L. A. Beardsley,

Derrick.

No. 32,608. Patented June 25, 1861.

Fig: 1.

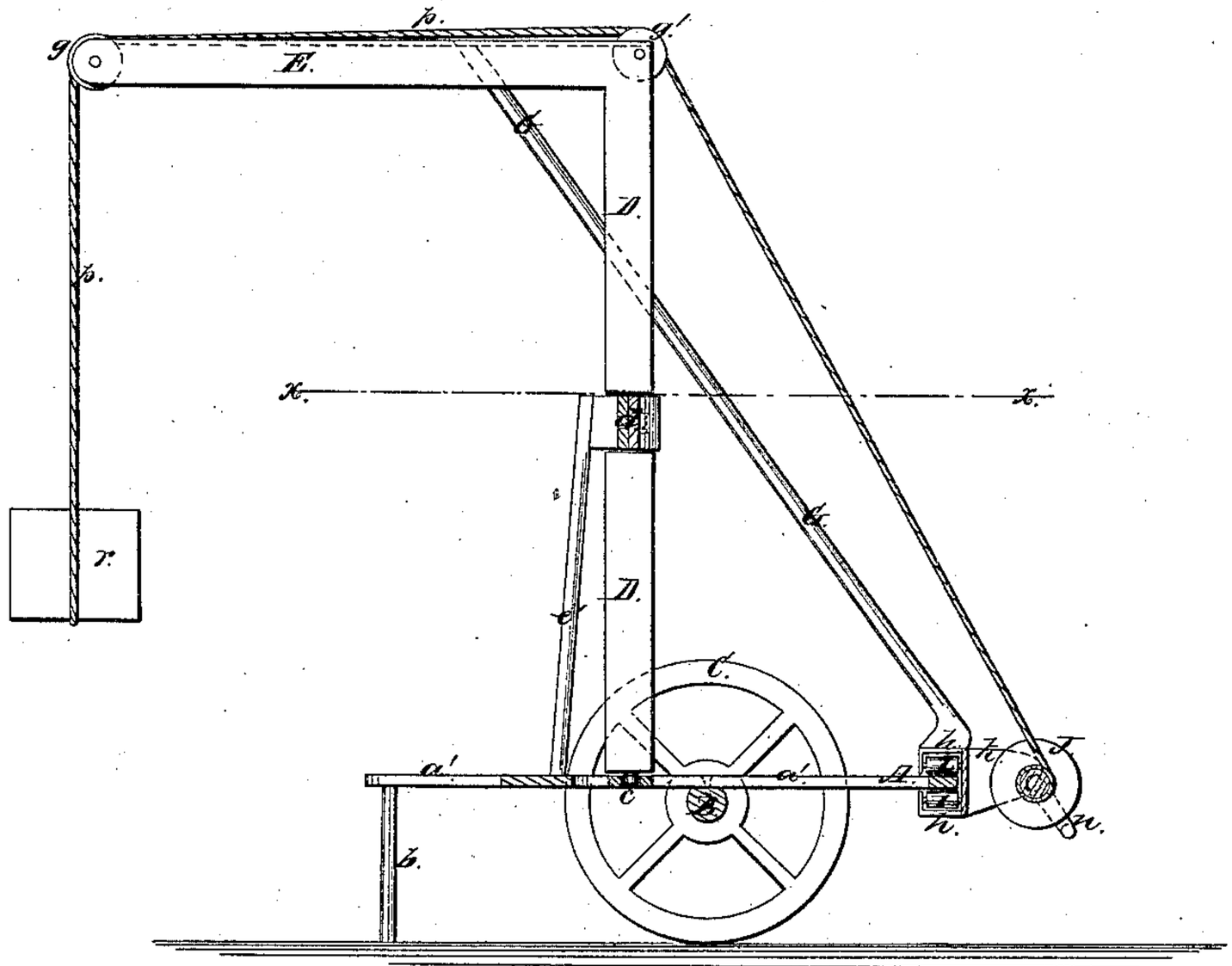
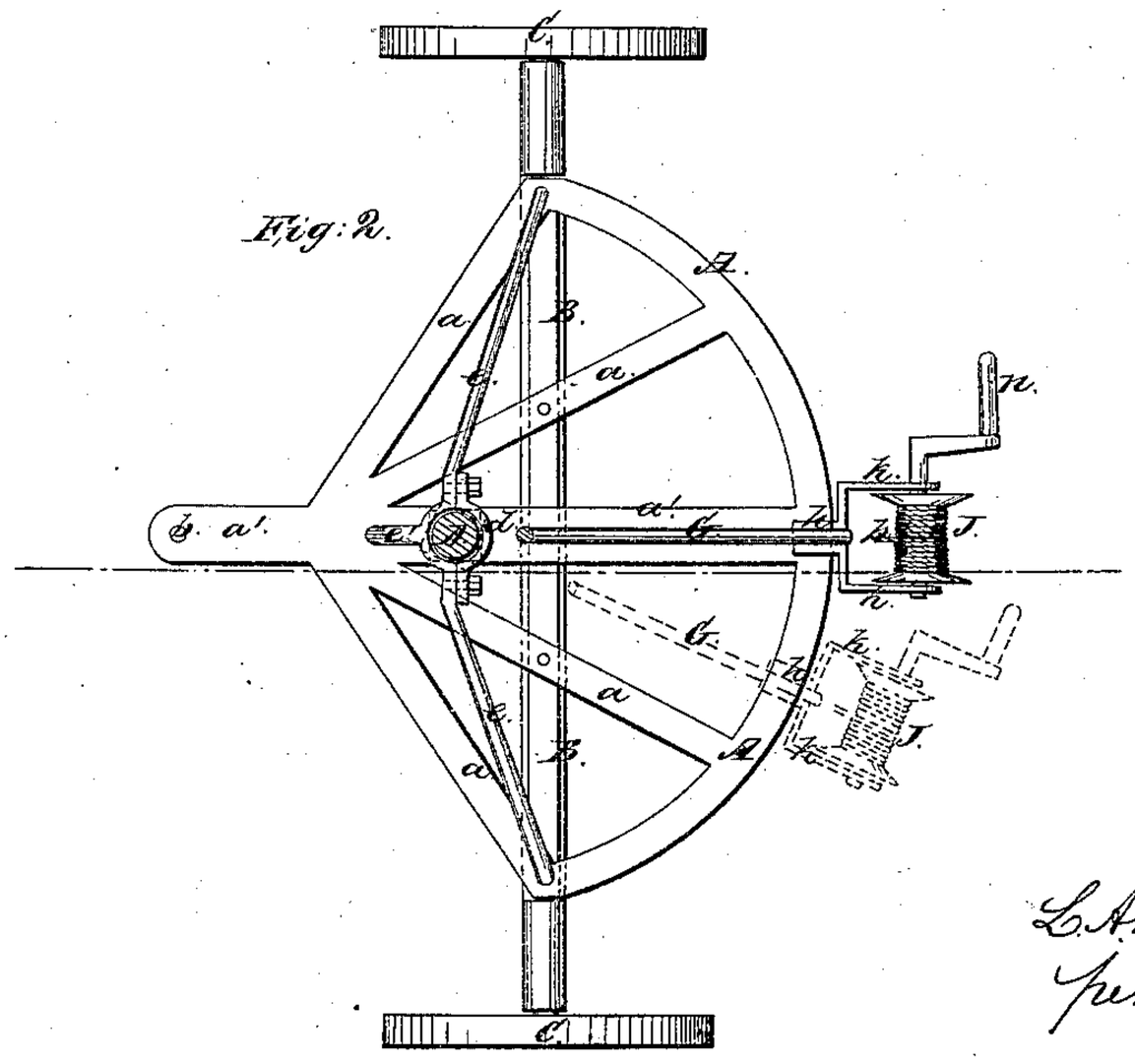


Fig: 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

LEVI A. BEARDSLEY, OF SOUTH EDMESTON, NEW YORK.

PORTABLE CRANE.

Specification of Letters Patent No. 32,608, dated June 25, 1861.

To all whom it may concern:

Be it known that I, LEVI A. BEARDSLEY, of South Edmeston, in the county of Otsego and State of New York, have invented a new and Improved Portable Crane; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a side elevation and section through the base of my improved portable crane. Fig. 2, is a horizontal section through the same, taken in the horizontal plane indicated by red line *x*, *x*, Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

My invention and improvement relates to a novel crane, intended for the use of the farmer as well as for the engineer. It is constructed so as to combine with strength, lightness and portability, and of a size adapted to the purpose it is intended to serve.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

The frame of the carriage on which the improved crane is mounted consists of a semi-circular way A, which is strengthened and braced by the radial bars *a*, *a*, *a'*, *a*, *a*. The longitudinal rod *a'*, extends out some distance from the middle of the way A, and has a leg *b*, under it, which forms the front support for the frame. This frame is secured to the axle B, of wheels C, C, so that the entire semi circular way A, will project out in rear of this axle, as shown in Figs. 1 and 2 of the drawings. If the way A, is made of wood it should be faced on top and bottom with metal plates. This carriage should be made strong and substantial and the tongue or bar *a'*, should project out in front of axle B, such a distance that the carriage will not be easily upset in lifting and swinging heavy bodies with the crane.

The crane frame consists of a strong perpendicular shaft D, and a horizontal crane arm E, which is secured to the upper end of shaft D. This shaft D, being made of a suitable height is stepped in a suitable bearing at *c*, in the central bar *a'*, of the carriage frame. At a suitable height above the carriage frame a collar *d*, encompasses a cylindrical journal of the shaft D, and from this collar to the carriage frame extend three tie rods *e'*, *e*, *e*, two of which extend out on each side of the shaft D, and are bolted to the axle B, near the extreme ends thereof and one, *e'*, extends out in front of the shaft D, and is bolted to the central bar *a'*. The collar *d*, allows the shaft B, to turn freely on its axis.

The crane arm E, (Fig. 1) should project from the shaft D, such a distance as will allow a weight suspended from its end to hang clear of the wheels C, C, and front end of bar *a'*, and the length of this arm should be determined by the strength and area of base of the carriage. At the extreme end of crane arm E, is a grooved pultey *g*, and at the angle of this arm with its shaft is another grooved pulley *g'*. Over these pulleys the rope or chain passes which communicates with the windlass at one end and the body to be raised at the other end.

G, is a diagonal rod which is secured at its upper end to the crane arm E, and passes through this arm and down through the shaft D, and is connected with the semicircular way A, of the carriage frame by a box *h*, carrying two friction rollers *i*, *i*, one bearing on the upper surface of the way A, and the other bearing on the bottom surface of this way. The axes of these two small friction rollers *i*, *i*, point toward the axis of the shaft D.

J, is a flanged drum which has its bearings in two brackets *k*, *k*, secured to and projecting from the lower end of brace rod G, as shown in Figs. 1 and 2 of the drawings. One end of the shaft of drum J, projects through its bracket and receives a hand crank *n*, which is used in rotating the drum J. If it is desired large and small gear wheels may be employed to obtain a greater power in rotating drum J, but for all ordinary purposes the simple crank and drum will answer. The rope *p*, is secured at one end to the drum J, and is wound upon this drum in raising weight *r*, shown in Fig. 1.

The machine is drawn about from place to place on the wheels C, C, and the body to be raised is secured to the end of rope *p*, which hangs from crane arm E. The operator then winds up the rope on drum J, until the weight is at a desired height, when he swings the crane arm E, around by push-

ing the lower end of brace G, either to the right or to the left of the machine, the brace being guided by the semi-circular way A, and the friction wheels allowing its lower end to move freely on this way in the arc which it describes. The operator can by this arrangement easily raise an ordinary weight and while he holds the weight suspended he can swing the same around and deposit it in a wagon or other desired place with great facility and while the rod G, serves as a brace for the crane arm E, and a back brace for shaft D, it also serves as an arm for moving the crane E. The machine will therefore be easily managed by one or two persons and it will be found useful on many occasions to the farmer as well as to civil engineer.

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

The combination of the windlass J, circular way A, and arm or brace G, constructed and operating substantially as shown, with each other and with the crane D, E, all in the manner and for the purpose herein shown and described.

LEVI A. BEARDSLEY.

Witnesses:
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