

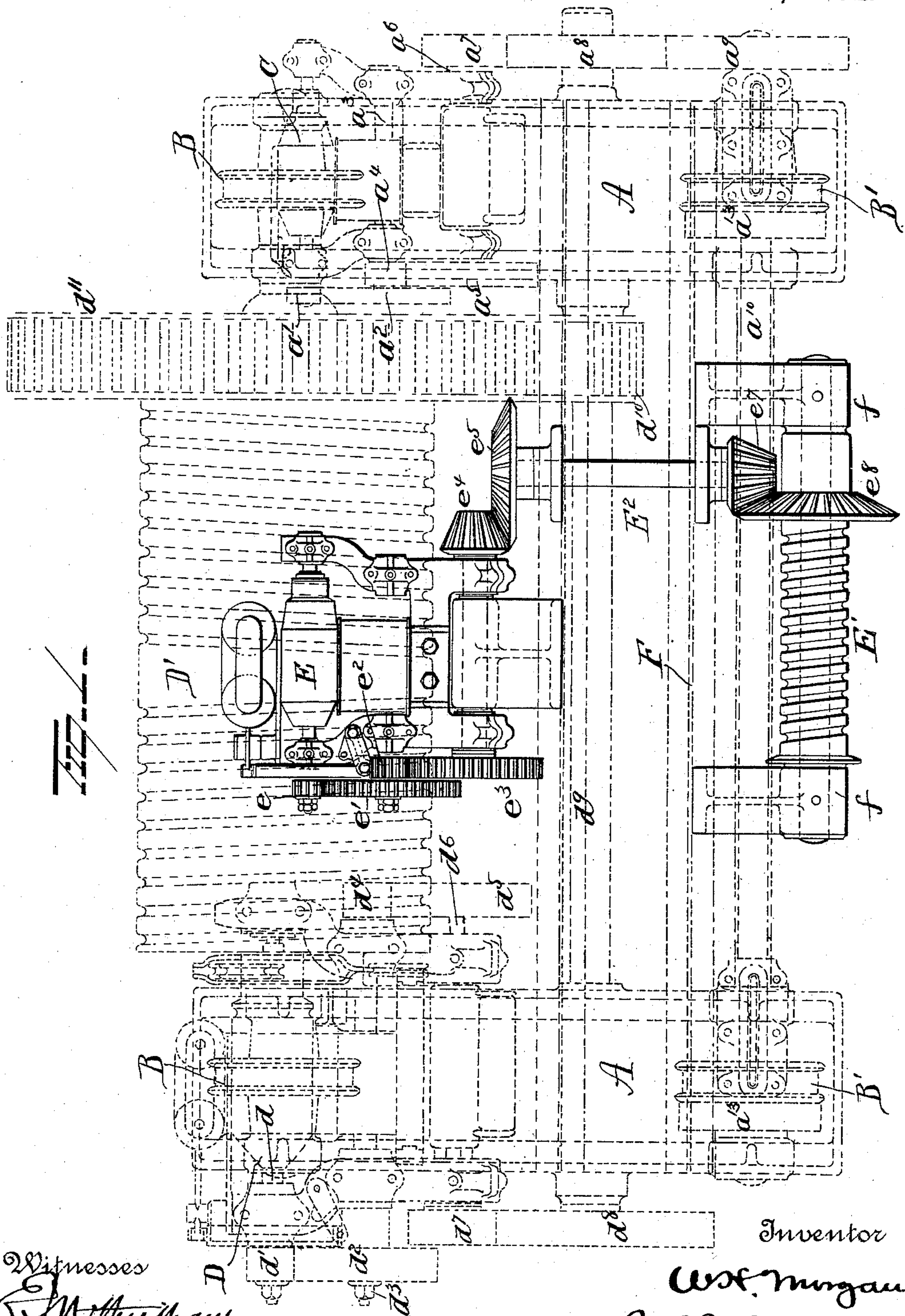
(No Model.)

3 Sheets—Sheet 1.

W. H. MORGAN.
TRAVELING CRANE.

No. 477,437.

Patented June 21, 1892.



Witnesses
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G. J. Downing.

Inventor
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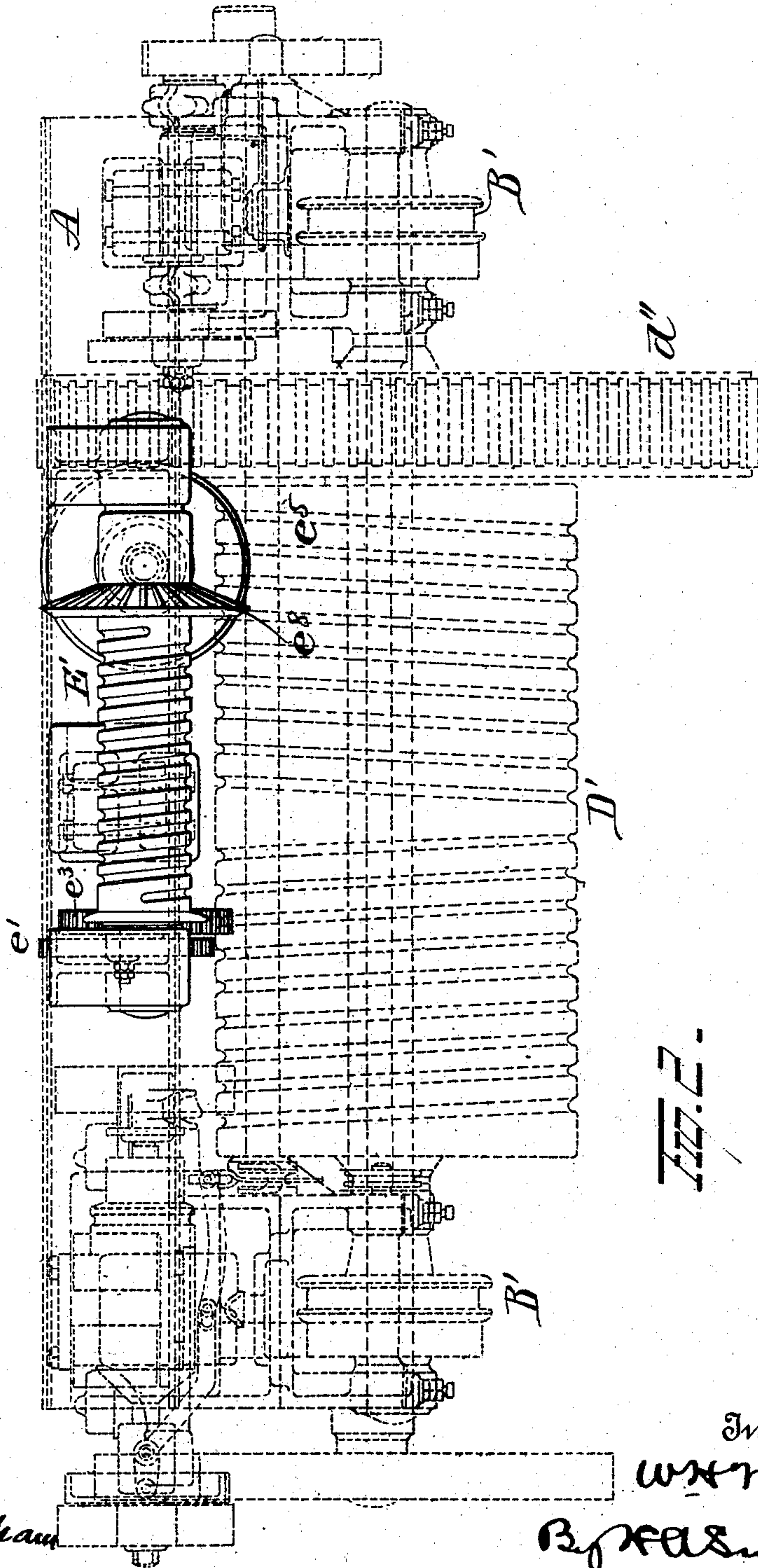
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TRAVELING CRANE.

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Patented June 21, 1892.



Witnesses
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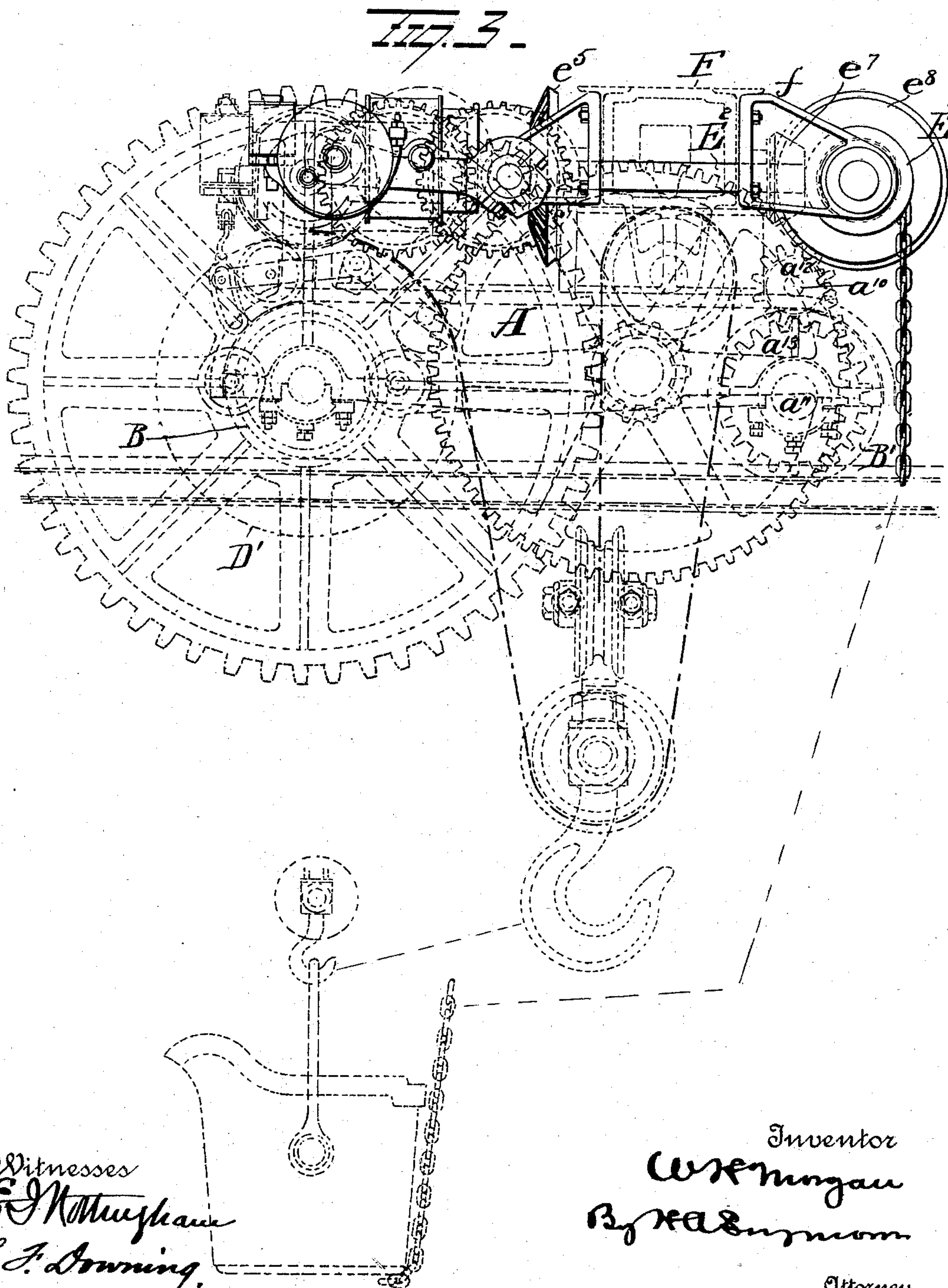
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TRAVELING CRANE.

No. 477,437.

Patented June 21, 1892.



UNITED STATES PATENT OFFICE.

WILLIAM HENRY MORGAN, OF ALLIANCE, OHIO, ASSIGNOR OF THREE-FOURTHS TO THOMAS R. MORGAN, SR., THOMAS R. MORGAN, JR., AND JOHN R. MORGAN, OF SAME PLACE.

TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 477,437, dated June 21, 1892.

Application filed January 9, 1892. Serial No. 417,480. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY MORGAN, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Traveling Cranes; 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 traveling cranes, and more particularly to overhead traveling cranes having a movable trolley.

The cranes ordinarily employed for lifting heavy objects and conveying them from one portion of a shop or foundry to another consists, primarily, of an overhead traveling bridge or crane mounted at its ends on rails or guideways and a trolley movably mounted on the bridge or crane and provided with a hoisting-drum and power-transmitting devices for actuating the hoisting-drum.

This invention relates more particularly to an auxiliary drum on the trolley actuated by an independent motor or by power-transmitting devices independent of the devices employed for actuating the main drum, whereby the auxiliary drum can be rotated while the main drum is rotating and at varying speeds without altering or affecting the speed of said main drum and can be rotated while said main drum is at rest, thereby enabling the auxiliary drum to be used for lifting comparatively light loads, and also be used for tilting ladles and like devices while the latter are held suspended from the main drum or drums.

My invention consists of a traveling trolley having thereon a main winding-drum and an auxiliary winding-drum, the devices for actuating the auxiliary winding-drum being independent of the actuating devices of the main winding-drum.

My invention further consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is

a view in plan of a trolley embodying my invention. Fig. 2 is a side view, and Fig. 3 an end view, of same.

In the several figures of the drawings the auxiliary drum and its actuating devices are shown in full lines, while the trolley, main drum, and trolley and main-drum actuating devices are shown in dotted lines.

A represents a trolley-frame, rectangular in shape and mounted on wheels B B', arranged in pairs, as shown. These wheels travel on rails or a trackway arranged lengthwise the traveling bridge or crane and the trolley is propelled by an electric motor C, mounted on the trolley at one side thereof. The armature-shaft *a* of this motor is provided with a small pinion *a'*, which latter meshes with the larger pinion *a²* on a shaft *a³*. This shaft *a³* carries a smaller pinion *a⁴*, which meshes with the larger pinion *a⁵* on shaft *a⁶*. This shaft carries at its opposite end a pinion *a⁷*, which meshes with a pinion *a⁸*, and the latter in turn is geared to the pinion *a⁹* on shaft *a¹⁰*. This shaft is located over axle *a¹¹*, carrying the wheels B' and is provided with pinion *a¹²*, which latter engage the pinion *a¹³*, secured to the inner faces of the wheels B' or to the axle carrying said wheels.

From the foregoing it will be seen that the trolley is moved back and forth on the bridge by the motor C and the gearing for actuating the trolley is totally independent of the gearing for actuating either the main or auxiliary drums.

Located on the trolley, preferably at a point opposite motor C, is the motor D for actuating the drum D'. This motor carries on its armature-shaft *d* the pinion *d'*, which meshes with pinion *d²* on one end of shaft *d³*. Shaft *d³* carries at its opposite end pinion *d⁴*, meshing with pinion *d⁵* on inner end of shaft *d⁶*. Shaft *d⁶* carries at its outer end pinion *d⁷*, which meshes with pinion *d⁸* on shaft *d⁹*. This shaft extends from one side of the trolley to the other and carries the small pinion *d¹⁰*, meshing with pinion *d¹¹*, fast to the drum D'. This motor and its gearing are also independent of the trolley-actuating devices, and hence

is free to operate to elevate or lower the load carried by drum D', either when the trolley is in motion or at rest.

5 The electric motor E for actuating the auxiliary drum E' is mounted on the trolley in a plane above main drum D' and actuates shaft E² through the intervention of the pinions *e*, *e'*, *e*², and *e*³ and bevel-pinions *e*⁴ and *e*⁵. The pinion *e*⁵ is rigidly secured on shaft
10 E², which latter also carries bevel-pinion *e*⁷, meshing with bevel-pinion *e*⁸, fast to the auxiliary drum E'. This drum E' is mounted in bearings *f*, secured to the pulley-beam F of the trolley and projects slightly over one end
15 of the trolley.

From the foregoing it will be seen that the auxiliary drum is totally independent of the main drum and can be employed to assist the main drum in lifting heavy loads, can be employed independently of the main drum for
20 lifting comparatively light loads, and can be employed, as shown in Fig. 3, for tilting ladles carried by the main drum. One of the principal advantages gained by the employment
25 of an independent motor for the auxiliary drum is that it allows of a great range of speed. This great range of speed cannot be

obtained with a single drum and a single motor.

It is evident that numerous slight changes 30 might be resorted to in the relative arrangement of parts without departing from the spirit and scope of my invention. Hence I would have it understood that I do not confine myself to the construction of parts here- 35 in shown and described; but,

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

In an overhead traveling crane, in combination with the traveling bridge thereof, a traversing wheeled trolley carrying a main drum and an auxiliary drum, the said drums, as well as the trolley, being actuated each by its own independent motor, substantially as shown 45 and described.

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

WILLIAM HENRY MORGAN.

Witnesses:

T. D. RUSSELL,
H. W. HARRIS.