(No Model.)

2 Sheets—Sheet 1.

F. W. HUBBARD.

WHEELED SCRAPER.

No. 332,533. Patented Dec. 15, 1885.

FIG. I.

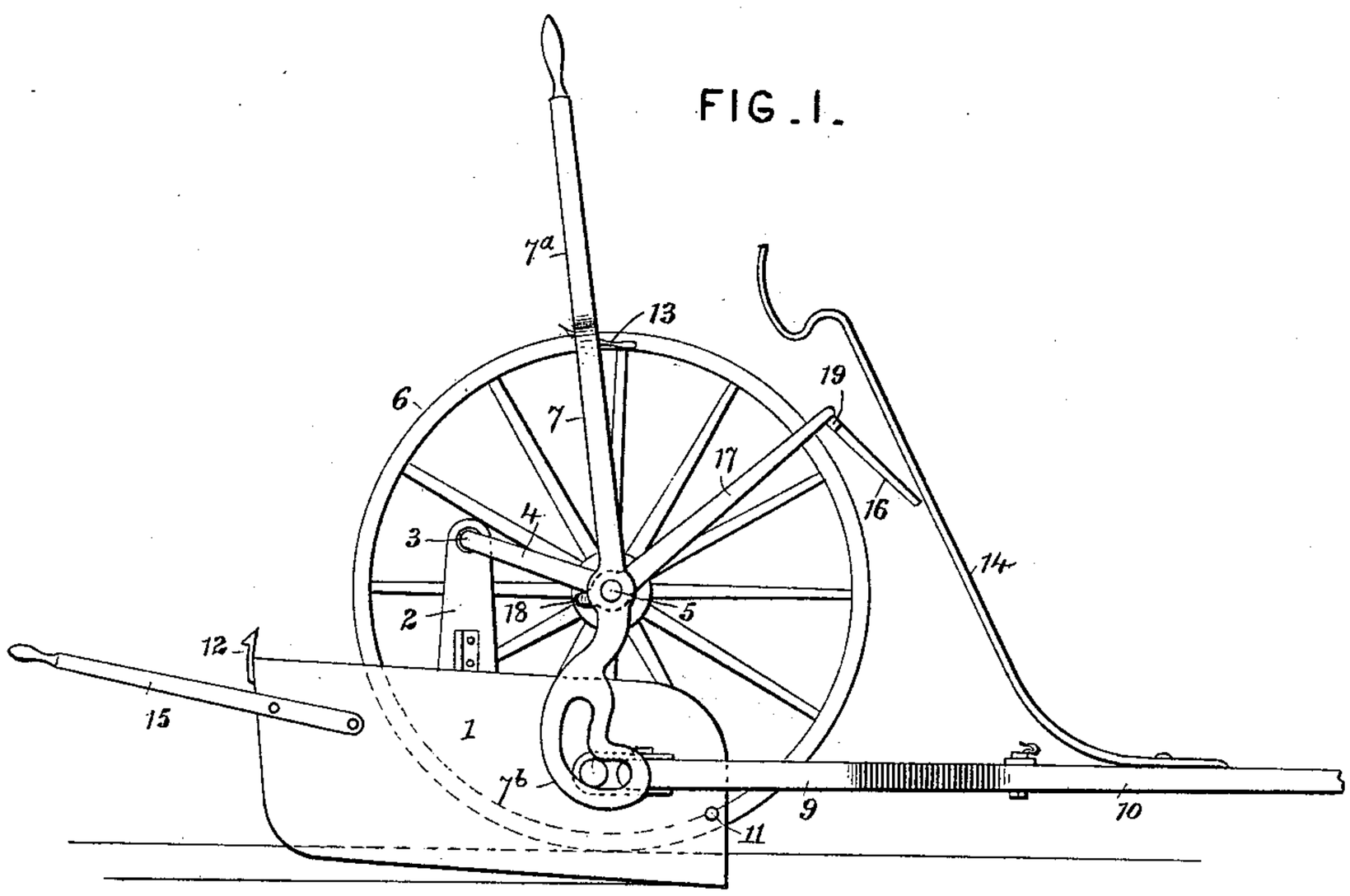
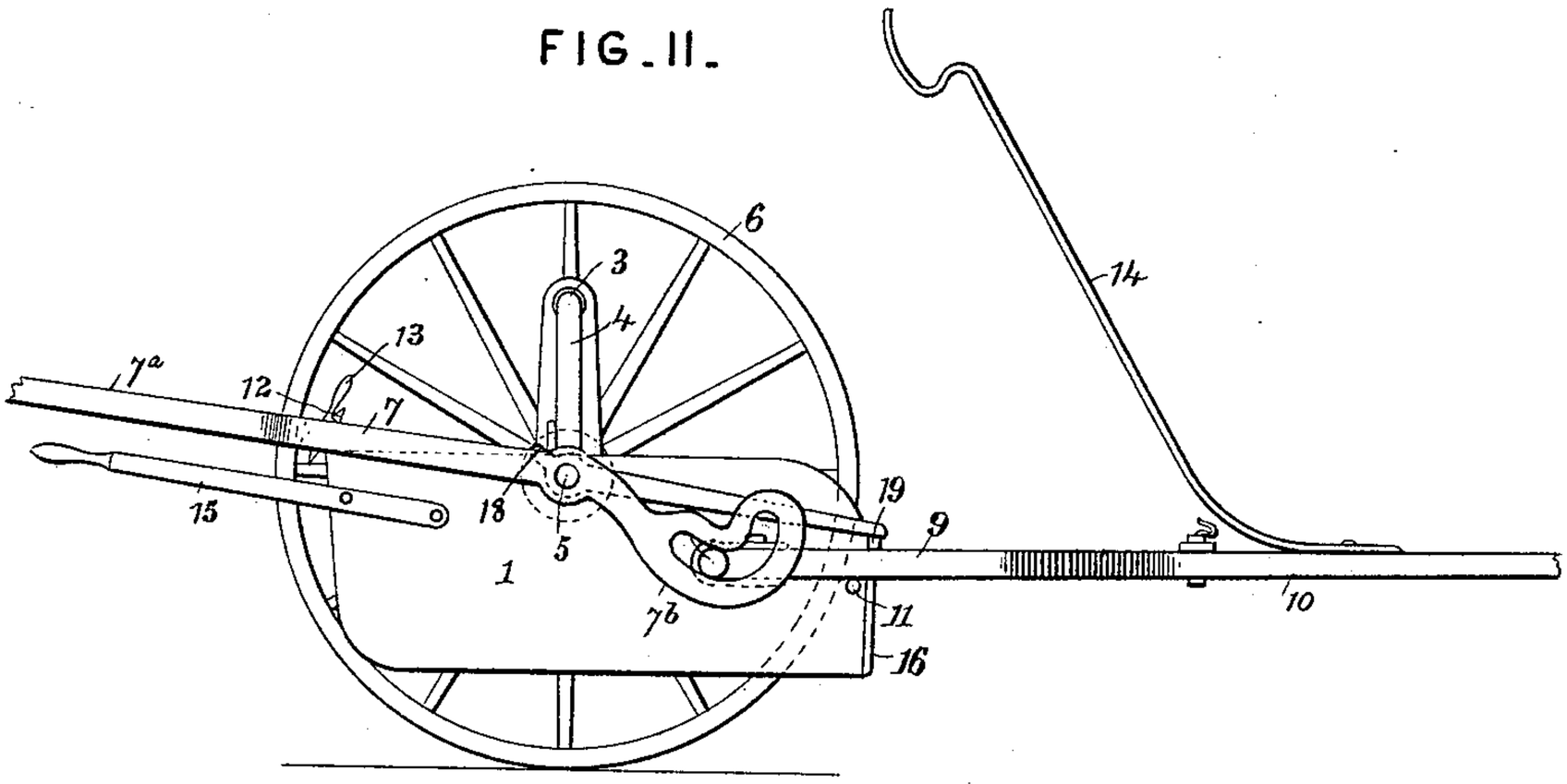


FIG. II.



Attest:

Geo. T. Smallwood.

Jas. K. McCathran.

Inventor:

Fred W. Hubbard.

By Knight Bros

attys.

(No Model.)

2 Sheets—Sheet 2.

F. W. HUBBARD.

WHEELED SCRAPER.

No. 332,533. Patented Dec. 15, 1885.

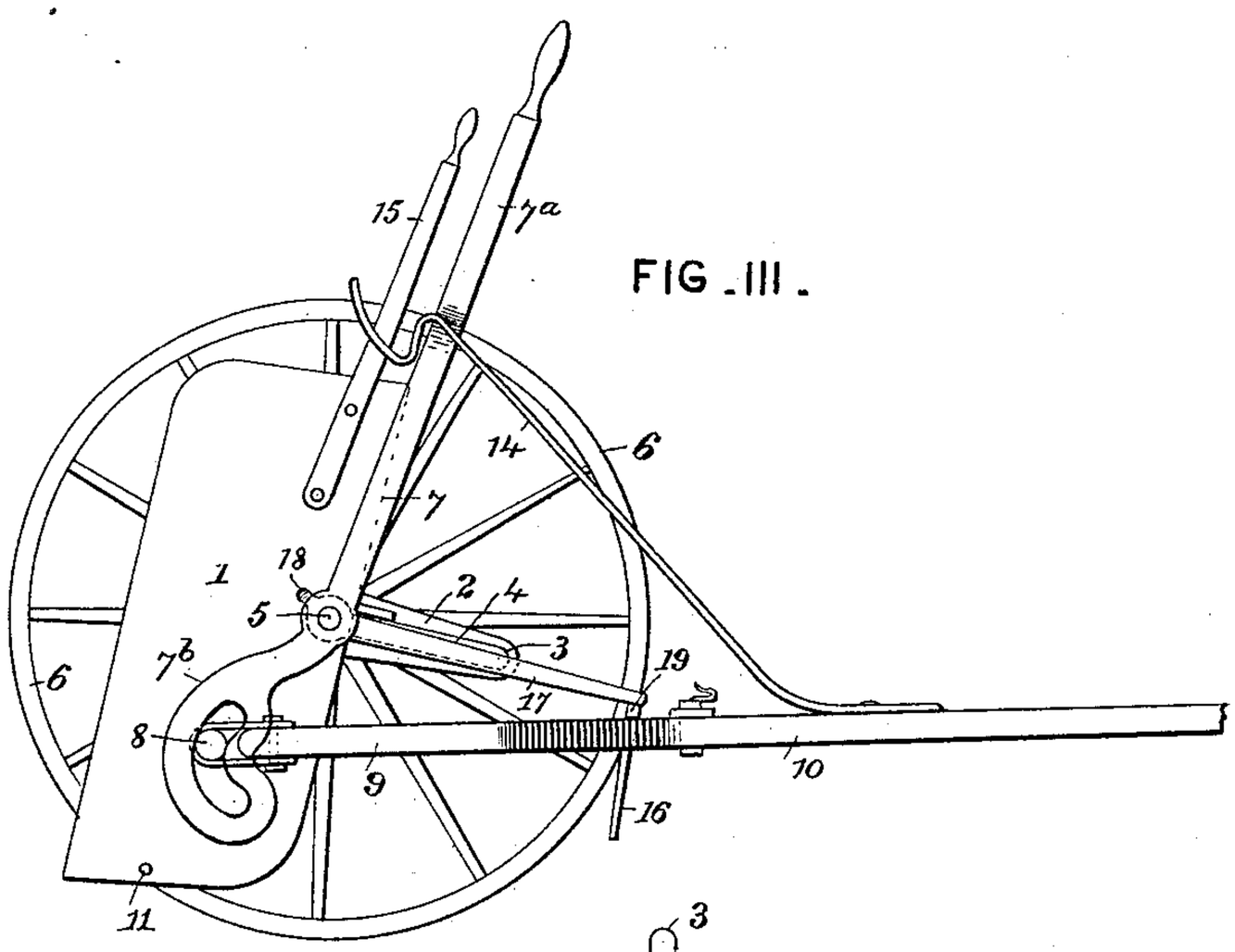


FIG. III.

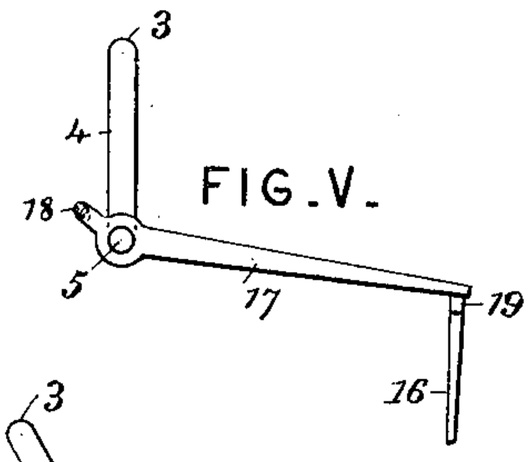


FIG. V.

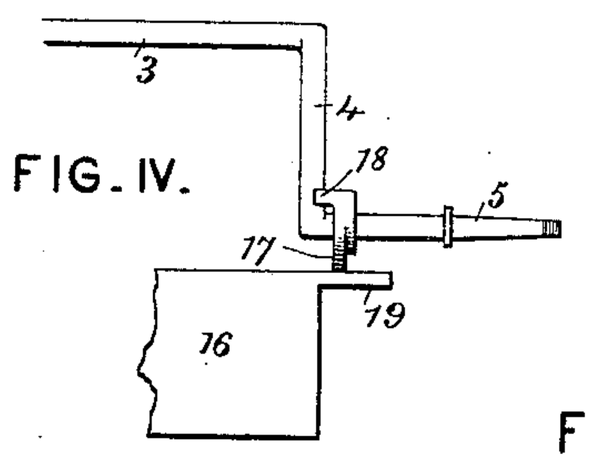


FIG. IV.

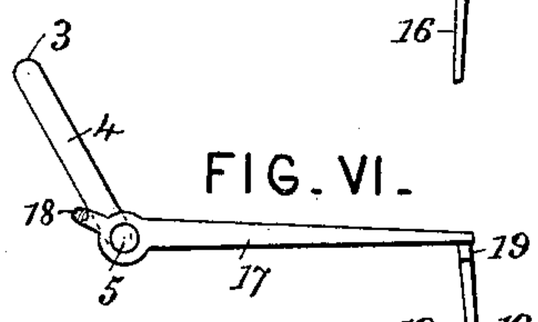


FIG. VI.

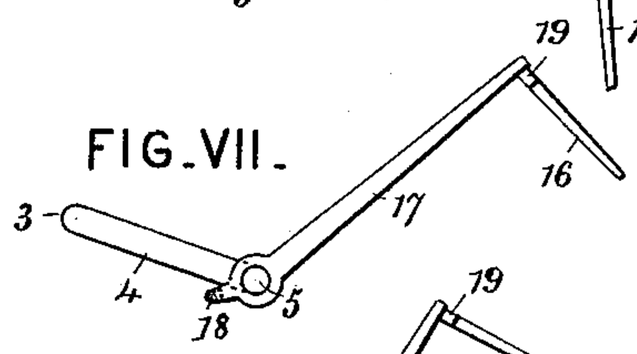


FIG. VII.

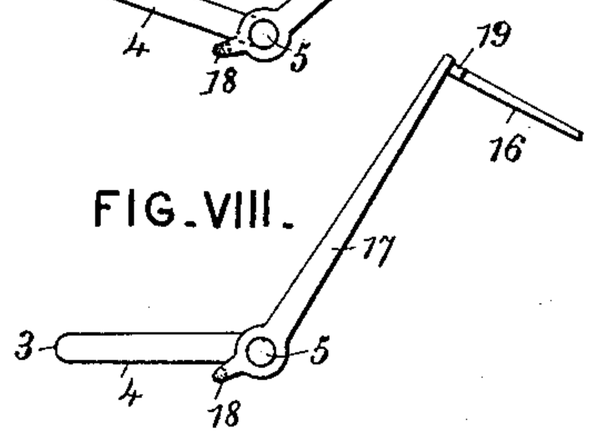


FIG. VIII.

Attest.

Geo. T. Smallwood.

Jas. K. McCathran.

Inventor:

Fred W. Hubbard.

By Knight Bros.

attys.

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. 332,533, dated December 15, 1885.

Application filed July 20, 1885. Serial No. 172,140. (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.

My invention relates to the class of wheeled scrapers which are made with crank-axles adapted to lower the bowl for filling and to elevate it for carrying to the dumping ground, such elevation of the loaded bowl being effected by a partial rotation of the crank-axle imparted by the movement of the team under control of the operator.

The object of my invention is to produce a ready and effective method of operating the end-gate of a wheeled scraper automatically, and without material expenditure of power. To this end I mount the end-gate on a pair of arms, which turn easily on the crank-axle concentrically with the carrying-wheels, the said arms being provided with projecting lugs or bearings, with which the arms or crank portion of the axle come in contact when the scraper-bowl is lowered into the working or filling position, so as to automatically lift the end-gate and expose the front or mouth of the bowl, but which, when the crank portion of the axle is turned up to lift the bowl, permit the end-gate to fall in front of the bowl to close it and to confine the earth therein. The end-gate is furthermore provided with lugs which, when the bowl is tipped for dumping, rest on the draft-hounds, so as to support the end-gate and prevent it following the downward movement of the front of the bowl when the latter is tipped and inverted to dump the contents.

In the accompanying drawings, Figure I is a side elevation of a wheeled scraper with one wheel removed, showing the bowl in loading position. Fig. II is a side elevation of the same, showing the bowl in carrying position, ready for dumping. Fig. III is a side elevation showing the position after dumping. Fig. IV is a rear view of a portion of the axle and one of the end-gate arms, to illustrate the engagement of one with the other. Figs. V, VI, VII, and VIII are diagrams or detail views illustrating different positions of the end-gate and axle.

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 and slotted, as shown at 7^b, forming guides and 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, 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, which is attached to arms 17, adapted to turn easily on the journal-arms of the axle 5, concentrically with the carrying-wheels. On the rear end of the said end-gate arms are lugs 18, with which the vertical arms of the crank-axle engage, as illustrated in Fig. IV, so that when the yoke or central part of the axle is depressed for lowering the bowl into filling position the forward extremities of the arms 17 will be lifted, elevating the end-gate above and completely clear of the mouth of the scraper-bowl, as illustrated in Fig. I; and when the bowl is elevated into carrying position, as shown in Fig. II, they will permit the end-gate to fall in front of the scraper-mouth to close the same. Studs or lugs 19 project from the ends of the end-gate, so

as to rest upon the hounds 9 when the scraper-bowl is tipped for dumping, and thus permit the mouth of the bowl to fall away from the end-gate when its contents are to be discharged, as illustrated in Fig. III.

The various positions of the end-gate and the crank-axle are particularly illustrated in the diagrams Figs. V, VI, VII, and VIII; Fig. V showing the axle up and the end-gate lowered in front of the bowl, as in carrying position, Fig. VI the axle in the act of lowering before it commences to lift the end-gate, Fig. VII the axle lowered sufficiently to bring the bowl in contact with the earth at the commencement of the filling operation, the end-gate being here lifted out of the way, and Fig. VIII showing the axle down, as when the bowl is completely filled, and the end-gate correspondingly elevated, so as to be clear of the ground.

Other parts of the machine not herein specifically described may be made as shown and described in my application No. 168,893, filed June 16, 1885.

This end-gate is not limited to this particular scraper, but may be applied to any wheel-scraper of this class.

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

1. An end-gate mounted upon arms hinged to the crank-axle concentrically with the carrying-wheels, substantially as herein shown and described.

2. An end-gate mounted upon arms hinged to the crank-axle and provided with lugs or projecting ends engaging with the crank-axle in its movement, substantially as and for the purposes herein set forth.

3. An end gate mounted upon arms turning on the crank-axle, elevated by the rotation of the axle, and having lugs to support it upon the draft-hounds, substantially as set forth.

4. The combination of a crank-axle, a scraper-bowl supported by hangers therefrom, and a lever or levers having curved and slotted end or ends engaging with a stud or studs on the scraper-bowl to raise and depress the point thereof, as explained.

FRED W. HUBBARD.

Witnesses:
WEBSTER L. HUNTINGTON,
T. M. LIVESAY.