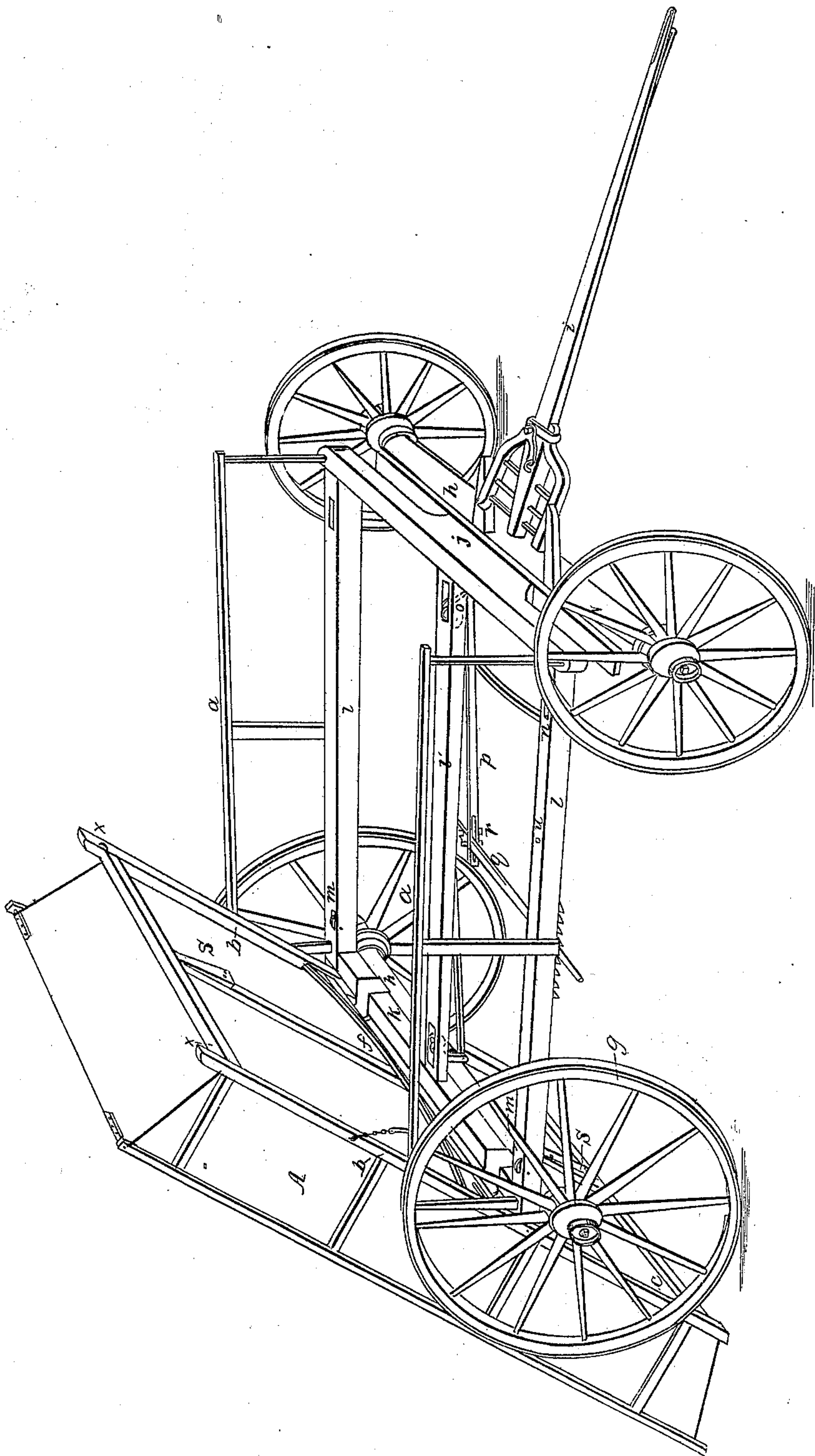


**W. H. START.**  
**Dumping-Wagon.**

No. 6,098.

Patented Feb. 6. 1849.





# UNITED STATES PATENT OFFICE.

WM. H. START, OF SMYRNA, DELAWARE.

## DUMPING-WAGON.

Specification of Letters Patent No. 6,098, dated February 6, 1849.

*To all whom it may concern:*

Be it known that I, WILLIAM H. START, of Smyrna, in the county of Kent and State of Delaware, have invented certain new and  
5 useful Improvements in Tilt or Tipping Wagons, of which the following is a full and exact description, reference being had to the annexed drawing of the same, making part of this specification.

10 The nature of my invention and improvement consists in so arranging the body of a wagon, that it may be run back on friction wheels, until its center of gravity is brought over the axletree of the hind wheels, when  
15 it is tipped or tilted up to dump or discharge its load, springs being arranged to prevent any sudden concussion or jar, when the box is turned and slips down.

The accompanying drawing represents  
20 the wagon with the box (A) tilted up, this box in its general construction is of the usual form, and fits between the side rails (a) of the frame, but not too tightly to prevent its sliding easily; on the bottom of  
25 the rear ends of the side pieces (b) of the box, are cavities c c, and at their front ends friction pulleys x x, arranged in a similar manner and for the same purpose as those hereinafter described in the side pieces (l)  
30 of the frame. Across the middle of the bottom of the body is placed the rod d which is for the purpose of catching on the hooks (e e) to arrest the backward motion of the body, and to form an axis on which it is  
35 tilted, this rod, I prefer to make of iron, but it may be made of wood and is attached to a spring (f) which will prevent any sudden jar that otherwise might be produced by the tilting of the body.

40 The wheels g, axletrees h, and tongue i are constructed and arranged as in common wagons, or in any convenient way; the front and hind bolsters j and k are connected by strong pieces of scantling l l upon which the  
45 body (A) is placed, and to which the side rails (a) are attached, near the hind end and upon the upper surface of the side pieces l l are fixed the friction rollers m which are for the sides of body to run on when it is moved  
50 back to be tipped; near the front ends of the side pieces cavities (n) are made for the friction rollers of the front ends of the box to rest in. The bottoms of these cavities slope downward at an angle of about 30° in  
55 order that pulleys by descending upon them

may gradually ease the box down, until its sides (b) come in contact with and rest upon the side pieces (l l). The bolsters are connected by a center piece (l') parallel to the sides (l) having vertical mortises made  
60 through it near its ends, in which mortises bent levers o are placed. On the short and upper end of these levers friction pulleys are affixed, and to the longer and lower ends are  
65 jointed the rods p p which are connected by joints or links to the lever q which turns upon a pivot (r) that projects from the lower side of the center piece (l'). This system of levers and connecting rods is for  
70 the purpose of raising the body up from the sides (l) a sufficient height to clear the friction pulleys from the cavities c n, when the lever q is moved toward the hind wheels, the short ends of the levers (o) are raised, pressing  
75 the friction rollers in their ends against the inclined planes s s on the bottom of the box, which planes are so placed as to cause the box to run back at the same time that it is raised; if the momentum given by the  
80 inclined planes s s is not sufficient to throw the box far enough back, the attendant lays hold of it with his hand and with ease pushes it back upon the friction rollers until the cross bar d comes into contact with the  
85 hooks e, he then lifts the front end of the box sufficiently high to allow the contents to slide out, which being done it is again righted, and moved forward to its place of rest and fastened by inserting the bolt t  
90 through the holes u of the side pieces b l. Unless the cavities are made in the side pieces to allow the box to settle down upon the frame, the whole weight of the box and load would have to be supported by the axes  
95 of the friction rollers, which are necessarily slender, and insufficient to sustain for any length of time the shocks and strains to which they would be subjected under such a load. On the other hand, the loaded box  
100 would be found very difficult to be moved back to be tilted, unless raised up from contact with the frame, and the resistance diminished by friction wheels or some equivalent device.

What I claim as my invention and desire  
105 to secure by Letters Patent, is—

The arrangement of the cavities c and n in combination with the friction rollers m and x substantially as herein described, whereby  
110 the box is moved backward and forward

(preparatory to, and after tilting its load)  
easily and with but little friction, and when  
in place rests upon, and in contact with, the  
sides of the frame throughout its entire  
5 length, which greatly increases the strength  
and durability of the wagon.

In testimony whereof I have hereunto set

my hand and affixed my seal this twenty  
first day of September 1848.

WILLIAM H. START. [L. s.]

Witnesses:

ROBT. LUSBY,  
D. LOCKWOOD.