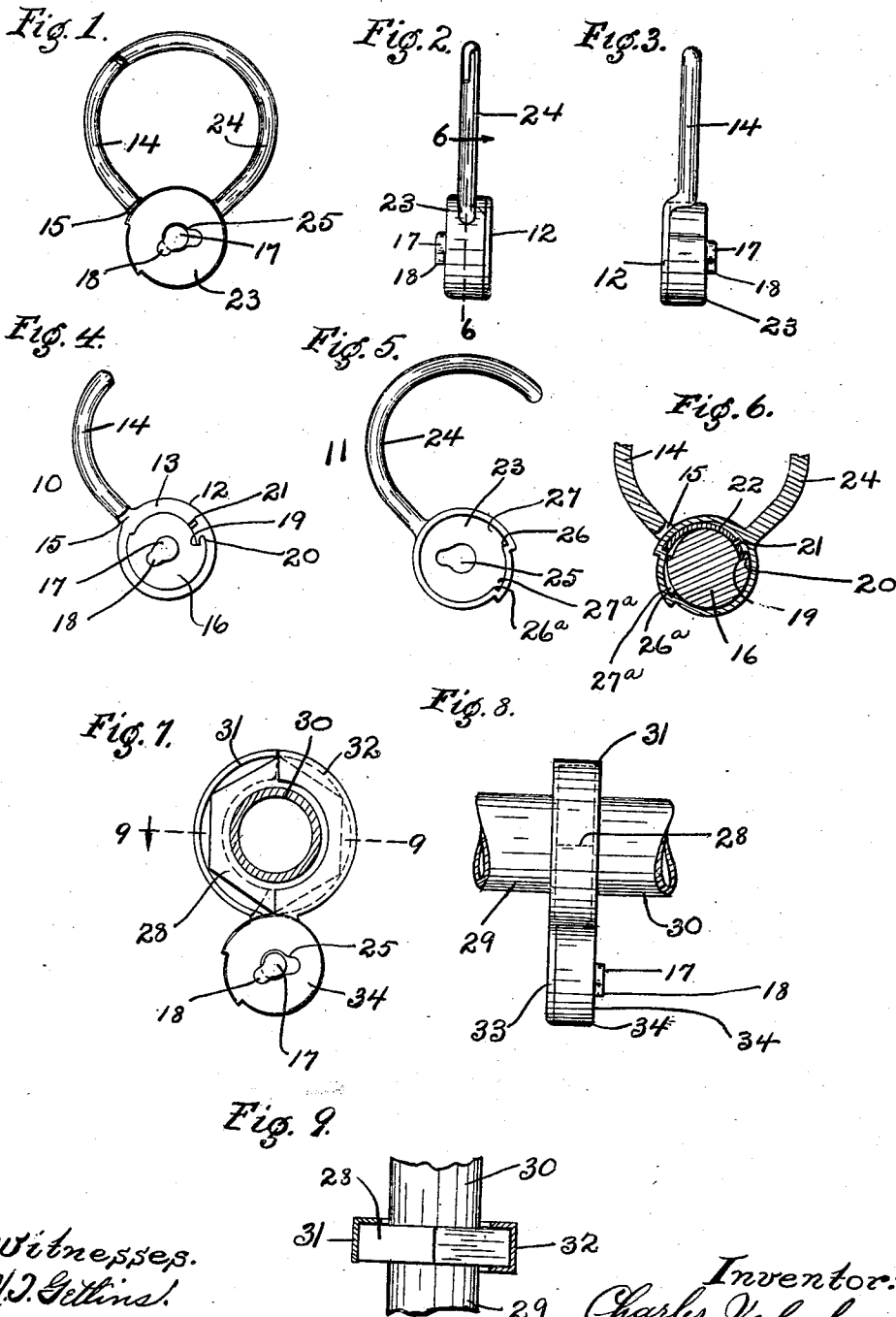


C. VRBSKY.
LOCK.

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Witnesses.
H. J. Gettins.
W. M. D. M. M.

Inventor:
Charles Vrbsky
by
Lynch & Co.
his Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES VRBSKY, OF CLEVELAND, OHIO.

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To all whom it may concern:

Be it known that I, CHARLES VRBSKY, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Locks; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in seal locks or to those devices which are utilized for sealing or fastening such members as car-doors, meters, and the like, so that said members cannot be opened or tampered with unless the seal is broken or destroyed.

The object of the invention is the provision of an effective seal lock which is very simple in construction and which consists of a pair of cooperating members, which when placed in engagement so that certain parts register and then are turned or rotated relative to one another, are locked together both against lateral displacement and reverse rotary movement, and cannot be opened or released unless one of the parts is broken.

In carrying out my invention I provide a seal lock comprising two cooperating members adapted to register and interlock and both having outwardly projecting prongs or shanks the free ends of which are adapted to engage or overlap so as to form a loop or shackle. These members are so constructed that when they are placed in engagement or in a position such that the parts of one will register with the parts of the other and are then turned or rotated relative so that the free ends of the prongs or shanks are brought into engagement, certain portions of the two members interlock preventing lateral displacement and a latch carried by one of the members snaps into a recess of the other and engages a shoulder of the latter in a manner such that the parts are locked against reverse rotary movement and the two prongs or shanks cannot be opened unless the parts are destroyed. Each of the two main parts of the seal lock above referred to is preferably formed in one integral piece, and one of the prongs or shanks which cooperates with the shank of the other member to form the loop or shackle, is weakened at some point such as the point of

connection with the head or main portion of the member, and at this point may be readily broken when it is desired to destroy the seal lock.

The invention may be briefly summarized as consisting of certain novel details of construction and combinations and arrangements of parts which will be described in the specification and set forth in the appended claims.

For an understanding of my invention reference is had to the accompanying sheet of drawings wherein—

Figure 1 is a side view of the preferred form of my improved seal lock. Fig. 2 is an edge view of the same looking toward the left of Fig. 1. Fig. 3 is another edge view of the same looking toward the right of Fig. 1. Fig. 4 is a side view of one of the main cooperating members of the seal lock. Fig. 5 is a similar view of the second main cooperating member. Fig. 6 is a partial sectional view of the two parts when assembled and in locked position, the section being taken substantially along the line 6—6, Fig. 2, looking in the direction indicated by the arrow. Fig. 7 is a side elevation of a slightly modified form of seal lock and adapted particularly to be applied to a pipe union or nut so that the latter cannot be turned by means of a wrench, the pipe being here shown in section. Fig. 8 is a similar view showing an edge view of the seal lock and a side view of the pipe sections. Fig. 9 is a section substantially along the line 9—9, Fig. 7, looking in the direction indicated by the arrow.

Referring now to the figures of the drawing, and first to Figs. 1 to 6 wherein I have shown the preferred form of my invention, it will be seen that the seal lock consists of two main members 10 and 11 shown in detail in Figs. 4 and 5, respectively. The member 10 is provided with a head or body portion 12 having a flange 13 arranged at a right angle thereto from which extends one of the prongs or arms 14 which form the loop or shackle of the seal lock. This arm 14 may be secured to the flange 13 but is preferably cast integral therewith, and the point of connection of the prong or arm 14 and the flange 13 is weaker than the other parts and is adapted to be broken when it is desired to destroy the seal. The head or portion 12 of the member 10 is

also provided with a laterally extending boss 16 having at its end a laterally extending central lug 17 substantially parallel to the face of the boss but spaced a suitable distance therefrom. As will be explained presently, this lug 17 with its nose 18 prevent the lateral displacement of the two members 10 and 11 of the seal lock after the said members have been placed in engagement and are then relatively turned or rotated. As shown clearly in Fig. 4 the cylindrical portion of the boss is provided on its rounded surface with an undercut slot or recess 19 and an overhanging projection 20, and at a short distance from this recess and projection is a pin or lug 21 which projects laterally from the boss. It may be here stated that, as shown clearly in Fig. 6, the recess 19 is adapted to receive the end of a latch in the form of a rather stiff short leaf spring 22 having a suitably located opening which receives the pin or projection 21 so that the spring is held against displacement. The other member 11 of the seal lock is provided with a shell or cap 23 which is adapted to fit over or to receive the boss 16 of the member 10 when the parts are placed in engagement and to bear against the rim of the flange 12. Projecting from the cap 23 is a shank or prong 24 which is preferably integral with the cap and cooperates with the horn or arm 14 to form the loop or shackle such as is provided in ordinary locks. The ends of the prongs 14 and 24 are provided with shouldered or offset portions, and these ends are adapted to overlap when the parts of the seal are locked together. In the base or end of the shell or cap 23 is an irregular shaped opening 25 which is somewhat elongated and corresponds substantially to the shape of the locking lug 17 and nose or projection 18 thereon, the length of the lug 17 being such that when the cap fits over the boss 16 and engages the rim or flange 13 the end of the lug and particularly the projection 18 extends through this opening and beyond the end of the cap 23. The opening 25 is so located that when the member 11 is placed upon the member 10 and the end of the lug 18 projects through the opening 25 the shanks or prongs 14 and 24 are open or separated, but after they are placed in this position with the parts registering as described, the members 10 and 11 may be turned or rotated relatively to one another so as to cause the ends of the shanks or prongs to approach and engage or overlap one another. The cap or shell 23 is substantially cylindrical in shape but the sides thereof are made eccentric in two places forming shoulders 26 and 26^a and recesses or offset portions 27 and 27^a adapted to accommodate the latch or flat spring 22. After the spring has been placed in position on the member

10 with the end thereof in the undercut slot or recess 19 and with the opening near the end of the spring receiving the pin or projection 21, all that is necessary to assemble the seal and to lock the parts thereof so that they cannot be separated, is to place the member 11 on the member 10 so that the end of the lug 17 projects through the opening 25 and then to turn the two members 10 and 11 until the free end of the spring 22 snaps over the shoulder 26^a on the cap 23 into the recess or offset portion 27^a. It will, therefore, be impossible to separate the parts of the seal lock inasmuch as the parts cannot be moved or displaced laterally since the nose or projection 18 of the lug 17 no longer registers with the corresponding portion of the opening 25, and therefore will prevent this lateral displacement, and reverse rotary movement so as to separate the prongs is impossible for the reason that the free end of the spring or latch 22 carried by the boss 16 of the member 10 takes against or engages the shoulder 26^a of the member 11. Thus it will be seen that the parts are effectively held against lateral displacement without the use of screws or equivalent devices, and that the parts of the seal lock cannot be separated without breaking the same. When the spring 22 is engaging the shoulder 26^a as above described, the said shanks or prongs will not be entirely closed. The shanks or prongs are left in a partially closed position for convenience in handling the seal lock. When it is desired to lock the said seal lock the members 10 and 11 are turned or rotated so as to cause the ends of the shanks or prongs to approach and overlap one another. The spring 22 will then pass over the shoulder 26 into the recess 27 and the end of the said spring will engage the said shoulder 26 thus preventing reverse rotary movements of the members 10 and 11 thereby holding the said shanks or prongs together in their locked position.

My improved seal lock is not limited to any specific use or to any specific construction as far as certain parts are concerned, but in Figs. 7, 8 and 9 I have shown a slightly modified construction which is adapted particularly to be used in connection with nuts or pipe unions to prevent their being turned by a wrench. As in the first instance the seal lock here shown consists of two main parts and as far as the construction of the locking and latching features are concerned, the construction is the same as that first described, but the prongs or shanks forming the loop or shackle have a different shape. In these figures I have shown a hexagonal pipe union 28 which connected two pipe sections 29 and 30 in the usual manner. To prevent the union being turned or rotated by an unauthorized person, it is surrounded by two substantially

semi-circular prongs 31 and 32, which, at their free ends, are in engagement as shown, and at their opposite ends, are connected respectively to the main cooperating members 5 33 and 34, which as before stated, except for the modification of the shape of the shanks or prongs, are of the same construction as those first described. The shank or prong 31 which is connected to the member 10 33 of the seal lock, extends about the outer surface of the union and along one side thereof, so that it is triangular in cross section, this construction being provided so that the member 33 with its prong 31 may 15 be cast in one integral piece. The prong 32, however, is rectangular in cross section, inasmuch as it extends about the outer surface of the union and along both parallel sides of the same. To permit the union to 20 be turned all that is necessary is to break the prong 31, it being understood that this prong like the prong 14, is weakened at one point.

Thus it will be seen that I have provided 25 a seal lock which can be easily and cheaply made, practically no machining being required, and which can be easily and quickly assembled and locked, but which is nevertheless very effective.

30 I do not desire to be confined to the exact details shown but aim in my claims to cover all modifications which do not involve a departure from the spirit and scope of my invention.

35 What I claim is:—

1. A seal lock comprising two cooperating members adapted to be placed one upon the other and having integral projecting prongs or arms adapted when brought together to 40 form a loop or shackle, one member having a locking member which prevents lateral displacement of said members when one is placed upon the other and turned relatively thereto, and one of said members having a 45 spring latch and the other an offset portion adapted to receive the latch, and a shoulder against which the end of the latch bears when the free ends of said prongs or arms are brought together so that separation 50 thereof is prevented.

2. A seal lock comprising two cooperating members, each having a head or main portion, a prong or shank extending therefrom, the two prongs when brought together being 55 adapted to form a loop or shackle and one of said heads having a portion adapted to fit within the other and having a locking projection which prevents lateral displacement of the two members when the latter 60 are turned relatively, and one of said heads having a spring latch and the other having an offset portion and a shoulder, the spring latch snapping into said offset portion and engaging the shoulder when said members 65 are turned relatively so that the free ends of

the prongs are brought together whereby the opening or separation of said prongs is prevented.

3. A seal lock comprising two cooperating members, one having a boss and the other a 70 cap adapted to fit over said boss, each having an integral shank or prong, the ends of which when brought together constitute a loop or shackle, said cap having in the end thereof an elongated opening and the boss 75 having a locking projection which when said members are placed together, extends through the opening and when turned relatively interlocks with said cap and prevents lateral displacement thereof, and said boss 80 having on its periphery a spring latch and the cap having an offset portion and a shoulder, the spring latch being arranged to snap into said offset portion when said members are rotated in one direction so that 85 the free ends of the shanks or prongs are brought together and to engage said shoulder so as to prevent reverse rotary movement.

4. A seal lock comprising two members, 90 one having a substantially circular flange, a prong or arm extending therefrom, a laterally projecting boss integral with said flange, said boss having a lug provided on the end thereof with a locking projection, 95 and the other member comprising a cap adapted to receive said boss and to engage said flange, said cap being provided with an integral prong or arm adapted to cooperate with the prong or arm on the other member 100 so as to form a loop or shackle, and being provided at its end with an opening which when the cap is fitted over the boss on the other member receives the lug and locking projection of said boss, and said boss having 105 on its periphery a spring latch and the cap having an offset portion, and a shoulder whereby when said members are placed together and rotated relatively the locking projection prevents lateral displacement and 110 the spring latch snaps into the offset portion and the end thereof engages the shoulder so as to lock said members against reverse rotary movement.

5. A seal lock comprising two members, 115 one having a substantially circular flange, a prong or arm extending therefrom, a laterally projecting boss integral with said flange, said boss having a lug provided on the end thereof with a locking projection, 120 and the other member comprising a cap adapted to receive said boss and to engage said flange, said cap being provided with an integral prong or arm adapted to cooperate with the prong or arm on the other member 125 so as to form a loop or shackle and being provided at its end with an opening which when the cap is fitted over the boss on the member, receives the lug and locking projection of said boss, and said boss having 130

on its periphery a spring latch and the cap having an offset portion, and a shoulder whereby when said members are placed together and rotated relatively the locking
5 projection prevents lateral displacement and the spring latch snaps into the offset portion and the end thereof engages the shoulder so as to lock said members against reverse rotary movement, one of said members hav-
10 ing a weakened portion adapted to be broken when it is desired to destroy the seal lock.

6. A seal lock comprising two cooperating members, one having a flange, a prong or arm integral with said flange and extending
15 outwardly therefrom, a laterally projecting boss having on its periphery an undercut slot and a projection adjacent said slot, and said boss having on the end thereof a lug provided at its ends with a locking nose
20 or projection, and the other member having a cap which is adapted to receive said boss and to engage the flange when said members are placed one upon the other and said cap having an integral prong or arm and hav-

ing at its end an elongated opening which
25 when said members are placed together in one position receives the lug so that the locking nose or projection extends through the same, and said cap having an offset por-
30 tion and on its inner periphery a shoulder, and a spring latch having one end held in said undercut slot of the boss and having an opening which receives said projection adjacent thereto, the opposite end of said
35 spring latch being free to snap into said offset portion of the cap and to engage the shoulder when said members are turned relatively and the free ends of the prongs or
40 arms are brought together so as to prevent said prongs or arms being opened.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

CHARLES VRBSKY.

Witnesses:

VICTOR C. LYNCH,
N. McDONNELL.