to unlock the receptacle to which it is attached, the wire may be cut or broken or the frangible body may be broken. It is not intended that the seal be used more than once. 85

A seal constructed in accordance with my invention is intended to take the place of the seal-locks and seal-bolts heretofore in use. It is a lock and seal all in one in effect, and it is very simple in construction and effective in operation. 90

I claim— 95

1. The within-described method of embedding a spring-catch in the interior of a cast block, which method consists of compressing said spring, placing said spring upon a core, suspending said core in the casting-box, casting the block, withdrawing the core and leaving the spring to operate, substantially as specified. 100

2. In a seal, a cast block of frangible material having an opening to its interior, said opening being formed during the operation of casting, a spring-catch suspended in said opening by having one of its ends embedded in the material of said block during the operation of casting, and a tin tag having one of its ends embedded in said cast block during the operation of casting, said tin tag having an opening in its free end in position to come in alinement with the opening in said block, the inner face of said tin tag being designed to receive secret memoranda, substantially as specified. 105 110 115

3. In a seal, a cast block of frangible material having an opening to its interior, said opening being formed during the operation of casting, a spring-catch suspended in said opening by having one of its ends embedded in the material of said block during the operation of casting, a tin tag having one of its ends embedded in said cast block during the operation of casting, said tin tag having an opening in its free end in position to come in alinement with the opening in said block, the inner face of said tin tag being designed to receive secret memoranda, and a wire having an end designed to be inserted in said opening and teeth upon said end of said wire to be engaged by said spring-catch, substantially as specified. 120 125 130



4. In a seal, the spring-catch consisting of the free end 15, the bent portion 16, the straight portion 17, the bent portion 18, the inclined portion 19, the vertical portion 20 and the horizontal portion 21 all formed integral and suspended in the interior of the cast block during the operation of casting, substantially as specified.

5. In a seal, a cast block having the spring-catch suspended in the interior of said block during the operation of casting, an opening communicating with the space within which said spring-catch operates, a wire having an end designed to be inserted in said opening, 15 teeth upon said end of said wire to be engaged by said spring-catch, and a head upon the end of said wire opposite said teeth, substantially as specified.

6. In a seal, the cast block 10 of frangible material and having the opening 24 to its interior, said opening being formed during the operation of casting said block, a spring-catch suspended in said opening during the operation of casting, a tin tag having one of 25 its ends embodied in said block during the operation of casting, said tin tag having an

opening in its free end in position to come in alinement with the opening in said block and the inner face of said tin tag being designed to receive secret memoranda, substantially 30 as specified.

7. In a seal, the cast block 10 of frangible material and having the opening 24 to its interior, said opening being formed during the operation of casting said block, a spring-catch suspended in said opening during the operation of casting, a tin tag having one of its ends embodied in said block during the operation of casting, said tin tag having an opening in its free end in position to come in 40 alinement with the opening in said block and the inner face of said tin tag being designed to receive secret memoranda, and flanges 37 projecting from the body of the block 10 and forming protection for said tin tag, substantially 45 as specified.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS A. BROWN.

Witnesses:

M. P. SMITH,

S. G. WELLS.