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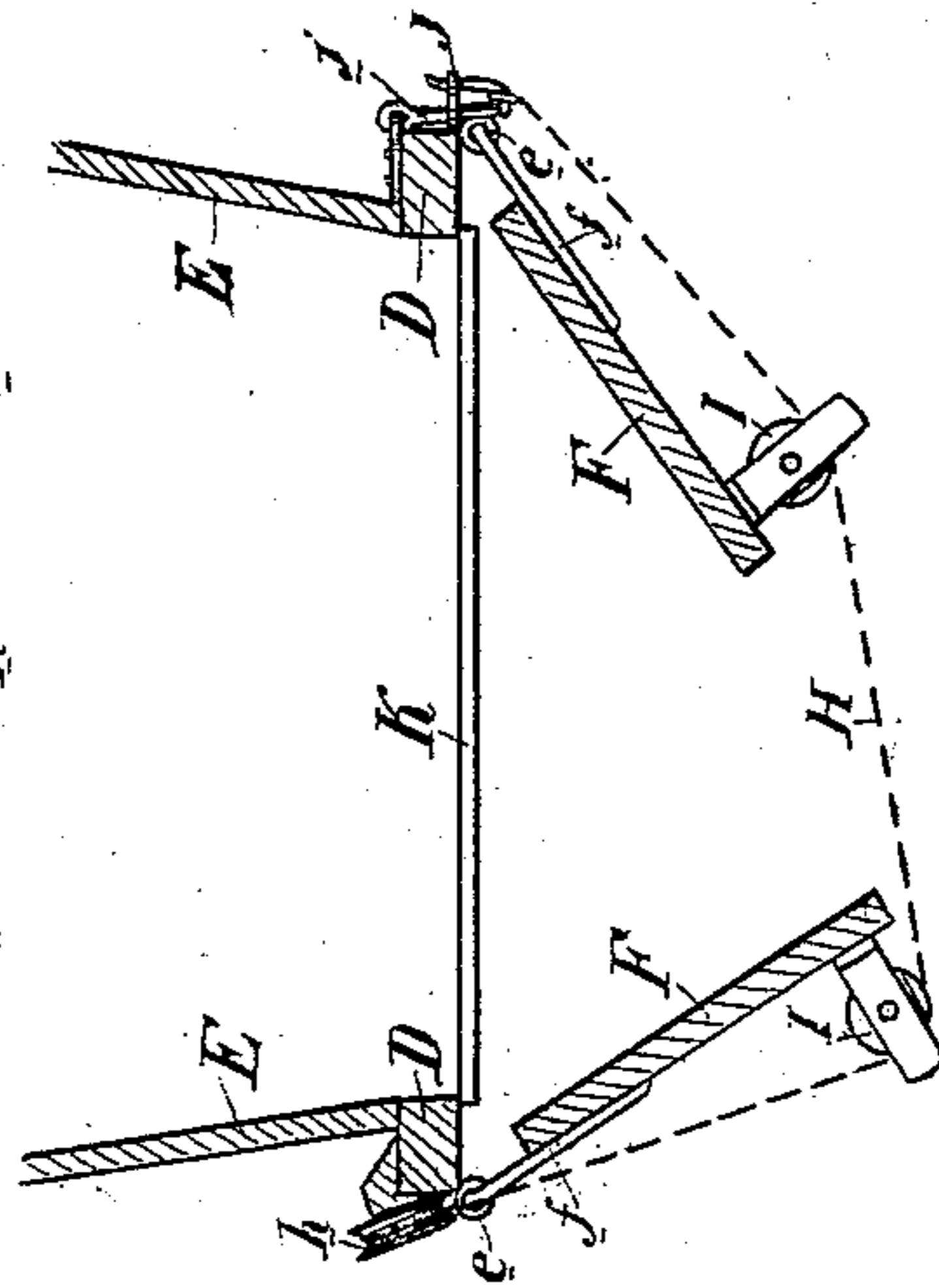
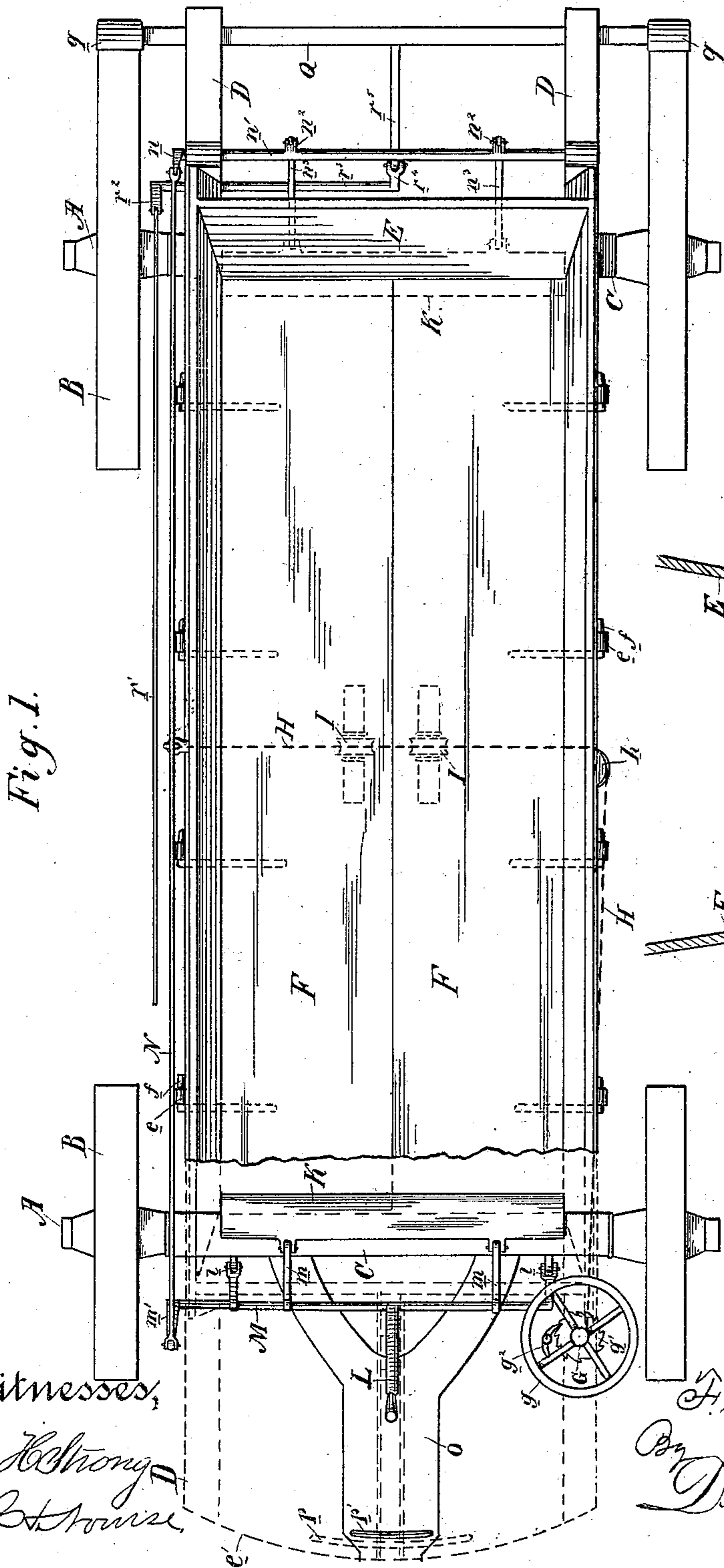
2 Sheets—Sheet 1.

F. C. MILLIKEN.

DUMPING WAGON.

No. 332,818.

Patented Dec. 22, 1885.



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(No Model.)

2 Sheets—Sheet 2.

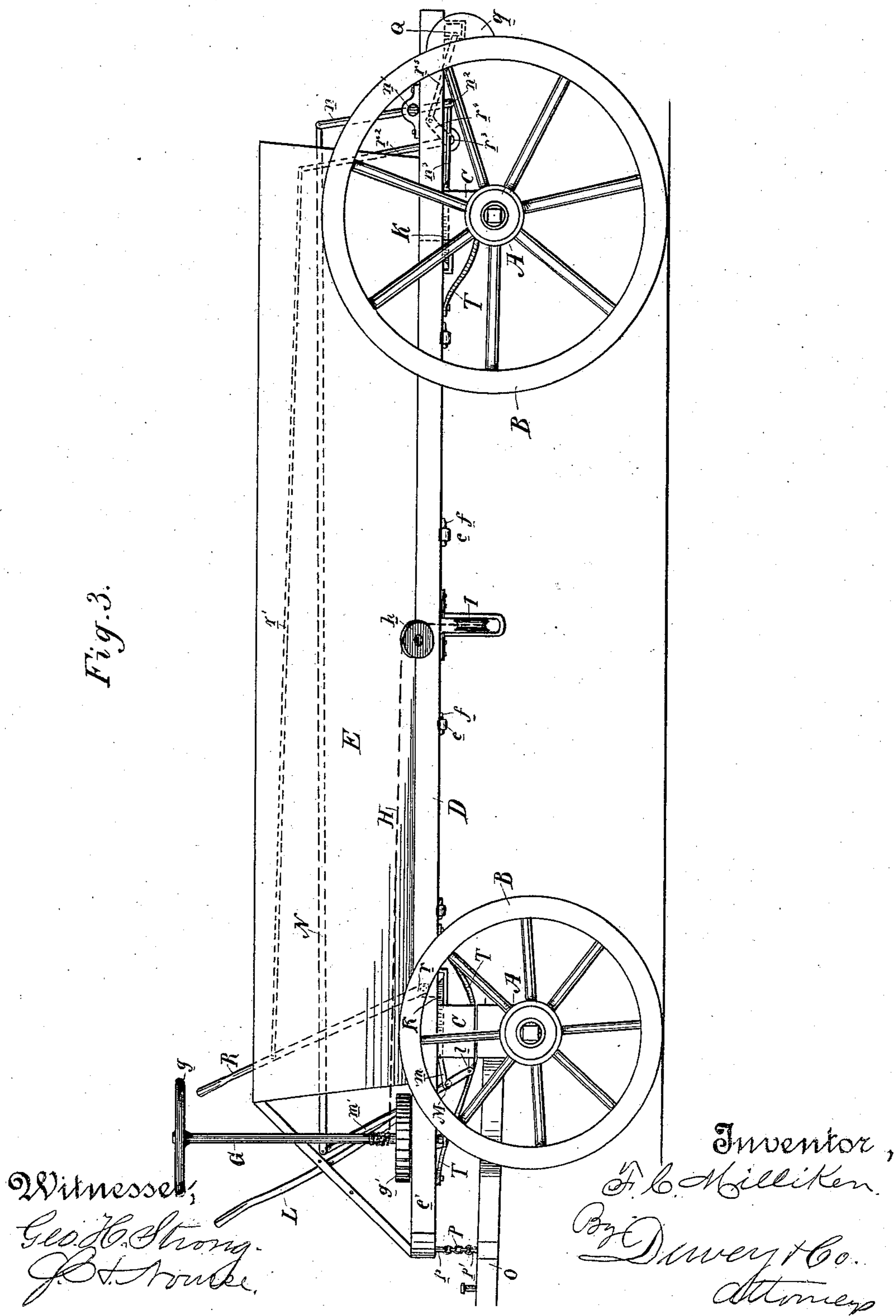
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Fig. 3.



# UNITED STATES PATENT OFFICE.

FRANK C. MILLIKEN, OF SAN FRANCISCO, CALIFORNIA.

## DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 332,818, dated December 22, 1885.

Application filed September 19, 1885. Serial No. 177,623. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK C. MILLIKEN, of the city and county of San Francisco, and State of California, have invented an Improvement in Dumping-Wagons; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to that class of dumping-wagons in which the bottom of the bed is hinged to the side sills and is divided on a central longitudinal line, whereby it is adapted to swing downward, thus providing an opening through which the load is discharged.

My invention consists of a novel means by which the parts of the bottom are returned to position; means by which they are firmly held; means by which they are released to discharge the load; the construction of the running-gear of the wagon; a novel connection between the front of the wagon-frame and the pole; in a novel brake mechanism, and other details of construction, all of which I shall hereinafter fully describe.

The object of my invention is to provide a simple and effective dumping-wagon.

Referring to the accompanying drawings, Figure 1 is a plan of my dumping-wagon. Fig. 2 is a transverse section of same. Fig. 3 is a side elevation.

A are the axles, and B the wheels, of the wagon.

C are the bolsters, and D are the longitudinal parallel sills supported on said bolsters.

E is the body or bed of the wagon. F is its bottom, which consists of two independent parts, meeting on the central longitudinal line of the bed. The outer edges of these boards are hinged to the outer edges of the sills by means of the pintles *f*, journaled in sockets *e*. By thus hinging the bottom boards to the outer side of the sills the boards when they drop down to a vertical are thrown out beyond the vertical plane of the inner surface of the bed and entirely out of the way, making an opening in the bed which is as wide as its bottom. On the front of the wagon-frame, which projects beyond the forward end of the bed as a sort of platform, *e'*, is a vertical spindle, G, provided with a crank-wheel, *g*. On this spindle is a ratchet-wheel, *g'*, with which a pivoted pawl, *g''*, engages, whereby the spin-

dle may be held or relieved, when necessary. Secured to the spindle G is a chain, H, which extends backwardly and is guided downwardly by an angled pulley, *h*. It thence passes under the bed of the wagon and under pulleys I, which are secured to the bottom boards, F, at or near their meeting edges; thence said chain extends to the other side of the bed, and is attached to a hook, *j*, which is secured to the bed. This hook is provided with an adjustable ring, J, which when in place holds the chain on the hook; but when it is desired to remove the chain, the ring J is slipped up over the point of the hook, thus freeing said point so that the chain can be taken off.

When the driver wishes to discharge his load, he kicks the pawl *g''* out of the rack *g'*, thereby relieving the spindle, and the chain under the influence of the weight of the load pays out and allows the bottom boards to swing downwardly, whereby the load is discharged. The driver then turns the spindle G so as to wind up the chain H, which raises the bottom boards again to position where they may be held by the pawl *g''* engaging the ratchet *g'*; but in order to relieve the chain from the weight of the load I have the following locking mechanism for the bottom of the bed: Under the bed in suitable guides at the front and rear are pieces or strips K, which are adapted to be pushed in far enough to pass under the ends of the bottom boards and to hold them and to be withdrawn therefrom to relieve them. In order to accomplish this movement, I have the lever L passing upwardly through a slot in the platform *e'* and a slotted guide, as shown, and having its lower end secured to a transverse shaft, M. This shaft is cranked and is pivoted to bearings *l* on the bolster. To the shaft are pivoted links *m*, the rear ends of which are pivoted to the forward lock-board or strip, K. The other end of the shaft M has a crank, *m'*, to which is attached a rod, N, passing backwardly alongside of the wagon, and attached at its rear end to a crank, *n*, on a shaft, *n'*. This shaft has cranks *n''*, extending downwardly, with which are connected links *n'''*, the forward ends of which are attached to the rear lock-strip, K. When the bottom boards are in position ready to receive a load, the driver pulls back the lever

L, which, through the intermediate devices described, causes the stop-strips to move under the ends of the boards F to lock them in position. When about to dump the load, he  
5 throws the lever L forward, whereby he withdraws the lock-strips, and he then releases the chain H, as heretofore described.

It will be observed that I have no reach nor hounds on my running-gear. This leaves the  
10 space between the two axles entirely free and prevents any interference with the discharging of the load; but in order to connect the forward portion of the running-gear with the frame of the wagon I have the chain P, the  
15 upper end of which is connected with a strong bail, *p*, secured under the forward portion of the platform *e'*, its lower end being connected with a bail, *p'*, on the tongue O. The usual king-bolt is present, though not shown. The  
20 rear ends of the sills D project backwardly and carry in suitable guides the sliding beam Q of the brake *q*. This beam, it will be observed, is back of the rear wheels, and its blocks impinge on the rear portion of the periphery  
25 of said wheels. This gives a very effective purchase and is advantageous in that it removes the beam from between the axles and thus avoids interference with the load in discharging.

30 The beam Q is operated by means of the usual devices, consisting of the lever R in front, the crank *r*, the connecting-rod *r'*, rear crank, *r''*, shaft *r'''*, crank *r''''*, and rod *r'''''*.

T are iron braces, connecting the sills of the  
35 frame with the bolsters.

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

1. In a dumping-wagon, the bed E, mounted  
40 on suitable running-gear, and the bottom boards, F, of said bed, meeting on a central longitudinal line and hinged at their outer edges, whereby they are adapted to drop down to a vertical plane, in combination with the  
45 chain H, secured at its forward end to a winding mechanism, and passing under the bottom boards of the bed and secured to one side of the bed, whereby said boards may be raised to position, substantially as herein described.

50 2. In a dumping-wagon, the bed E, mounted on suitable running-gear, and the centrally-meeting bottom boards, F, hinged at their outer edges, and having the pulleys I on their under

surfaces, in combination with the chain H, secured to the bed on one side and passing  
55 under the pulleys I and upwardly and forwardly around a guide-pulley, *h*, the spindle G, having crank-wheel *g* and ratchet *g'*, and the pawl *g''*, all arranged and adapted to operate substantially as herein described. 60

3. In a dumping-wagon, the bed E, mounted on suitable running-gear, and the bottom boards, F, meeting on a central longitudinal line and hinged at their outer edges, whereby they are adapted to drop down to a vertical  
65 plane, in combination with the horizontally-sliding lock-strips K, mounted under the bed, and adapted to be forced in under the ends of the bottom boards to hold them and to be withdrawn therefrom to relieve them, sub-  
70 stantially as herein described.

4. In a dumping-wagon, the bed E, mounted on suitable running-gear, and the bottom boards, F, meeting on a central longitudinal line and hinged at their outer edges, for the  
75 purpose described, in combination with lock-strips K, mounted in suitable guides under the bed, and the mechanism by which said strips are operated, for the purpose described, consisting of the pivoted and guided lever L, 80 the shaft M, and connecting-links *m*, the crank *m'* on said shaft, the connecting-rod N, the crank *n* at the rear, the shaft *n'*, having cranks *n''*, and the links *n'''*, all arranged and adapted to operate substantially as herein de- 85 scribed.

5. In a dumping-wagon, the bed E, mounted on suitable running-gear, and the bottom boards, F, meeting on a central longitudinal line and hinged at their outer edges, as de-  
90 scribed, in combination with the chain H, passing under said boards and secured to one side of the bed and to a winding-spindle, G, in front, whereby said boards are raised to position, and the horizontally-sliding lock-  
95 strips K, adapted to move under the ends of the boards to hold them and to be withdrawn therefrom to relieve them, substantially as herein described.

In witness whereof I have hereunto set my  
hand.

FRANK C. MILLIKEN.

Witnesses:

C. D. COLE,  
J. H. BLOOD.