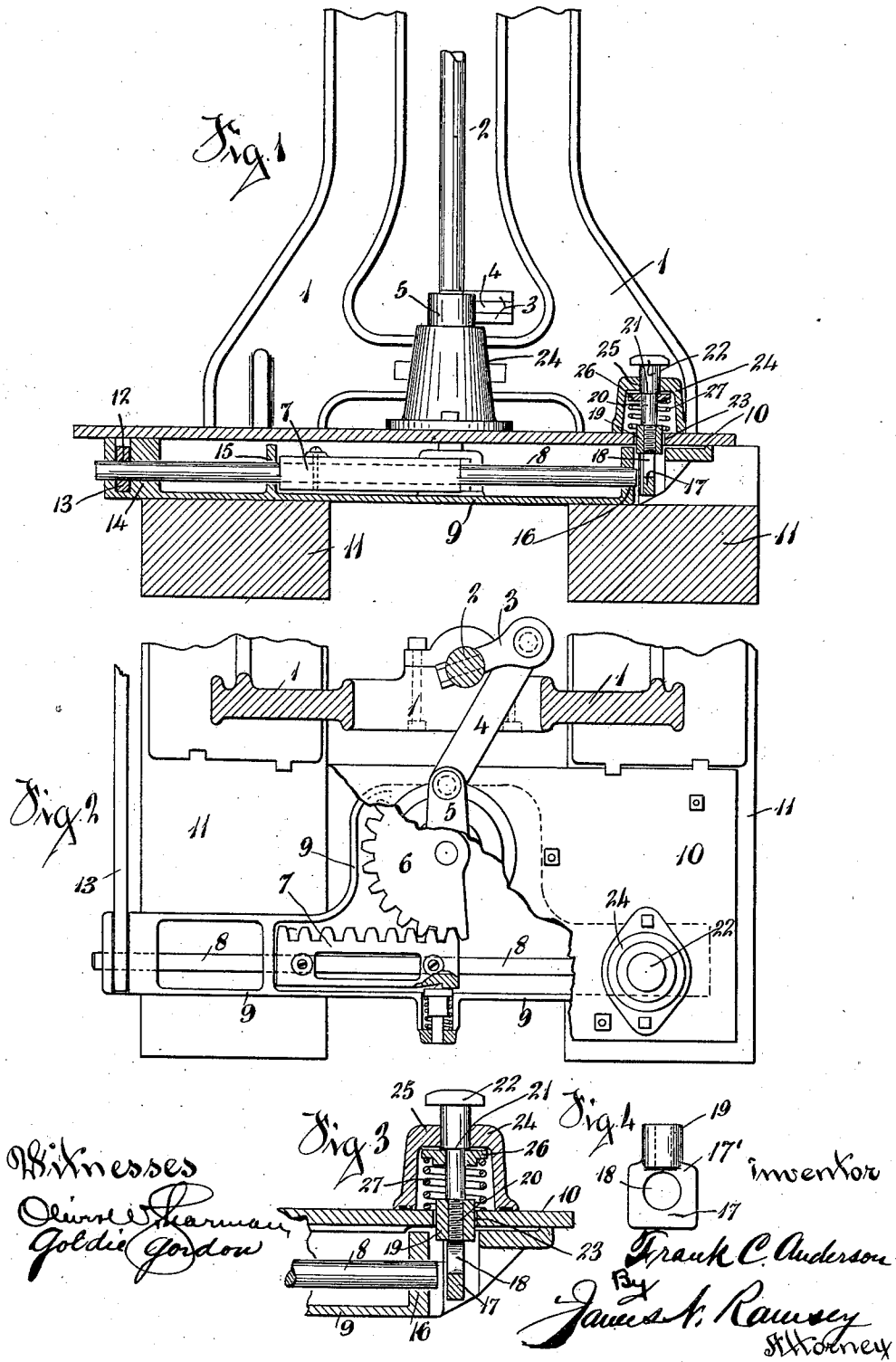


F. C. ANDERSON.
INTERLOCKING MECHANISM.
APPLICATION FILED OCT. 7, 1911.

1,026,730.

Patented May 21, 1912.



UNITED STATES PATENT OFFICE.

FRANK C. ANDERSON, OF CINCINNATI, OHIO, ASSIGNOR TO THE AMERICAN VALVE & METER COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

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Specification of Letters Patent.

Patented May 21, 1912.

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To all whom it may concern:

Be it known that I, FRANK C. ANDERSON, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Interlocking Mechanism, of which the following is a specification.

My invention relates to simple means for securing the interlocking mechanism of an interlocking switch stand at all times, and means for operating same.

The object of my invention is to provide simple, positive and efficient means to control and hold in locked position the interlocking mechanism of an interlocking switch stand when the switch stand is knocked down or becomes disconnected under traffic.

My invention consists in providing an interlocking switch stand, having switch interlocking mechanism, with a dog adapted to normally engage the interlocking plunger to hold the same in engagement with an interlocking bar connected to the point rails of the switch whereby the said point rails are held in locked position and means whereby said dog may be released to permit the plunger to be disengaged from said interlocking bar to open the switch.

My invention also consists in the peculiar construction and arrangement of the parts as herein set forth and claimed.

In the drawings, which serve to illustrate the construction, application and use of my invention: Figure 1 is a view partly in side elevation and partly in vertical section showing a portion of a switch stand and interlocking mechanism therefor controlled by my invention; Fig. 2 is a top view of the same; Fig. 3 is an enlarged vertical section showing my present invention; and Fig. 4 is a front view of the dog showing the opening 18 adapted to permit the plunger to operate.

In the embodiment of my invention, as illustrated, and which shows a preferred construction, 1 represents a portion of a switch stand provided with the usual vertical operating shaft 2 having interlocking crank 3 adapted to operate the interlocking mechanism through link 4, interlocking crank 5, segmental gear 6, plunger rack 7 and plunger 8 mounted in a suitable housing 9 which is secured to a steel cover plate 10

mounted upon the ties 11. The plunger 8 is adapted to enter an opening 12 in the interlocking bar 13 to hold the switch in locked position. The interlocking plunger is mounted in the housing 9 and is slidably supported in bearings 14, 15 and 16.

The mechanisms just described form the subject matter of separate applications and are not claimed herein.

My present invention comprises the dog 17 which consists of a flat plate 17' having an opening 18 therein and also provided with a hub portion 19 adapted to engage a stem 20 which is provided with a shoulder 21 and a head or push button 22. The hub 19 extends through a hole 23 in the plate 10 and is adapted to slide vertically therein. The stem 20 is mounted in a housing 24 which is provided at its upper end with a guide 25 in which the enlarged end of the stem is adapted to move. Mounted upon the stem 20 within the housing 24 is a washer 26 which is adapted to engage the shoulder 21 of the stem on its upper side and a spring 27 on its lower side, the lower end of which spring bears against said cover plate 10 so that when the switch is in closed or locked position the interlocking plunger 8 will be held in locked position or from disengagement with the interlocking bar 13 by the lower portion of the dog 17 until the push button 22 has been pressed downwardly against the tension of said spring far enough to bring the opening 18 in the dog 17 opposite to the end of said plunger whereby it is adapted to enter said opening and permit the switch interlocking mechanism to be operated to unlock the switch. Thus it is seen that the construction and application of my device in combination with interlocking mechanism is extremely simple and convenient and the operation of the same is equally as simple and convenient. All that is necessary for the operator to do in opening the switch is to simply depress the push button 22 with his foot which moves the dog downwardly until the opening 18 therein is opposite the plunger 8 thus permitting the plunger by a slight movement of the switch to enter the dog 17 where it remains. This permits the operator to remove his foot from the push button 22 as soon as the plunger enters the dog and allows him free movement of his body in the further operation of the switch. The

dog thus remains engaged with the plunger until the switch is thrown to closed position when by means of the spring it is automatically raised to a position which prevents the
5 operation of the plunger.

Serious wrecks are frequently caused by car doors or some object carried upon the car falling therefrom upon the switch stand and knocking it down or disengaging it
10 from the switch in such a manner as to cause an open switch. The same result may be produced by the engine striking an animal and knocking it against the switch stand so that it is highly important and necessary to
15 guard and protect the switch points in interlocked position under such conditions. My invention secures the switch in locked position under such circumstances and conditions.

20 My invention is capable of some modification in its construction and arrangement without departing from the spirit or scope thereof.

I claim:

25 1. In an interlocking switch stand having interlocking mechanism provided with a plunger adapted to engage and lock an interlocking bar secured to the point rails of a switch, a dog adapted to prevent the operation of said interlocking plunger, said
30 dog having an opening therein, a spring adapted to hold said dog in position to prevent the operation of said plunger, and a push-button by which said dog is moved to bring said opening opposite said plunger to
35

permit said plunger to be operated, substantially as set forth and for the purposes specified.

2. In an interlocking switch stand having an interlocking plunger adapted to engage
40 an interlocking bar secured to the point rails of a switch when the switch is in locked position, a dog adapted to prevent the operation of said interlocking plunger, said dog having an opening therein, a stem for said
45 dog, a push-button for said stem, a housing in which said stem is mounted, a spring surrounding said stem within said housing and adapted to hold said dog in position to prevent the operation of said plunger and
50 only permit the operation of said plunger when said dog is depressed by the push-button, permitting the opening in said dog to register with said plunger and allow said plunger to be operated, substantially as set
55 forth.

3. In a device of the class described having an interlocking plunger, a housing, a dog, means whereby said dog may be manually operated to permit the operation of said
60 plunger to throw the switch to open position and means whereby said dog will automatically operate to prevent the operation of said plunger when the switch is thrown to closed position, substantially as set forth
65 and for the purposes specified.

FRANK C. ANDERSON.

Witnesses:

JAMES N. RAMSEY,
GOLDIE GORDON.