No. 616,181. Patented Dec. 20, 1898.

P. B. BRADLEY.

DEVICE FOR HANDLING AND STORING COAL.

(Application filed Sept. 1, 1897.)

(No Model.) 2 Sheets—Sheet 1.

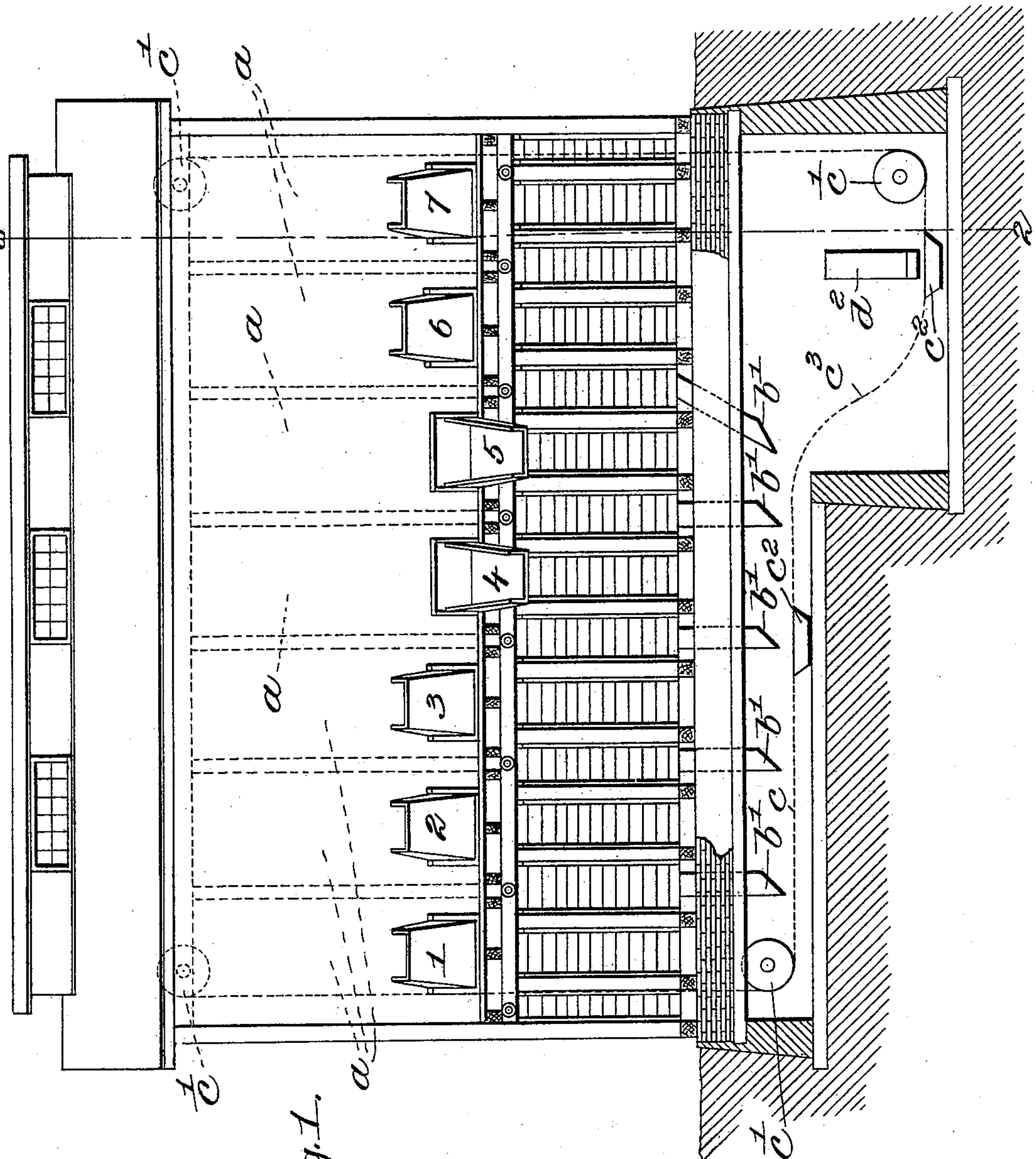


Fig. 1.

Witnesses:
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Inventor.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

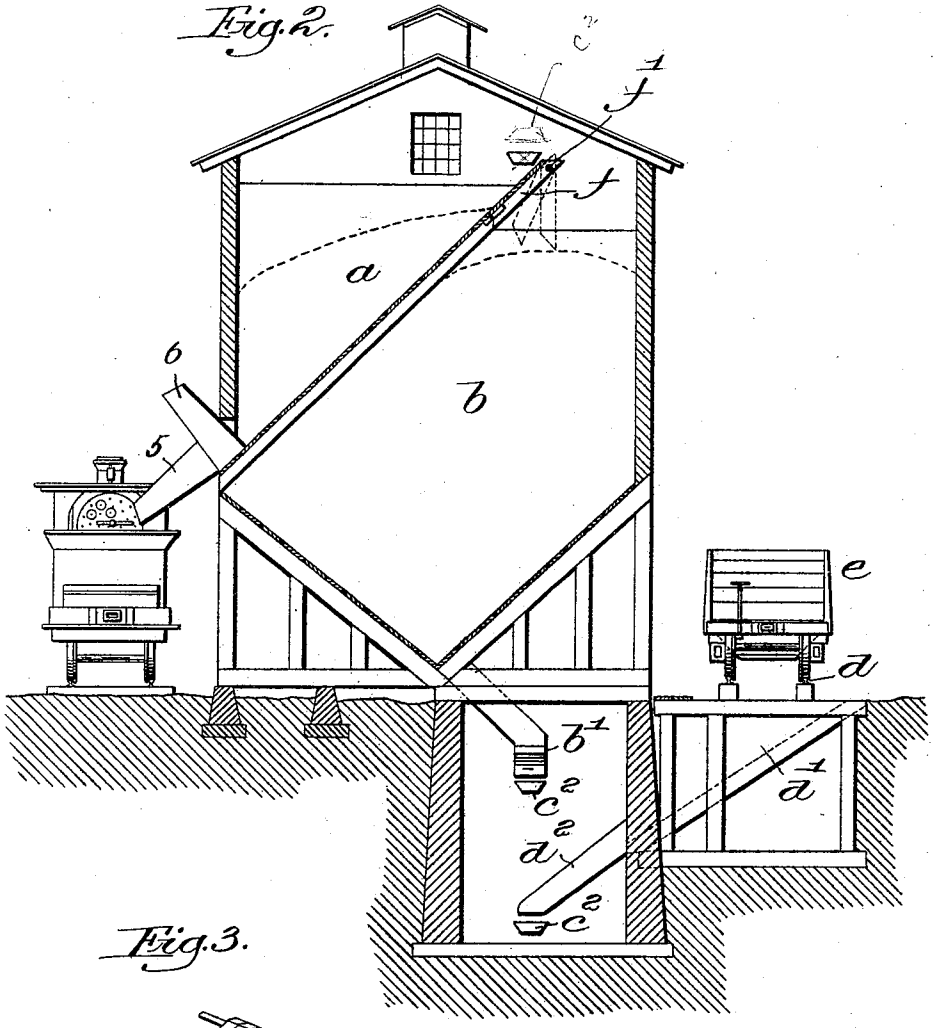
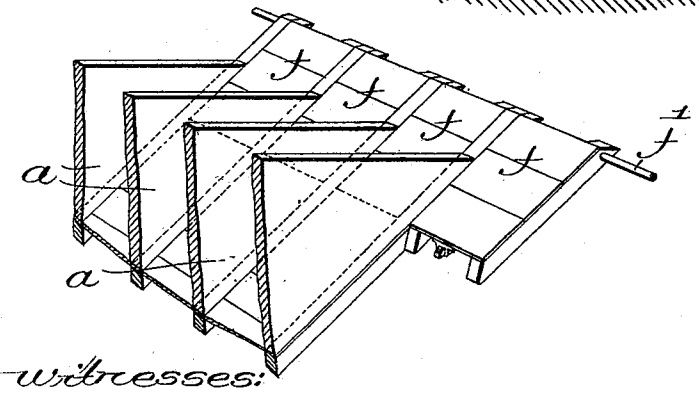


Fig. 3.



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UNITED STATES PATENT OFFICE.

PETER B. BRADLEY, OF HINGHAM, MASSACHUSETTS.

DEVICE FOR HANDLING AND STORING COAL.

SPECIFICATION forming part of Letters Patent No. 616,181, dated December 20, 1898.

Application filed September 1, 1897. Serial No. 650,270. (No model.)

To all whom it may concern:

Be it known that I, PETER B. BRADLEY, of Hingham, county of Plymouth, and State of Massachusetts, have invented an Improvement in Devices for Handling and Storing Coal, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

It is frequently desirable, especially in handling coal, to be able to deliver the coal either to a small pocket or to a larger or general storage pocket or bin; also, having exhausted the supply contained in the small pocket it is often desirable to replenish it quickly from the supply already stored. Accordingly I have devised the present system or means of handling coal or any other material desired in order to accomplish the above results. For instance, by my invention a plurality of small delivery-pockets may be provided, each adapted to contain the quantity of coal required to fill one engine-tender, and in conjunction therewith one or more large storage-bins will be provided adjacent these delivery-pockets and means controlling the delivery to said pockets and bins, so that the coal-conveyer may receive coal at the bottom from said storage-bins and carry the same to the top of the building, where it may be delivered as desired to said pockets.

A further feature of my invention resides in providing, in connection with the beforementioned arrangement, means whereby the said conveyer may receive coal from cars on a siding and deliver it either directly to the delivery-pockets or to the storage-bins. This arrangement has proved to be of immense advantage in preventing delay and enabling engines to be supplied promptly and quickly without any inconvenience, for, as will be apparent, if the pockets are empty they may be filled at once from the full cars or from the storage-bins, whichever is preferred.

My invention is not limited to coal, but has a wide range of use.

The details of my invention will appear more fully in the course of the following description, and the invention will be more particularly defined in the appended claims.

In the drawings forming a part of this specification and showing one embodiment of my invention, Figure 1 is a side elevation of a structure provided with my system of handling coal, &c., the lower portion thereof being shown in section in order to render clearer the understanding thereof. Fig. 2 is a vertical transverse section taken on the line 2 2, Fig. 1. Fig. 3 is a perspective view showing several of the deflecting valves or doors.

It will be understood that the particular form of structure may be varied to suit special requirements, the embodiment of my invention herein shown being especially designed to form a coaling-shed for engines.

Referring to Fig. 1, it will be seen that I have provided seven chutes, consecutively numbered "1" to "7," this structure therefore being intended to illustrate a provision for coaling seven engines without renewing the supply in the coal-pockets. Each chute is located at the bottom of a coal-pocket *a*. (Shown more clearly in Fig. 2.) The coal-pockets are preferably at the upper part of the building, as shown, although they may be otherwise located, and beneath these pockets is a bin *b* for storage purposes, and this bin may be either all in one compartment or in a plurality of compartments, as desired, the latter being herein indicated. (See Fig. 1, where there are a number of delivery-spouts *b'* in line with each other and placed so as to deliver to a conveyer *c* the coal or other material being handled.)

The conveyer is herein shown as an endless conveyer passing over pulleys *c'* at the top and bottom of the building, and it may be of any usual or preferred kind. Accordingly I have omitted the details thereof, having indicated in the drawings simply the line of travel thereof, and at c^2 have indicated a bucket for clearness of understanding.

At one side of the building, as is usual in connection with storing coal, &c., is a siding *d*, a car *e* being herein shown thereon. At a convenient place beneath the siding I provide a chamber or hopper *d'*, which receives the coal or other material from the car *e* and delivers it by means of a chute d^2 to the carrier *c*, the latter being herein shown as having an offset portion at c^3 for that purpose.

In the upper or delivering portion of the travel of the conveyer I have provided, adjacent each of the pockets, a door *f*, herein

shown as hinged at f', which when closed, as shown in full lines, causes the coal from the conveyer to be delivered into the adjacent pockets and when swung into any of the positions shown in dotted lines causes the coal to be delivered correspondingly into the bin in one direction or another. Any convenient deflecting means may be provided—the door herein shown or an ordinary butterfly-valve or any other means suitable for the purpose.

In operation, supposing that my invention is used for coaling purposes, as already alluded to, when an engine backs up to pocket No. 4, for instance, the chute of that pocket will be lowered into the position shown in Fig. 1 and the engine will be filled with the proper amount of coal therefrom. If, however, the pocket is empty, if a car is on the siding d and it is desired to empty this car the amount of coal required may be delivered therefrom to the bucket c^2 of the conveyer and carried thereby until they come opposite the coal-pocket No. 4, whereupon, the door or valve f being closed, the coal from the bucket is delivered to said pocket, and from the pocket may be delivered to the tender of the engine; or if for any reason it is desired to take the coal from the storage-bin b the proper spout or chute b' is opened, thereby loading the conveyer therefrom with the required amount of coal, which is delivered, as before explained, to the delivery coal-pocket.

As is well known, it is usual to provide a certain definite amount of coal for each tender, about eight tons being the usual amount, and various kinds of weighing mechanisms are provided, so that in case a weighing mechanism should be located at the top of each pocket the conveyer may deliver thereto from the storage-bin, if desired, coal to the amount required, and the surplus coal brought up by the conveyer may at once be turned back into the storage-bin simply by opening the door f, thereby avoiding all inconvenience of either stopping the conveyer loaded with coal or overfilling any of the pockets therewith.

If desired, the various compartments of the storage-bin may contain different grades of coal or other material or different kinds of material which it is desired to store therein.

It will be noted that the construction which I have herein shown enables me to economize substantially all the space of the building, whereas heretofore it has been customary to raise the storage-bins of the elevator sufficiently high to enable them to deliver their contents by gravity into the tender, cars, boats, &c. By my invention the main supply may be held in the lower part of the building and is elevated as required.

The object of my invention is to facilitate the handling of coal, grain, &c., and to economize the space and power required therefor, as well as to increase the convenience of such apparatus, as already fully described, and accordingly it will be understood that various changes and modifications may be resorted to without departing from the spirit and scope of my invention.

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

1. An apparatus for handling coal, &c., comprising delivery-pockets, storage-bins, and a conveyer, said bins having spouts at their lower ends adjacent said conveyer, and means between said pockets and said bins and adjacent the conveyer controlling the delivery thereto of the material carried by the conveyer, whereby said material may be delivered to one or the other at will, substantially as described.

2. An apparatus for handling coal, &c., comprising delivery-pockets, storage-bins, and a conveyer, said bins having spouts at their lower ends adjacent said conveyer, and a valve or door between said pockets and bins adjacent said conveyer for deflecting the material therefrom either into said pockets or said bins, as desired, substantially as described.

3. An apparatus for handling coal, &c., comprising delivery-pockets, storage-bins, and a conveyer, said bins having spouts at their lower ends adjacent said conveyer, a track adjacent thereto and having a pocket or chamber provided with a delivery-chute to deliver therefrom into said conveyer, and means controlling the delivery from said conveyer to said pockets and bins, all combined to enable the single conveyer to receive material either from said bins or said siding and deliver it either to said pockets or said bins at will, substantially as described.

4. An apparatus for handling coal, &c., comprising a building having a plurality of delivery-pockets each provided with a delivery-chute at its lower end, said pockets having inclined bottoms terminating at their lower ends at said delivery-chutes each having at its upper end a valve or door for deflecting the coal thereinto when the valve is closed, and for permitting the coal to pass below the pocket when the valve is open, said pockets being formed by the walls of the building, their said bottoms and vertical partitions, and a storage-bin, said bin being located beneath the said inclined bottom and occupying the remaining space of the building beneath said delivery-pockets, spouts at the lower end of said storage-bin, and an endless conveyer, said conveyer passing at its lower level beneath the spouts of the storage-bin and at its upper level passing above and adjacent the said valves and arranged to deliver the coal to said pockets or to said bins at will, according to the position of said valves, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER B. BRADLEY.

Witnesses:
GEO. W. GREGORY,
EMMA J. BENNETT.