

No. 727,487.

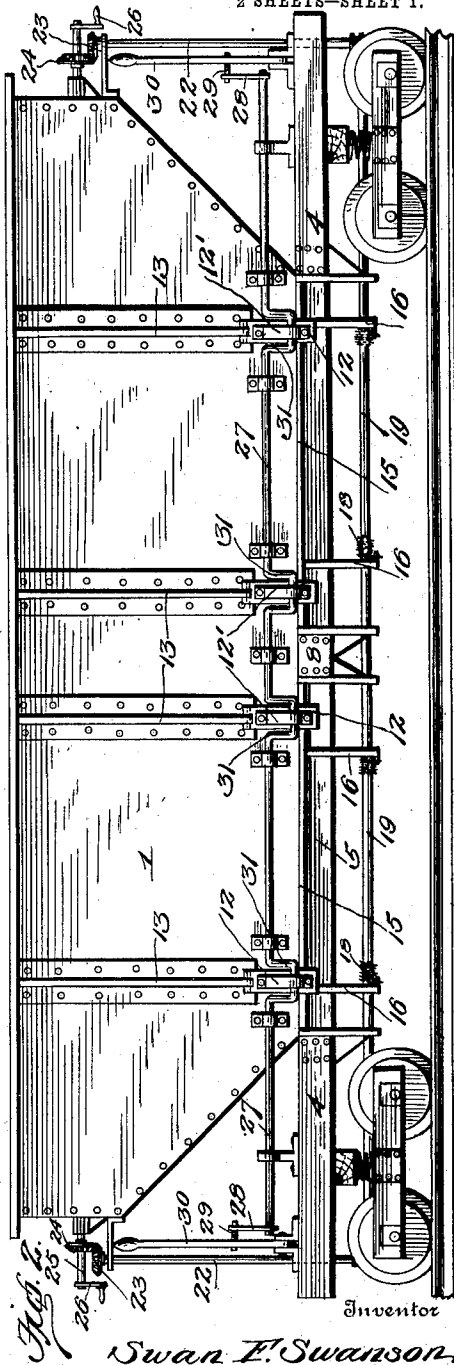
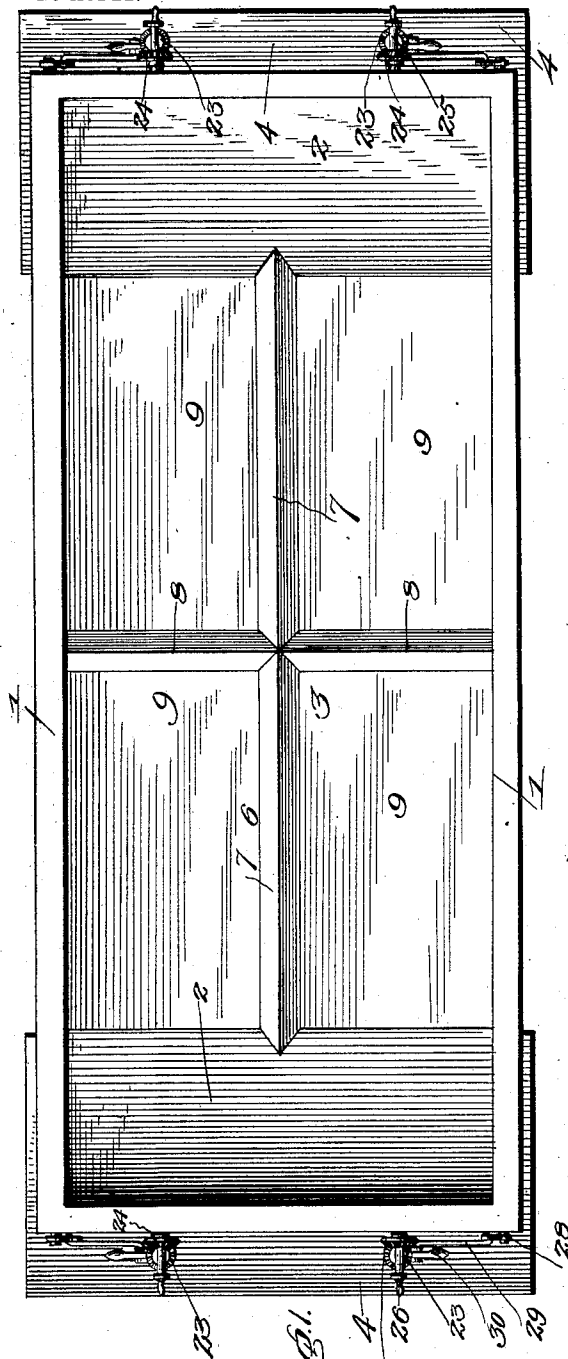
PATENTED MAY 5, 1903.

S. F. SWANSON.
DUMPING CAR.

APPLICATION FILED OCT. 21, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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34

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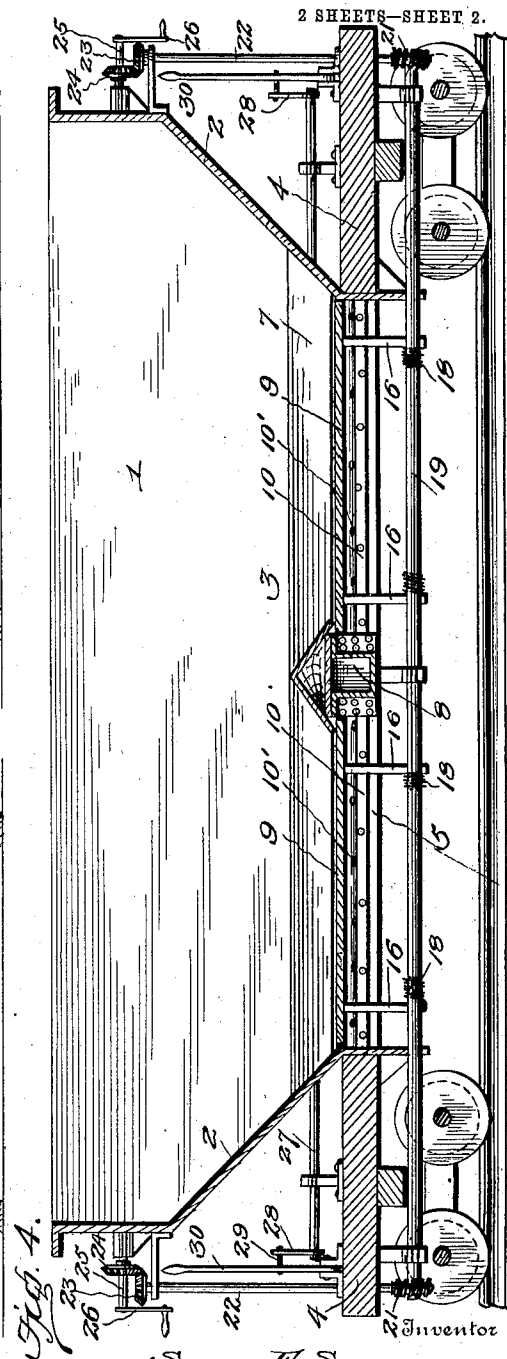
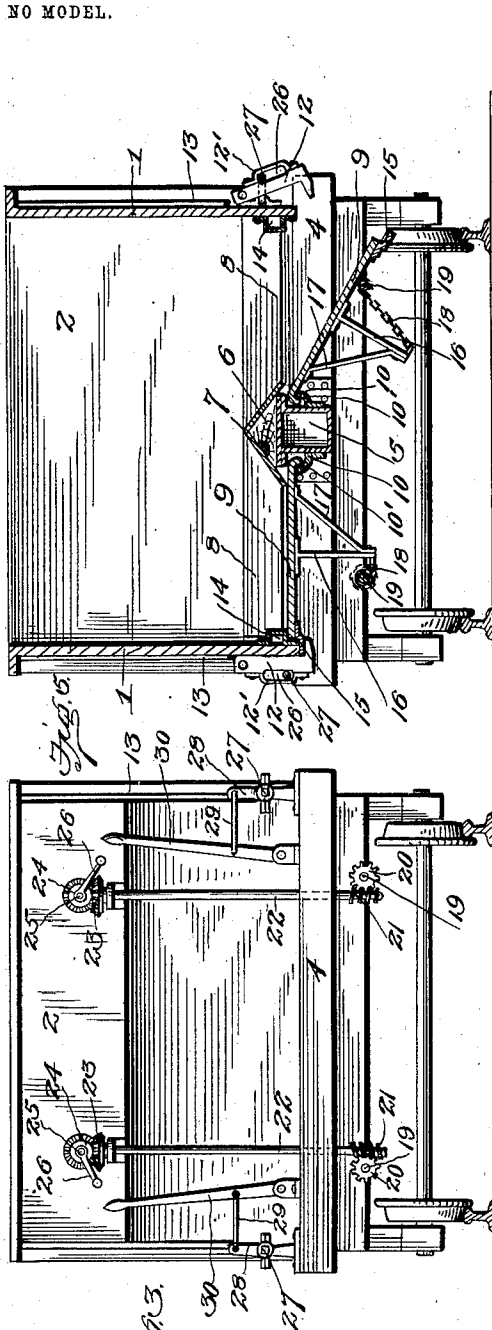
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UNITED STATES PATENT OFFICE.

SWAN F. SWANSON, OF PUEBLO, COLORADO.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 727,487, dated May 5, 1903.

Application filed October 21, 1902. Serial No. 128,140. (No model.)

To all whom it may concern:

Be it known that I, SWAN F. SWANSON, a citizen of the United States, residing at Pueblo, in the county of Pueblo and State of Colorado, have invented certain new and useful Improvements in Dumping-Cars; and I do 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.

This invention relates to improvements in dumping-cars; and the object is to construct a car of this character the bottom of which is formed of hinged sections adapted to beswung downwardly to discharge the contents of the car.

A further object is to construct such a car which will be simple in construction, durable in use, easily operated, and well adapted to the use for which it is designed.

With these and other objects in view the invention consists in the combination and arrangement of the various parts, as will be hereinafter more fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of the car constructed in accordance with the invention. Fig. 2 is a side view of the same. Fig. 3 is a front end elevation of the car. Fig. 4 is a longitudinal vertical sectional view, and Fig. 5 is vertical cross-sectional view showing one side of the car dumped.

In the drawings, 1 denotes the vertical sides of the car. 2 denotes the ends, and 3 the bottom, which consists of the end platforms 4, connected together by a centrally-disposed bolster 5, preferably consisting of a channel or U-shaped iron beam having a flat plate bolted to the upper side of the same, on which is supported a triangular-shaped wooden strip 6, covered by an inverted-V-shaped metal plate 7, forming a central ridge the length of the car.

8 denotes beams bolted to the bolster 5 and projecting laterally from each side thereof and connecting the same with the sides of the car-body. These beams are also preferably formed of channel or U-shaped iron. In the spaces formed by the longitudinal bolster and the laterally-disposed beams are hung door-

sections 9, hinged along their inner sides to the bolster 5 in any suitable manner, but preferably by bolting to the side of the bolster a continuous hinge-strip 10 of the configuration shown in the drawings and forming a bearing for and adapted to receive the angularly-formed edge of the door-sections 9.

The outer or free edges of the door-sections are adapted to be supported by a series of catches 12, pivoted to the lower ends of vertically-disposed angle-iron bars or braces 13, bolted at proper intervals to the outer faces of the sides of the car.

14 denotes longitudinally-disposed channel-iron bars bolted to the lower edges of the sides of the car, which serve as abutments or stops for the door-sections when closed, also serving as longitudinal brace-bars for the said sides.

15 denotes a strip bolted to the free edges of the door-sections and having an offset edge, which is adapted when the said sections are closed to lie beneath the lower edge of the sides of the car and in contact therewith and to be engaged by the hooked ends of the catches 12, whereby the door-sections are supported in closed position.

16 denotes depending arms or brackets fixed to the lower side of each door-section and securely braced thereto by brace-bars 17. To the lower end of the bracket-arms 16 is connected one end of chains 18, the opposite ends of which are connected to longitudinally-disposed winding-shafts 19, journaled in bearing-brackets depending from the lower sides of the end platforms and located one beneath each of the longitudinal series of door-sections and at a point about centrally thereof.

20 denotes worm-gears fixed on the ends of the shafts 19, said gears being in mesh with similar gears 21, fixed on the lower end of vertically-disposed shafts 22, journaled in the platforms 4 and carrying at their upper ends beveled gear-pinions 23, which in turn are in mesh with bevel gear-wheels 24, mounted on short horizontal shafts 25, journaled in bearings formed on the ends of the car.

26 denotes crank-handles on the outer ends of the shafts 25, whereby the same may be rotated for a purpose hereinafter to appear.

In order that the catches 12 may be simul-

taneously released and the door-sections allowed to drop on either side of the car, I employ the following means for operating the same. Each catch 12 has fixed to the outer
 5 side thereof a plate or strap 12', connected thereto in such manner as to form an elongated space or slot 26.

27 denotes rock-shafts journaled in bearings fixed to the sides of the car near the
 10 lower edges of the same. The ends of said shafts are bent at an angle thereto to form cranks 28. To these cranks are connected one end of links 29, the opposite ends of which are connected to levers 30, pivoted at
 15 their lower ends to the car-platforms 4.

Cranks 31 are formed along the length of the rock-shaft 27, adjacent to the catches 12, said cranks being preferably formed by bending said shaft to form angularly-shaped loops
 20 which are adapted to pass through the elongated slots or spaces 26 formed on the catches by the plates or strap 12' and which when the shaft 27 is rocked will engage said catches and operate the same.

25 The hinge-strip 10 may have formed therein a number of openings 10', whereby water or dirt collected in the groove or channel formed by said plate may be allowed to fall out.

30 In operation when it is desired to dump one or both sides of the car the levers 30 are operated to rock the shafts 27, which causes the cranks 31 formed thereon to move the catches 12 from engagement with the door-
 35 sections, thus allowing the said sections to swing down or drop and discharge the contents of the car. When it is desired to again close said door-sections, the shafts 19 are rotated by means of the crank-handle 26 and
 40 the interposed gearing. The rotation of the shafts 19 causes the chains 18 to be wound up thereon, thus drawing on the bracket-arms 16 and raising the door-sections to their normal or closed position, where upon a reverse
 45 movement of the rock-shaft 27 the catches will be forced into engagement therewith and hold the same in place.

From the foregoing description it will be seen that I have devised a dumping-car which
 50 is easily operated to discharge its contents and readily closed again for further use and that comparatively simple mechanism of few parts is employed to accomplish the operation. Consequently the same is not liable to
 55 get out of order and may be inexpensively manufactured.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the prin-

ciple or sacrificing any of the advantages of 60 this invention.

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

1. In a dumping-car, the combination with 65 the car-body, of a bottom formed of a longitudinally-disposed bolster, laterally-disposed beams and parallel series of downwardly-swinging door-sections hinged to said bolster, catches pivoted to the lower ends of verti- 70 cally-disposed brace-bars bolted to the sides of said car-body and adapted to engage the reinforced outer edges of said door-sections, longitudinally-disposed rocking crank-shafts journaled in bearings fixed to said car sides 75 and adapted to be operated to move said catches into and out of engagement with said door-sections, pivoted levers for operating said shafts, an abutment strip or stop formed on the lower inner edge of said car sides and 80 adapted to be engaged by said door-sections and means for raising or closing said door-sections, substantially as described.

2. In a dumping-car, the combination with 85 the car-body, of a bottom formed of a longitudinally-disposed bolster, laterally-disposed beams connecting the sides of said car-body with said bolster, and parallel series of down- 90 wardly-swinging door-sections hinged to said bolster, catches pivoted to the sides of said car-body and adapted to engage the outer edges of said door-sections to hold the same in closed position, longitudinally-disposed 95 crank-shafts adapted to engage said catches to move the same into and out of engagement with said door-sections, levers pivoted to the end platforms of said car and adapted to rock said crank-shafts, and means for raising or closing said door-sections, said means comprising depending bracket-arms fixed to the 100 lower side of said door-sections and suitably braced thereto, longitudinally-disposed winding-shafts located beneath said door-sections and adjacent to the lower ends of said bracket-arms, chains having one end connected to 105 the lower ends of said bracket-arms and their opposite ends connected to said winding-shafts, and gearing located at each end of said shafts whereby the same are rotated to wind up said chains, substantially as de- 110 scribed.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SWAN F. SWANSON.

Witnesses:

JOHN T. GROVES,
 H. S. BRANSCOMB.