No. 652,315. Patented June 26, 1900.

G. H. HULETT.

TRUCK OR PUSHER FOR PROPELLING ORE OR COAL CARS UP TO ELEVATED DUMPING PLATFORMS.

(Application filed Dec. 4, 1899.)

(No Model.) 3 Sheets—Sheet 1.

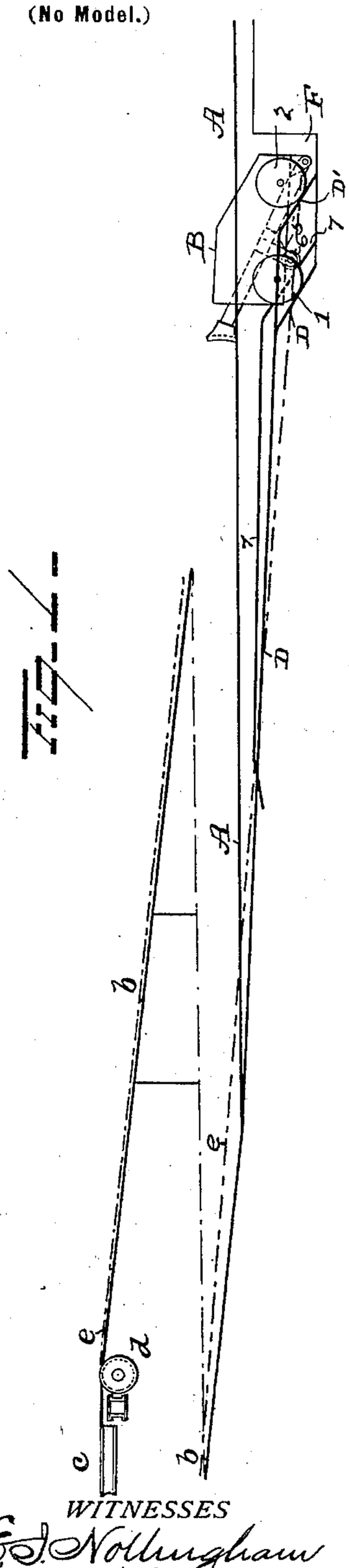

FIG. 1.

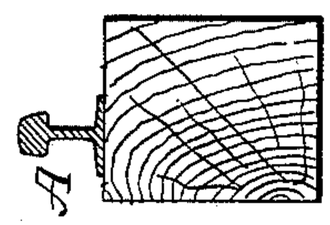

FIG. 2.

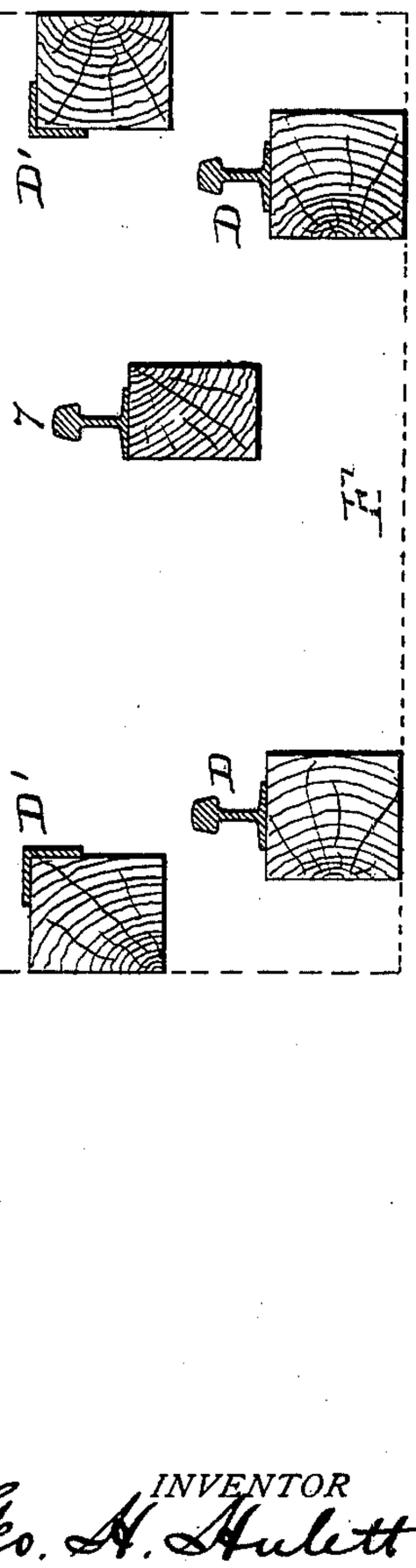

FIG. 3.

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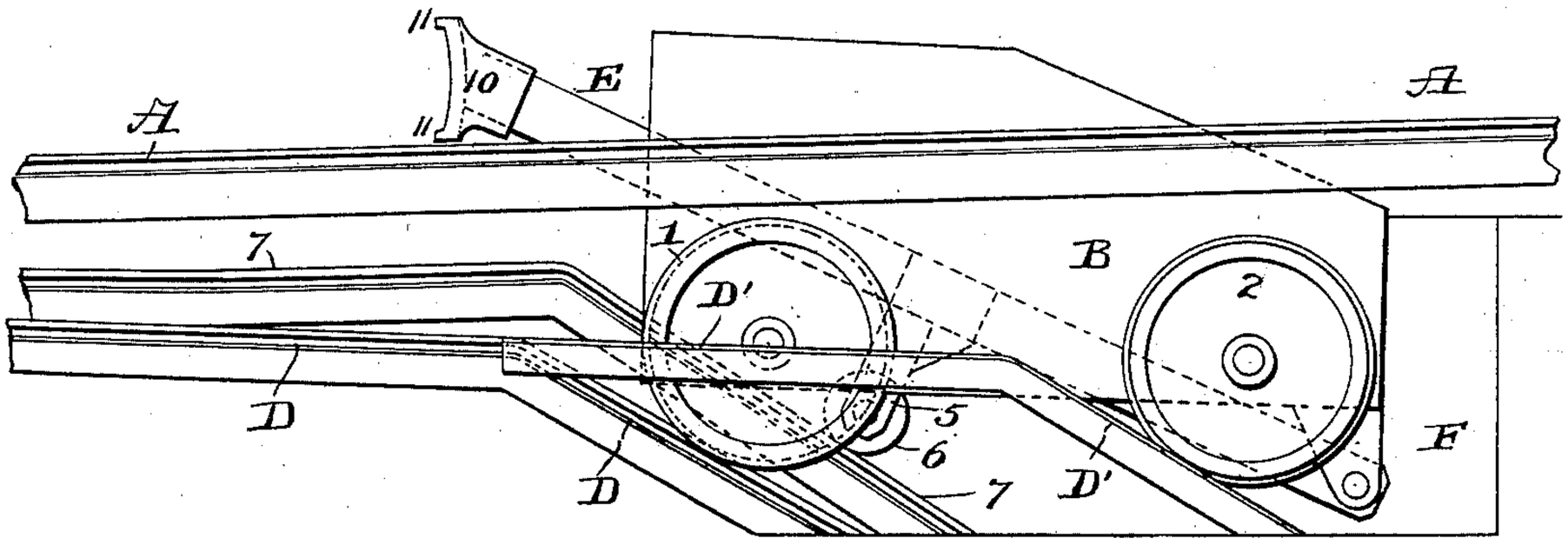
Fig. 2.



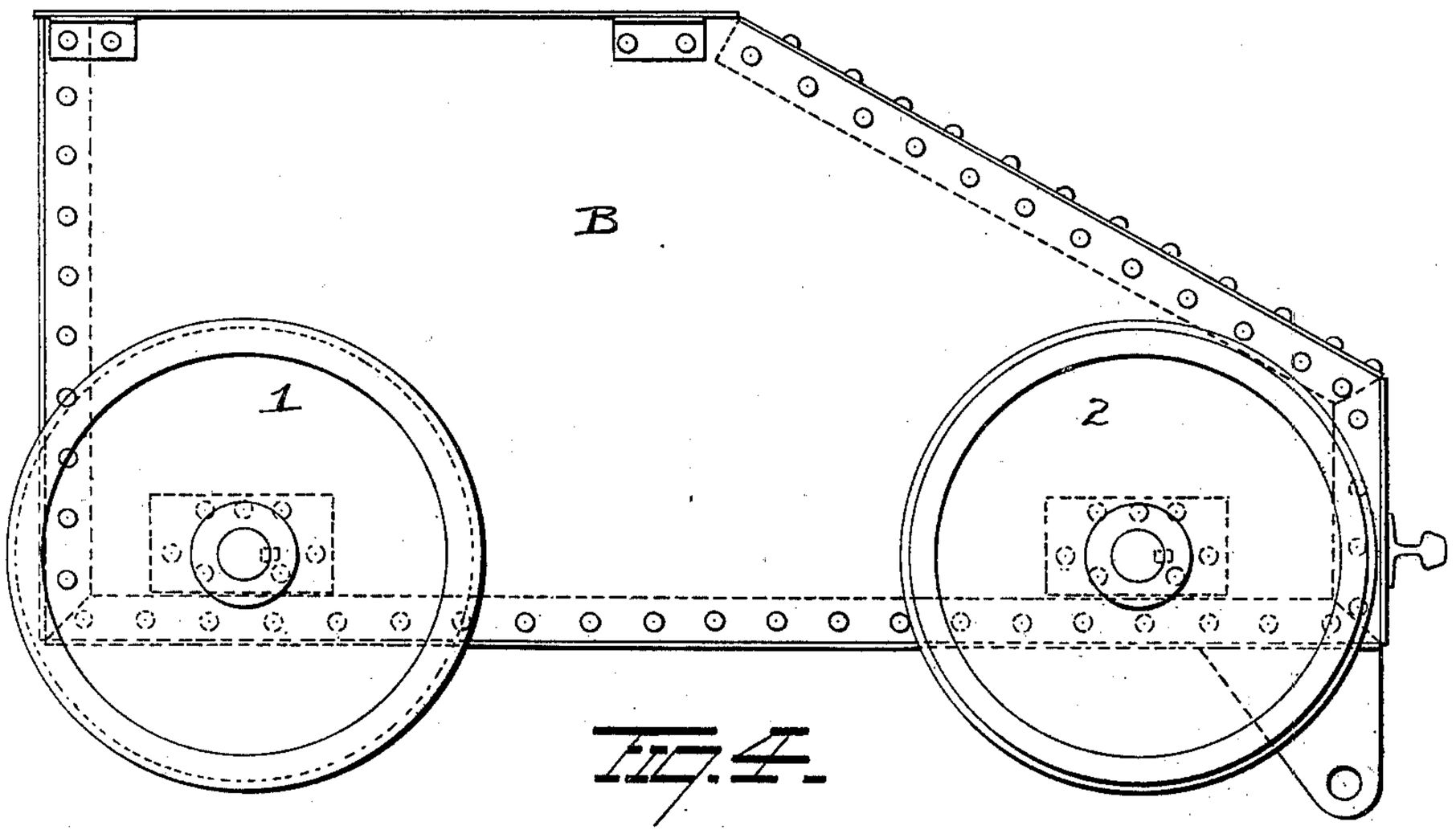


Fig. 4.

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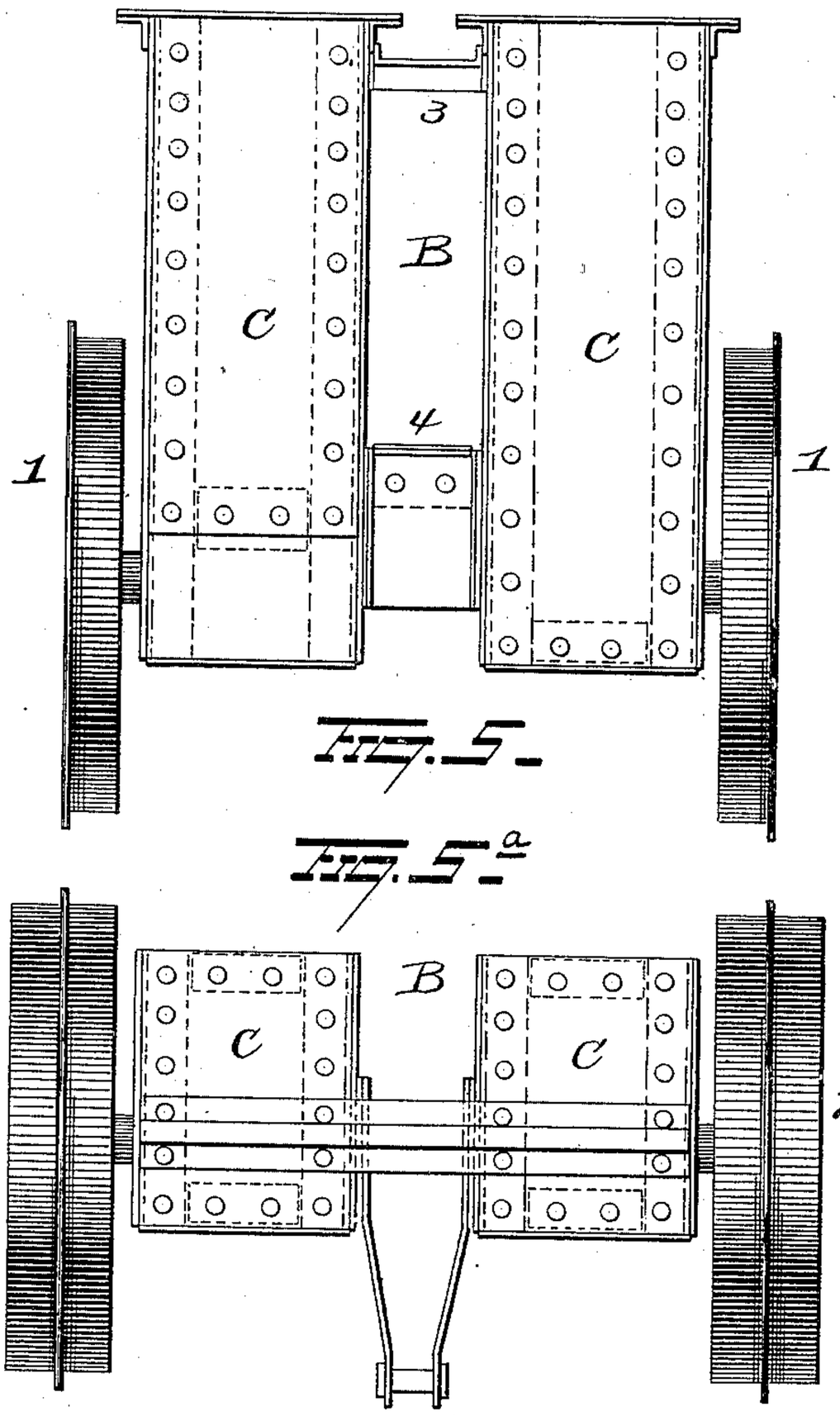

FIG. 5.

FIG. 5a.

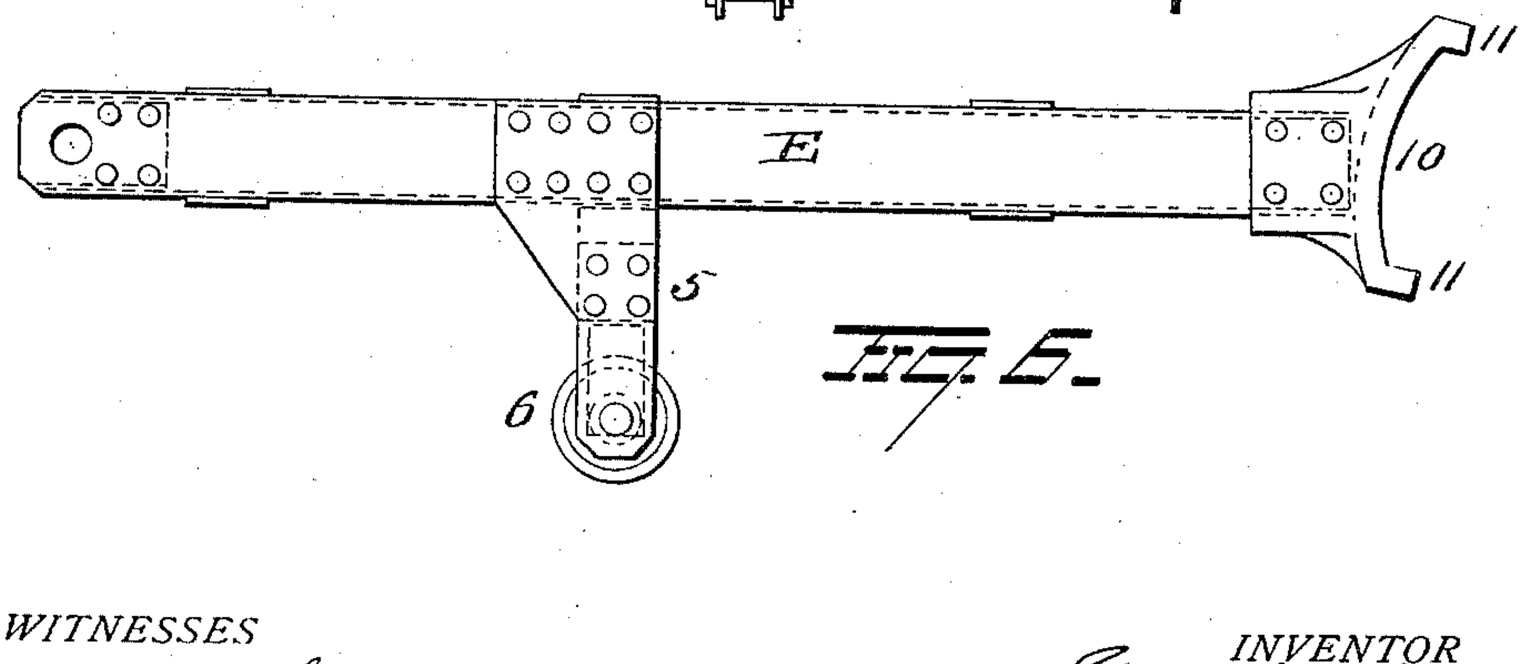

FIG. 6.

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UNITED STATES PATENT OFFICE.

GEORGE H. HULETT, OF AKRON, OHIO, ASSIGNOR OF ONE-HALF TO THE WEBSTER, CAMP & LANE MACHINE COMPANY, OF SAME PLACE.

TRUCK OR PUSHER FOR PROPELLING ORE OR COAL CARS UP TO ELEVATED DUMPING-PLATFORMS.

SPECIFICATION forming part of Letters Patent No. 652,315, dated June 26, 1900.

Application filed December 4, 1899. Serial No. 739,165. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. HULETT, of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Trucks or Pushers for Propelling Ore or Coal Cars up to Elevated Dumping-Platforms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in a truck or pusher for propelling ore and coal cars up to an elevated dumping-platform.

Heretofore cars containing ore, coal, or refuse have been pushed up the incline to the dumping-point by a truck or pusher running on a trackway intermediate the rails on which the ore or coal car travels, the truck or pusher bearing at its forward end directly against the draw-head, buffer, or end sill of the car. This direct contact of the truck or pusher with the car causes either a sliding movement between the surfaces as the cars pass over any irregularities or curved surfaces in the track or if the friction is sufficient to prevent one surface from sliding on the other causes the truck or pusher to rise at one end from the rails, and it frequently happens that when the truck settles down the wheels are derailed.

The principal object of my invention is to so construct the truck that there is no tendency whatever for it to rise; and my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, showing the trackway and dumping-platform and a car being propelled toward the platform. Fig. 2 is a view of the pit and tracks leading therefrom, showing the pusher in dotted lines. Fig. 3 is a view in cross-section of the pit, showing the tracks. Fig. 4 is a side view, and Figs. 5 and 5ª are end views, of the truck or pusher; and Fig. 6 is a detached view of the pusher-bar.

A represents a trackway having an approximately-horizontal section *a*, forming a continuation of the inclined section *b*. The inclined section leads upwardly to a dumping-station *c*, which latter may be a fixed section onto or through which cars having drop bottoms or sides may discharge their contents, or it may be a tilting platform designed to discharge the contents over one end or the side of the car. In any event a sheave *d* is located at or near the juncture of the section *c* and the track leading thereto, on which passes a cable *e*. One end of this cable leads downwardly over the track and is connected to the truck or pusher B, while the other end passes down under the track and is connected to a suitable source of power, such as a hoisting-engine. The truck B is made of metal and is mounted on four wheels, the front pair 1 of which have outside flanges, while the rear wheels 2 have central flanges, the latter being in a line with the flanges of the front wheels. This truck or pusher may be of any shape, though I prefer the shape shown, and it consists, primarily, of two side frames or boxes C, made of heavy plates and angle-irons, suitably spaced and braced by the spacing-plates 3 and 4. This truck thus constructed travels on a track D of a narrower gage than the main track A, and the cable *e* is connected to the truck or pusher B at a point adjacent to the axle of the rear wheels.

The buffer-strut or pusher-bar E rests with its body between the frames or boxes C and is pivoted at its rear end to the truck at a point in proximity to and preferably below the axis of the rear wheels by means of a horizontal pivot-pin. This strut or bar is provided with a depending foot 5, carrying the roller 6, which latter travels at times on the roller-track 7, located between the rails of the truck-track.

The strut or pusher-bar E is limited in its upward movement by the spacing-plate 3 and in its downward movement by spacing-plate or abutment 4, which plates, respectively, prevent the pusher from being accidentally thrown over rearwardly or from falling onto the front axle.

The pusher or strut E is disposed in a diagonal position, and its front end projects in advance of the front end of the truck and is provided with an enlarged head 10, provided with upper and lower flanges 11, the lower one of which prevents the head from sliding

upwardly on the draw-head or other part of the car with which it makes contact, while the upper flange prevents the draw-head from sliding up on the head of the pusher. With this construction it will be seen that after the pusher-bar has been moved into contact with the car to be pushed the head on said pusher is held solidly thereagainst and the bar swings vertically on its horizontal pivot to compensate for the movements in passing over curved surfaces, and thus obviates altogether the tendency to lift the pusher or the car being pushed and also prevents friction between the pusher-bar and the car.

The pusher, as before stated, runs on a narrow-gage track between the rails of the main track, and this narrow-gage track terminates in a pit F, from which the truck or pusher ascends when a car to be dumped is in position between the pit and the dumping-section of the track.

In order to elevate the truck or pusher quickly and approximately in a horizontal position, the track D, leading into the pit, descends abruptly at the mouth of the pit, and outside tracks D′ are provided for the outside treads of the rear wheels. With this construction it will be seen that as the rear end of the truck reaches the mouth of the pit the outer heads of the rear wheels engage and pass along on the outside rails D′ until the front wheels reach the abruptly-inclined section of track D. When this point has been reached by the front wheels, the rear wheels will also have reached the abruptly-inclined sections of the outside tracks, thus permitting the truck to descend in an approximately-horizontal position.

After a car to be dumped has been properly placed the truck is drawn up out of the pit and against the car, the pusher-bar or strut bearing preferably against the draw-bar or buffer. The car is now pushed by the pusher up the incline and onto the dumping-section, and after its contents have been discharged the cable is slacked and the cars permitted to descend. As the truck or pusher reaches the pit it descends therein, thus permitting the car to pass over it by gravity. As the truck nears the pit the roller on the strut or pusher-bar comes in contact with its track, and thus supports the bar as the latter disengages itself from the empty car.

It is evident that numerous changes might be made in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to limit myself to the exact construction herein shown and described; but,

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

1. A pusher comprising a truck and a diagonally-disposed strut pivoted to the rear part of the truck and projecting beyond the forward end thereof.

2. A pusher comprising a truck mounted on wheels and a vertically-movable strut pivotally attached to the truck in proximity to the axes of the rear wheels and projecting beyond the forward end of the truck.

3. A pusher comprising a truck mounted on wheels and a vertically-movable strut pivotally connected at its rear end to the truck in rear of the rear wheels.

4. A pusher comprising a truck mounted on wheels and a vertically-movable strut pivoted at its rear end to the rear part of the truck at a point below the axes of the rear wheels.

5. A truck-pusher comprising a body mounted on wheels and a strut or pusher-bar pivoted to said body adjacent to the rear end thereof and adapted to have a vertical swinging motion.

6. A pusher comprising a truck mounted on wheels, a forwardly-projecting strut pivoted at its rear end to the truck, a leg depending from said strut and a wheel at the lower end of said leg.

7. A truck or pusher comprising two side frames mounted on wheels, upper and lower spacing-plates between said frames, and a strut or pusher-bar located between the frames and passing out between said upper and lower plates, the said strut or pusher-bar being pivoted to the truck or pusher.

8. A truck or pusher comprising a body mounted on wheels, a cable connected to said truck or pusher near its rear end and leading to a drum, and a pusher-bar or strut pivotally connected to said truck or pusher and projecting forwardly beyond said truck.

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

GEORGE H. HULETT.

Witnesses:
J. B. HUBER,
FRANCIS SEIBERLING.