No. 891,124. PATENTED JUNE 16, 1908.

A. C. WILLIAMS.

STORAGE APPARATUS.

APPLICATION FILED NOV. 29, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

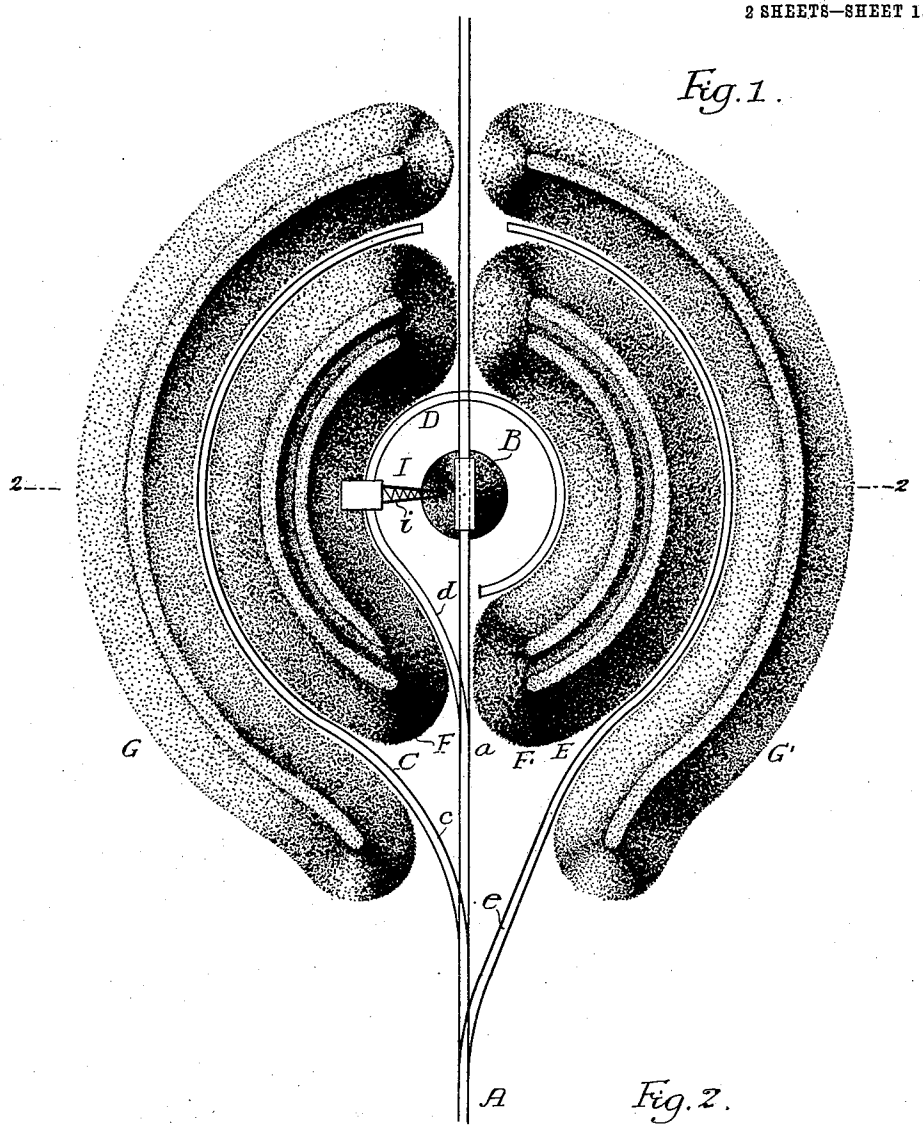
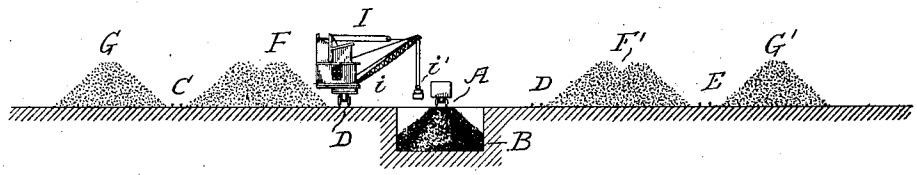


Fig. 2.



Witnesses:
Walter F. Pellinger.
Augustus B. Coppes.

Inventor:
Alexander C. Williams.
by his Attorneys,
Howson & Howson

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 891,124. PATENTED JUNE 16, 1908.

A. C. WILLIAMS.

STORAGE APPARATUS.

APPLICATION FILED NOV. 29, 1907.

2 SHEETS—SHEET 2.

Fig. 4.

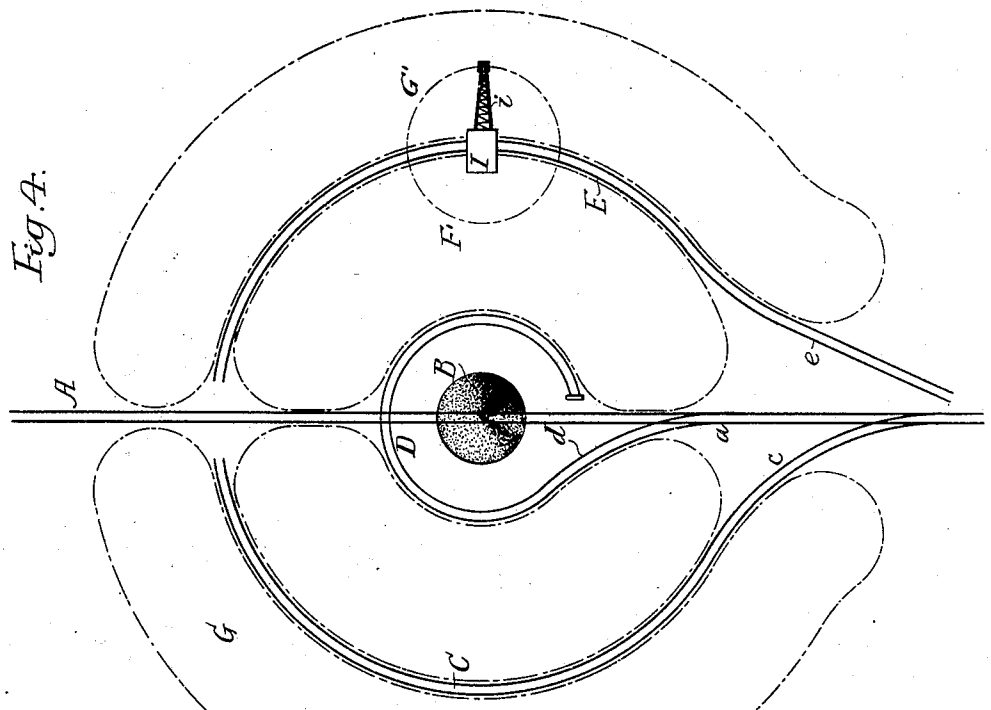
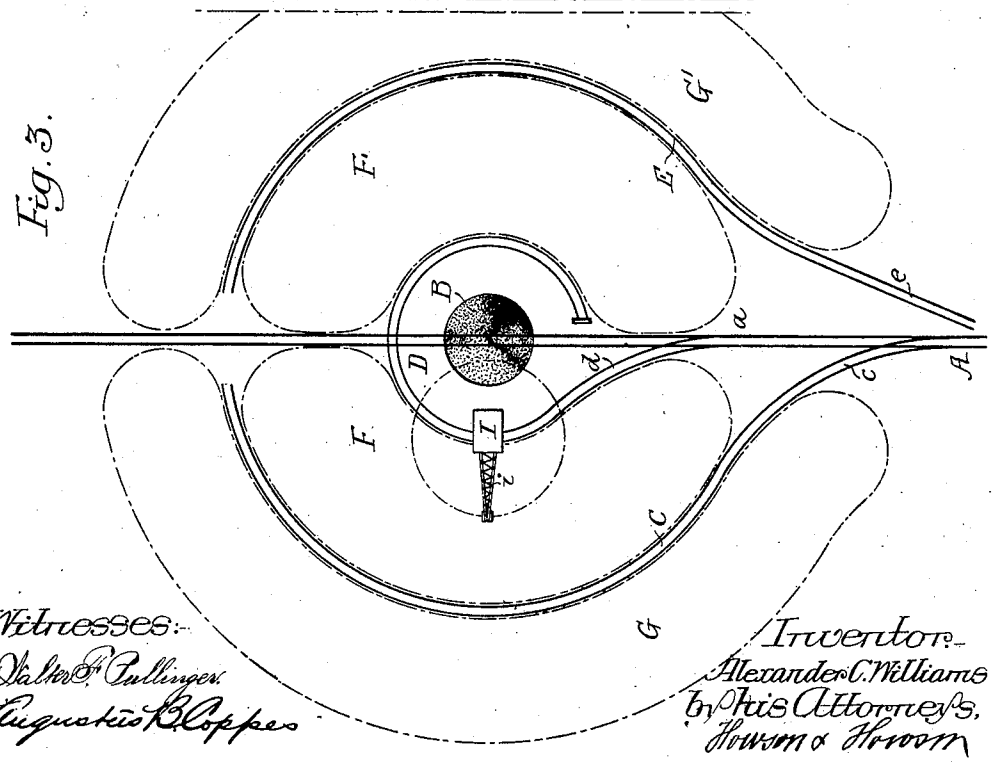


Fig. 3.



Witnesses:
Walter F. Bullinger.
Augustus B. Coppes.

Inventor:
Alexander C. Williams
by his Attorneys,
Howson & Howson

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER C. WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE DODGE COAL STORAGE COMPANY, OF NAUGATUCK, CONNECTICUT, A CORPORATION OF CONNECTICUT

STORAGE APPARATUS.

No. 891,124. Specification of Letters Patent. Patented June 16, 1908.

Application filed November 29, 1907. Serial No. 404,441.

To all whom it may concern:

Be it known that I, ALEXANDER C. WILLIAMS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Storage Apparatus, of which the following is a specification.

My invention relates to certain improvements in apparatus for storing coal and other granular material in piles around a central pit.

The object of my invention is to utilize tracks of a standard gage, so that the crane and cars can traverse the tracks, and the crane can pile the material in segmental piles and remove material from the piles and deliver it to cars, as will be fully described hereafter, reference being had to the accompanying drawings, in which:—

Figure 1, is a plan view of my improved storage apparatus; Fig. 2, is a section on the line 2—2, Fig. 1; and Figs. 3 and 4, are diagram views showing the operation of the apparatus.

A is the main track of the apparatus which extends in a straight line, in the present instance, over the piling floor.

B is a pit at the center of the piling floor into which coal or other material may be discharged from a car run onto the track A.

D is a circular track having a branch *d* which merges into the track A, and any suitable switching mechanism may be provided to shift the portion *a* of the main track into line with the branch *d*. Some distance beyond this track at a greater radius are two curved tracks C and E; these tracks do not cross the main track in the present instance, but may do so if desired, forming one continuous track. The track C has a branch *c* which merges into the track A and the track E has a branch *e* which merges into the track A some distance in advance of the track of the branch *c*.

I is a crane mounted on wheels which can traverse any of the tracks; it is shown in Figs. 1, 2 and 3 mounted on the track D. This crane has a boom *i* from which is suspended a bucket *i'*, preferably of the clam shell type, and adapted to pick up coal from the central pit and transfer it to the segmental pile F, F', or to remove coal from a pile and discharge it into cars.

If it is desired to increase the piling area then the crane is transferred from the track D onto the track A and then over either one of the tracks C and E, according to which side it is desired to pile the material; then the material can be taken from the inner segmental pile F and transferred onto an outer segmental pile G, or if the crane is run upon the track E then the crane can deliver material from the pile F' onto the outer segmental pile G'.

Thus it will be seen that by the above described apparatus I am enabled to use tracks of the same gage as the ordinary railway tracks, mounting the crane on these tracks; the tracks being connected to the main track so that the cars can be shifted onto the main track and delivered onto any of the spurs or segmental tracks as desired.

In Fig. 3, I have shown in diagram the crane I on the track D delivering material from the central pit B onto the segmental piling floor, while in Fig. 4, I have shown the crane on the track E delivering material from the piling floor F' onto the piling floor G'.

By the above construction it will be seen that where a series of piling floors is used the main track can be laid over the entire floors and a series of segmental tracks placed in position and a single crane may be used to load coal onto any one of the piling floors, or, if desired, a series of cranes may be used so that two or more cars can be employed on each piling floor and transferred from one floor to the other as desired.

When it is desired to remove material from any one of the piles the cars to be loaded can be run onto any one of the curved tracks, as the tracks are the same gage as the standard railway gage, and the crane can remove material from the piles and discharge it directly into the cars, dispensing with any transfer mechanism between the crane and the cars. This applies to all tracks with the exception of the track D when arranged so near the pit that the large cars will not pass over the curved track, in this event the cars are run into position on the main track on either side of the center and the crane on the curved track can readily load the cars from the pile.

I claim:—

1. The combination in storage apparatus for coal or other granular material, of a piling floor, a railway track of the standard gage extending over the piling floor, a pit at the center of the piling floor under the track and arranged to receive material from cars upon

the track, a segmental track also of standard gage having a branch merging into the main track, and a crane adapted to travel on either of the tracks.

2. The combination of a piling floor, a main track extending over the piling floor, a pit at the center of the piling floor over which the track extends so that material can be discharged from cars on the track into the pit, an inner circular track having a branch merging into the main track, and an outer segmental track having a branch also merging into the main track, and a crane arranged to travel on the several tracks so that material may be taken from the pit and discharged onto a piling floor between the two segmental tracks or delivered from the inner segmental track to the outer segmental track.

3. The combination of a piling floor, a central pit, a railway track extending across the pit so that material can be discharged from cars on the track into the pit, an inner segmental track having a branch merging into the main track and two outer segmental tracks, one on each side of the inner track and having branches merging into the main track, a crane adapted to travel on any one of the said tracks, said crane having a boom and a hoisting bucket so that material can be removed from the pit and delivered to inner piles and delivered from the inner piles to outer segmental piles.

4. The combination in a storage apparatus, of a piling floor, a main track of standard gage, a pit under the main track to receive material from cars on the track, a branch track also of standard gage forming a spur of the main track and extending over the piling floor some distance from the pit, a crane adapted to travel on either track and so arranged that the cars to be loaded can be shifted onto either track and loaded by the crane directly from the pile of material on the piling floor.

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

ALEXANDER C. WILLIAMS.

Witnesses:
Jos. H. Klein,
Wm. A. Barr.