No. 877,147. PATENTED JAN. 21, 1908.

W. H. WATT.

COKE LOADER.

APPLICATION FILED FEB. 26, 1907.

3 SHEETS—SHEET 1.

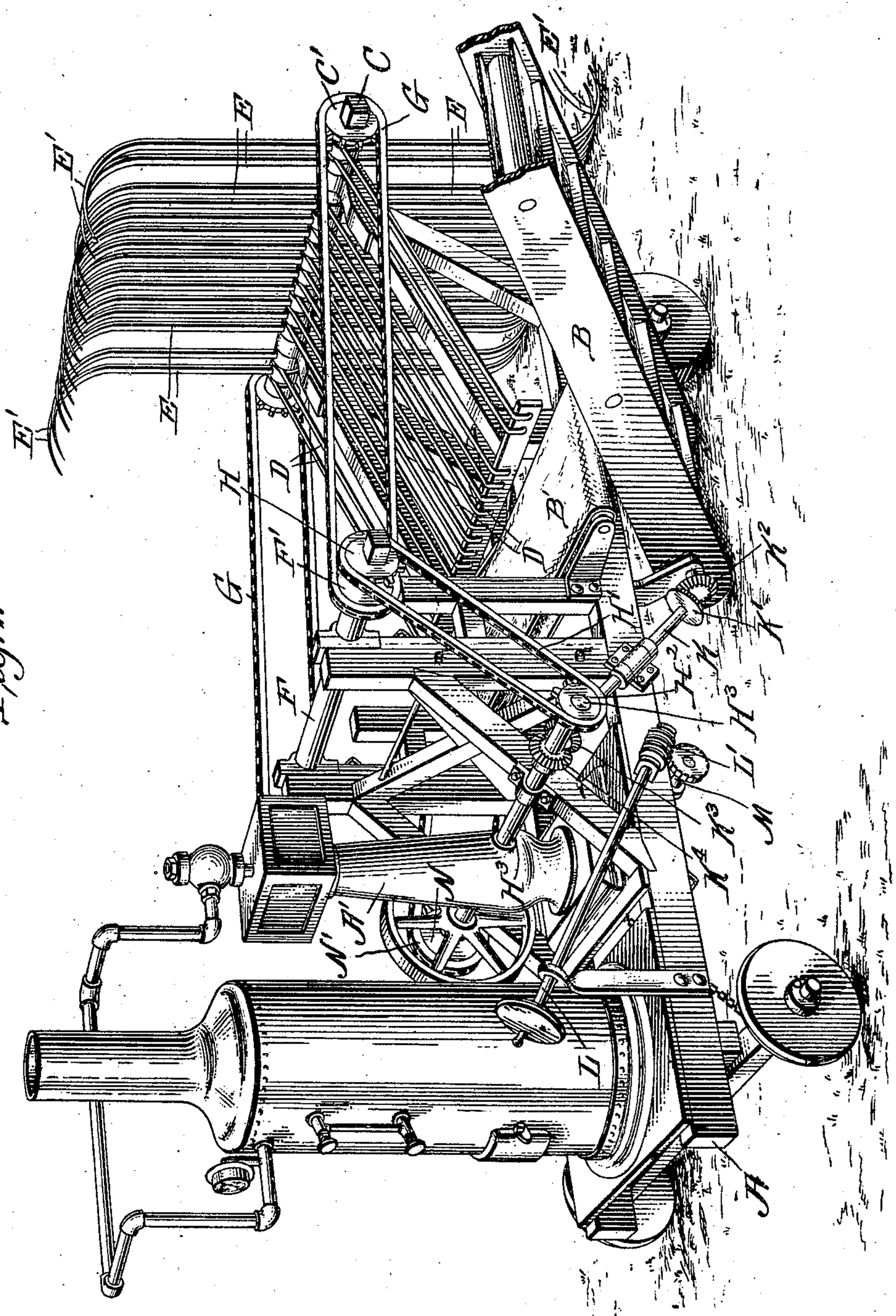

Fig. 1.

Witnesses

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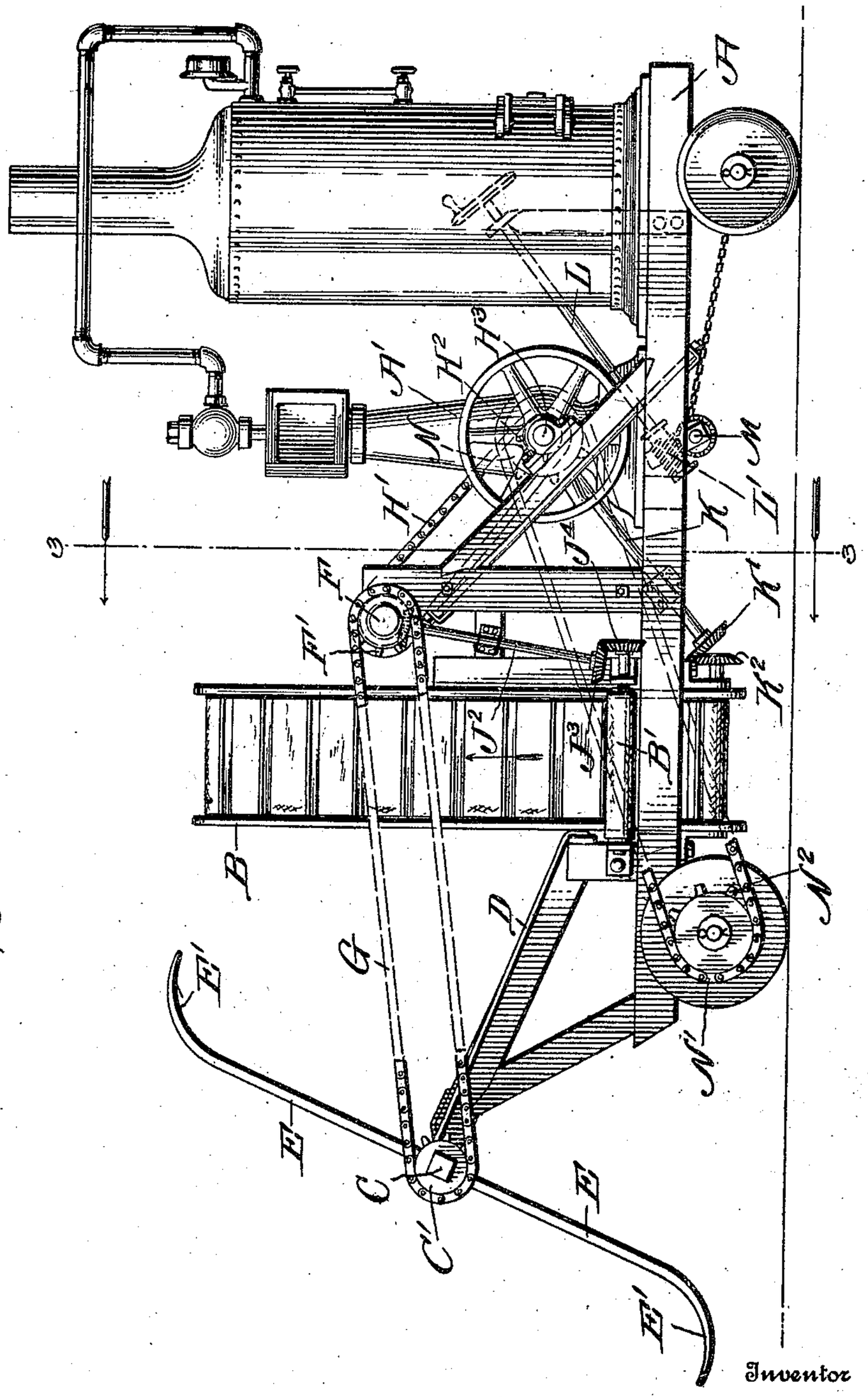

Fig. 2.

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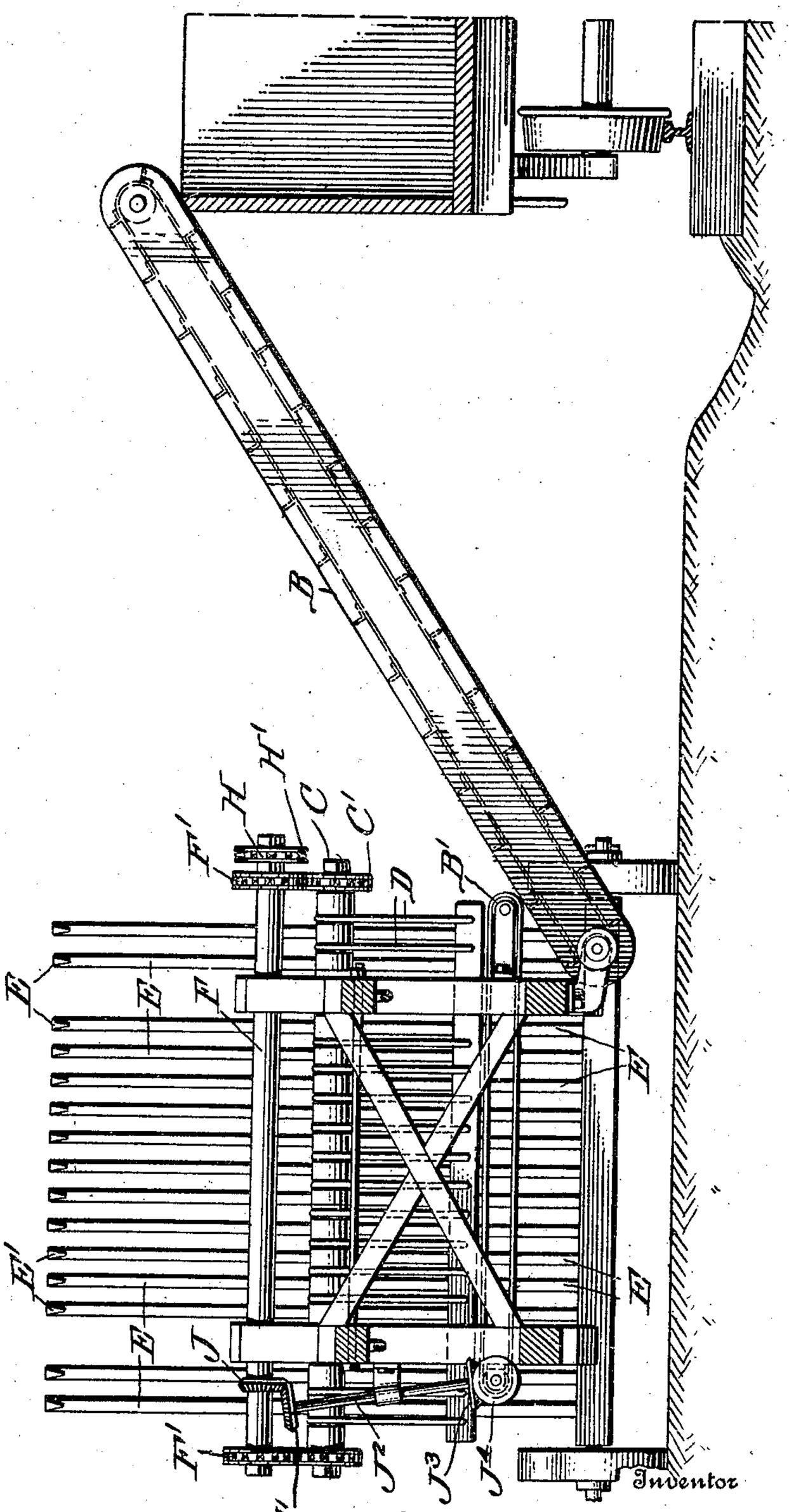
3 SHEETS—SHEET 3.

Fig. 3.



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COKE-LOADER.

No. 877,147. Specification of Letters Patent. Patented Jan. 21, 1908.

Application filed February 26, 1907. Serial No. 359,437.

To all whom it may concern:

Be it known that I, WILLIAM H. WATT, a citizen of the United States, residing at Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Coke-Loader, of which the following is a specification.

This invention relates to a device for loading coke directly from a platform to a railway car.

The object of the invention is to reduce the labor and cost of handling coke, by loading the coke by mechanical means upon a traveling elevator, which elevator is carried by a movable truck which may be run along the side of a track upon which the car is to be loaded or standing.

The invention consists also of the novel features, of construction, hereinafter fully described, pointed out in the claims and shown in the accompanying drawings, in which,

Figure 1 is a perspective view of the coke loading machine, the upper portion of the elevator being broken away. Fig. 2 is a side elevation, showing the side of the machine opposite the side shown in Fig. 1. Fig. 3 is a transverse section through the machine taken in the rear of the elevator, the elevator being shown in side elevation and in position upon the side of the car, the car body being shown in section.

In constructing a device of this kind, I employ a truck frame A upon which is mounted any suitable type of engine, as for example, a steam engine such as is shown at A′, but it will be understood that where it is convenient to use electricity as a motive power an electric motor could be employed for moving the truck and operating the mechanism hereafter described. Upon one side of this truck is hinged the lower end of an elevator B, which elevator is of the usual type of conveyers adapted for handling ores, cokes, coals and the like. The upper end of the elevator is free and when in operating position is supported by a side of the car to be loaded. Coke is fed to the elevator B by a belt B′ which is arranged transversely upon the truck A and travels over the usual rollers, and discharges the coke thrown upon it upon the elevator B. Mounted upon the forward end of the truck A and elevated above the truck is a shaft C which is provided with sprocket wheels C′ at its ends. Extending downwardly from the shaft C is a frame D formed of a plurality of bars spaced apart and sloping downwardly from the shaft to a point adjacent a front edge or side of the belt B′.

The bars constituting the frame D are loosely mounted upon the shaft C so that it rotates freely without imparting any movement to said frame.

Carried by the shaft C are oppositely extending scoops which are formed by a plurality of bars E arranged parallel to each other and passing through the shaft C. These bars have their outer end portions curved in opposite directions as shown at E′. As the scoops formed by these bars rotate with the shaft C, the bars and their curved fingers, or end portions E′ pass between the bars of the frame D.

In the rear of the shaft C is mounted a shaft F which is provided adjacent its ends with sprocket wheels F′. Sprocket chains G travel over the sprocket wheels C′ and F′. A sprocket wheel H is also fixed upon the shaft F and is driven by a sprocket chain H′ which runs over the sprocket wheel H^2 fixed upon the drive shaft H^3 of the engine. A beveled gear J is also fixed upon the shaft F and a vertical arranged shaft J^2 carries a bevel gear J′ at its upper end which meshes with the beveled gear J and at its lower end it carries a beveled gear J^3 which meshes with a bevel gear J^4 mounted upon an end of one of the rollers of the belt B′, thereby imparting motion to said belt. In the same manner a shaft K carries a beveled gear K′ which meshes with a beveled gear K^2 carried by the elevator B, for driving the same. The shaft K is in turn driven from the engine shaft H^3 by means of a bevel gear K^3 carried at the upper end of the shaft K and meshing with a bevel gear K^4 carried by the shaft H^3. A suitable steering rod L, provided with a worm gear L′ operates the steering shaft M and in the usual manner, and as the steering and driving of the truck A is independent of the operation of the coke handling mechanism, a detailed description of it is not believed necessary.

The operation of the device is as follows:— The truck A is run alongside of the car to be loaded and the coke is dumped or otherwise conveyed to the platform upon which the truck is run and by starting the engine the shaft C will be rotated, rotating the

scoops E and driving the belt B′ and elevator B, which elevator is resting upon and projecting over the side of the car. The curved fingers E′ of the scoop will pick up the coke from the ground or platform and as the scoops turn over during their rotation about the shaft C the coke picked up by the scoop will be thrown upon the bars of the frame D and will slide down the frame and fall upon the belt B′ and be discharged from the belt upon the elevator B and be thereby conveyed to and discharged into the car. The truck A may be gradually moved along the side of the car both for the purpose of filling the car throughout its entire length, or for the purpose of filling a number of cars and also for the purpose of picking up and loading all of the coke which may be upon the ground or platform.

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

1. A device of the kind described comprising a movable truck, a rotatable shaft carried by the front of the truck, oppositely arranged scoops consisting of bars spaced apart and passing through the shaft, the opposite ends of said bars being oppositely curved to form fingers, means for rotating said shaft, an inclined frame arranged immediately in the rear of said shaft and consisting of a plurality of bars, the bars forming the scoop passing between the bars forming the frame, a traveling belt arranged adjacent the lower end of the frame and receiving coke therefrom, and an elevator arranged at the end of the belt, and receiving coke from the belt.

2. A coke loader comprising a truck, a shaft carried at the front end of the truck, a frame downwardly inclined and consisting of a plurality of bars, the upper end of said bars being loosely mounted upon the shaft, scoops formed of a plurality of bars passing through the shaft and alternating with the bars forming the frame, the bars forming the scoop having their end portions curved to form fingers, and traveling belt mounted transversely upon the truck and parallel and adjacent to the lower edge of the frame, and an elevator having its lower end hinged to one side of the truck, said elevator receiving from the belt material discharged thereon from the frame and scoops.

3. A coke loader comprising rotatable scoops, said scoops being formed of parallel bars having curved free end portions, an inclined frame formed of bars spaced apart and between which the bars of the scoops pass, and means for receiving coke from said frame and elevating it over the sides of a car, the scoops being movable horizontally during rotation, as and for the purpose set forth.

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