W. H. NORTHALL.

SEAL FOR BOX CARS, &c.

APPLICATION FILED AUG. 29, 1911.

1,038,782. Patented Sept. 17, 1912.

Fig. 1.

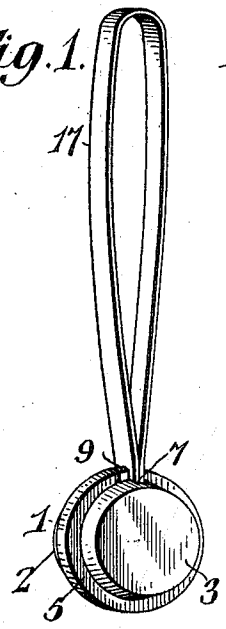


Fig. 2.

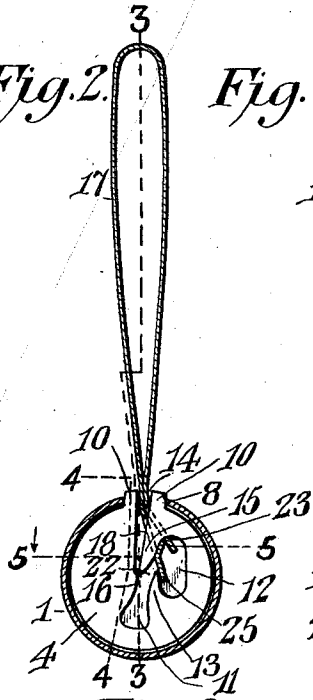


Fig. 3.

Fig. 4.

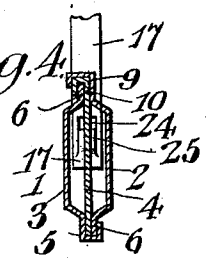


Fig. 6.

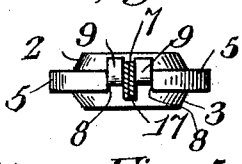


Fig. 5.

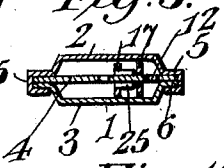


Fig. 11.

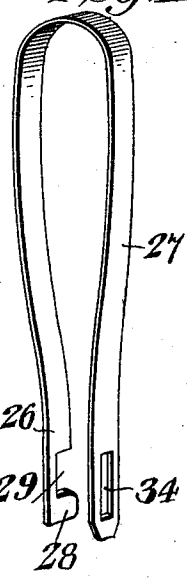


Fig. 7.

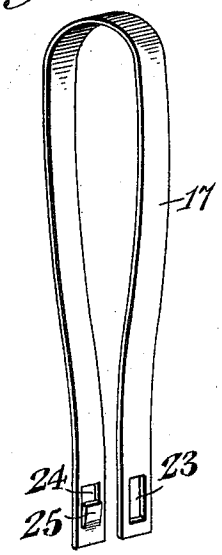


Fig. 8.

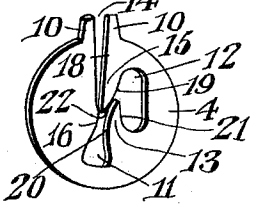


Fig. 12.

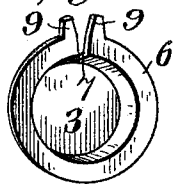


Fig. 9.

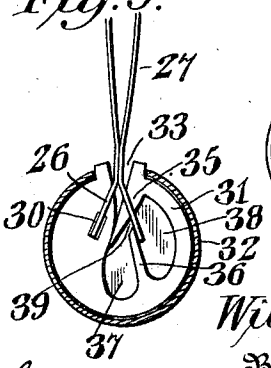
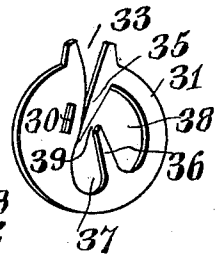


Fig. 10.



Witnesses

Jas. E. McCathran

H. F. Riley

Inventor

William H. Northall,

By E. G. Siggers

Attorney

..TED STATES PATENT OFFICE.

..LLIAM H. NORTHALL, OF EVANSVILLE, INDIANA, ASSIGNOR OF ONE-HALF TO FRED W. GOEDEKE, OF EVANSVILLE, INDIANA.

SEAL FOR BOX-CARS, &c.

1,038,782. Specification of Letters Patent. **Patented Sept. 17, 1912.**

Application filed August 29, 1911. Serial No. 646,700.

To all whom it may concern:

Be it known that I, WILLIAM H. NORTHALL, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented a new and useful Seal for Box-Cars, &c., of which the following is a specification.

The invention relates to improvements in seals for box cars, beer boxes, and various receptacles.

The object of the present invention is to improve the construction of seals for box cars, beer boxes, and various other receptacles, and to provide a simple, efficient and comparatively inexpensive self-locking seal, equipped with the relatively narrow flexible strip or shackle, which will not require a large opening, so that the same may be substituted for those having wire shackles.

A further object of the invention is to provide a seal of this character, which will have to be destroyed in order to obtain access to the car or receptacle sealed.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a perspective view of a seal, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2. Fig. 4 is a similar view on the line 4—4 of Fig. 2. Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 9. Fig. 6 is a detail edge view of the casing. Fig. 7 is a detail perspective view of the flexible strip or shackle. Fig. 8 is a detail perspective view of the intermediate locking plate. Fig. 9 is a longitudinal sectional view of a car seal, showing another form of the invention. Fig. 10 is a detail perspective view of the locking plate, shown in Fig. 9. Fig. 11 is a perspective view of the flexible strip or shackle, shown in Fig. 9. Fig. 12 is a detail view of one of the sections or members of the casing.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing, in which is illustrated the preferred embodiment of the invention, the seal comprises in its construction an approximately cylindrical casing 1, composed of two dished sections or members 2 and 3, receiving and supporting an intermediate locking plate 4, arranged in spaced relation with the side walls of the casing, as clearly illustrated in Figs. 4 and 5 of the drawing. The sections or members 2 and 3 are provided with peripheral flanges 5 and 6, which are bent around each other to form a seam, and the locking plate, which is in the form of a disk, has its peripheral portion secured between the peripheral flanges 5 and 6 of the sections or members 4 and 5 of the seal casing. The casing is provided at its periphery with a transverse entrance slot 7, and the peripheral flange 5 of the section or member 2 is cut away at 8 at opposite sides of the slot 7, while the section or member 3 is provided at the cut away portions 8 with spaced lugs 9. The intermediate locking plate 4 is provided at its periphery with spaced lugs 10, corresponding with said lugs 9, and both sets of lugs 9 and 10 are bent over against the section or member 3, as clearly illustrated in Fig. 6 of the drawing. By this construction, the locking plate is held against rotary movement within the cylindrical casing. The locking plate is provided with an opening, which is divided into two separate portions 11 and 12 by a rear catch 13, extending forwardly or in the direction of an entrance channel 14. The locking plate is provided adjacent the entrance with a front catch 15, extending inwardly at one side of and constituting one of the walls of the entrance channel, and converging inwardly toward and terminating adjacent to the inner side wall of the divided opening. The front catch is tapered, and it forms a tapered entrance channel 14, as clearly shown in Figs. 2 and 8, and the inner wall of the divided opening is provided at the portion 11 with a bulge 16, located beyond the point of the front catch and adapted to direct a flexible strip or shackle 17 upon its withdrawal away from the point of the catch 15 into the second portion 12 of the opening. The side edge 18 of the front catch is straight and is located at the entrance 14, and the other side edge

19 is convexly curved or bulged to assist in guiding the flexible strip or shackle upon its attempted withdrawal, past the lateral connecting passage and into the second portion 12 of the divided opening. The rear catch 13 is provided with curved edges 20 and 21. The edge 20 is convexly curved and is located at the front portion 11 of the divided opening, and the other side edge 21 is concavely curved and is located at the second portion 12 of the divided opening. By this construction, the rear catch is hook-shaped for more effectually engaging and locking the flexible strip or shackle. The front catch is interposed between the rear catch and the entrance 14, and the space between the front and rear catches constitutes a lateral passage 22, which connects the two portions 11 and 12 of the divided opening, so that the two portions 11 and 12 of the divided opening will successively receive the engaging terminals of the flexible strip and form a double lock for the same.

The flexible strip 17 is provided at its terminals with slots 23 and 24. The terminal, which has the slot 23, is first engaged with the seal by introducing it into the entrance 14 and moving it inwardly until the outer wall of the slot 23 passes the point of the front catch. The flexible strip or shackle is then drawn backwardly or outwardly and is guided by the bulge 16 and the front catch 15 through the passage 22 into the second portion 12 of the divided opening. The concave bulge 19 and edge of the rear catch will prevent the end of the flexible strip or shackle from returning through the passage 22. The terminal, which has the slot 23, may be engaged with the locking plate at the time the parts are assembled, or after the locking plate is secured between the sections or members of the casing in the manner just described. The other or free end of the flexible strip or shackle is provided at the outer end of the slot 24 with a resilient tongue 25, arranged at an angle to the plane of the free end of the flexible strip or shackle, and adapted to be compressed within the slot 24 to permit the free end of the flexible strip to pass through the entrance 14 into the first portion 11 of the divided opening. After the free end of the flexible strip is introduced into the first portion 11 of the divided opening, the tongue 25 will spring laterally so as to engage with the point of the front catch, and thereby guide or direct the free end of the flexible strip through the lateral passage 22 into the second portion of the divided opening, when the free end of the flexible strip is drawn backwardly or outwardly. The outward or backward pull upon the flexible strip or shackle forces the free end into the second portion 12 of the divided opening where it is engaged by the point of the catch 13, whereby the flexible strip or shackle is doubly locked and effectually prevented from being withdrawn without destroying the seal.

In Figs. 9 to 11 inclusive of the drawing is illustrated another form of invention, in which the attached end 26 of the flexible strip or shackle 27 is provided with a lug 28, formed by recessing the attached end 26 at 29. The lug 28 is engaged with a slot 30 of the locking plate 31 before the same is secured between the sections or members of the casing 32, which is constructed similar to that heretofore described. The recess 29 is of sufficient length to extend from the slot 30 to the entrance 33. The other or free end of the flexible strip or shackle is provided with a slot 34 to engage with front and rear catches 35 and 36 of the locking plate 31. The locking plate 31 is provided with an opening, which is divided into two portions 37 and 38 by the rear catch 36, and the front catch, which tapers inwardly, converges toward one of the side walls of the divided opening to form a tapered entrance, and it is interposed between the entrance and the point of the rear catch, and it co-acts with the latter to form a passage for connecting the two portions of the divided opening. When the free slotted end of the flexible strip or shackle is introduced into the casing, it is moved inwardly past the front catch and when it is drawn outwardly, it is carried through the passage 39 into the second portion 38 of the divided opening. The front catch has one of its side edges contiguous to the side wall of the first portion 37 of the divided opening, so that it effectually prevents the free end of the flexible strip or shackle from being withdrawn from the casing, and it is sufficiently resilient to permit the free end of the flexible strip or shackle to be readily introduced into the divided opening. When the free end of the flexible strip or shackle is carried into the second portion 38 of the opening, it is engaged by the rear catch and is doubly locked.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A seal of the class described including a hollow casing having an entrance at one edge, a locking plate mounted within the casing and provided with an interior opening, the walls of the opening projecting into the opening from opposite sides and overlapping in spaced relation to divide the opening into a front and rear portion connected by a narrow lateral passage, the locking plate having an entrance channel registering with the entrance to the casing and adapted to afford passage to a flexible strip provided in its ends with engaging openings, the entrance to the locking plate continued as a narrow inwardly tapering channel cutting into the rear portion of the opening at

a slight angle, the wall of the said rear portion of the opening forming a continuation of the entrance wall and disposed at a slight angle thereto to direct the strip upon attempted withdrawal past the mouth of the entrance channel and through the lateral passage into the front portion of the opening, the wall of the front opening adjacent the lateral passage curved to direct the strip away from said passage to prevent its return therethrough.

2. A seal of the class described including a hollow casing having an entrance at one edge, a locking plate mounted within the casing and provided with an inwardly tapering entrance channel leading from the entrance in the casing toward the center of the plate and there widening into an interior elongated opening having its axis disposed at an oblique angle to the entrance channel and the front wall of which is cut in its central portion at a slight angle by the entrance channel, and is provided on each side of the entrance passage with a bulge, the rear wall of the opening projecting toward the entrance and deflected in a substantially parallel spaced relation to the front wall of the opening to divide the said opening into a front and rear portion connected by a narrow lateral passage, and a flexible strip provided in its face with engaging portions arranged to be passed through the entrance into the rear portion of the opening and upon being retracted to be directed by the bulged portion of the front wall past the entrance of the channel and through the lateral passage into the front portion of the opening, the bulge on the passage side of the entrance serving to direct the strip away from the lateral passage to prevent its return therethrough.

3. A seal of the class described including a casing, a locking plate mounted within the casing and provided with an opening and having a rear catch dividing the opening into two separate portions, said locking plate being also provided with a front catch located adjacent to one of the sides of the said opening and forming an entrance, said front catch being interposed between the rear catch and the said entrance and co-acting with the same to form a passage, which connects the two portions of the divided opening, and a flexible strip provided at its free end with a slot to engage with the catches and having a resilient tongue at the outer wall of the slot, said tongue being arranged at an angle to the free end of the flexible strip and adapted to engage the front catch and guiding the free end of the flexible strip through the said passage of the second portion of the opening.

4. A seal of the class described including a casing, a locking plate provided with an opening and having a rear catch dividing the opening into two separate portions, said locking plate being also provided with a front catch arranged at an angle to one wall of the said opening to form an entrance and interposed between the entrance and the rear catch and having a curved edge adjacent to the latter to form a lateral passage which connects the two portions of the opening, and a flexible strip provided at its free end with the slot to engage with the said catches and having a resilient tongue arranged at an angle to the free end of the flexible strip and adapted to engage the curved edge of the front catch to guide the flexible strip through the said passage into the second portion of the opening.

5. A seal of the class described including a casing, a locking plate mounted within the casing and provided with an opening and having a rear catch dividing the opening into two separate portions, said locking plate being also provided with a front catch arranged adjacent to one of the sides of the opening to form an entrance and interposed between the entrance and the rear catch and co-acting with the same to form a passage which connects the two portions of the opening, and a flexible strip provided with slotted ends adapted to be guided both into the second portion of the said opening by the catches, whereby the seal forms a double lock for both ends of the flexible strip.

6. A seal of the class described including a casing composed of two sections or members having peripheral flanges secured together, said casing being also provided with a slot and one of the sections or members being cut away at the slot and the other section or member having spaced lugs arranged in the cut away portions, a locking disk secured between the peripheral flanges of the sections or members and having an entrance slot and provided with lugs corresponding with the lugs of the casing, said lugs being arranged in the cut-away portions of the casing and bent over to secure the casing members together and to hold the locking plate against rotary movement, said locking plate being provided within the casing with a catch, and a flexible strip having means for engaging the catch of the locking plate.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM H. NORTHALL.

Witnesses:

HENRY B. WALKER,

ESTHER L. BOSSE.