

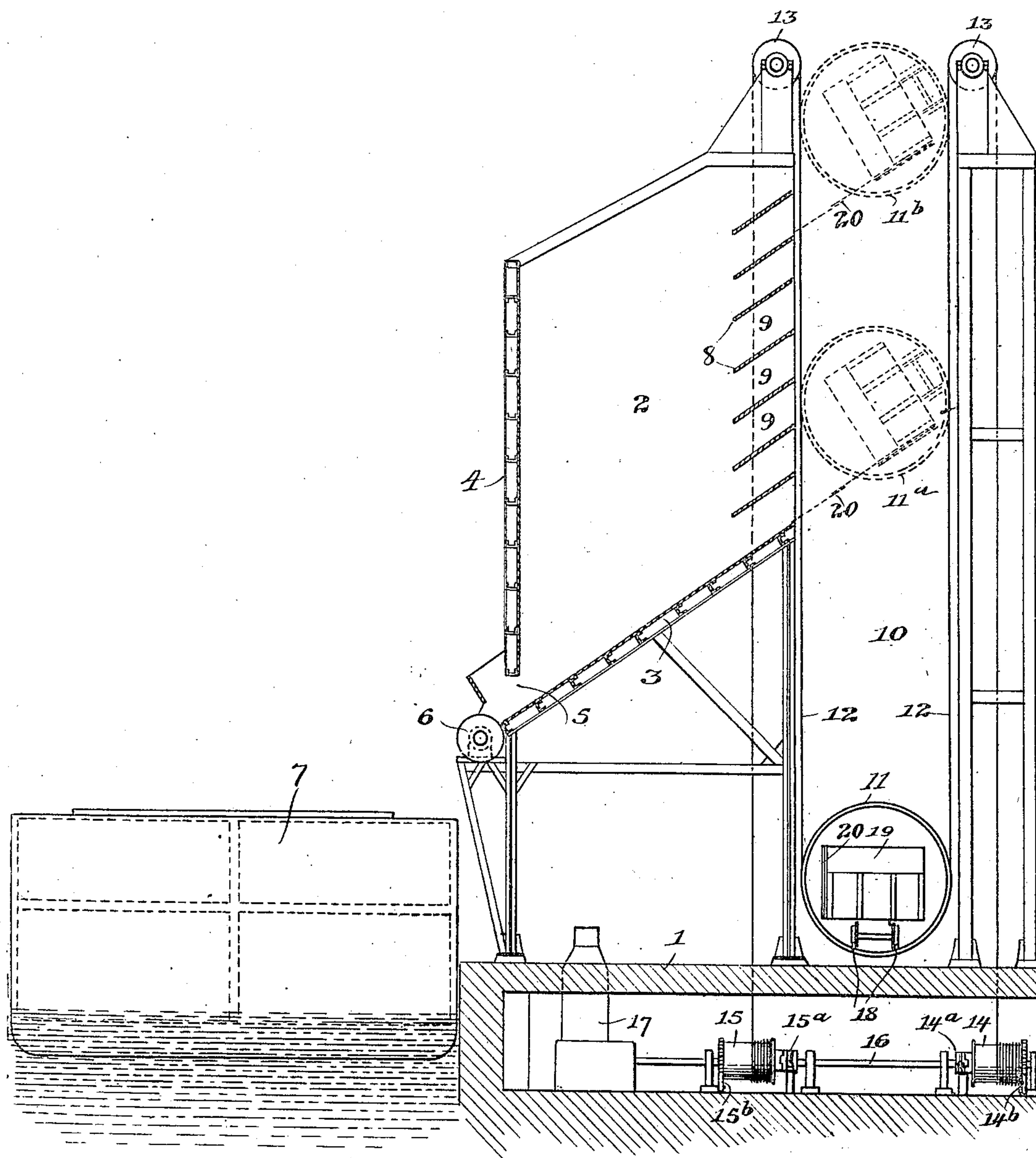
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F. K. HOOVER & A. J. MASON.

COAL POCKET.

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# UNITED STATES PATENT OFFICE.

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## COAL-POCKET.

No. 816,797.

Specification of Letters Patent.

Patented April 3, 1906.

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*To all whom it may concern:*

Be it known that we, FRANK K. HOOVER and ARTHUR J. MASON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coal-Pockets, of which the following is a specification.

Our present invention relates to coal pockets or hoppers such as are extensively employed at docks and wharves for the temporary storage of large quantities of coal, such hoppers storing the coal as it is received from the mines and delivering it to vessels and other carriers as required. A great drawback to the use of extensive pockets for this purpose, especially when employed for the storage of soft or bituminous coal, lies in the loss due to the breakage and pulverization of the coal in depositing the same within the pocket, since the coal is elevated to the top of the pocket and at that point dumped into the pocket, which latter is frequently of great height, thus necessarily producing a long fall, resulting in a large percentage of breakage.

The object of our present invention is to produce a coal pocket or hopper of this type which may be of great height, but capable of being loaded without damage to the coal.

To this end our invention consists, essentially, of a coal pocket or hopper having the load-receiving side thereof formed with louver-openings extending, preferably, the entire height of said side wall, in combination with a lifting-car dump or equivalent means for raising successive loads of coal to a height substantially opposite the level of the rear edge of the bottom wall of the pocket or of the coal previously deposited in the pocket and discharging the load through the louver opening or openings directly above the same.

A simple form of apparatus serving to illustrate the principle of our invention is shown in the accompanying drawing, which is a side elevational view with the pocket itself in vertical section.

Referring to the drawing, 1 may designate a dock or wharf on which is erected a coal pocket or hopper, (designated as an entirety by 2.) The bottom wall 3 of the pocket is preferably inclined downwardly toward the water side, and the front wall 4 has a discharge-opening 5 at its lower end that is preferably served by a discharging-roller 6, serving to deliver the coal into a vessel or barge 7. The coal-discharging means preferably takes

the form illustrated in Letters Patent No. 702,731, June 17, 1902. The rear wall of the pocket is formed by a vertical series of inclined louver-boards 8, suitably spaced to form between them louver-openings 9.

In rear of the pocket is shown a conventional form of lifting-car dump comprising a vertical guideway 10, containing a car-lift 11, around the ends of which are passed lifting-cables 12, carried over supporting-sheaves 13 on opposite sides of the upper end of the guideway, and thence carried down and around suitably-controlled winding-drums 14 and 15 on a winding-shaft 16, operated by a motor, (conventionally illustrated at 17,) it being understood that the drums 14 and 15 are provided with independent clutch devices, (conventionally illustrated at 14<sup>a</sup> and 15<sup>a</sup>, respectively,) whereby either may be rotated independently or both together, and with suitable detent devices, (indicated at 14<sup>b</sup> and 15<sup>b</sup>, respectively,) whereby said drums may be restrained from unwinding when disconnected from the operating-shaft 16. Within the car-lift 11 is a short section of track (indicated at 18) on which may be run in the usual manner a loaded coal-car, (designated by 19.) The car or the louvered side of the pocket, or both, are provided with means whereby when the car is overturned the load may be supported and guided into one or more of the louver-openings opposite the point at which the car-lift has been raised. For this purpose one side wall of the car may be provided with a contractible and expansible extension, (indicated at 20,) which when expanded will span the space from the lower edge of the car to the louvered side of the pocket, as indicated.

In operation, assuming that the pocket is empty and that a loaded car has been run onto the lift 11, the drums 14 and 15 are simultaneously operated to wind up the cables 12, thereby raising the lift to substantially the height indicated at 11<sup>a</sup>. Thereupon, the drum 15 being stopped, the drum 14 is continued in operation sufficiently to tilt the lift to the dumping position indicated, the expansible side 20 being at the same time run out, so as to rest upon the upper end of the pocket-floor 3, whereupon the coal readily discharges itself into the pocket through the lowermost louver-opening 9. The lift having then been dropped, another loaded car is run in and operated in the same way. As the level of the coal rises in the pocket the



lift is raised successively higher and higher, so as to discharge the successive loads through louver-openings substantially opposite the level of the coal previously received in the pocket, the lift being elevated to substantially its highest point (indicated at 11<sup>b</sup>) in completing the filling of the pocket. The louver-openings 9, while permitting the free sliding of the coal into the pocket, prevent its egress therefrom as the pile rises in the pocket in a manner well understood.

From the foregoing it will be seen that the main object of the invention, which is to avoid damage to the coal through breakage of the same by reason of a long drop in depositing the same into the pocket, is accomplished. Our invention is not concerned with any particular form of dumping coal-lift or other means of elevating the coal, so long as the essential feature of a receiving-pocket having a louvered side through which the coal may be received without dropping the same from a height is preserved.

While we have described the apparatus as a coal-pocket and contemplate that such will be its principal application, yet it is evident that the same apparatus might advantageously be employed in connection with any other more or less frangible material capable of injury by being dropped into the pocket from its upper end.

We claim—

1. The combination with a pocket having a louvered side, of means for introducing material to be stored therein thereto through the louver-openings, substantially as described. 35

2. The combination with a pocket having a louvered side, of a lifting-car dump located opposite said louvered side and serving to discharge material to be stored into said pocket through the louver-openings, substantially as described. 40

3. The combination with a pocket having a louvered side, of a vertical guideway located behind said louvered side, a car-lift therein, and means for elevating said car-lift and dumping the same opposite and into any of the louver-openings, substantially as described. 45

4. The combination with a pocket having discharging means in its front wall and a louvered rear wall, of a vertical guideway located behind said rear wall, a car-lift therein, and means for elevating said car-lift and dumping the same opposite and into any of the louver-openings, substantially as described. 50 55

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