(No Model.)

2 Sheets—Sheet 1.

F. W. HUBBARD.

WHEELED SCRAPER.

No. 332,531. Patented Dec. 15, 1885.

FIG. I.

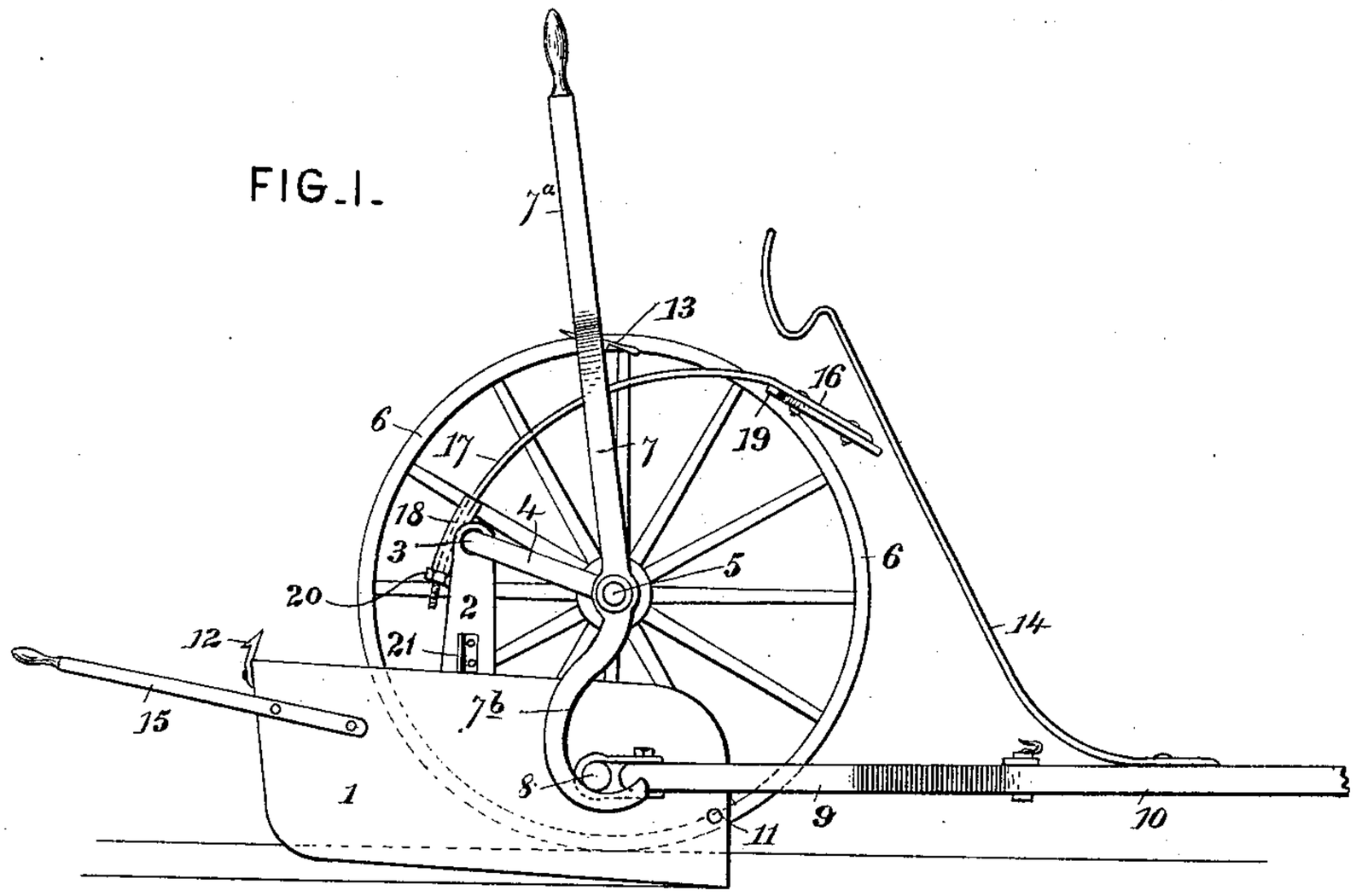
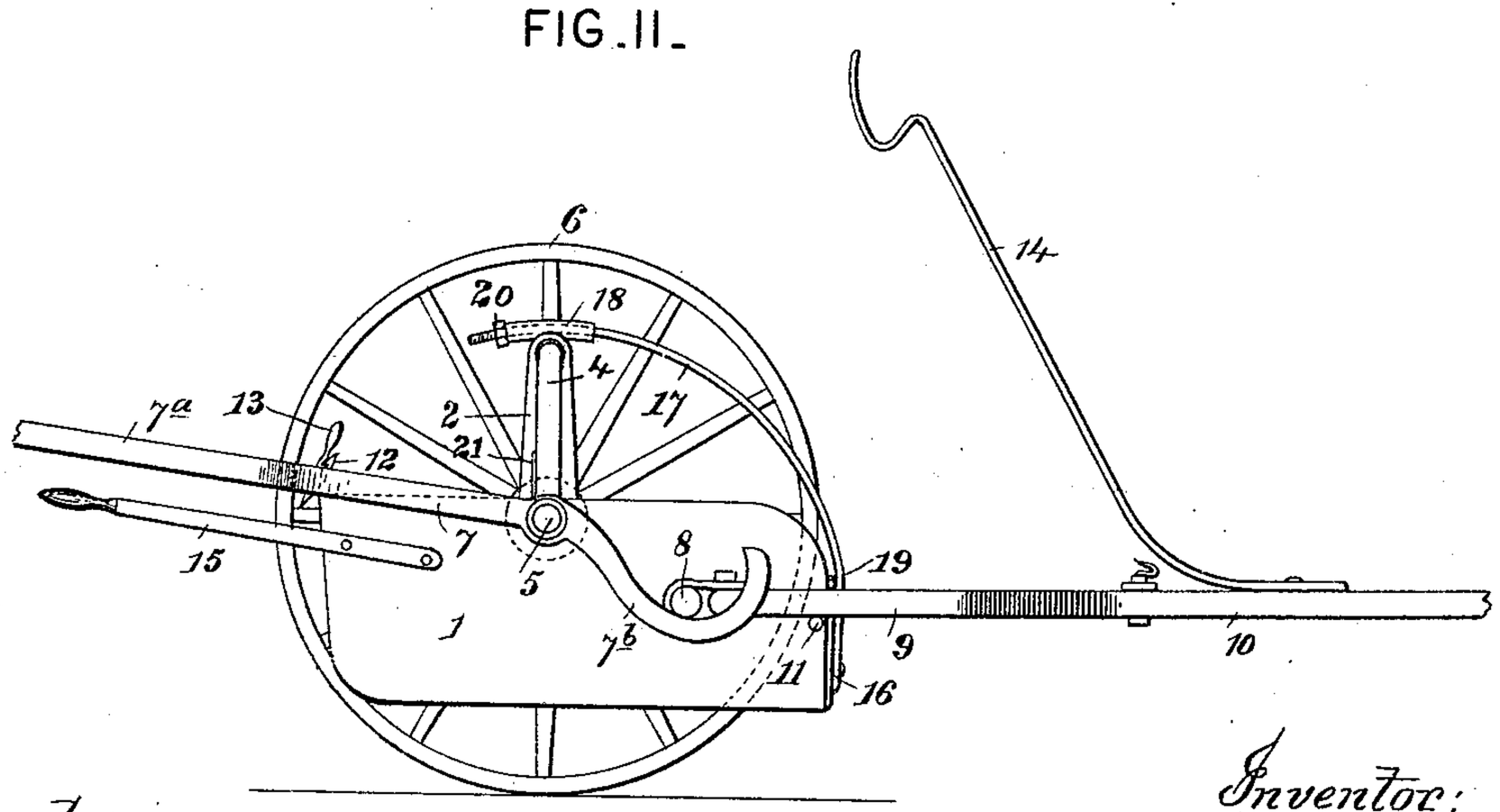


FIG. II.



Attest.
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(No Model.) 2 Sheets—Sheet 2.

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FIG. III.

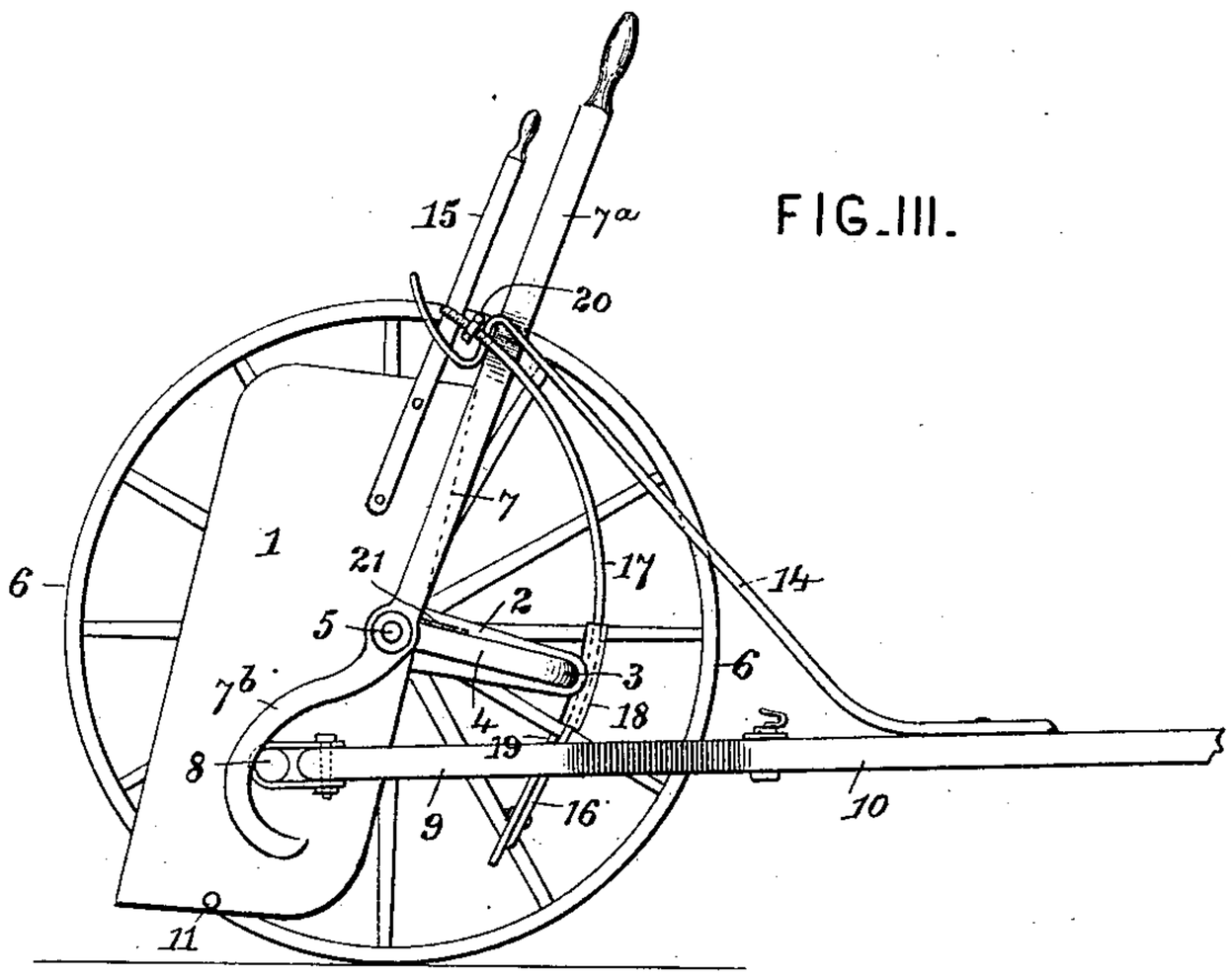
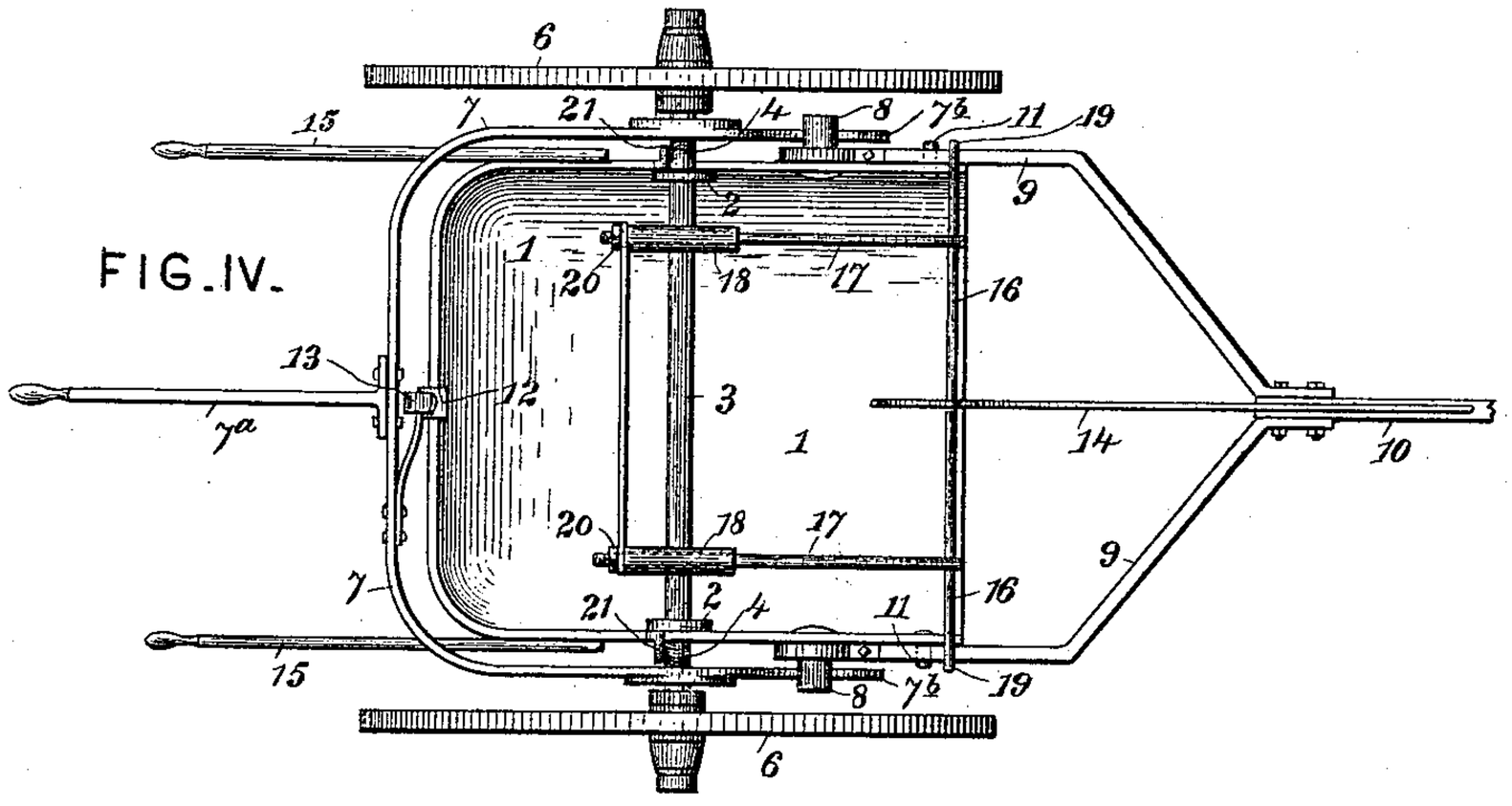


FIG. IV.



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UNITED STATES PATENT OFFICE.

FRED W. HUBBARD, OF COLUMBUS, OHIO, ASSIGNOR TO THE KILBOURNE & JACOBS MANUFACTURING COMPANY, OF SAME PLACE.

WHEELED SCRAPER.

SPECIFICATION forming part of Letters Patent No. 332,531, dated December 15, 1885.

Application filed June 16, 1885. Serial No. 168,893. (No model.)

To all whom it may concern:

Be it known that I, FRED W. HUBBARD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Wheeled Scrapers, of which the following is a specification.

This invention relates to an improved wheeled scraper made with a crank-axle, the central or yoke part of which receives a forward movement in rising to lift the bowl from its excavating to its carrying position, so that this movement is imparted mainly by the power of the team and by a direct pull, when the parts are slightly tipped out of their position for filling by an easy movement imparted by the operator, as hereinafter described. To this end a bifurcated or two-part lever is employed, fulcrumed upon the wrists of the crank-axle, on which the carrying-wheels turn, and having curved ends engaging beneath studs or bearings on the sides of the scraper-bowl, near the front. The draft-hounds are hinged to the scraper-bowl in customary manner.

The invention further relates to an end-gate operated automatically by the movement of the scraper-bowl in changing it from one to another of its three positions in filling, carrying, and dumping, the said gate being opened by the lowering of the bowl to its filling position, closed by the lifting of the bowl to its carrying position, and again opened when the bowl is partially inverted for dumping.

In the accompanying drawings, Figure I is a side elevation of the improved scraper, with one wheel removed, showing the scraper-bowl in filling position. Fig. II is a similar view showing the parts in carrying position. Fig. III is a similar view showing them in dumping position; and Fig. IV is a plan showing them in carrying position, as in Fig. II.

The scraper-bowl 1 is provided with hangers 2, by which it is suspended from the central or yoke part, 3, of the crank-axle, the arms 4 of which connect in customary manner with the wrists 5, forming the journals of the carrying-wheels 6. On these journals 5 are fulcrumed the arms 7 of the operating-lever, which are united at their upper or rear extremities, as shown at 7^a. The lower or forward extremities of the lever-arms 7 are curved, as shown at 7^b, forming concave seats or bearings for the studs 8, which project horizontally from the sides of the bowl, and receive the draft-hounds 9, which are connected in front to a tongue, 10, in customary manner. Separate studs may be used for the hounds, if preferred. Additional studs, 11, near the forward extremity of the bowl, form a vertical bearing or fulcrum for the hounds, to balance the bowl and impart a lifting force to its rear portion. A lug, 12, on the rear of the bowl, engages with a customary spring-catch, 13, on the yoke-lever 7, to support the bowl in carrying position or in dumping position, when so adjusted. A spring-catch, 14, connected with the tongue, holds the scraper-bowl in the dumping position shown in Fig. III by engaging with the yoke-lever 7. One or more rigid handles, 15, project from the rear of the scraper-bowl for tipping it in either direction.

16 represents the end-gate, to which are attached one or more arms, 17, preferably having the curved form represented and sliding in sockets 18 upon the central or yoke part, 3, of the crank-axle, so as to throw the end-gate up clear of the scraper-bowl when the latter is in filling position, as represented in Fig. I, lower it into position to close the front of the bowl when the latter is in carrying position, as represented in Fig. II, and when the scraper is tipped over for dumping, as shown in Fig. III, permitting the front or mouth of the scraper to fall away from the end-gate, so as to open it, the end-gate being supported by studs 19, projecting from its extremities, resting and sliding upon the hounds 9, while the curved arm or arms 17 of the end-gate slide through their sockets 18. The sliding arms 17 are preferably stopped in the sockets 18 by nuts 20 on their screw-threaded ends, by which means the height of the end-gate 16 relatively to the scraper-bowl in its closed position may be adjusted as required.

The operation may be briefly described as follows: The scraper-bowl being in filling position, as shown in Fig. I, with the end-gate elevated, after it has received a load of earth the operator by an easy movement pulls the the lever 7^a downward and backward, lifting on the studs 8, so as to throw the nose of the

scraper out of the ground. As soon as the obstruction is thus removed from the nose of the scraper, the pull of the team, acting through the scraper-bowl 1 and rigid hangers 2 on the crank-axle 3, throws the latter up until arrested in upright position by contact of lugs 21 on the hangers 2 with the axle-arms 4. The bowl is thus lifted clear of the ground, and the end-gate 16 moved down in front of the scraper-bowl, so as to confine the earth therein. The lever 7ª, being brought down to the nearly horizontal position shown in Fig. II, is caught and held in customary manner by the lug 12 and spring-catch 13. The machine is now on its wheels, in readiness to be taken to any point for dumping. The dumping-ground being reached, the operator tilts the bowl by lifting on the lever 7ª, throwing the upper part, 3, of the crank-axle forward and the nose of the scraper down in contact with the ground, so that it will be tipped over by the pull of the team. The end-gate 16 is, as before described, supported on the hounds 9 while the mouth of the scraper descends, and is thus left open to discharge the load. The heel of the scraper-bowl is now caught and held by the engagement of the spring-catch 14 with the lever 7, and the machine may be moved in this position until it again reaches the place for filling. The spring-catches 13 and 14 being then released and the scraper-bowl lowered into the filling position shown in Fig. I, the work goes on as before.

In the event of stalling by the point of the scraper-bowl becoming fixed in the earth, my improved construction affords the greatest facility for easing the draft by slightly lifting the point of the bowl. The labor of lifting the bowl is almost entirely performed by the team, and this is rendered as light as possible by reason of the nearly direct forward pull imparted to the crank-axle.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of a crank-axle, a scraper supported by hangers therefrom, and a hub lever or levers having curved ends engaging under suitable studs or bearings on the scraper to raise the same, substantially as set forth.

2. In a wheeled scraper having a crank-axle, an end-gate operated by a sliding arm or arms connecting it with the crank-axle, substantially as set forth.

3. In a wheeled scraper, a crank-axle which drops backward in lowering the bowl to filling position, combined with an end-gate lifted from its closed position by the dropping backward of the crank-axle and bowl.

FRED W. HUBBARD.

Witnesses:
OCTAVIUS KNIGHT,
A. E. TRUMBULL.