

B. Saunders.
Warp Beam Transporter.

N^o 43,884.

Patented Aug. 16, 1864.

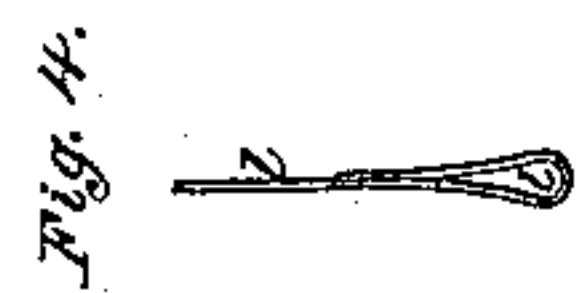


Fig. 3.

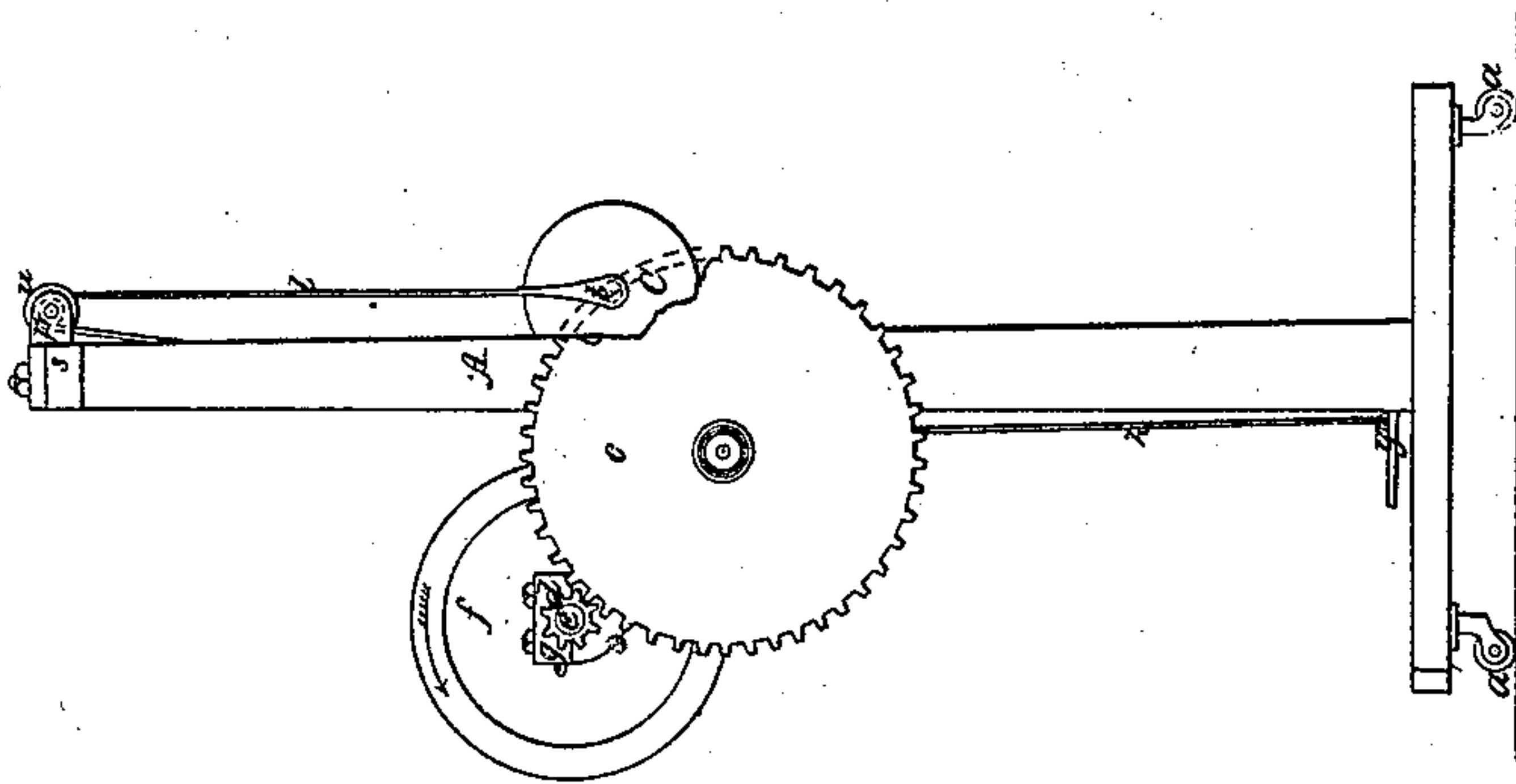


Fig. 6.

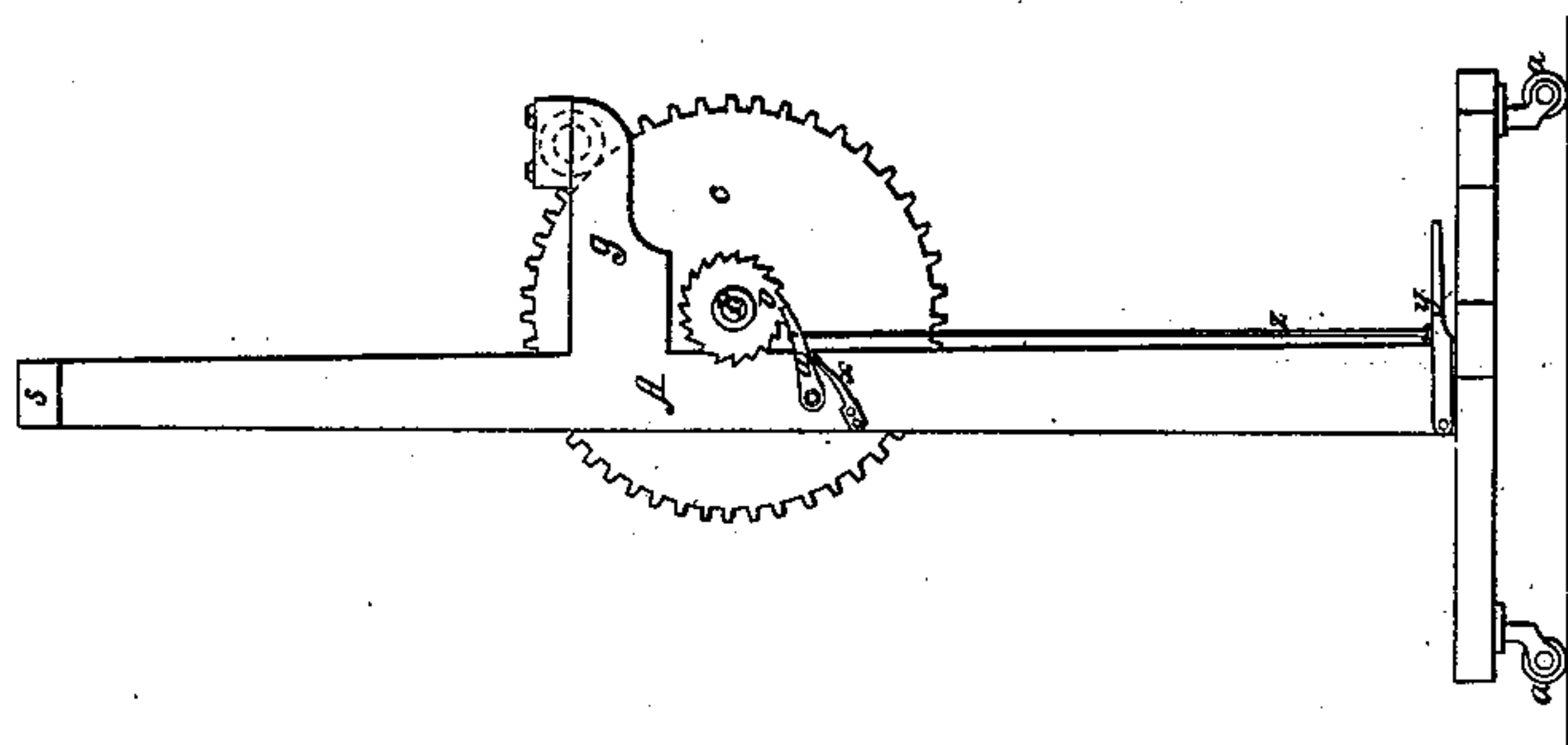


Fig. 1.

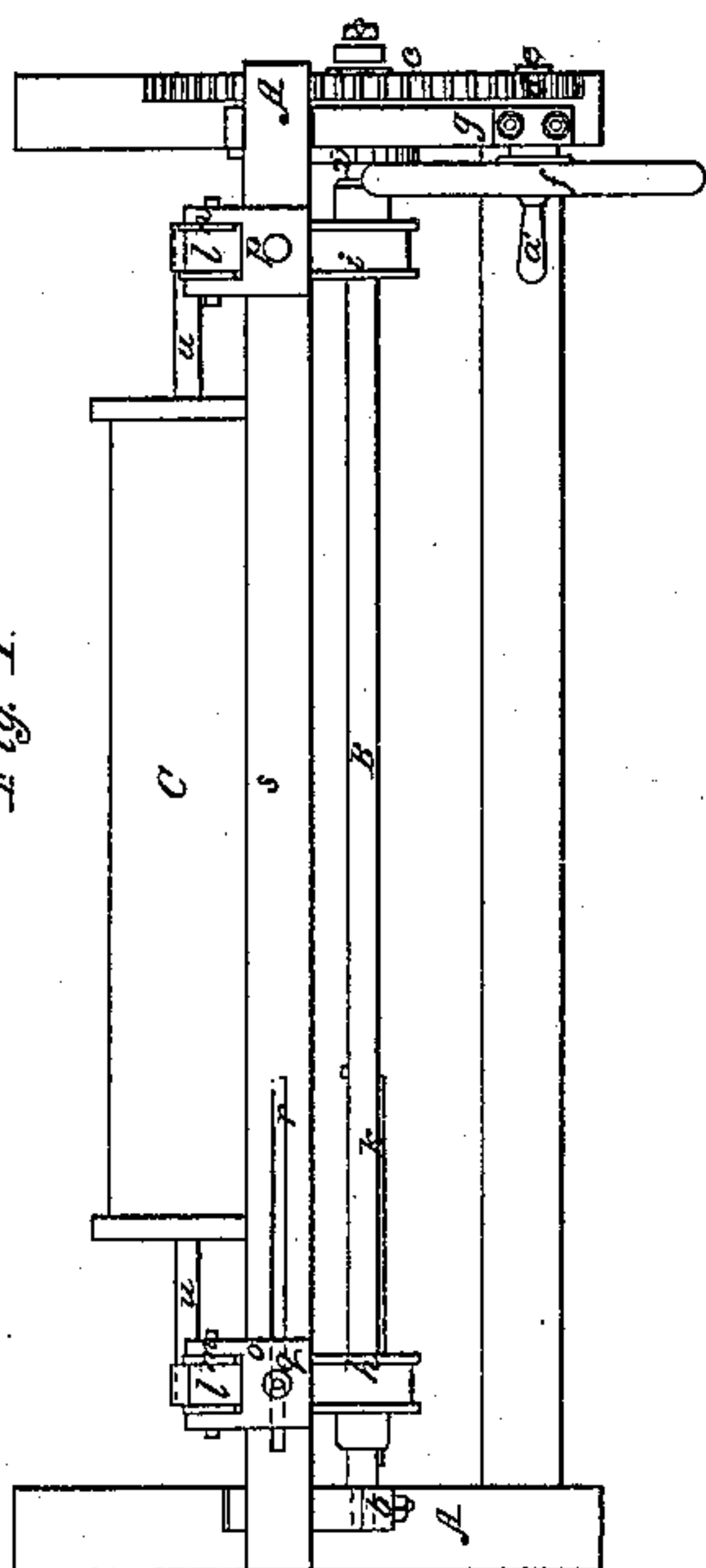
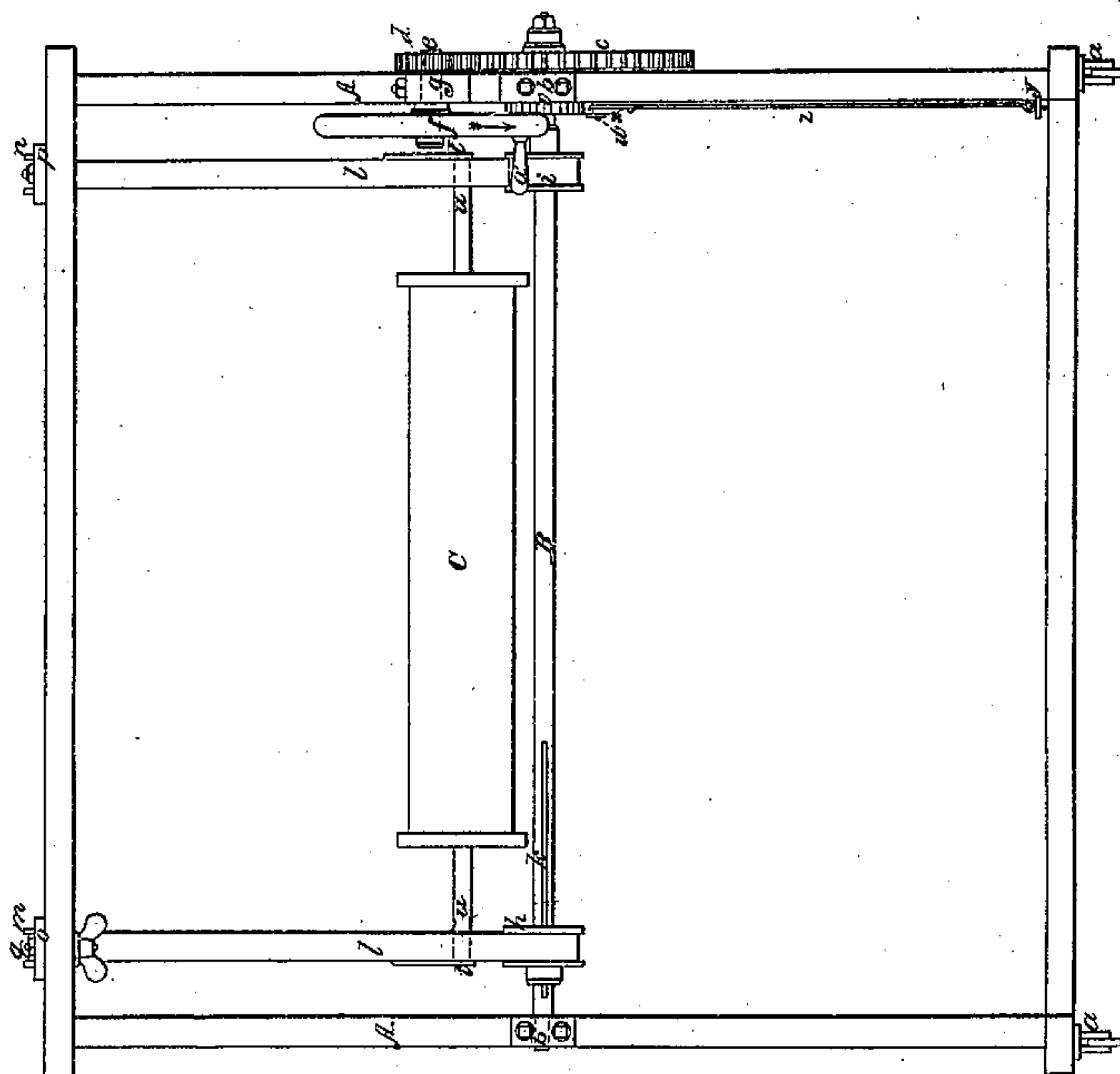


Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

BENJAMIN SAUNDERS, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR TO
ALBERT H. SAUNDERS AND GEORGE DRAPER.

IMPROVED MACHINE FOR CONVEYING WARP-BEAMS FROM ONE MACHINE TO ANOTHER, &c., IN
FACTORIES.

Specification forming part of Letters Patent No. 43,884, dated August 16, 1864.

To all whom it may concern:

Be it known that I, BENJAMIN SAUNDERS, of Nashua, in the county of Hillsborough and State of New Hampshire, have made a new and useful invention for transporting warp-beams from place to place or from one machine to another in an apartment of a factory; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 an end elevation, of the invention or machine.

Heretofore it has been customary to effect the transportation of warp-beams from the "warper" to the "dresser," or from the latter to the drawing-frame or elsewhere in the apartment of a factory, by manual labor, in which case the beam (which, when full of warps, weighs generally from two hundred to three hundred pounds) has been raised by its journals by one man at each of them, and in this condition it has been removed from one situation to another. With my machine the removal of the beam from a "warper" or "dresser," and its transportation therefrom to another machine, as well as its adjustment to the requisite elevation for being applied to such machine, can be effected by one person, a small boy, for instance, being sufficient to accomplish these results. In this way my invention is calculated to produce not only a great economy of labor, but a large saving of expense in a mill.

In the drawings, A denotes a "gallows-frame," having four or any other suitable number of casters, *a a a a*, for supporting it on a floor and for enabling it to be readily wheeled or moved from one place to another thereon.

Across the frame A there is arranged a horizontal shaft, B, having its journals supported in suitable boxes, *b b*. On one end of the shaft a gear, *c*, is fastened. The said gear engages with a pinion, *d*, fixed on a secondary shaft, *e*, which carries a cranked wheel, *f*, and is supported by a bracket, *g*, which extends from the gallows frame. Furthermore, there are two windlass-pulleys, *h i*, applied to the shaft B, one of them—viz., *i*—being fixed to the shaft concentrically. The other pulley is ap-

plied to the shaft by what is termed a "feather-connection," in order that the pulley may not only revolve with and be revolved by the shaft, but be capable of being easily slid longitudinally on the shaft. The feather connection is shown at *k*, its nature being well known to mechanics.

Each of the windlass-pulleys has one of two belts *l l* affixed to it and around it and extended from it upward over and partially around one of two pulleys or wheels, *m n*, which are supported in brackets *o p*, applied to the top of the gallows frame. One of these brackets is stationary and the other is adjustable on the frame. The adjustable bracket *o* is provided with a clamp-screw and nut as shown at *q*, such screw being caused to pass through a long slot, *r*, arranged longitudinally and in other respects in the cap-bar *s* of the gallows-frame, in manner as represented in Fig. 1. The two free extremities of the two belts *l l* should be provided with loops *t t* or other suitable devices for receiving and supporting the two journals *u u* of a warp-beam, *c*, when applied to them.

Fig. 4 denotes a transverse section, and Fig. 5 a longitudinal section, of one of these loops, whose outer ends I prefer to have closed and their inner ends open, as shown in Fig. 5.

Besides the windlass-pulleys there is fixed on the shaft B a ratchet, *v*. (See Fig. 1 and also Fig. 6, the latter being a transverse and vertical section of the machine, it being taken through the ratchet.) A retaining-pawl, *w*, forced up to the periphery of the ratchet by a spring, *x*, is applied to the gallows-frame, and is connected to a treadle, *y*, by means of a rod, *z*, the whole being arranged as shown in Figs. 2 and 6.

By taking hold of the handle *a'* of the cranked wheel *f* and revolving the said wheel in the direction denoted by the arrow marked thereon, the shaft B will be put in revolution, so as to cause the windlass pulleys to wind up the two belts, the retaining-pawl, while in engagement with the ratchet, serving to prevent the rotation of the shaft B in an opposite direction.

In using the machine, a person having brought it into a proper position, near a warper, for instance, is to apply the loops of the belts to the journals of the warp-beam to be

removed from such warper—that is, he is to insert each journal in one of the loops—and, should it be necessary, he is to adjust and fix the bracket *o* at the proper distance from the bracket *p* to enable the journals to keep their places in the loops during the removal of the warp-beam from its position and its transfer and adjustment to another position. This adjustment of the bracket having taken place, the crank-wheel should be revolved, so as to cause the warp-beam to be raised out of its bearings. The machine supporting the warp-beam may next be pushed or drawn along on the floor and into a convenient position for depositing the warp-beam in the place or machine in-

tended to receive it. In case it may be necessary to adjust the beam to any different or required altitude, this may be effected by the mechanism applied to the gallows-frame, the depositing of the beam in the machine or place for its reception being a matter readily accomplished.

I claim as my invention—

The said machine, constructed substantially in manner and so as to operate as and for the purpose specified.

BENJN. SAUNDERS.

Witnesses:

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