

(No Model.)

3 Sheets—Sheet 1.

W. G. LANE.
COAL DUMPING CAR.

No. 568,775.

Patented Oct. 6, 1896.

Fig.1.

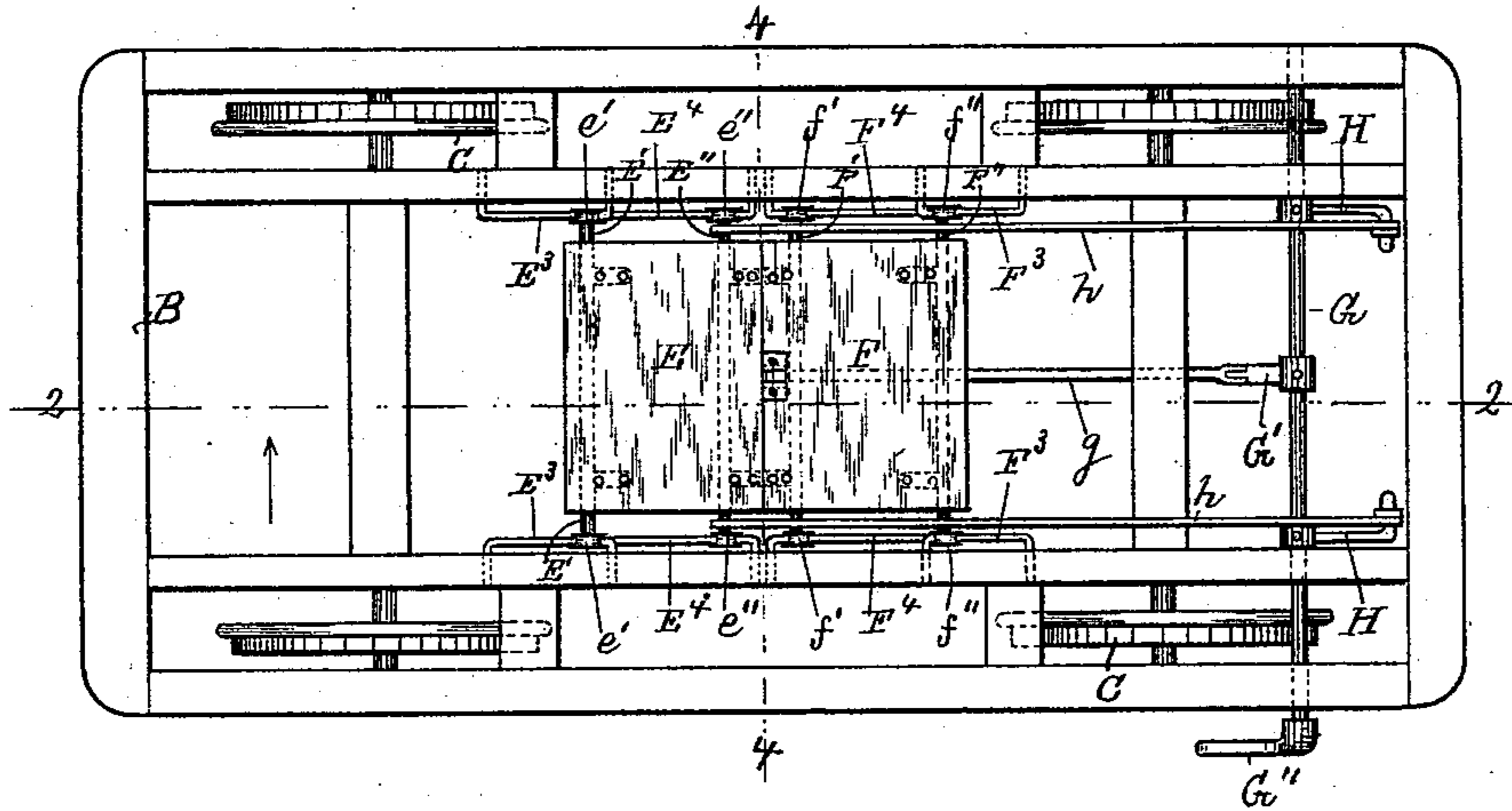
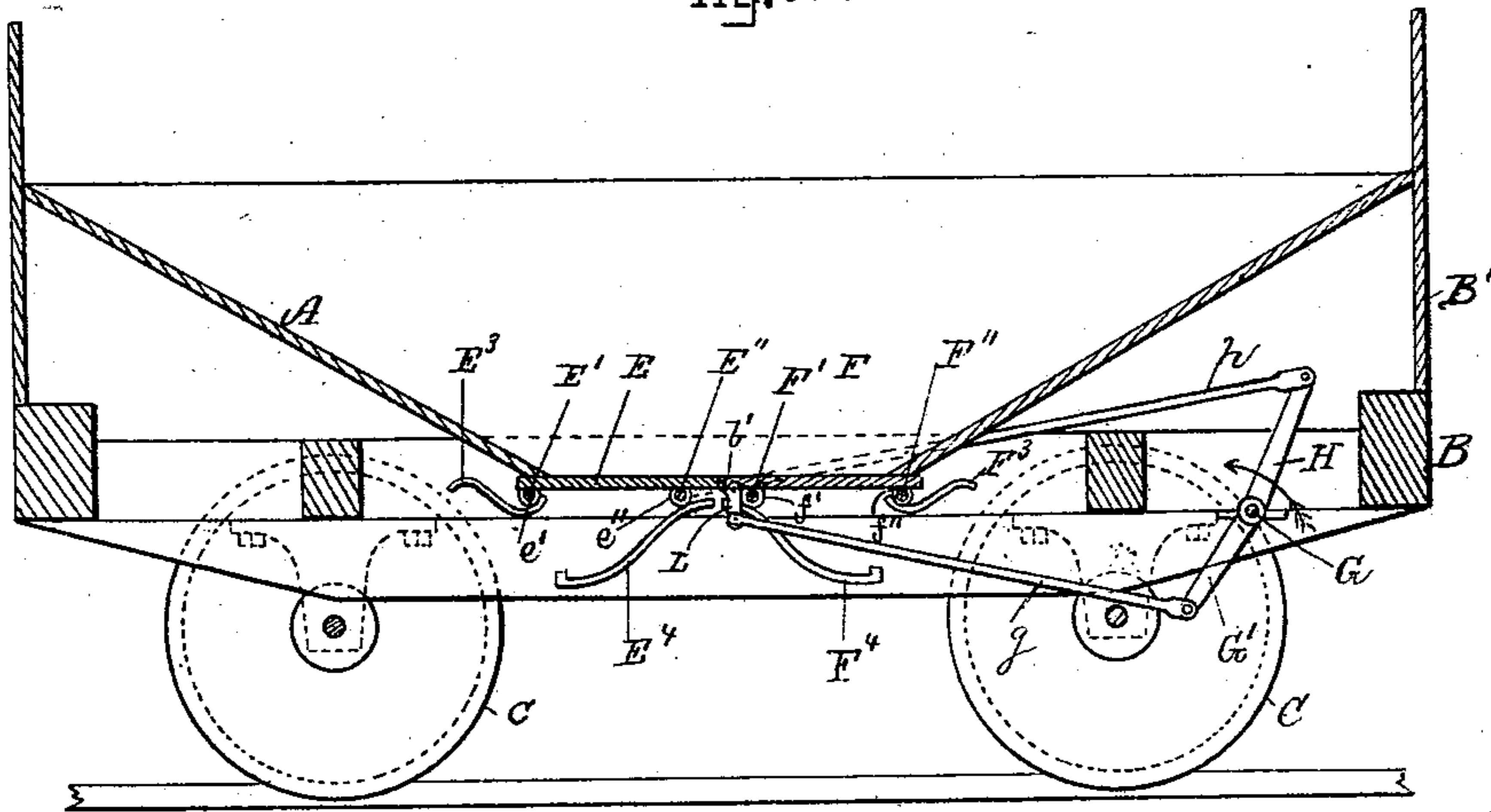


Fig. 2.



Witnesses.

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Fig. 3.

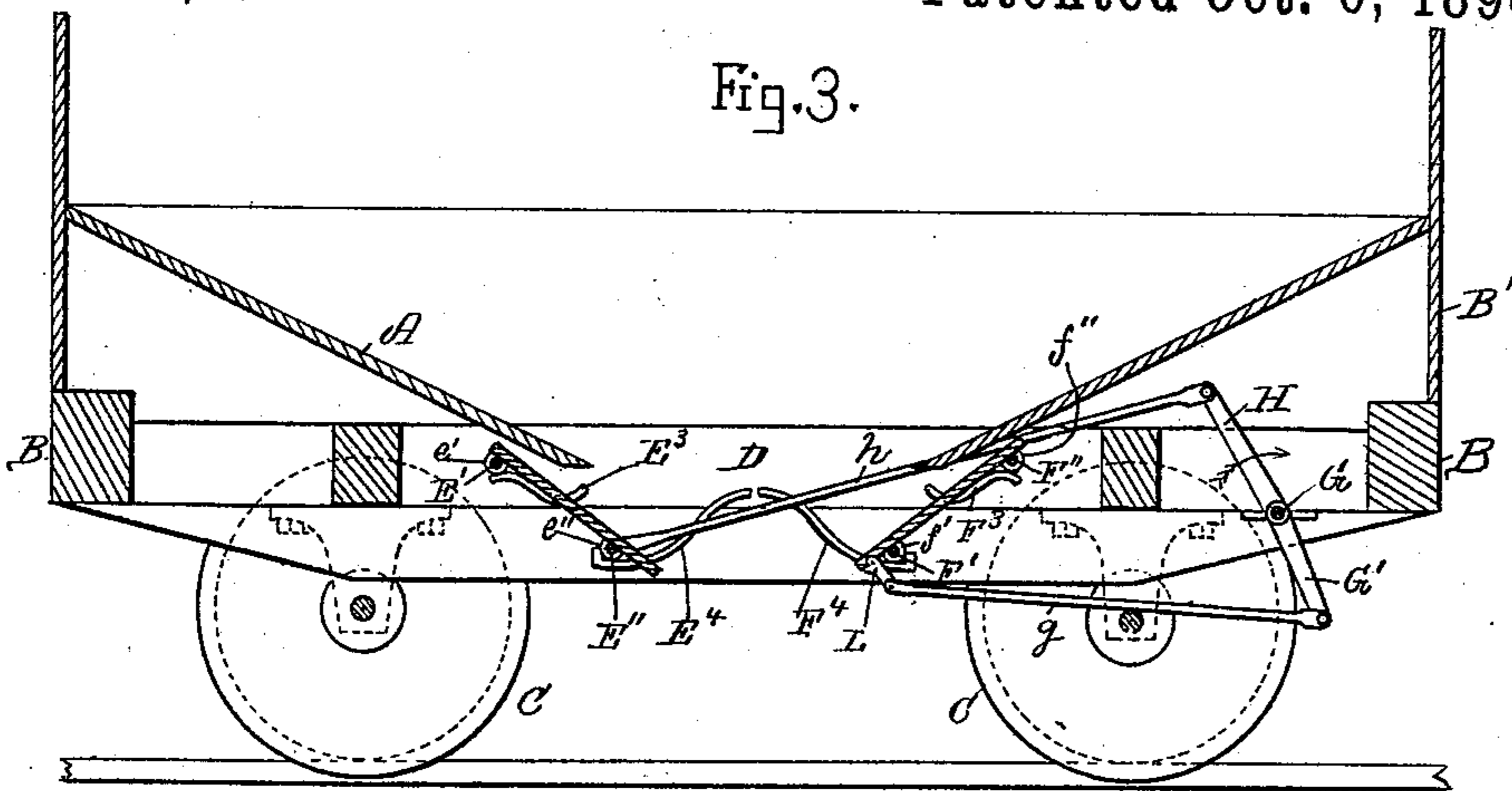
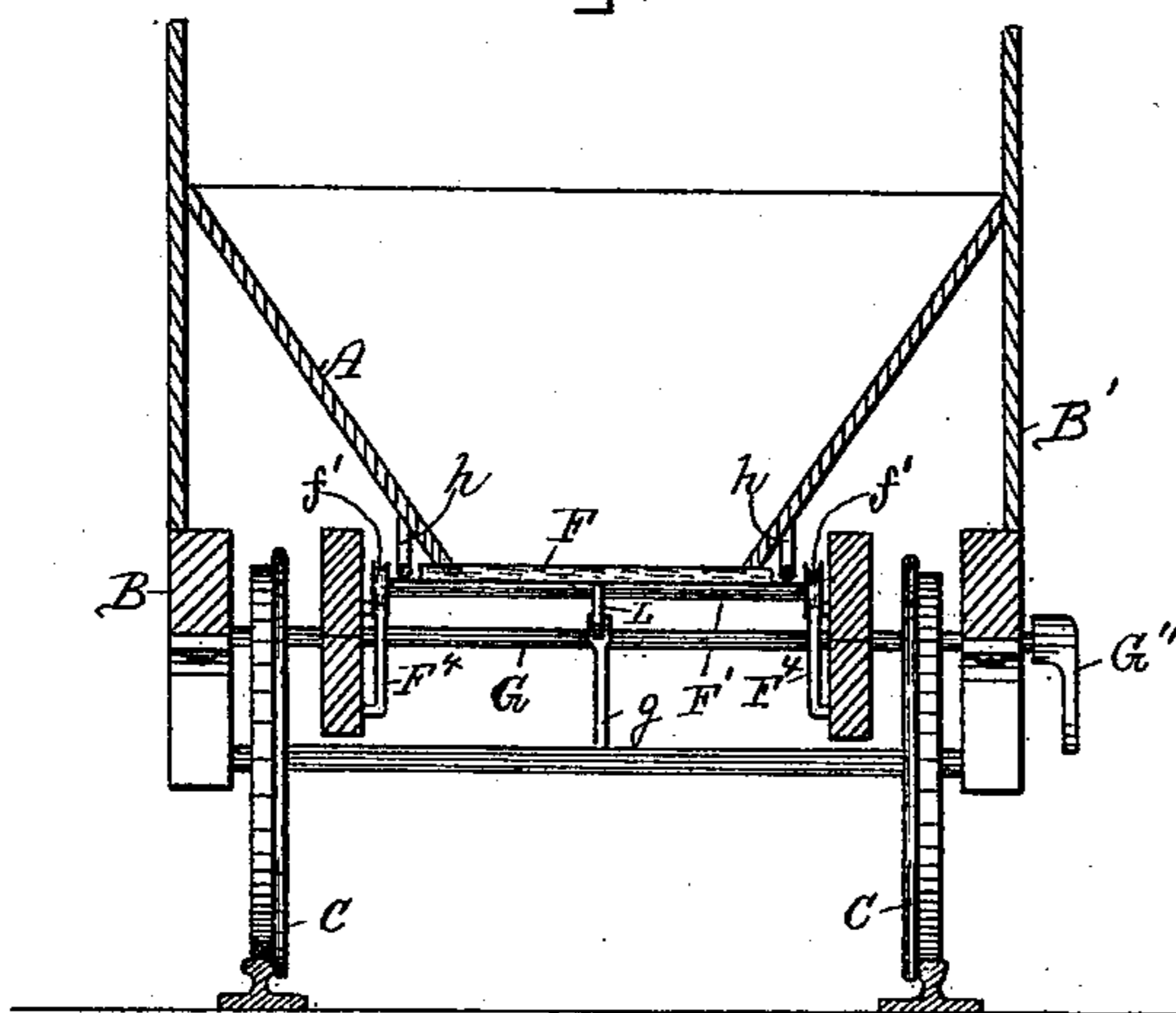


Fig. 4.



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Fig. 5.

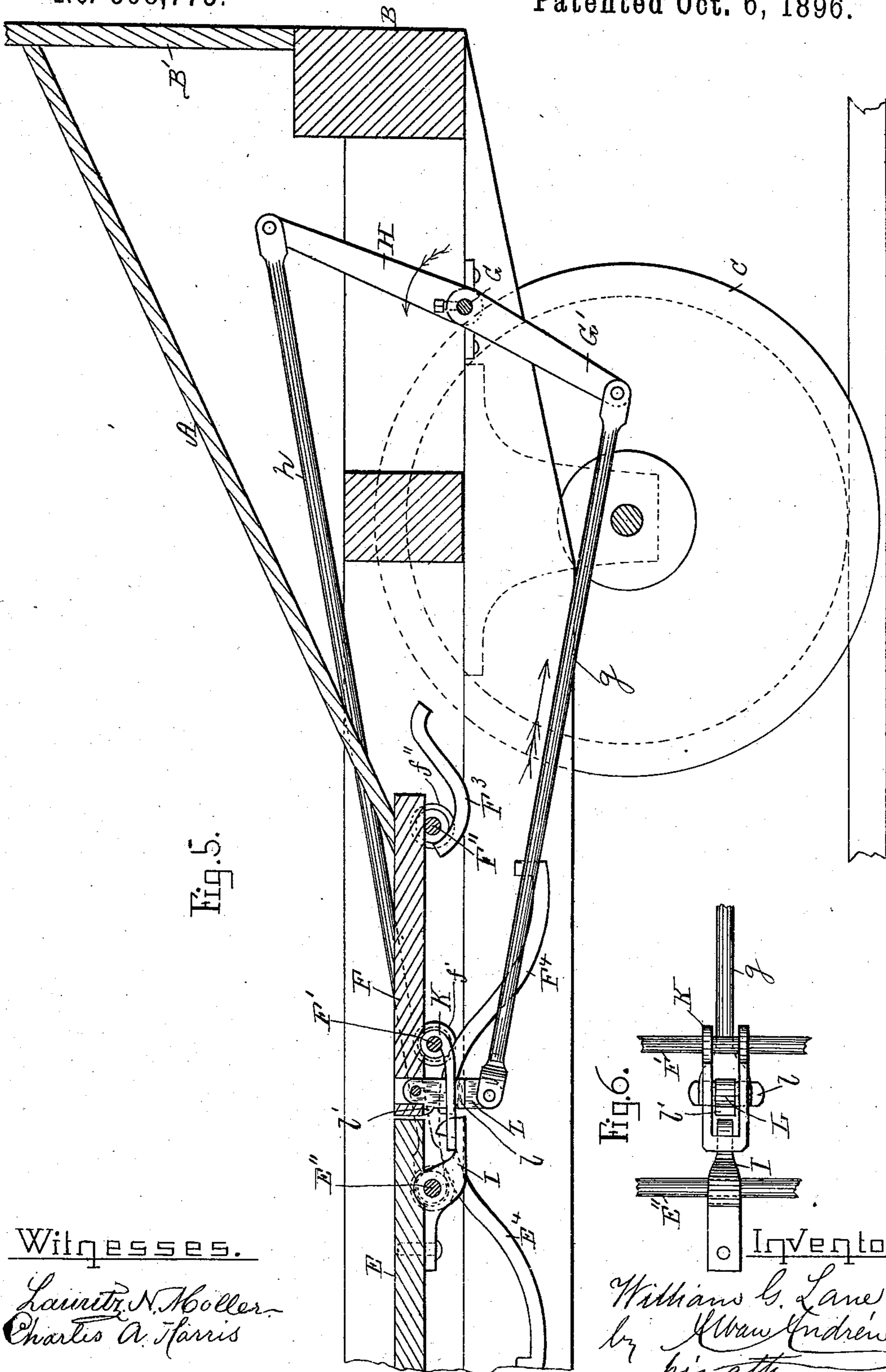
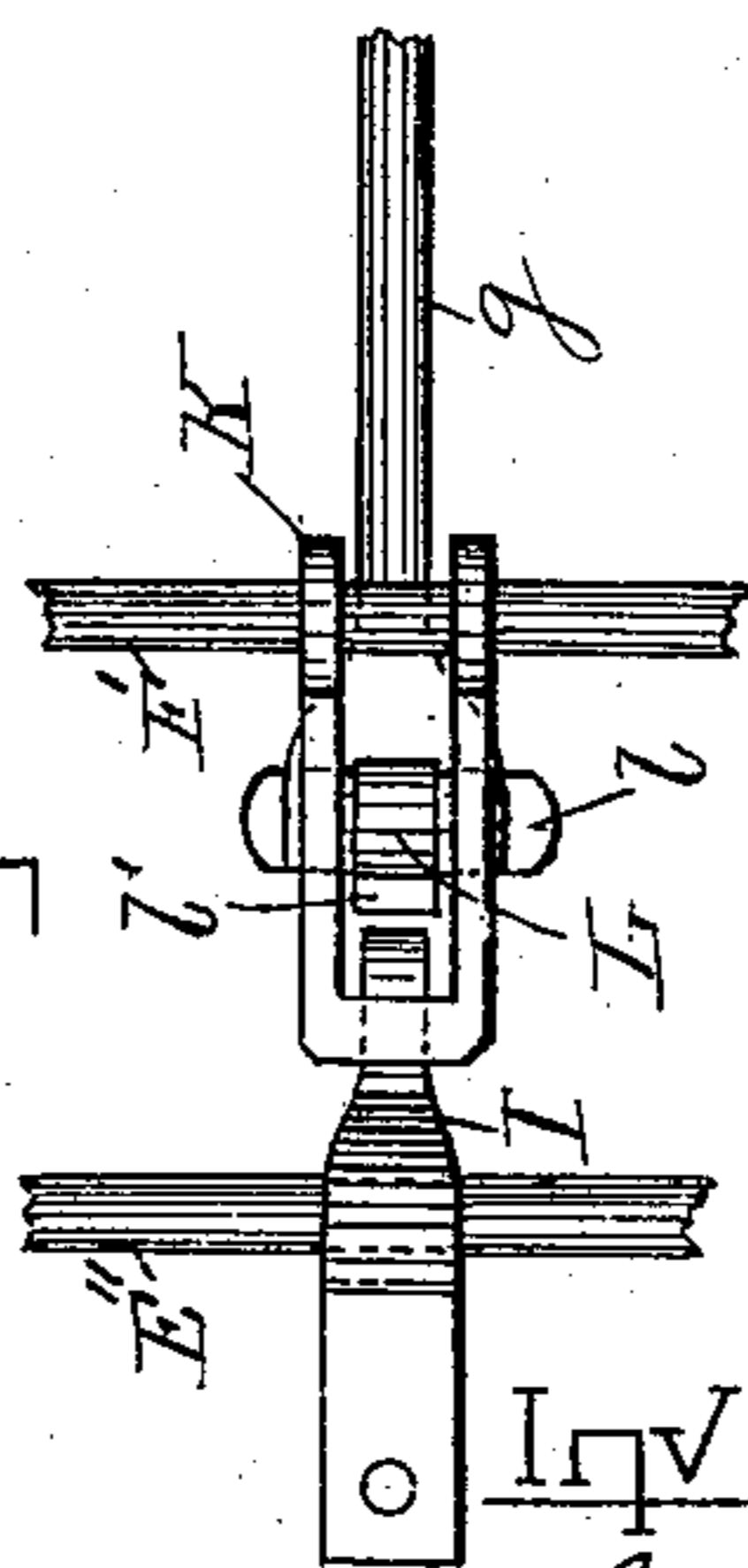


Fig. 6.



Inventor

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his atty.

Witnesses.

Laurie N. Moller.
Charles A. Harris

UNITED STATES PATENT OFFICE.

WILLIAM G. LANE, OF NORTH SYDNEY, CANADA.

COAL-DUMPING CAR.

SPECIFICATION forming part of Letters Patent No. 568,775, dated October 6, 1896.

Application filed June 1, 1896. Serial No. 593,734. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. LANE, a citizen of Canada, and a resident of North Sydney, in the county of Cape Breton, Province of Nova Scotia, in the Dominion of Canada, have invented new and useful Improvements in Coal-Dumping Cars, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in coal-dumping cars, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a top plan view of the improved coal-dumping car, showing the hopper removed and the discharge-doors closed. Fig. 2 represents a longitudinal section on the line 2 2 shown in Fig. 1. Fig. 3 represents a similar section showing the doors open. Fig. 4 represents a cross-section on the line 4 4 shown in Fig. 1. Fig. 5 represents an enlarged longitudinal section similar to Fig. 2, and Fig. 6 represents a detail top plan view of the door-locking device shown in Fig. 5.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

The object of my invention is to carry a load of coal or other materials in a hopper-car and means for dumping the load instantly, as will hereinafter be more fully shown and described.

In the drawings, A represents the hopper of the car secured to the car-frame B in any suitable manner.

C C represent the wheels on which the car-frame is mounted. D represents the lower discharge-opening of the hopper, which opening is normally held closed by means of doors E and F, as shown in Figs. 1, 2, 4, and 5.

On the under side of the door E are secured transverse shafts or rods E' E'', on the ends of which are journaled the preferably-grooved wheels or rollers e' e'', adapted to roll on curved stationary ways E³ E⁴, secured to the car-frame B a little beyond the sides of the door E, as shown.

The ways E³ E⁴ are preferably made ogee in shape, the ways E³ being curved or inclined upward from the middle toward the end of the car, and the ways E⁴ being made similar in shape, but inclining downward

from the middle towards the end of the car, as fully shown in Figs. 2, 3, and 5.

To the door F are likewise secured similar transverse axles or rods F' F'', on the ends of which are journaled the preferably-grooved rollers or wheels f' f'', adapted to roll on curved or stationary inclined ways F³ F⁴, like the respective ways E³ E⁴, hereinabove described.

At one end of the car is journaled in bearings a transverse shaft G, to which is secured a downwardly-projecting lever G', to the lower end of which is pivoted a link g, the forward end of which is suitably pivoted or connected to the inner end of the movable door F, as shown. To said shaft G are also secured upwardly-projecting levers H H, to the upper ends of which are pivoted links h, the forward ends of which are pivotally connected to the inner end of the door E and preferably to the ends of its shaft E''.

G'' is a crank or lever attached to one end of the shaft G for the purpose of turning the latter when opening and closing the doors E F.

It is desirable in a dumping-car of this description that the doors should be held firmly locked together when closed, and for this purpose I prefer to use a locking device of the kind shown in Figs. 5 and 6. Said locking device consists of a hooked dog I, secured to the under side of the door E near its inner edge, adapted to interlock with a bail or link K, pivoted to the under side of the door F.

To the inner edge of the door F is pivoted a strap or link L, to the lower end of which the link g is pivoted, as shown.

On the sides of the strap L are side projections l l, which come in contact with the under side of the link K and cause the latter to be disengaged from the hook I when the link g is moved in the direction of the arrow shown on said link in Fig. 5, thus raising the link K and disconnecting it from the hook I, thereby unlocking the doors from each other and causing said doors to be forced by the pressure of the load to the position shown in Fig. 3, and during such opening of the doors their rollers are guided and made to roll on the respective ways E³ E⁴ F³ F⁴, as shown in said Fig. 3.

On the pivoted link L is an end projection or lip l', (shown in Fig. 5,) adapted to bear

against the under side of the door F during the closing movement of said door, and such lip serves as a stop to prevent the link L from going beyond a vertical position during the closing movement of said door F, as shown in Fig. 5.

The operation is as follows: To unload the car, it is only necessary to turn the shaft G in the direction of the arrow shown in Figs. 2 and 5, causing the link K to be released from the hook I, when the now-liberated doors E F may be moved to their open positions (shown in Fig. 3) by turning the shaft G still farther in the same direction, causing the doors E F to roll on their respective guideways $E^3 E^4 F^3 F^4$ to the inclined open position represented in Fig. 3, and during such dumping of the load the downward pressure of the contents of the car aid in forcing and holding the doors open during such discharge. After the contents of the car have been discharged the doors are closed by turning the shaft G in the direction of the arrow shown in Fig. 3, causing them to assume their original closed and locked positions, (repre-

sented in Figs. 1, 2, 4, and 5,) and held in such closed positions by the locking mechanism represented in Figs. 5 and 6.

What I wish to secure by Letters Patent and claim is—

A dumping-car, having a discharge-opening and a pair of movable doors mounted on rollers combined with inclined or curved guideways E^3, F^3, E^4, F^4 , for said door, the ways E^3, F^3 , being inclined or curved upwardly and the ways E^4, F^4 , being curved or inclined downwardly to cause the inner ends thereof to descend and the outer ends thereof to ascend during the dumping operation and suitable connecting mechanism for actuating and locking said doors as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 4th day of May, A. D. 1896.

WILLIAM G. LANE.

Witnesses:

ALBAN ANDRÉN,
LAURITZ N. MÖLLER.