

G. E. MENKE.
LOADING DEVICE.

APPLICATION FILED JULY 29, 1911.

1,021,696.

Patented Mar. 26, 1912.

3 SHEETS-SHEET 1.

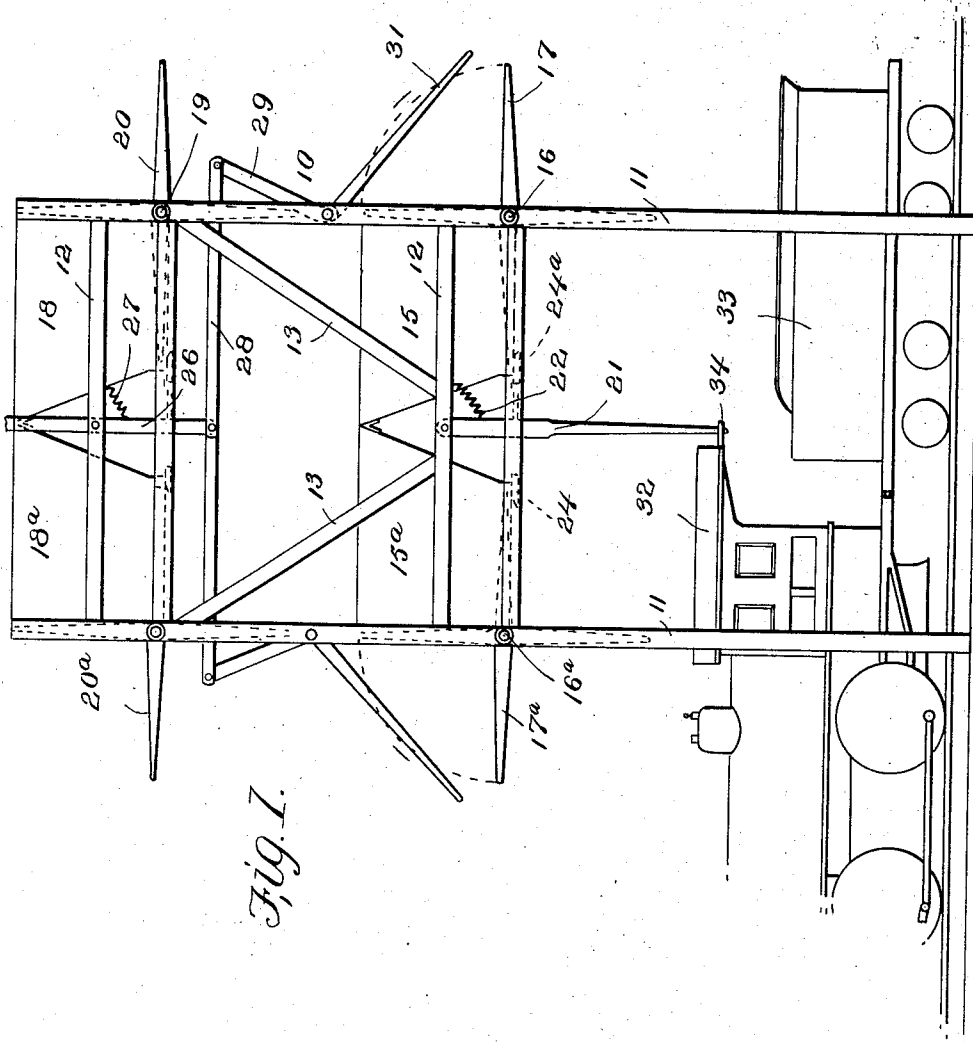


Fig. 1.

Witnesses

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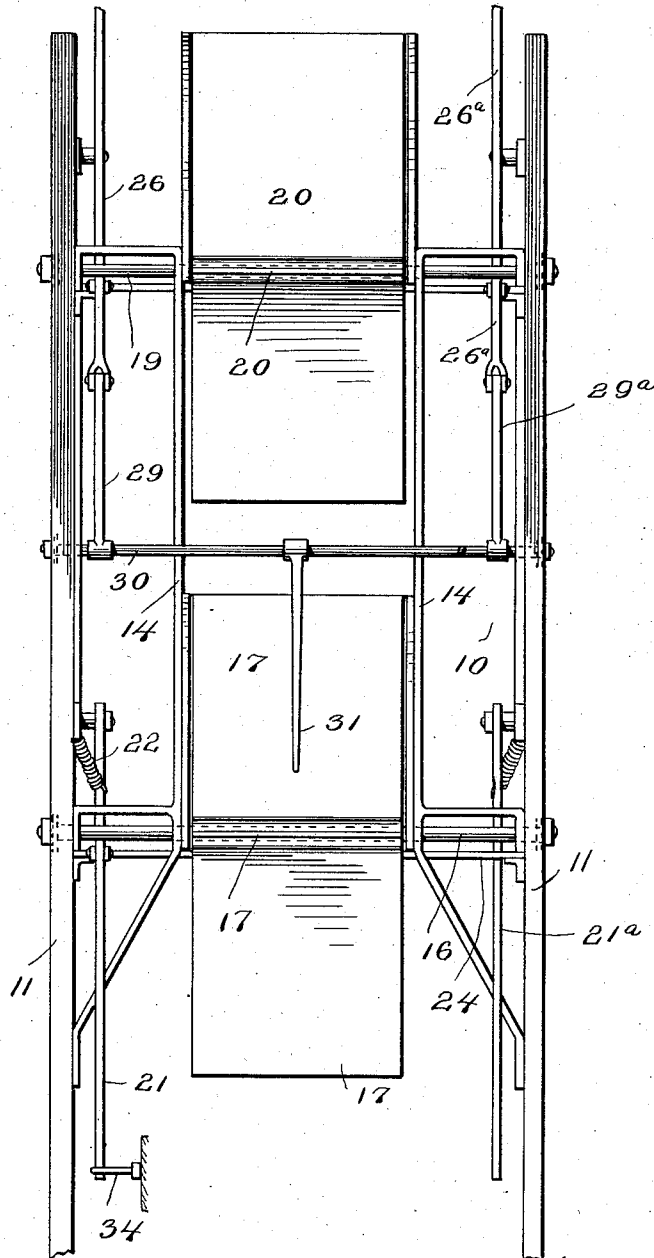
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3 SHEETS—SHEET 2.

Fig. 2.



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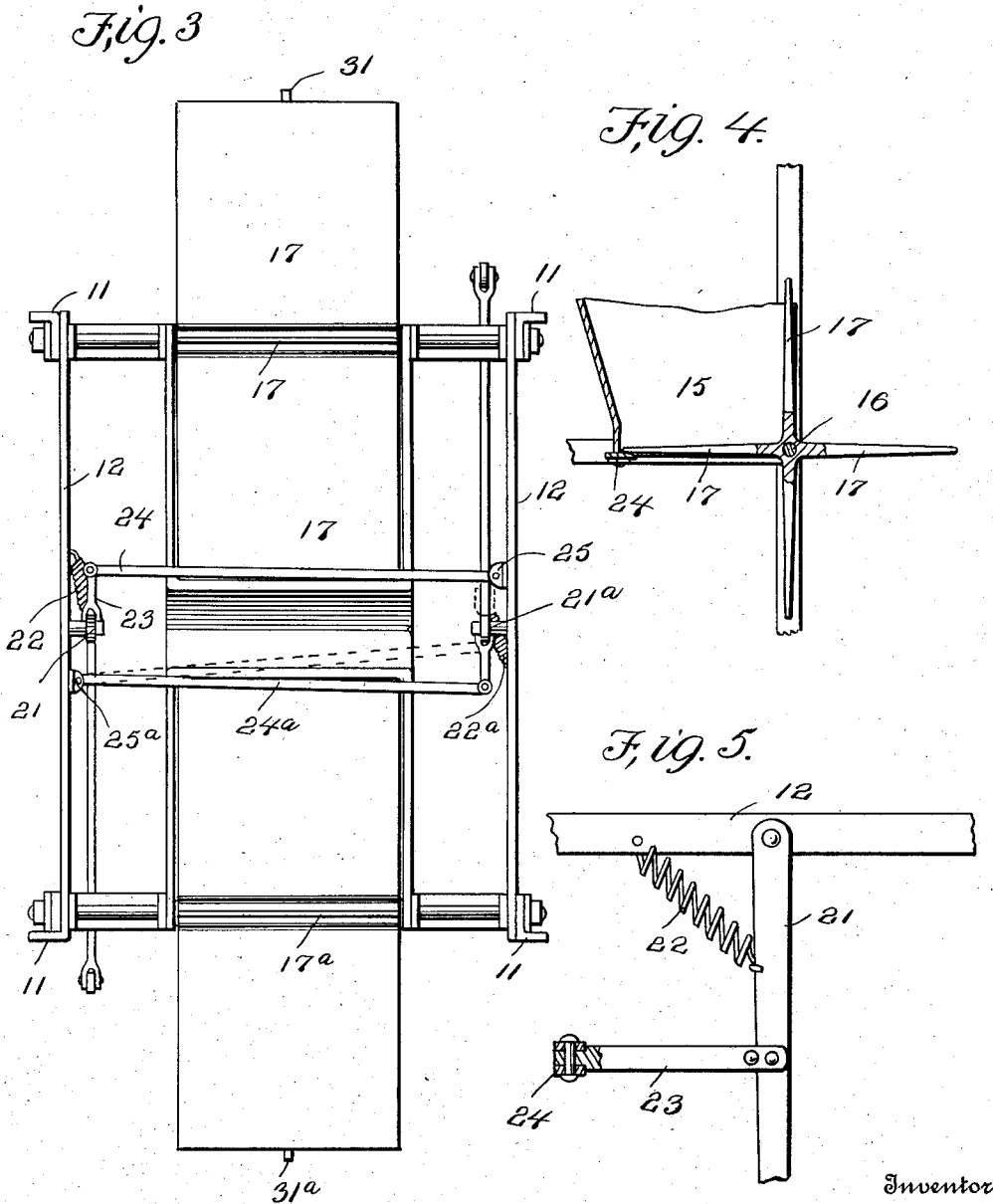
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UNITED STATES PATENT OFFICE.

GEORGE E. MENKE, OF HEBRON, NEBRASKA, ASSIGNOR OF ONE-HALF TO JOHN J. DETMERS, OF HEBRON, NEBRASKA.

LOADING DEVICE.

1,021,696.

Specification of Letters Patent.

Patented Mar. 26, 1912.

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To all whom it may concern:

Be it known that I, GEORGE E. MENKE, a citizen of the United States, residing at Hebron, in the county of Thayer and State of Nebraska, have invented new and useful Improvements in Loading Devices, of which the following is a specification.

An object of the invention is to provide a loading device, particularly adaptable for use in connection with railway engines, to load the tenders thereof when the engines pass beneath the device.

My invention embodies among other features, a structure which when used in connection with railway engines to load the tenders thereof, will be automatically operated by the engine when the same passes beneath the device to fill the tender of the engine with coal or other material, used to operate the engine. For the purpose mentioned, use is made of a frame provided with pockets having removable bottoms, means for removing the said bottoms to permit the contents of the pockets to pass outwardly therefrom and auxiliary pockets operable with the first mentioned pockets to refill the first mentioned pockets when the contents thereof have been removed therefrom.

Reference is to be had to the accompanying drawings constituting a part of this specification in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a side elevation of my device, an engine being shown for automatically operating the device. Fig. 2 is an end view. Fig. 3 is a bottom plan view. Fig. 4 is a fragmentary side elevation of the connected plates, forming removable bottoms for the pockets, one of the pockets being shown in section. Fig. 5 is a fragmentary rear elevation of the operating lever and the member for releasing the bottoms of the pockets being shown in section.

Referring more particularly to the views, I provide a frame 10 consisting of a series of uprights 11, horizontal brace rods 12 and diagonal brace rods 13 connected with the uprights 11, vertical supporting rods 14 being secured to the inner sides of the uprights 11 for a purpose that will be hereinafter more fully disclosed.

Secured between the vertical supporting rods 14 is a pocket 15 and revolvably mount-

ed on a shaft 16 secured to the uprights 11, are a series of integral plates 17, preferably spaced apart at an angle of 90° and constituting removable bottoms for the pocket 15.

Secured between the vertical rods 14, at the upper end of the uprights 11 is an auxiliary pocket 18 and revolvably mounted on a shaft 19, secured to the uprights 11 are a series of integral plates 20, constituting removable bottoms for the pocket 18 and arranged similarly to the plates 17 on the shaft 16.

Mounted to swing on one of the horizontal brace rods 12 and depending therefrom is an operating lever 21 having a spring 22 secured to the same, the said spring being secured to the horizontal brace rod 12, upon which the operating lever 21 is mounted. Extending laterally to the operating lever 21 is a forked rod 23 having one end of a releasing bar 24 pivotally connected thereto, the other end of the said bar being mounted to swing on a bearing 25 secured to one of the brace rods 12, the said releasing bar being normally positioned beneath the pocket 15 at one end thereof and in engagement with one of the plates 17 to retain the plate in position to form a bottom for the pocket 15.

Mounted to swing on one of the horizontal brace rods 12 at the upper end of the upright 11 is an auxiliary operating lever 26 provided with a spring 27, arranged similarly to the spring 22 of the operating lever 21 and the lower end of the operating lever 26 is pivotally connected to a link member 28 having pivotal connection with a second link member 29 rigidly secured to a shaft 30 having an actuating bar 31 secured thereto and extending outwardly and downwardly to lie in the path of the plates 17 as shown in Fig. 1.

Now assuming that the pocket 15 is filled with coal and the auxiliary pocket 18 is filled with coal or connected with a coal supply, when the engine 32, provided with a tender 33 passes beneath the frame 10, a bar 34 extended from the rear end of the engine 32 will engage the operating lever 21 and move the same against the action of the spring 22. As the operating lever 21 is moved against the action of the spring 22, the releasing bar 24 will be operated, owing to the forked bar 23 connecting the operat-

ing lever 21 with the releasing bar 24. As the releasing bar 24 is operated, the same will move out of engagement with the plate 17, forming a bottom for the pocket 15 and the weight of the coal in the pocket 15, pressing on the plate 17 will cause the same to move downwardly so that the coal in the pocket 15 will pass outwardly therefrom and fall into the tender 33 of the engine 32.

Now as the weight of the coal moves the plate 17 out of engagement with the pocket 15, the other plate 17 connected to the plate forming the bottom to the pocket 15 will revolve with the plate and as one of the said plates is in line with the actuating bar 31, when the plate engages the actuating bar the said bar will be moved upwardly and through the medium of the links 29 and 28 will operate the auxiliary operating lever 26, which moved against the action of the spring 27 will release one of the plates 20 forming a bottom for the auxiliary pocket 18, so that the weight of the coal in the auxiliary pocket pressing upon the bottom of the pocket 18 will cause the plate to revolve, thus dumping the contents of the pocket 18 therefrom and into the pocket 15, it being understood that as soon as the operating lever 21 is released from the bar 34, the said lever, owing to the action of the spring 22 will reassume its normal position so that the plate 17, succeeding the plate 17 which previously formed the bottom for the pocket 15 and revolving therewith, will engage the releasing bar 24, so that the said plate will form a new bottom for the pocket 15, thus preventing the new supply of coal in the pocket 15, received from the auxiliary pocket 18, from passing through the pocket 15 and onto the ground, it being understood that the tender 33 has by this time passed beyond the frame 10. Thus the pocket 15 is filled with the new supply of coal and the same is ready to be dumped into the tender of the next engine which passes beneath the frame.

My device is so arranged that the moment the coal is dumped from the pocket 15, one of the plates 17 will be revolving to form a new bottom for the pocket 15 while the next plate 17, engaging the actuating bar 31 will open the auxiliary pocket 18 to dump a new supply of coal into the pocket 15, the said pocket 15 being by this time provided with a new bottom so that the coal cannot pass out of the pocket 15 until the operating lever 21 is again actuated.

In the figures I have shown a combined loading device, and in order to discriminate between one portion of the device and the other similar portion thereof I have designated the other similar portion with the same numerals denoting the various parts of the portion described heretofore, with the exception that the said numerals have the

letter *a* annexed thereto, it being understood that that portion of the device which has been described as used for loading the tenders of engines going in one direction, while that portion of the device designated by numerals having *a* annexed thereto is employed for tenders going in the opposite direction.

Although in Fig. 1 I have shown my device as operated by an engine, it will be understood that the same can also be manually operated and it will be further understood that I do not limit myself to the precise construction disclosed in the drawings nor to the particular application of my device as mentioned heretofore, the scope of the invention being defined in the appended claims.

Having thus fully described the invention, what I claim as new, is:—

1. In a device of the class described the combination of a frame, a pocket mounted on the frame, a series of plates revolubly mounted on the said frame and adapted to constitute bottoms for the said pocket, an auxiliary pocket mounted on the frame, a series of plates revolubly mounted on the said frame and adapted to constitute bottoms for the said auxiliary pocket, an operating lever for releasably retaining one of the first mentioned plates in engagement with the first mentioned pocket, an auxiliary operating lever mounted on the frame and adapted to retain one of the second mentioned plates in engagement with the said auxiliary pocket and a connection between the first mentioned plates and the said auxiliary operating lever whereby when the first mentioned operating lever is actuated to release one of the first mentioned plates from engagement with the first mentioned pocket, the auxiliary operating lever will be actuated to release one of the second mentioned plates from engagement with the said auxiliary pocket.

2. In a device of the class described a frame, a pocket mounted on the frame, a series of integral plates revolubly mounted on the frame and adapted to constitute bottoms for the said pockets, an operating lever for retaining one of the said plates in engagement with the said pocket, an auxiliary pocket mounted on the frame, a series of integral plates revolubly mounted on the frame and adapted to constitute bottoms for the said auxiliary pocket and means for operating the bottoms of the said auxiliary pocket when the said operating lever is actuated to release one of the plates for the first mentioned pocket from engagement therewith.

3. In a device of the class described a frame, a pocket mounted on the said frame, a series of integral plates mounted on the frame and adapted to constitute bottoms for

the said pocket, an auxiliary pocket mounted on the frame, a series of integral plates revolubly mounted on the frame and adapted to constitute bottoms for the said auxiliary pocket and means for operating the bottoms on the said auxiliary pocket when the bottoms of the first mentioned pocket are operated.

4. In a device of the class described the combination of a frame, a pocket mounted on the frame, a bottom for removable engagement with the said pocket, an auxiliary frame, a second bottom for removable engagement with the said auxiliary frame, an operating lever mounted on the frame and engaging the first mentioned bottom for retaining the first mentioned bottom in engagement with the first mentioned pocket, an auxiliary operating lever mounted on the frame and adapted to engage the second mentioned bottom for retaining the same in engagement with the auxiliary pocket and a connection between the first mentioned bottom and the said auxiliary operating lever for releasing the second mentioned bottom from engagement with the auxiliary pocket when the first mentioned bottom is disengaged from the first mentioned pocket.

5. In a device of the class described the combination of a frame, a pocket mounted on the frame, a bottom for removable engagement with the said pocket, an auxiliary pocket, a second bottom for removable engagement with the said auxiliary pocket, and means for removing the second mentioned bottom from engagement with the

said auxiliary pocket when the first mentioned bottom is released from engagement with the first mentioned pocket.

6. In a device of the class described the combination of a frame, a pocket mounted on the frame, a removable bottom for the said pocket, an auxiliary pocket mounted on the frame, a removable bottom for the said auxiliary pocket, an operating lever mounted on the frame for releasing the first mentioned removable bottom from engagement with the first mentioned pocket and means for removing the second removable bottom from engagement with the said auxiliary pocket when the first mentioned bottom is released from engagement with the first mentioned pocket.

7. In combination a plurality of pockets mounted on a frame, plates revolubly mounted on the frame and adapted for releasable engagement with the said pockets to constitute bottoms therefor, a plurality of auxiliary pockets mounted on the said frame, plates revolubly mounted on the said frame and adapted to constitute bottoms for the said auxiliary pockets and means for releasing the second mentioned plates from engagement with the said auxiliary pockets when the first mentioned plates are released from engagement with the first mentioned pockets.

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

GEORGE E. MENKE.

Witnesses:

E. HABB,

V. GLENN FRENCH.