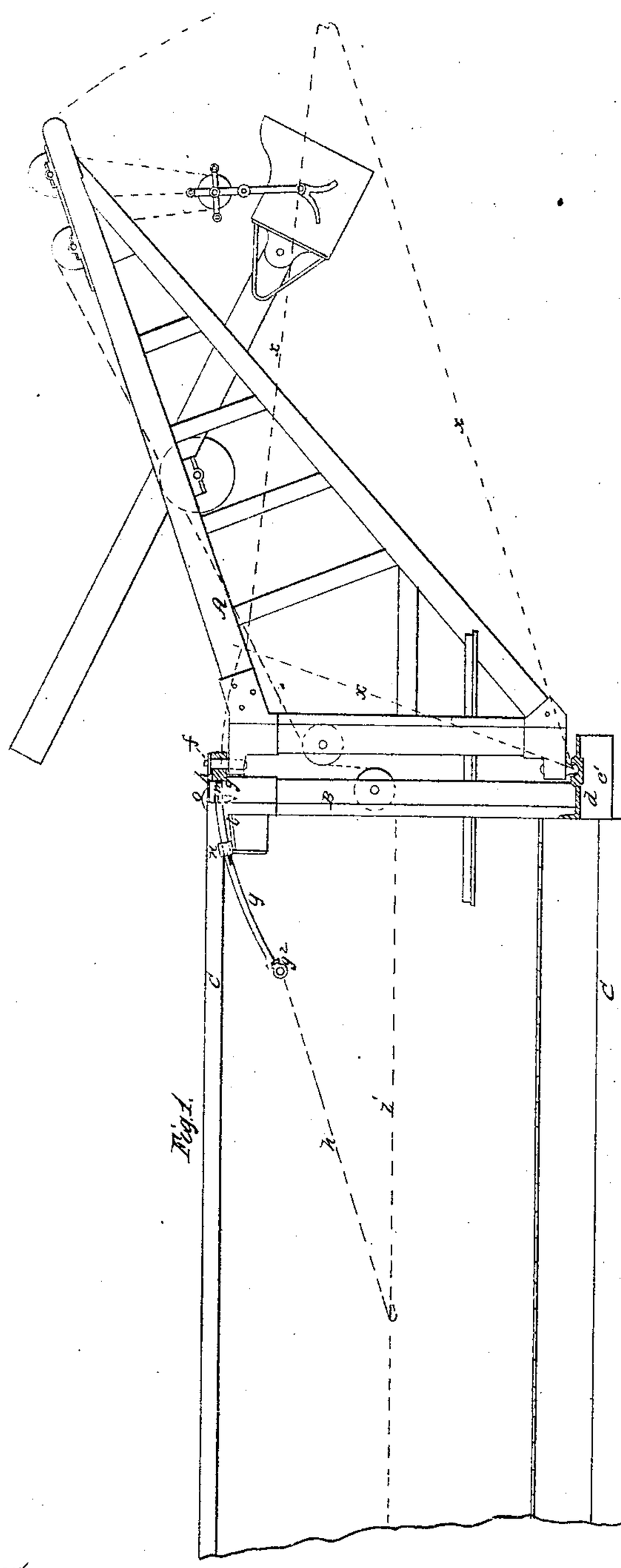
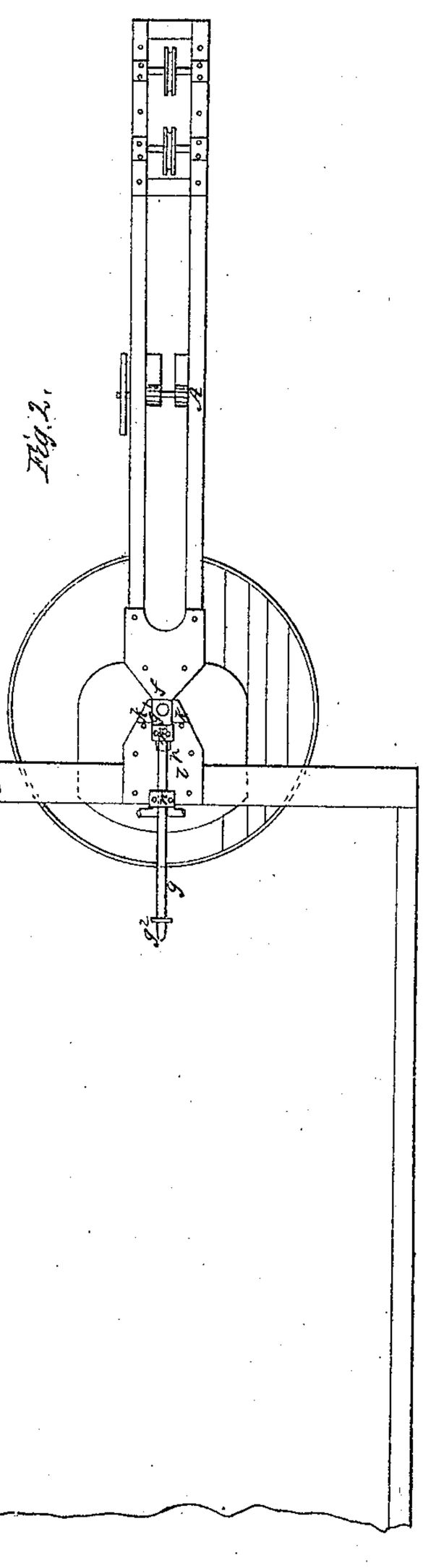
S. R. MARSHALL.

PORTABLE CRANE.

No. 41,161. Patented Jan. 5, 1864.





Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL R. MARSHALL, OF WILKES-BARRE, PENNSYLVANIA.

IMPROVEMENT IN PORTABLE CRANES.

Specification forming part of Letters Patent No. **41,161**, dated January 5, 1864.

To all whom it may concern:

Be it known that I, SAMUEL R. MARSHALL, of Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Portable Cranes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which--

Figure 1 is a sectional side elevation, and Fig. 2 a sectional plan view, of a portable crane having my said improvement applied thereto, like letters of reference indicating the same parts when in both figures.

My invention relates to those portable cranes which are used on railroads and canals for excavating and transferring therefrom to cars, boats, or the banks of canals the excavated earth, mud, &c.; and it consists, substantially as hereinafter described and specified, in so connecting the usual swinging frame to the stationary upright and step usually attached to the outside of the railroad-car or canal-boat for the purpose that the same may be readily lowered, so as to permit it to pass with the said car or boat under the low bridges which span these highways without requiring it to be detached or dismantled as heretofore, for the purpose.

In the drawings, A is the swinging frame, B the stationary upright, and C the supporting portion of the car or boat.

The frame A is constructed in the usual well-known manner for carrying the well-known scoop, chains, and pulleys requisite in the operation of excavating-machines.

The lower end or foot of the swing-frame A is provided with a rigidly-fixed pivot, *d*, the lower end of which is round or ball-shaped, and rests in a corresponding cavity on the step *e*, which is rigidly fixed on the projecting end *c'* of the sill of the car or boat, substantially as seen in Fig. 1. The upper or head end of the said frame A is provided with a cylindrical pivot, *f*, which is rigidly fixed thereto, so as to project vertically upward through a roomy hole made for the purpose in the outer end of a curved piece, *g*. The piece *g* is made of bar-iron curved to a radius centering in the ball-foot *d*, and is provided with a shouldered boss at each end, the forward boss, *g'*, having the cylindrical hole before mentioned for receiving the vertical pivot *f*, and the rear boss, g^2, a suitable hole for attaching either a rod or chain, (see dotted line *h*, Fig. 1,) whereby the said curved bar *g* can be readily connected and disconnected with the usual power-chain (see dotted line *i*) of the machine. The curved bar *g* is secured in place so that it may be permitted or caused to slide longitudinally between two jaws, *k k*, (see Fig. 2,) which form projecting parts of a plate, *l*, that rigidly fixes the top of the upright piece B to the frame of the car or boat. The forward boss, *g'*, fits accurately between the jaws *k k*, and abuts against a stay-piece, *m*, on the plate, when the swinging frame A is brought up to its normal or working position, as seen in the drawings, and when the said frame is lowered, so that it may pass under the bridges of the canal or railway on which the machine is being used, the rear boss, g^2, abuts against the stay-piece *n*, and thus sustains the swinging frame in the lowered position indicated by the faint lines *x* of Fig. 1. Its normal or working position is retained by means of a key or bolt, *o*, which is dropped for the purpose into a suitable hole made through the curved piece *g* immediately behind the stay *m*.

Steam-power is generally used to operate these excavating-machines, the chain *i* being wound and unwound by a cylinder; and it will be readily seen that the herein-described mode of attaching the swinging frame A admits of its being easily and quickly lowered and raised, so as to pass under the bridges and resume operations, and thus avoid the great labor and delay heretofore required in dismantling, detaching, and restoring the same for the purposes.

I wish it to be understood that I do not intend to confine myself to the particular modes set forth of constructing and arranging the different parts, whereby the said swinging frame A is lowered, raised, and sustained, as described, as it is obvious that these may be varied without causing a deviation from the general results required; but,

Having fully described and set forth what

I believe to be the best construction and arrangement, what I claim as my invention, and desire to secure by Letters Patent, is—

Attaching the swinging frame A of a portable crane to the stationary upright and step which are used to support it, so that the said swinging frame may be lowered and raised, substantially as described, for the purposes specified.

SAML. R. MARSHALL.

Witnesses:
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