May 5, 1925.

1,536,525

W. H. PLATH

CLOSURE FOR GRAIN CONTAINERS

Filed May 16, 1923

Fig. 1.

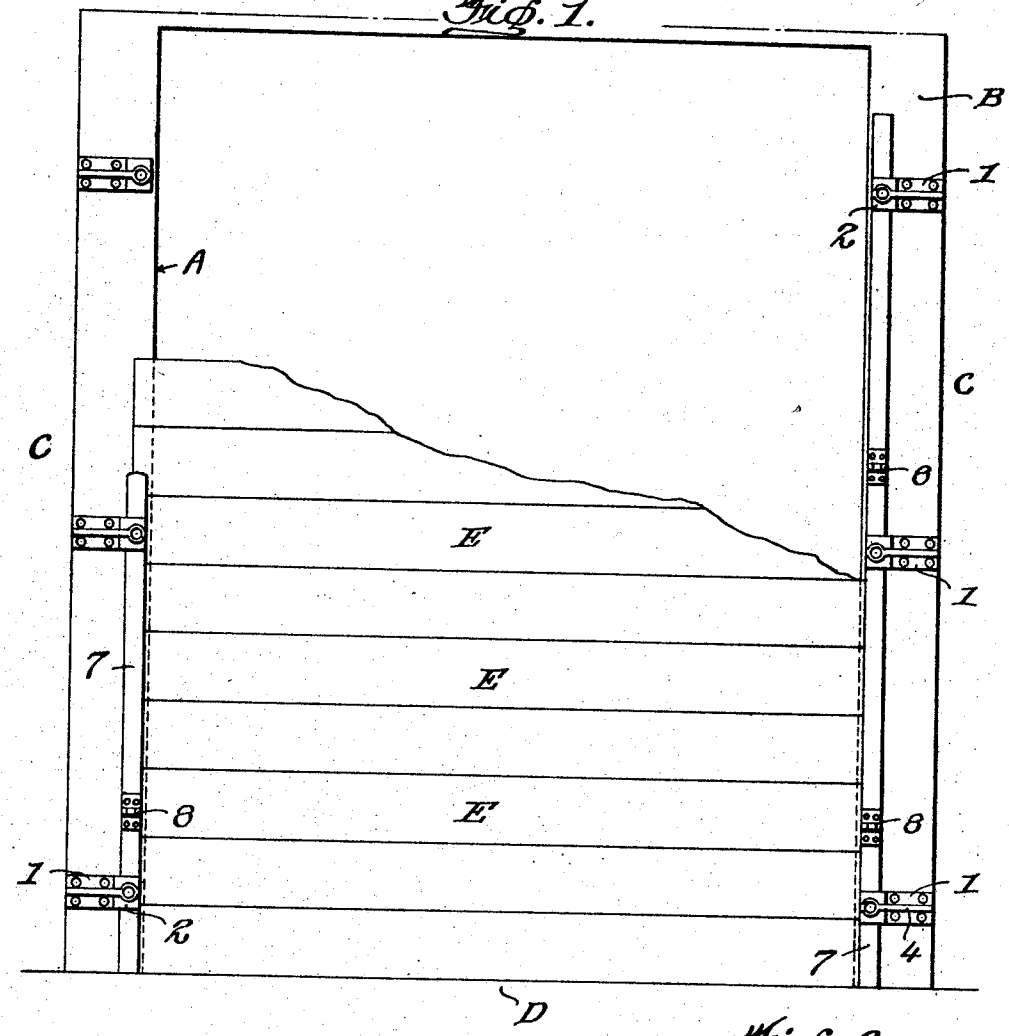


Fig. 2.

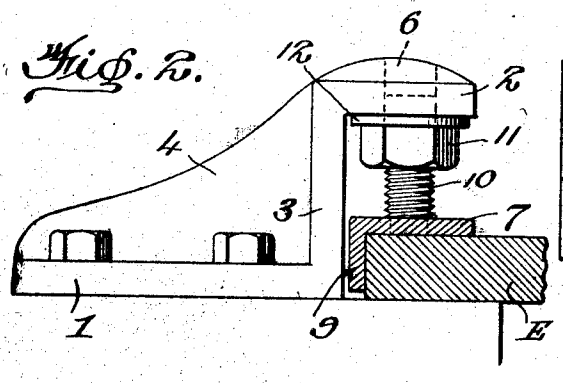
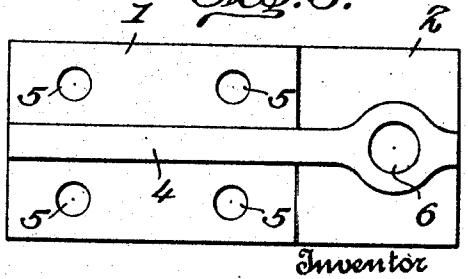


Fig. 3.



Inventor

Walter H. Plath,

By Warner & Cushman

Attorneys

Patented May 5, 1925. 1,536,525

UNITED STATES PATENT OFFICE.

WALTER H. PLATH, OF BAKER, MONTANA.

CLOSURE FOR GRAIN CONTAINERS.

Application filed May 16, 1923. Serial No. 639,298.

To all whom it may concern:

Be it known that I, WALTER H. PLATH, a citizen of the United States, residing at Baker, in the county of Fallon and State of Montana, have invented new and useful Improvements in Closures for Grain Containers, of which the following is a specification.

My invention has reference, in its broad aspect, to improvements in closures for the entrances of grain containers, such as grain cars and the like, and more particularly it is designed to provide segmentally disengageable, and readily attachable and detachable means for mounting a series of superposed planks, or the like across such entrances whereby to securely and positively seal the same.

It has been the practice heretofore in sealing up the entrances of grain cars, and the like, to nail the closure planks to the frames thereof, but once the planks are so used they are thereafter discarded at considerable loss, while the frames of the entrances become marred and split. On the other hand, the planks used in affecting a closure with my invention are capable of continued usage for the purpose, thereby occasioning great saving; and the novel means which I employ in mounting the planks may be applied to any grain container, such as a grain car or the like, of conventional type, as a substantially permanent, though readily attachable and detachable fixture.

Furthermore, my invention affords means, in the form of a segmental clamping bar, whereby the entrance of a grain container, such as a grain car or the like, may be gradually closed up by the super-imposition of plank upon plank, during the process of filling the same. Likewise, when the car or container is emptied the closure planks may be removed in their inverse order as the height of the contents is decreased, thereby facilitating the filling and emptying of the car or container, and reducing to a minimum the loss of contents during such operations.

Inasmuch as types of grain containers are subject to considerable variation, a novel bracket is employed with my invention which is sufficiently standardized to permit of its attachment as a fixture to practically all of the known types of containers, thereby adapting my closure to a wide range of application.

Still further, and equally important objects of my invention are briefly as follows; first, the provision of a relatively standard bracket, adapted for utilization as a fixture, and a quickly detachable simplified clamping bar for use with the bracket when the container is to be sealed; second, the provision of a segmental or sectional clamping bar which may be loosened or tightened up in sections, but which can not thereby be accidentally disengaged as a whole; third, the provision of means in the form of lateral stops whereby to prevent the working loose of the closure planks, and: fourth, the provision of a novel clamping element for the bar which may be operated with facility.

While the foregoing distinguishing features and objects of my closure may be considered as the most apparent from the standpoint of general construction and arrangement of parts, other and equally important objects and advantages exist by virtue of the novel detailed construction of the separate elements thereof, and for this reason the above and other results and objects will be hereinafter more fully described in detail and specifically pointed out in the claims appended hereunto, and forming a part of this specification.

In the accompanying drawings, wherein is illustrated the preferred embodiment of my invention;—

Figure 1, is a front elevation, partly broken away, showing my invention as applied to the conventional entrance of a grain container,

Figure 2, is an enlarged sectional side view showing the various elements of my clamping device, and bracket, as applied to a plank closure, and

Figure 3, is a top plan view of the bracket, per se, used with my clamp.

Like characters of reference refer to like or similar parts throughout the several views of the drawings, in which;—

(A) designates the conventional entrance

of a grain container, such as a grain car or the like, which is formed with the usual frame (B), adjoining which are the side walls (C) and floor or sill (D). All of these are conventional in construction and are here shown for the sake of illustration. The closure for the entrance (A) is one which contemplates the super-imposition, edge to edge, of a series of planks (E) across the entrance, whereby to completely seal the same.

Arranged at equal intervals upon the sides of the frame (B), from a point adjacent the top to a point adjacent the bottom thereof, are a plurality of brackets, here shown as three in number for each side. Each bracket is a unitary casting, and all are identical in construction and function.

Each bracket is formed with a base (1) and a head (2), connected with the base by a web (3). It will be noted that the head (2) extends out from one end of the base, and is parallel to the base, while the web (3) is formed at right-angles to both the head and the base. Rising from the medial, longitudinal line of both the base and the head is a reinforcing web (4), the edges of which are curved to present a desirable profile. Formed in the base (1) are a plurality of openings (5) which are adapted for the reception of securing bolts to mount the bracket, and formed in the head (2) is an opening (6), the purpose of which will be hereinafter made apparent. The reinforcing web (4) is enlarged to form a reinforcement about the opening (6) as shown in Figure 3. These brackets are designed to form a relatively permanent fixture on containers for grain, such as grain cars, and the like.

Adapted for disposition beneath the heads (2) of the cooperating brackets on each side of the frame are clamping bars, which are formed with angle-iron sections (7) connected at their meeting ends by hinges (8). And in mounting the bars they are disposed with their flanged portions (9) directed toward the frame (B), and adjacent the webs (3) of the brackets, thereby enclosing the ends of the planks (E) to prevent their dislodgment. Attention is called to the fact that the brackets prevent both horizontal and lateral displacement of the bars. Each clamping bar has welded, or otherwise secured thereto, adjacent, and normally beneath the hinged portions thereof, a plurality of screw-threaded studs (10), which are adapted to extend within the openings (6) in the brackets as shown in Figure 2. Mounted on each stud is a hexagonal nut (11) and a superposed washer (12), so that by manipulating the nuts, the studs will be fed into or out of the openings (6) to cause the bar to release or clamp down upon the planks (E). Inasmuch as each of the clamping bars is formed with hinged sections, portions of the plank closure can be removed by unclamping corresponding segments or sections of the bars, thereby facilitating the operations of emptying or filling the container.

In operation the nuts (11) are screwed down close to the bases of the studs so that the clamping bars may be manipulated to receive the planks, and as the closure is grandually completed as the container is filled up, the corresponding sections of the bars are clamped down tight upon the ends of the planks. In emptying the container the order of procedure is usually reversed. While the brackets are designed as before stated, to form a relatively permanent fixture on a grain car or other container, the clamping bars and planks are employed only when necessary, i. e., when the car or container is filled with grain or the like. Thus they may be stored or kept at the place where grain is usually unloaded or shipped. The clamping elements and brackets forming my invention may be cheaply and quickly manufactured from standard stock, and the few separate parts may be replaced when they become worn or broken, consequently my invention forms a practical expedient in the transportation of grain and the like, and insures the conservation of the planks forming the closure, as well as of the bodies of grain cars which have heretofore been marred or split by nailed up closures.

While in the foregoing, there has been illustrated and described such combination and arrangement of elements as constitute the preferred embodiment of my invention, it is nevertheless desired to emphasize the fact that interpretation of the invention should only be conclusive when made in the light of the subjoined claims.

Having described my invention, and its objects with such attention to detail as will thoroughly acquaint one skilled in the art with its construction and advantages, I claim:—

1. A device of the type described comprising a plurality of brackets, each formed with a head provided with an opening therein, a bar formed with pivotally connected sections adapted for removable engagement beneath the head of each of the brackets, studs formed on the bar and receivable in the openings in the heads, and means carried by the studs for adjusting the pressure exerted by the bar upon an object or objects therebeneath.

2. A device of the type described comprising a plurality of brackets, each formed with a head provided with an opening therein, a bar receivable beneath the heads of the brackets, studs formed on the bar, and means carried by the studs and operable

upon the heads for adjusting the pressure exerted by the bar upon an object or objects therebeneath.

3. A device of the type described comprising fixed supporting members, each formed with an overhanging head, a bar adapted for removable engagement beneath the heads of the supporting members, attaching members carried by the bar and engageable with the heads of the supporting members, and adjustable means carried by the attaching members and engageable with the heads for regulating the pressure exerted by the bar upon an object or objects therebeneath.

4. A device of the character described comprising a plurality of brackets having base portions for attachment to the side frames of a car door, each bracket being provided with a head spaced from, parallel to, and overhanging one of the ends of the base thereof and connected with the base by a web, a bar receivable beneath the heads of the brackets, screw threaded studs formed on the bar and engageable with the heads, and a nut on each stud adapted to engage the heads for regulating the pressure exerted by the bar upon an object or objects therebeneath.

5. A device of the character described comprising a plurality of brackets having base portions for attachment to the side frames of a car door, each bracket being provided with a head spaced from and overhanging one of the ends of the base, a bar receivable beneath the heads of the brackets, studs formed on the bar and engageable with the heads, a nut on each stud adapted to engage the head for adjusting the pressure exerted by the bar on an object or objects therebeneath, and said bar being formed with a flange for preventing engagement of the objects therebeneath with the brackets and to hold said objects against lateral displacement.

In testimony whereof I affix my signature hereto.

WALTER H. PLATH.