

No. 848,076.

PATENTED MAR. 26, 1907.

D. S. WATSON.
DUMP WAGON.

APPLICATION FILED JAN. 28, 1905.

Fig. 1.

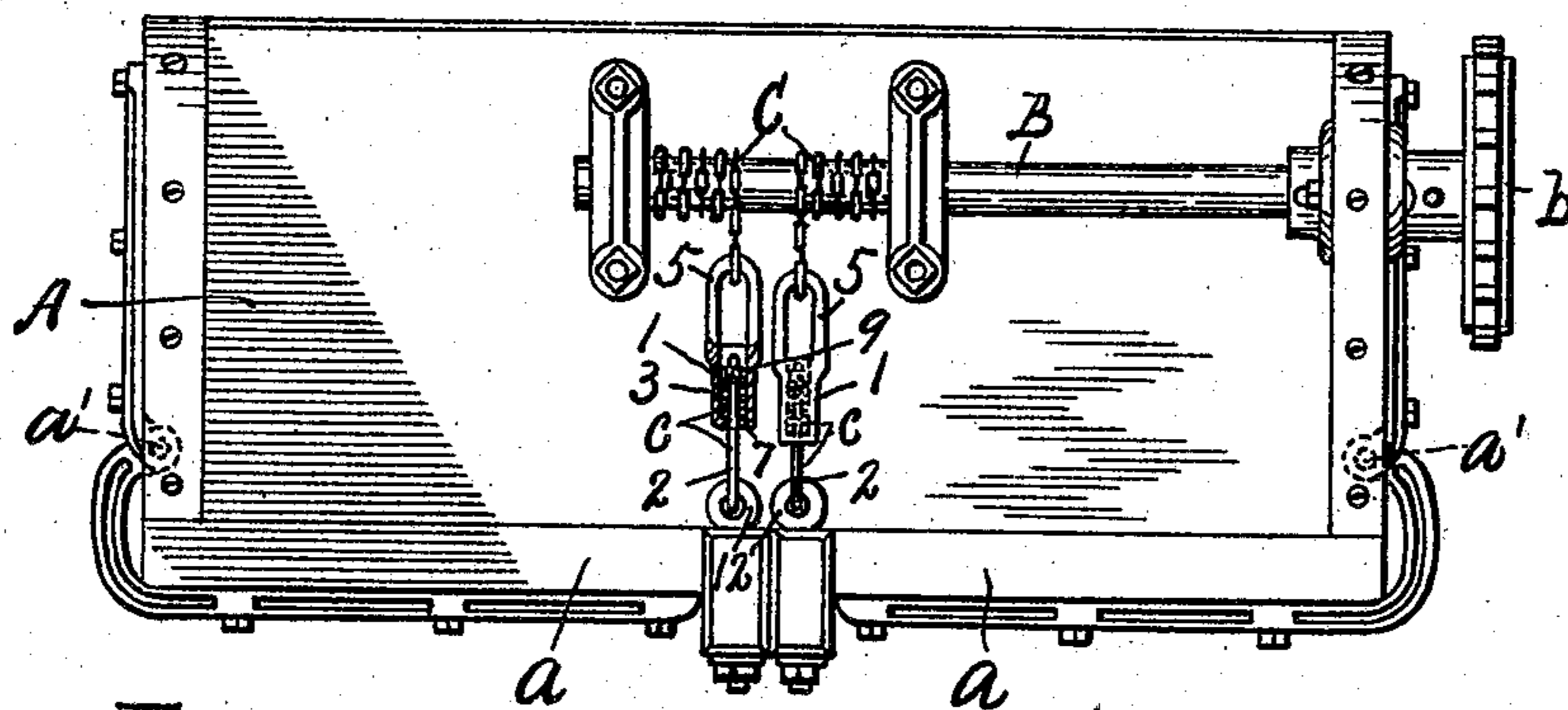


Fig. 2.

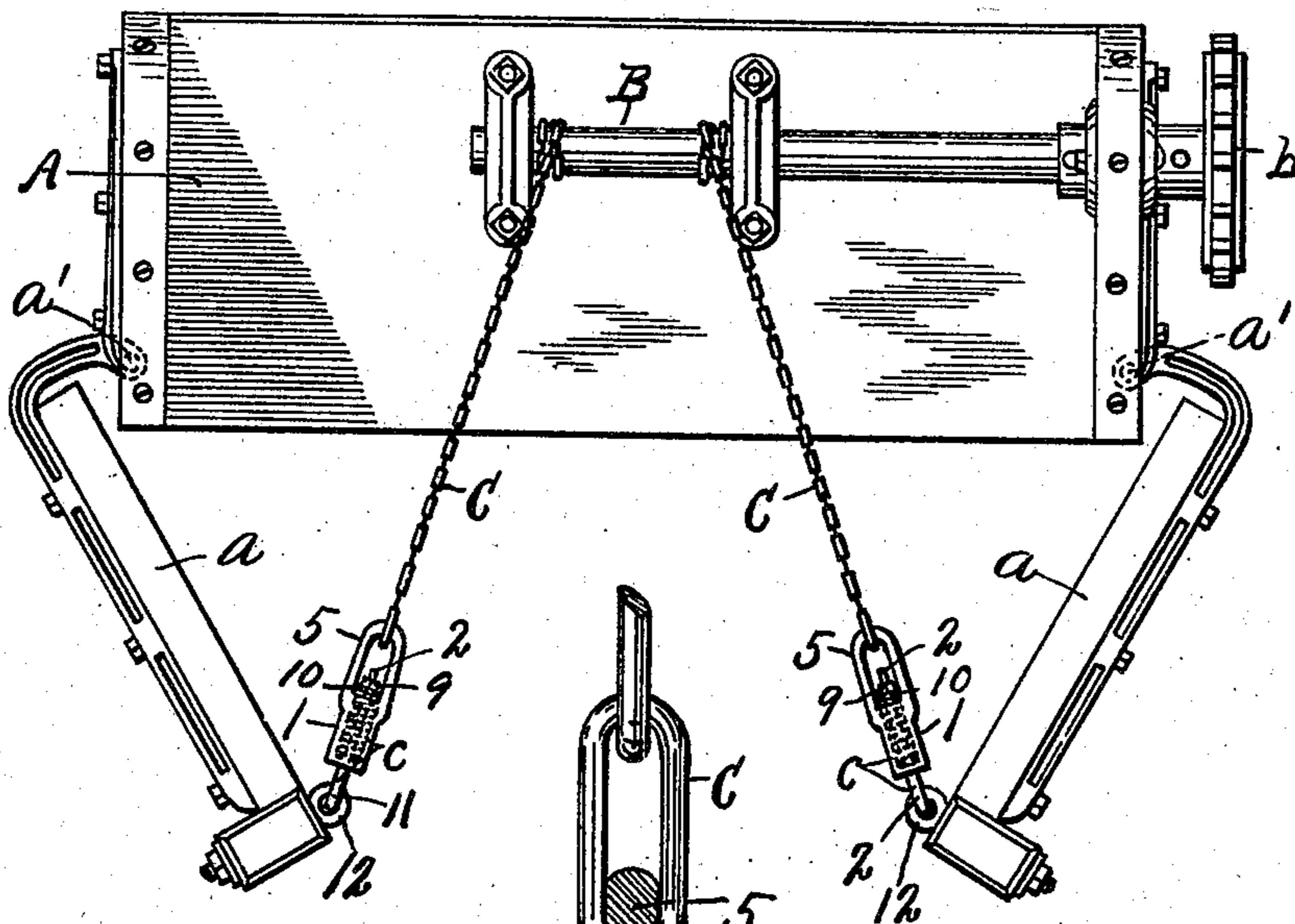
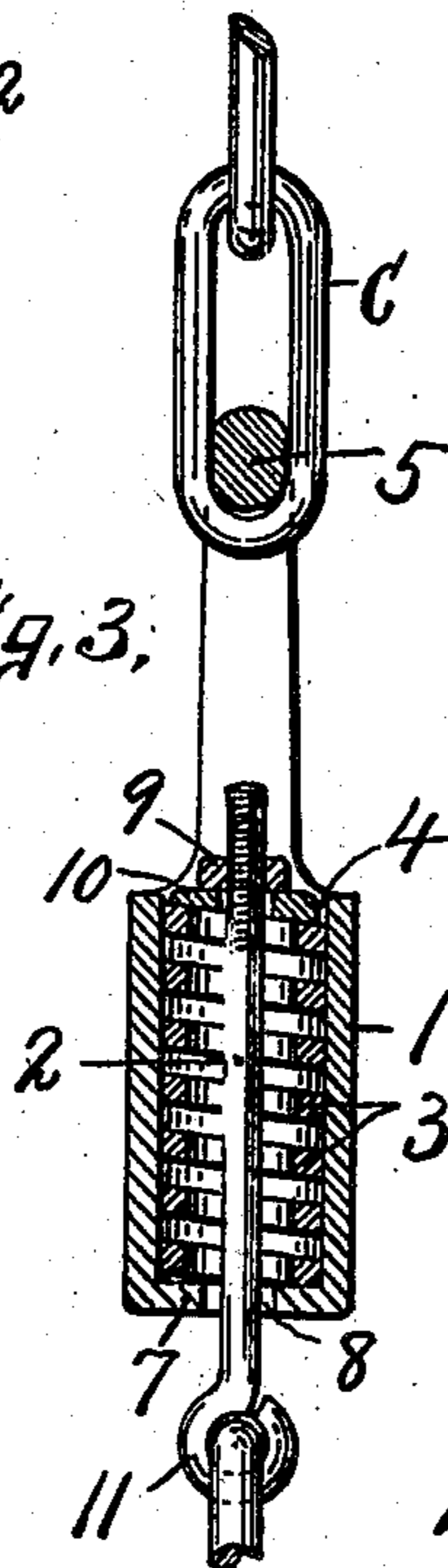


Fig. 3.



WITNESSES

A. D. Allen

B. E. Robinson

INVENTOR

David S. Watson

BY

Howard P. Driscoll
ATTORNEY

UNITED STATES PATENT OFFICE.

DAVID S. WATSON, OF CANASTOTA, NEW YORK, ASSIGNOR TO WATSON WAGON COMPANY, OF CANASTOTA, NEW YORK, A CORPORATION OF NEW YORK.

DUMP-WAGON.

No. 848,076.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed January 28, 1905. Serial No. 243,076.

To all whom it may concern:

Be it known that I, DAVID S. WATSON, of Canastota, in the county of Madison, in the State of New York, have invented new and useful Improvements in Dump-Wagons, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in dump-wagons in which a substantially rectangular dump-box is provided with laterally-swinging bottom doors hinged to the sides and meeting at substantially the longitudinal center of the box.

In this class of dump-wagons the front and rear ends of the bottom doors are connected by chains or cables to front and rear drums or shafts which are mounted upon the front and rear ends of the box and are adapted to be rotated by any suitable winding mechanism, not necessary to herein illustrate or describe, as the means for rotating the drums form no part of my present invention.

The chains which are attached to the doors are wound upon the drums, and when the doors are released in the act of dumping the load they are forced open by the weight of the load with great rapidity and power, thereby unwinding and causing a severe jerk or strain upon the chains at the limit of their unwinding movement, it being understood that these chains are employed to not only close the doors and hold them in their closed position, but also act as limiting-stops for limiting the lateral swing of the doors when opened to prevent their striking against the wheels of the wagon. This abrupt stoppage of the doors during their opening movement and the consequent strain upon the chains causes said chains to stretch more or less unequally—as, for instance, the chains at the rear may stretch more than the chains at the front; and the object of my invention is to provide means for neutralizing the effect of the sudden jerk upon the chains at the limit of movement of the doors when swinging to their open position and at the same time afford a positive holding means for the doors when in their closed position.

In the drawings, Figures 1 and 2 are similar end views of a dump-wagon, showing my invention as applied to the chains, the doors being closed in Fig. 1 and open in Fig. 2. Fig.

3 is an enlarged elevation of my improved yielding link, which forms the subject-matter of my present invention.

A represents a dump-box having swinging bottom doors *a*, which are hinged at *a'* to the opposite sides of the box and meet at substantially the longitudinal center of said box. Mounted upon the end of the box is a rotary shaft or drum B, having a driving member *b*, by which the drum may be rotated.

The meeting ends or edges of the doors *a* are connected to the drum B by separate chains C, each of which is provided with a yielding link *c* at or near its lower end. This yielding link *c* comprises, essentially, a hollow cylindrical member or cup 1, a bolt 2, and a coil-spring 3. One end of the cylinder 1 is open at 4 to permit the insertion or removal of the spring 3 and is formed with a ring or closed loop 5 to receive one of the links of the chain C, of which the link *c* forms a part.

The opposite end of the link *c* is formed with an abutment 7, against which one end of the spring 3 is seated, said abutment having a central aperture 8, through which the bolt 2 projects and is sufficiently loose to play endwise freely in the aperture 8.

The coil-spring 3 is loosely fitted in and compresses and extends endwise of the cylinder 1, and its end opposite to the abutment 7 is engaged by an adjustable shoulder, as a nut 9 and washer 10, on the adjacent threaded end of the bolt 2. The opposite end of this bolt 2 extends beyond the end of the cylinder having the abutment 7 and is provided with an eye 11, which is interlocked with a similar eye 12 on the door. The bolt passes through the coil-spring 3, and by interposing this spring between the abutment 7 and adjustable shoulder or nut 9 of the bolt 2 any slight inequality in the length of the chains C may be adjusted, so that both doors will be made to open and close alike, and by inclosing the coil-spring in the cylinder 1 it is protected from the elements and is less liable to break by reason of its support against the sides of the cylinder, which prevents kinking strains. The bolt 2 and cylinder 1 are also free to turn relatively to each other to prevent the twisting or kinking of the chains. The helices of this spring are normally open, as seen in Figs. 2 and 3, but are drawn together

when the doors are closed, as seen in Fig. 1, so as to form a rigid inflexible link to prevent sagging of the doors.

5 In the operation of dumping the load the drum B is released, thereby allowing the doors to swing to their open positions (seen in Fig. 2) and at the same time permitting the helices of the spring 3 to open, so that when the chains are unwound to the limit from the
10 drum by the opening of the doors the sudden jar in stopping the doors is borne by the springs 3, which yield slightly under the sudden jerk, thus relieving the body of the chain from undue strain and incidental stretching.
15 In the use of these wagons this abrupt stoppage of the doors by the chains frequently causes the chains to break, and by interposing these yielding links in the manner described the breakage and stretching of the chain are
20 reduced to a minimum, which of course adds to the life of the chain and materially reduces the expense of maintaining the wagon in operative order.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 25

In combination with the swinging bottom door of a dump-wagon, a normally distended coil-spring having one end connected to the door, a cable connected to the other end of 30 the spring, and means to wind the cable to close the door, the continual winding of the cable after the door is closed operating to draw the helices of the spring against each other to prevent sagging of the doors, said 35 helices spreading apart by their own tension as soon as the tension on the winding-cable is relieved to allow the door to open and to relieve the cable from sudden strain.

In witness whereof I have hereunto set my 40 hand this 24th day of January, 1905.

DAVID S. WATSON.

Witnesses:

ALBERT A. KEESLER.
C. N. WOOD.