No. 794,574. PATENTED JULY 11, 1905.

S. D. WARRINER.

APPARATUS FOR PILING COAL.

APPLICATION FILED SEPT. 21, 1904.

5 SHEETS—SHEET 1.

Fig. 1.

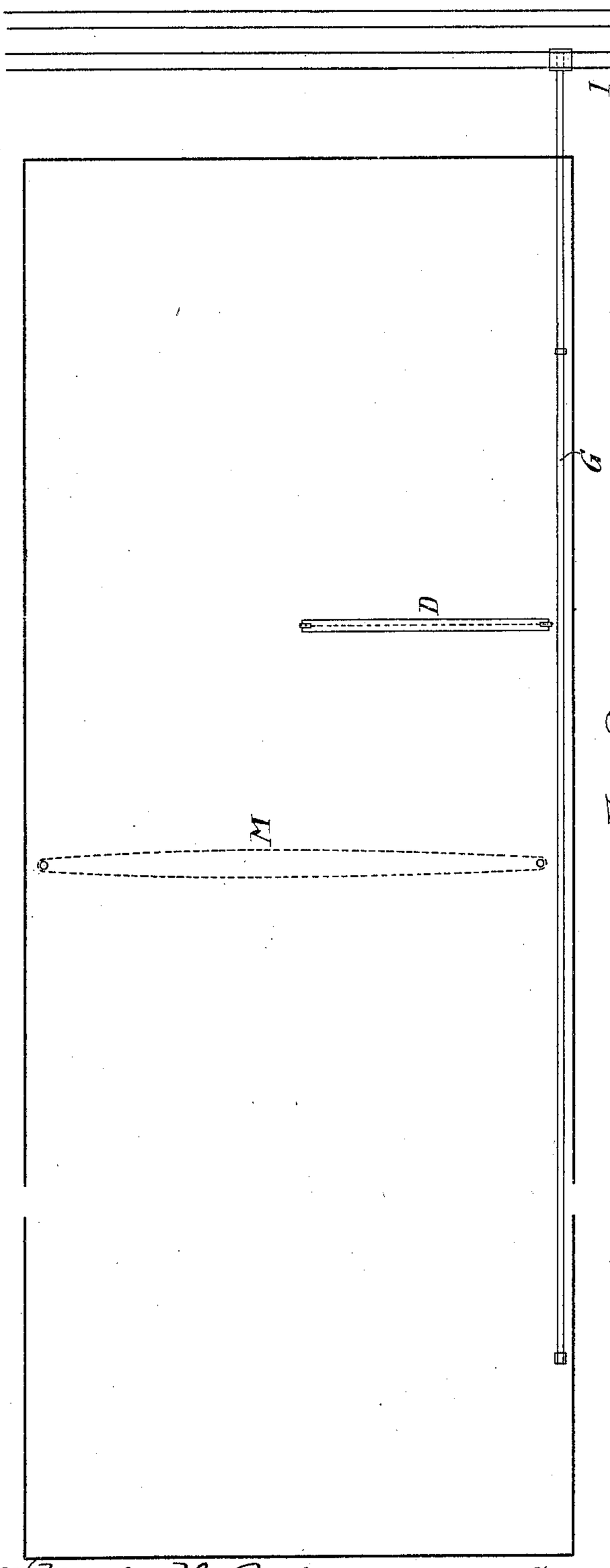
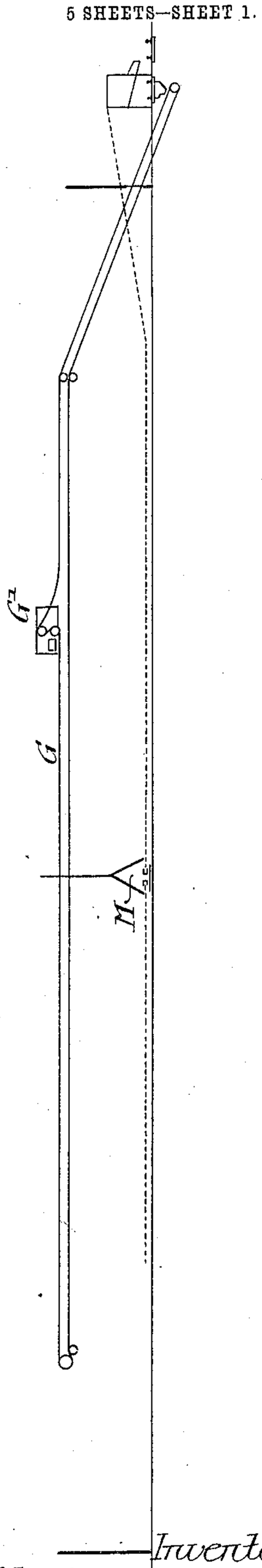


Fig. 2.



Witnesses { Wesley H. Reel
Augustus B. Copper

Inventor: Samuel D. Warriner.
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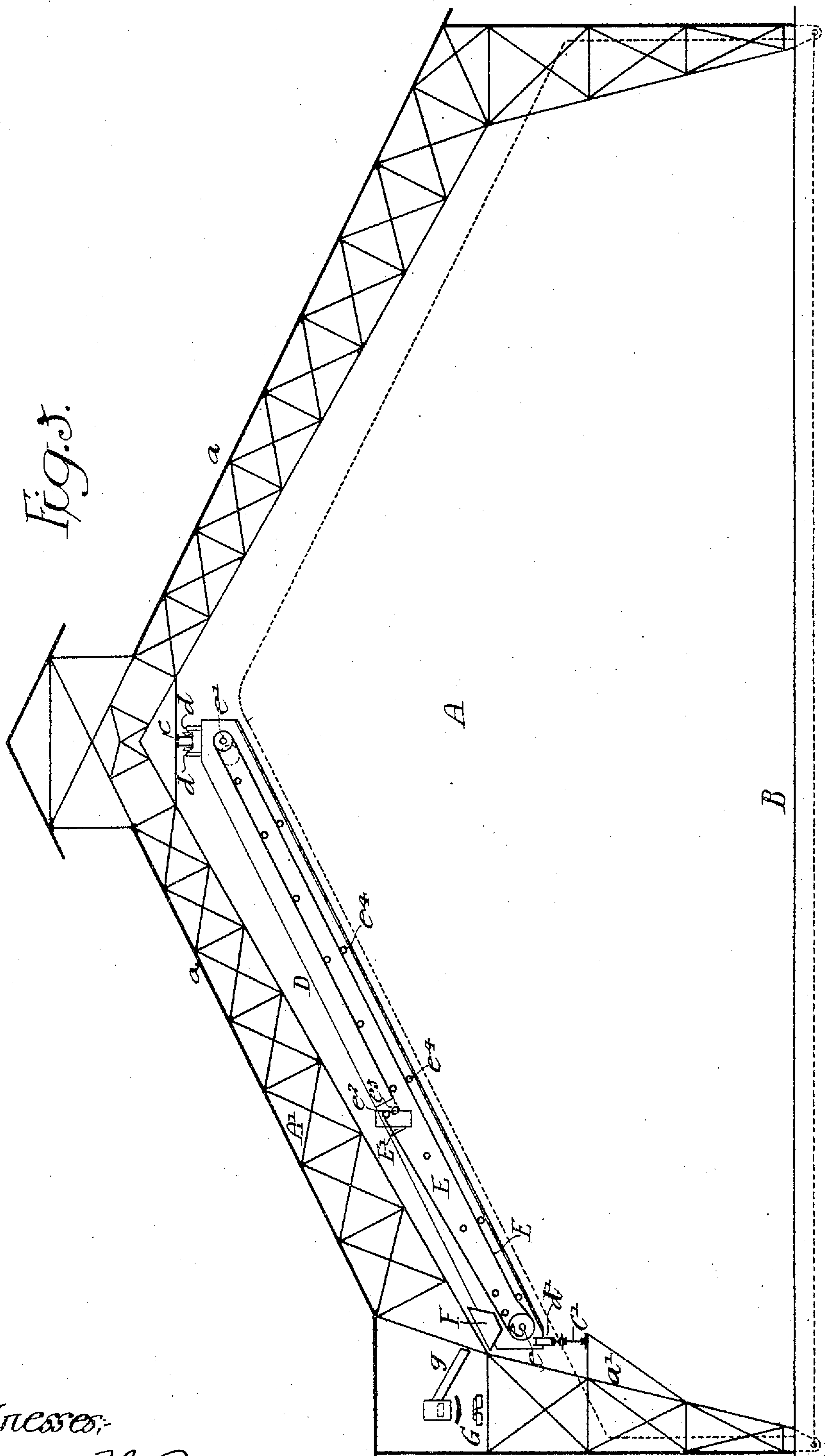

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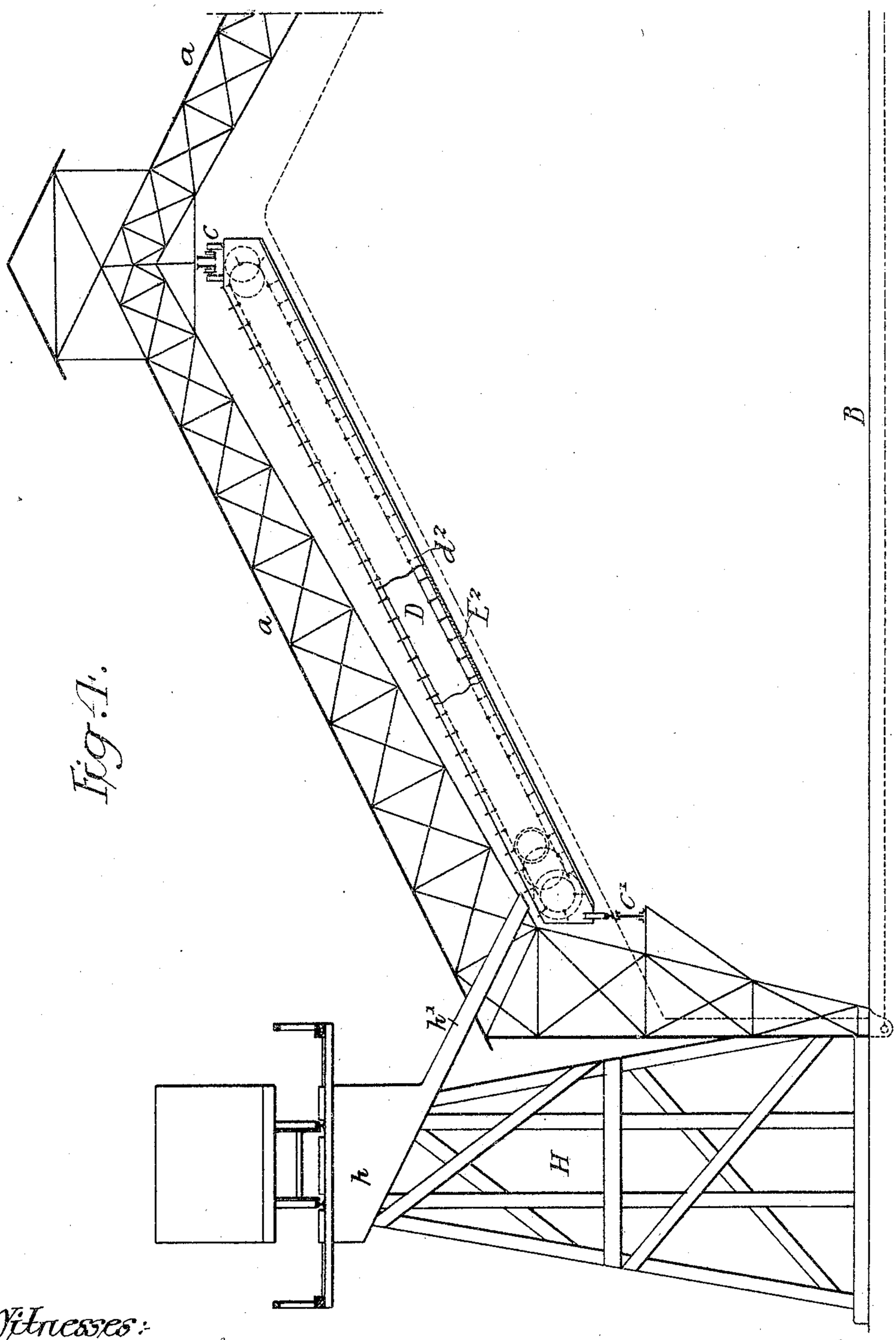

Fig. 1.

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5 SHEETS—SHEET 4.

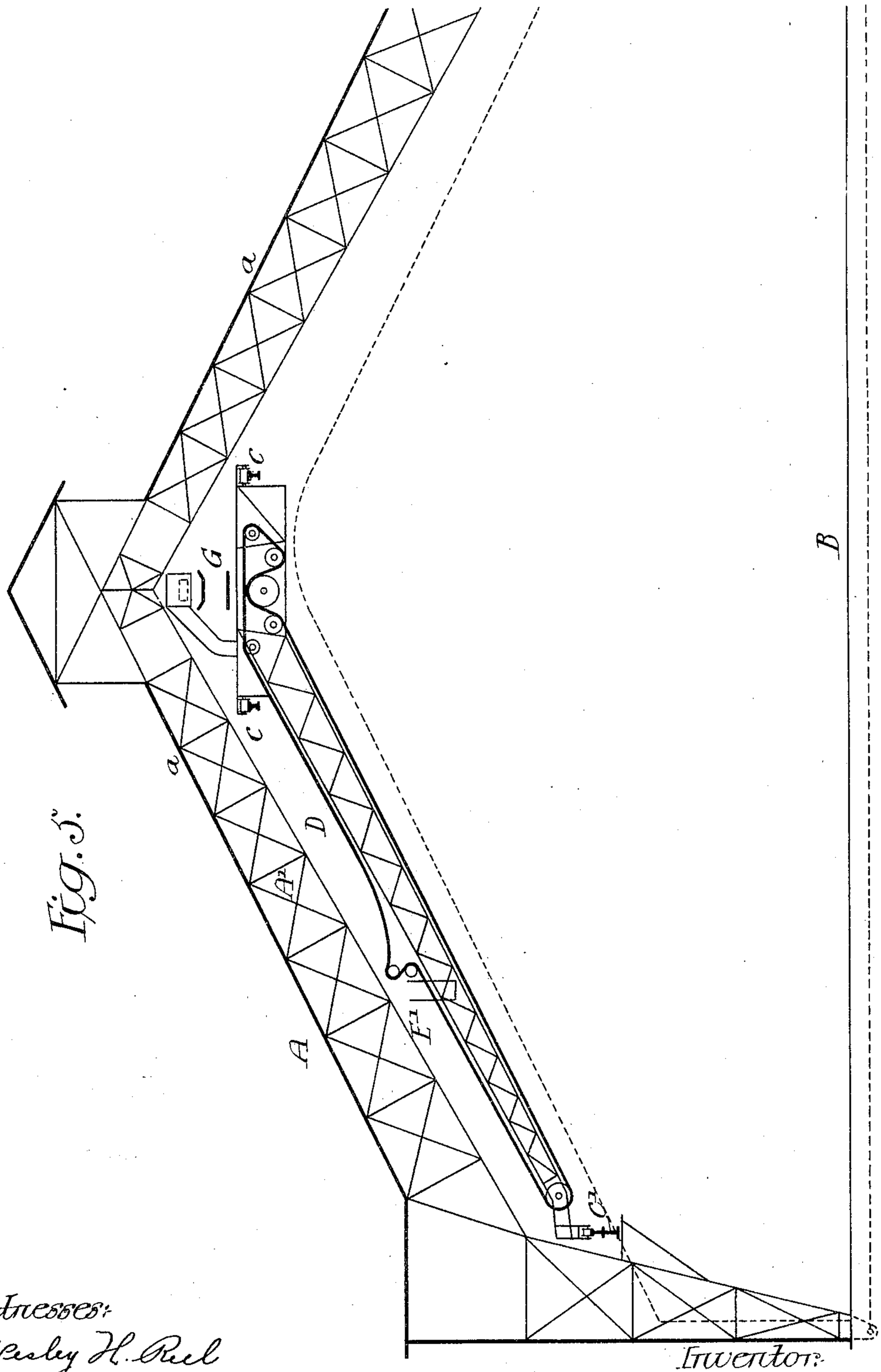

Fig. 5.

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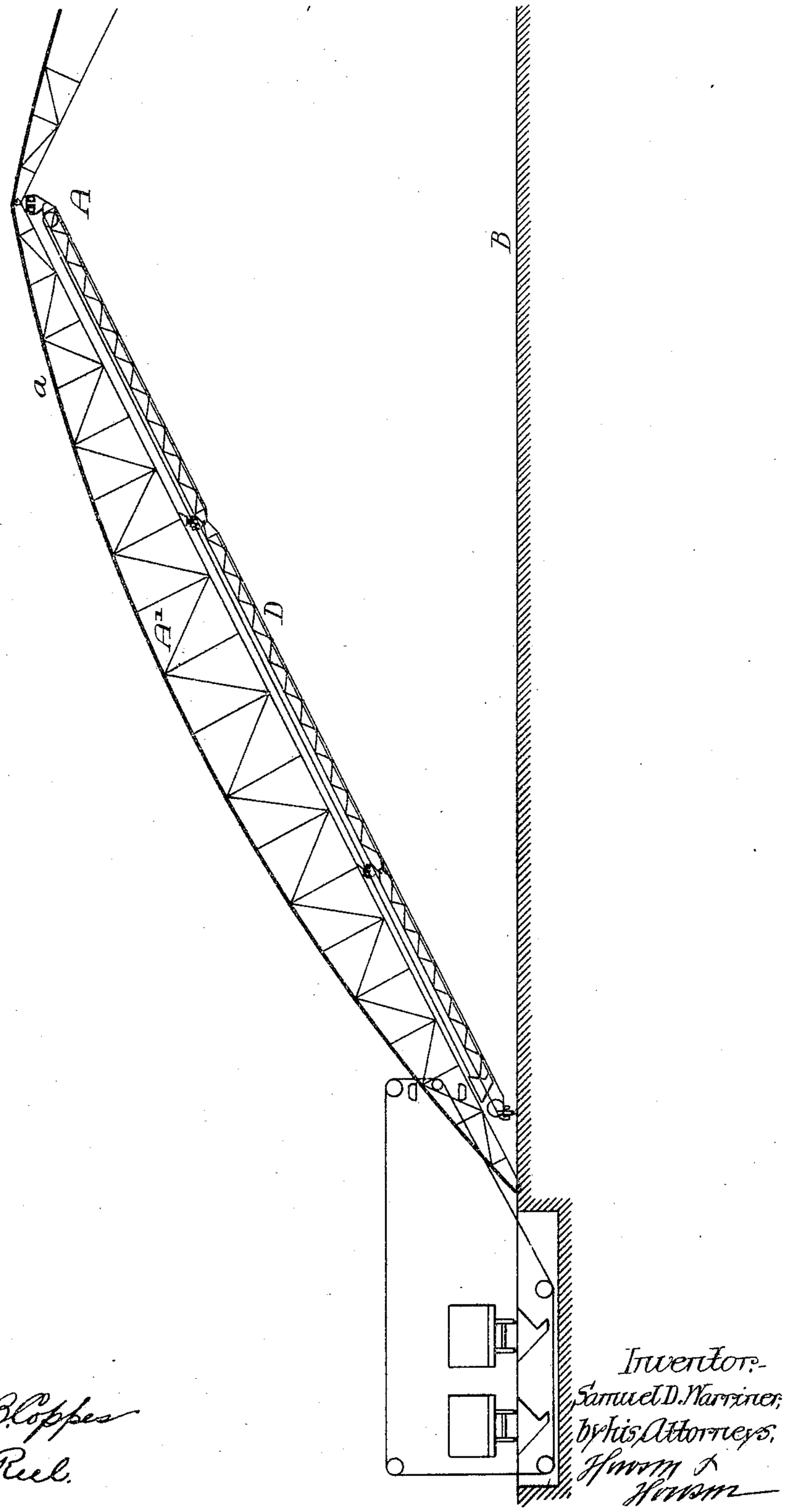
5 SHEETS—SHEET 5.

Fig. 6.



Witnesses:
Augustus B. Coppes
Wesley H. Reel.

Inventor:-
Samuel D. Warriner;
by his Attorneys,
Howson & Howson

No. 794,574. Patented July 11, 1905.

UNITED STATES PATENT OFFICE.

SAMUEL D. WARRINER, OF WILKESBARRE, PENNSYLVANIA, ASSIGNOR TO THE DODGE COAL STORAGE COMPANY, OF NAUGATUCK, CONNECTICUT, A CORPORATION OF CONNECTICUT.

APPARATUS FOR PILING COAL.

SPECIFICATION forming part of Letters Patent No. 794,574, dated July 11, 1905.

Application filed September 21, 1904. Serial No. 225,355.

To all whom it may concern:

Be it known that I, SAMUEL D. WARRINER, a citizen of the United States, residing at Wilkesbarre, Pennsylvania, have invented certain Improvements in Apparatus for Piling Coal, of which the following is a specification.

My invention relates to certain improvements in apparatus for piling coal or analogous material.

The object of the invention is to provide means for piling coal in a covered rectangular building with the least amount of breakage. This object I attain by so mounting the trimmer or piling apparatus that it will be arranged on an incline at or about the angle of repose of the material to be piled and will travel longitudinally over the piling-floor.

In the accompanying drawings, Figure 1 is a diagram plan view showing the piling-floor and the trimmer in outline. Fig. 2 is a view in side elevation showing the conveyer for feeding the trimmer, the view being in outline. Fig. 3 is a transverse sectional view of a building drawn to an enlarged scale and illustrating the position of the trimmer. Figs. 4, 5, and 6 are views of modifications of the invention.

A is a rectangular building having a series of trusses A′, supporting a roof *a*. This building incloses the piling-floor B, upon which the coal or other material is to be piled.

It will be understood at the outset that while I have shown a peculiar form of truss structure any form of structure may be used without departing from my invention.

Suspended from the center of the building in the present instance are rails *c*, and on a bracket *a′*, projecting from one side of the building, is a rail *c′*.

D is a traveling trimmer which has wheels *d d*, arranged to travel on the rails *c*, and wheels *d′*, arranged to travel on the rail *c′*. Suitable mechanism may be provided for traversing this trimmer longitudinally over the piling-floor, and while I have shown a single trimmer arranged to pile material the full length of the floor two or more trimmers may be used without departing from my invention. The trimmer D carries an endless-belt conveyer E in the present instance, which passes around wheels *e e′*, mounted in suitable bearings on the frame of the trimmer, and around discharging-wheels e^2 e^3, which are carried by a movable discharge device E′, arranged to travel on the trimmer D. The belt is supported by rollers e^4 at intervals in any suitable manner. At the lower end of the trimmer is a hopper F for receiving the material to be transferred by the trimmer onto the piling-floor. This hopper is fed by any suitable conveyer. The conveyer G (shown in the drawings) is a belt conveyer, which extends along one side of the building and has a discharge-carriage G′, on which is a chute *g*, that when material is discharged from the belt it will pass through the chute into the hopper F and from the hopper F onto the belt of the trimmer D. In the present instance the sprocket-wheel *e* is the driving-wheel for the conveyer E, and this wheel can be driven by either a motor mounted on the trimmer or by gearing connected to a shaft running the length of the building. It is immaterial in what manner the mechanism is driven.

It will be seen that the material can be piled on the floor progressively from one side of the building, the material as it is discharged from the trimmer flowing down the material already piled, preventing breakage to any great extent. As the pile increases the discharge device E′ is moved upward on the trimmer. When it is desired to shift the trimmer longitudinally over the piling-floor, the discharge device G′ on the longitudinal conveyer G is also shifted, so as to be in line with the trimmer.

It will be seen by providing means for moving the trimmer longitudinally over the piling-floor and by moving the discharge device of the trimmer from and toward the center of the building that the material can be

piled in any manner desired. By this arrangement several grades of coal, for instance, can be piled on the same piling-floor by piling one grade of coal at one point on the floor, then moving the trimmer bodily to another position, and piling another grade of coal.

In Figs. 1 to 3 I have shown an endless-belt conveyer situated at one side of the building for feeding the conveyer on the trimmer, while in Fig. 4 I have shown a trestle-work H, on which cars can be mounted, the trestle-work having a series of hoppers *h*, each provided with a chute *h'*, leading to a position in the path of the trimmer. While I have shown in Fig. 3 the carrier of the trimmer as an endless belt, in Fig. 4 I have shown the carrier in the form of a flight conveyer E^2, which is arranged to receive material from the chute *h'* and convey it either directly over the surface of the piled material or over a trough d^2, carried by the trimmer D. This trough may be perforated at intervals and provided with gates as the pile increases or may be provided with an adjustable ribbon, such as shown and claimed in the patent granted to James M. Dodge, No. 446,436, dated February 17, 1891. In Fig. 5 I have shown still another modification in which the conveyer for feeding the trimmer is mounted directly under the peak of the roof of the building and has a discharge device movable with the trimmer, so as to discharge the material upon the trimmer-belt, which travels in the reverse direction to that shown in Fig. 3. In Fig. 6 I have shown a further modification of the invention in which the lower end of the trimmer is supported on the floor, while the balance of the trimmer travels on rails hung from the roof. There is an endless-belt conveyer in this instance extending under the fixed tracks at the side of the building, which conveys material from the pit under the tracks to the longitudinal conveyer, which feeds the conveyer on the trimmer. In all of these cases the piling-floor is clear, so that any suitable reloading-conveyer can be used. One form or reloading-conveyer is shown at M, Figs. 1 and 2. In Fig. 1 the reloading-conveyer travels lengthwise of the building; but in some cases another type of reloader may be used, which travels in the trough in the floor; but these form no portion of my invention. Different means may also be provided for feeding the longitudinal conveyer G with material. In Figs. 1 and 2 I have shown a track I at one end of the building and a hopper under the track, the conveyer G passing under the hopper to receive the material discharged from the cars.

I claim as my invention—

1. The combination of a piling-floor, a fixed structure above said floor, a trimmer arranged at an angle in respect to the piling-floor, the upper end of said trimmer being supported by the structure, and means for traversing the trimmer, substantially as described.

2. The combination of a piling-floor, a longitudinally-arranged rail, means for supporting said rail above the floor, a trimmer arranged at an angle in respect to the piling-floor, the upper end of the trimmer being supported by said rail, and means for supporting the lower end of the trimmer, substantially as described.

3. The combination of a piling-floor, a longitudinally-arranged rail, means for supporting said rail above the piling-floor, a longitudinal rail near the edge of the piling-floor and below the first-mentioned rail, and a trimmer arranged at an angle in respect to the floor and mounted on said rails, substantially as described.

4. The combination of a piling-floor, a building inclosing said piling-floor having a peaked roof, a longitudinal track suspended directly under the peak of the roof, a longitudinal track at the side of the building, a trimmer arranged to travel on said tracks, a conveyer carried by the trimmer, and means for feeding the conveyer with material, substantially as described.

5. The combination of a piling-floor, a building inclosing said floor, a center rail and a side rail carried by the building, the center rail being higher than the side rail, a trimmer, wheels on the trimmer arranged to travel on the said rails, an endless-belt conveyer carried by the trimmer, means for driving said conveyer, a movable discharge device for the belt, a hopper mounted on the trimmer, a longitudinally-arranged belt conveyer mounted at one side of the building, a traveling discharge device for said belt conveyer, said discharge device being so arranged in respect to the hopper carried by the trimmer that it will deliver material from the longitudinal belt onto the belt of the trimmer, substantially as described.

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

SAMUEL D. WARRINER.

Witnesses:

CHARLES PIEZ,

ARTHUR L. TURNER.