No. 701,906. Patented June 10, 1902.

A. LUTZ.

PORTABLE DERRICK.

(Application filed Mar. 21, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

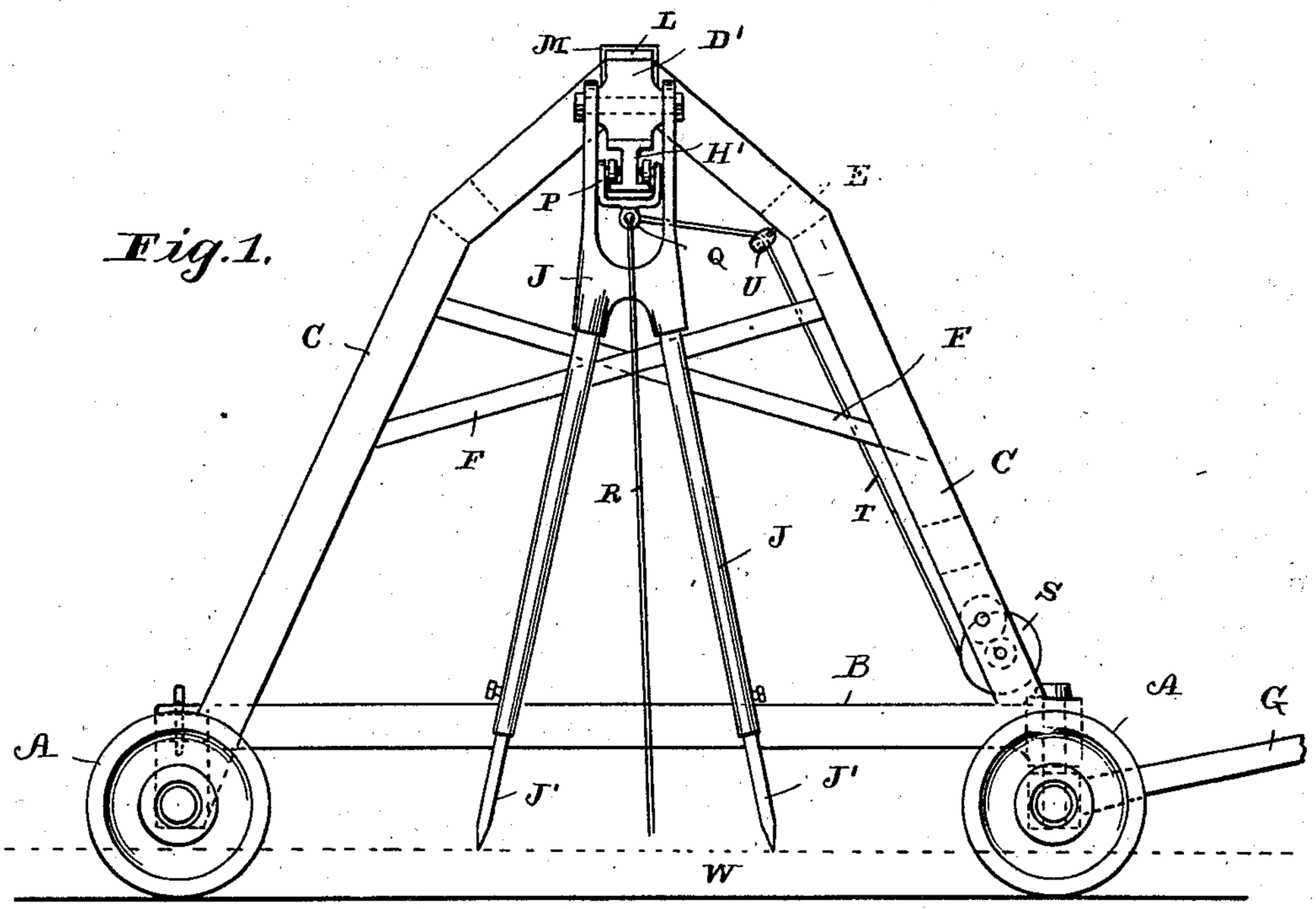
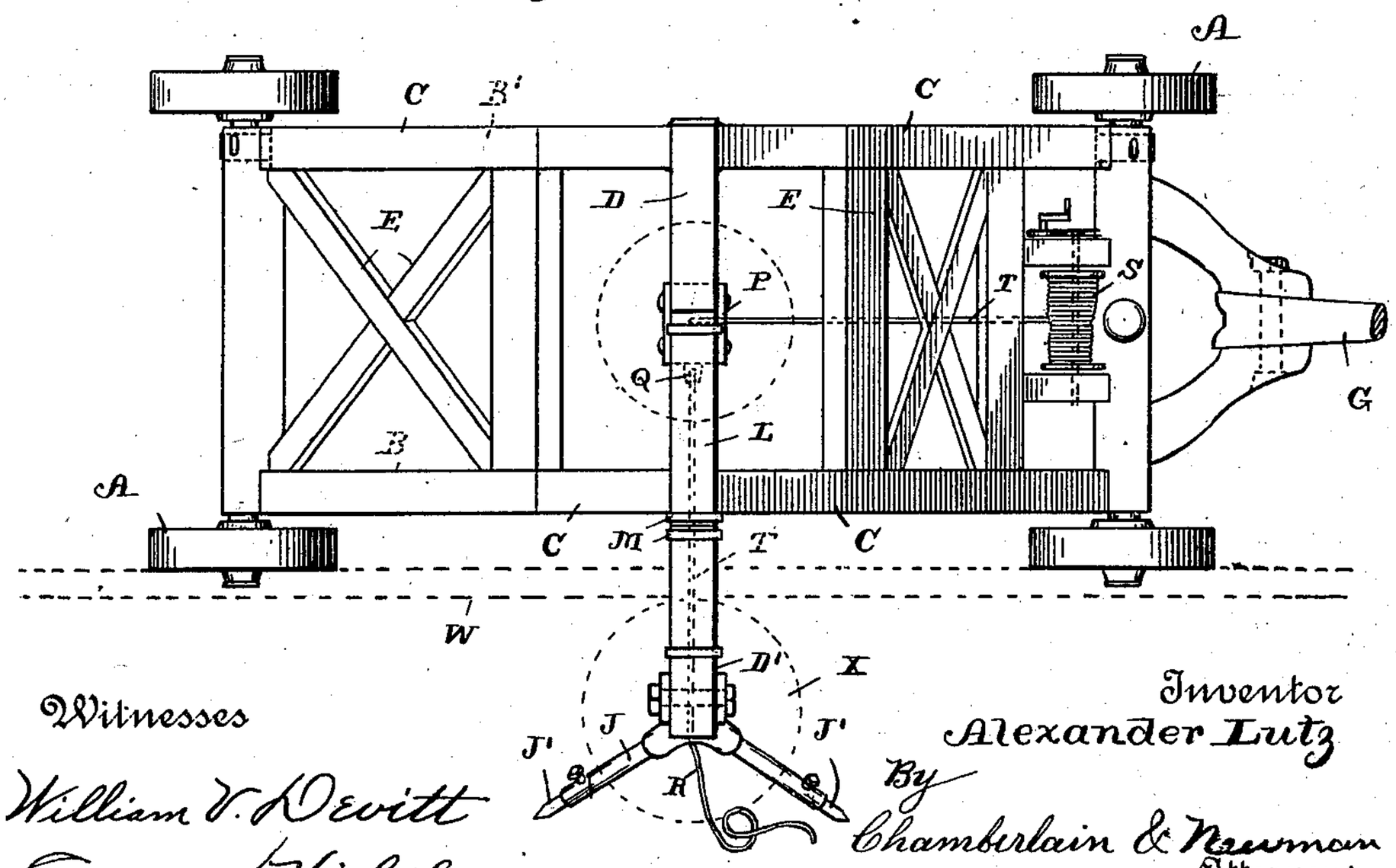


Fig. 2.



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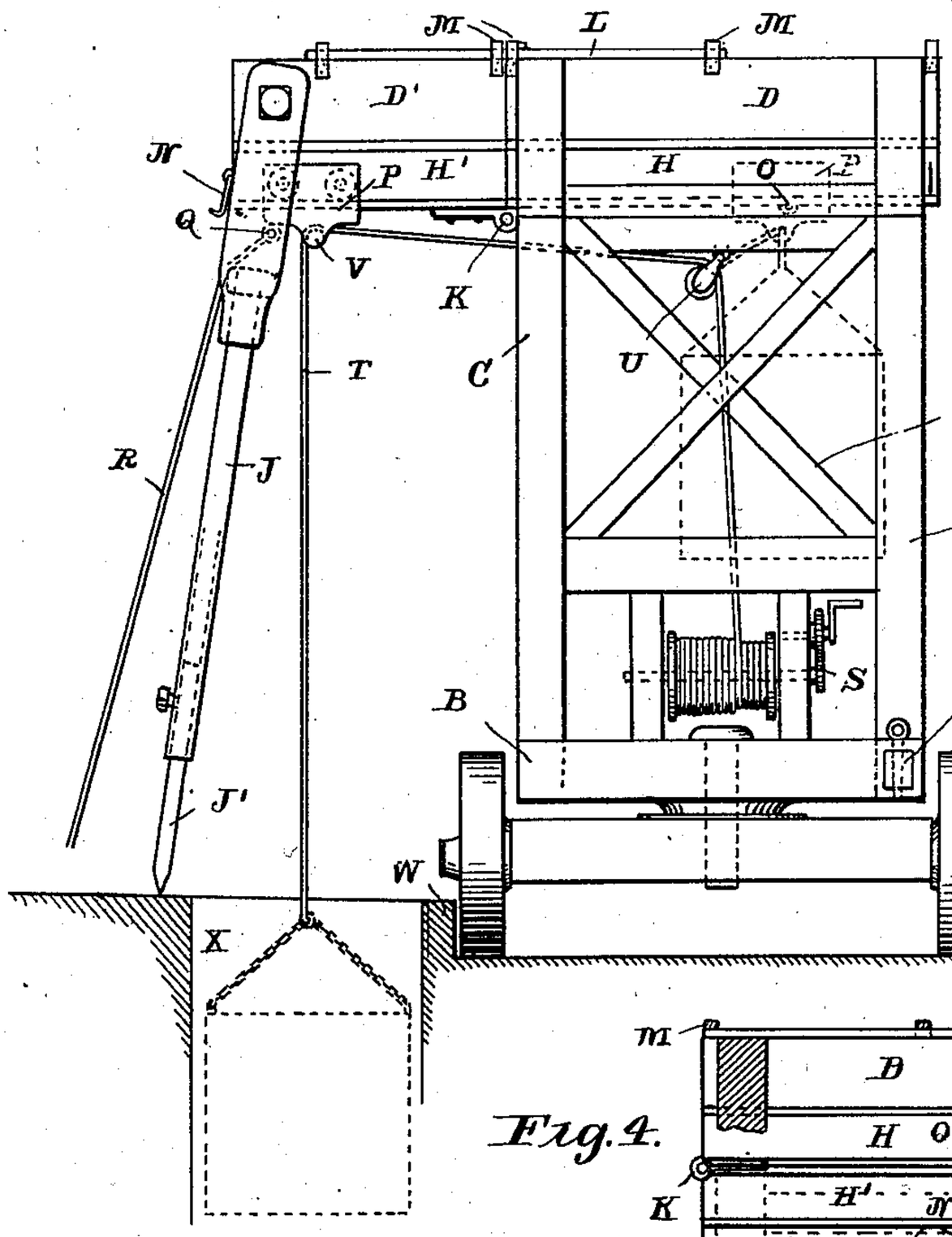

Fig. 3.

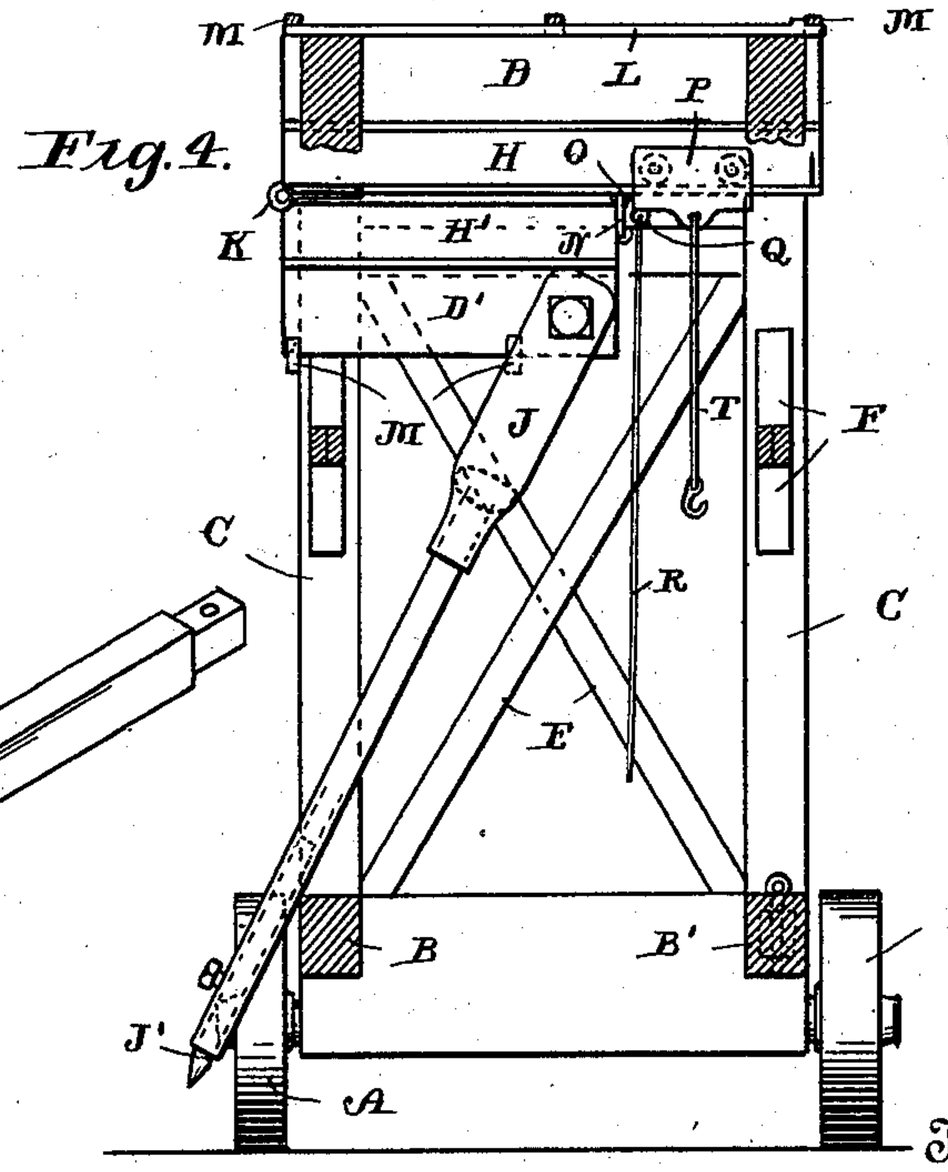

Fig. 4.

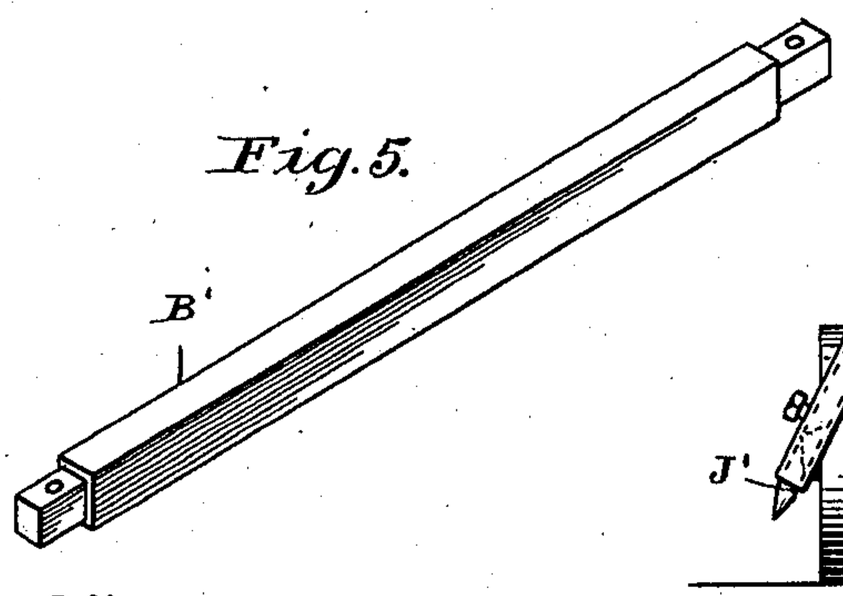

Fig. 5.

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UNITED STATES PATENT OFFICE.

ALEXANDER LUTZ, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES SANITARY AND UTILITY SEWAGE DISPOSAL COMPANY OF NEW JERSEY, OF NEW YORK, N. Y.

PORTABLE DERRICK.

SPECIFICATION forming part of Letters Patent No. 701,906, dated June 10, 1902.

Application filed March 21, 1901. Serial No. 52,129. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER LUTZ, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Portable Derricks, of which the following is a specification.

My invention relates to new and useful improvements in derricks of the portable class, such as are mounted upon wheels, designed to be moved from place to place and used upon various kinds of work.

With the adoption of modern forms of sewer-wells or receiving-basins, wherein a removable receptacle is employed to receive the flow of drainage from the street and to catch the heaviest of such drainage, it becomes necessary to provide a special construction of hoisting apparatus for raising said receptacle and moving the same to a cart, whereby the contents can be taken away, thus hastening the operation of cleaning out the well and, furthermore, making it possible to transfer the material direct from the well to the cart, thus avoiding the very objectionable necessity of locating said material upon the street, as has heretofore been the custom.

It is therefore the object of my invention to provide a derrick for the above purpose and to improve upon derricks for similar classes of work, whereby objects may be more conveniently and speedily loaded and unloaded in various places; further, to so construct the apparatus that it can be adjusted and used upon sewer-wells of various constructions and localities without the necessity of situating the derrick proper upon the walk in which said well is located, and, finally, to improve upon the detail of construction, whereby the device may be practicable and effective in its operation.

With the above objects in view my invention resides and consists in the novel construction and combination of parts shown upon accompanying two sheets of drawings, forming a part of this specification, upon which similar characters of reference denote like or corresponding parts throughout the several figures, and of which—

Figure 1 shows a side elevation of my invention complete and in position for operation. Fig. 2 shows a plan view of the same. Fig. 3 is a front elevation of the apparatus in an operative position. Fig. 4 is a central vertical cross-section of the device out of commission and ready for transportation. Fig. 5 is a detail perspective view of a removable brace used on one side of the lower portion of the frame.

Referring in detail to the characters of reference marked upon the drawings, A indicates wheels, of which there are four in number, the same being mounted upon front and rear axles, all of which may be of the usual form employed in low-wheeled trucks. Upon this running-gear is mounted a derrick-frame comprising a fixed and removable horizontal beam B and B′, respectively, and four vertical corner-columns C, the front and rear pairs of which lean toward each other and have a hipped bend adjacent to their upper ends and are joined to the central transverse ridge-beam D, as shown. In addition to these portions of the frame referred to braces E and F may be employed to strengthen the structure, as desired. This frame, while shown as formed of timbers, may as well be constructed of structural steel, similar to that used in bridgework.

A suitable tongue G is attached to the front wheels of the truck, whereby horses or other motive power may be attached to transport the device from place to place for operation.

The transverse ridge-beam D referred to extends across the width of the frame and projects out slightly on either side. To the under side of said beam is secured in any suitable manner an I-beam H, the lower longitudinal flanges of which form a track for the adjustable carriage. To the near ends of these beams H and D is attached, by means of a hinge K, corresponding extensions H′ and D′. A support J in the form of a pair of legs is provided for this extension and is made adjustable by engaging points J′, as shown. These points of the legs rest upon the sidewalk, against which the truck is placed, and by means of the adjustable features referred to the length of the legs is readily adjusted to accommodate the variable height of walks

above the street, so as to retain the transverse ridge-beam in substantially a horizontal position.

By means of the hinged connection K the extended sections of both the ridge-beam and I-beam can be swung in out of the way under the main portion of the frame, as shown in Fig. 4, the object of this folding construction being to narrow up the frame of the device for transportation, so that it will not be liable to come in contact with obstructions along the street and, furthermore, to equalize the weight of the truck and insure ease of transportation. In order to stiffen the joint of these two sections, I provide a slidable bar L on the top of the beam D, as clearly appears in Figs. 3 and 4, which, as will be seen, is fitted in suitable straps M and can be shoved forward to engage corresponding straps in the extension D′ when it is desired to lock the two together, and is returned, as shown in Fig. 4, when the extension is folded under. This hinged section can be retained in its folded position in any suitable manner—as, for instance, by a hook N, secured thereto and designed for engagement with the staple Q.

The I-beam H and its extension H′, as will be seen, contain a flange upon either side of their lower edge to form a track for the carriage P, which is designed to travel back and forth thereon, as will be apparent from the drawings. To a screw-eye Q in the forward end of this carriage is attached a rope R, by means of which said carriage is drawn forward to the position shown in Fig. 3 for operation. The rope R is hitched around one of the legs before mentioned or to some other object, so as to retain the carriage in the desired position during the hoisting operation.

The hoisting apparatus comprises a windlass S, located in the forward portion of the frame, and may be of the usual or any preferred construction containing a drum upon which the hoisting-rope T is wound. This hoisting-rope runs up through the small pulley-block U, secured to the frame, and is carried over a second pulley V in the carriage before mentioned, and from there it is taken down and attached to the object to be hoisted, as shown in Fig. 3.

In the practical application and operation of my invention the device is run up beside the curb W adjacent to a sewer-well X to be cleaned, as shown in Figs. 2 and 3 of the drawings, whereupon the extension of the beam and its legs are adjusted over and in line with the sewer-well. When located as above and the parts firmly locked in position, the windlass is let out and the rope T lowered into the well, where it is secured to the receptacle containing the collection of matter to be removed, after which it is hoisted in the manner indicated in Fig. 3 and shifted over to the right, as shown in dotted lines. The removable bar B′ having been taken out, a cart or vehicle (not shown) is backed in from the side under the frame of the truck at a right angle thereto and immediately beneath the receptacle suspended from the carriage before mentioned. It will thus be apparent that as the receptacle is lowered it will be received by the cart, into which it can be dumped by means of a collapsible bottom which this form of receptacles contain. After the operation is completed the receptacle is returned to the sewer-well, whereupon the tackle and mechanism are shifted and adjusted to the position shown in Fig. 4, so as to place the derrick in proper shape for transportation to the next well to be operated upon.

With the use of a device of this kind in connection with a sewer-well constructed as shown in Patent No. 658,639, of September 25, 1900, the method of cleaning sewer-wells is very materially improved both in the matter of time consumed and by reason of the fact that the material is transferred direct from the well to the vehicle and is not displayed upon the street prior to its removal, as has heretofore been necessary.

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

1. In a portable hoisting apparatus the combination with a truck, of a suitable frame, a removable base portion therein, a central track located in the top of said frame and adapted to permit of a cart being placed thereunder, a carriage mounted on said track, a hoisting apparatus connected with said carriage whereby the object may be raised at one end of the track and shifted to the other and lowered.

2. In a hoisting apparatus, the combination with a truck, of a frame having a track located in the upper portion thereof and provided with a collapsible extension, supporting-legs hinged to the outer end of said extension to support the same and means for adjusting said legs for various levels of ground, a carriage located on said track and adapted to operate thereon and on said extension, a windlass connected to said carriage whereby objects may be raised beneath the extension and moved to within the main frame of the derrick, as and for the purpose described.

3. In a portable derrick of the class described, the combination with a suitable frame, of a transverse track located in its top portion, an extension hinged to said track, a support hinged to said extension with adjustments adapted to rest upon the ground to retain it in position, a carriage mounted on said track, a hoisting apparatus connected with the carriage for raising, shifting and lowering an object.

4. In a portable derrick of the class described, the combination with a suitable frame containing a transverse track located in its top portion, a carriage mounted upon said track, an extension hinged to said track, supporting-legs hinged to said extension and

adapted to rest upon the ground and permit of the free movement of the carriage thereon, a locking device whereby said extension is secured against side movement, means connected with the carriage whereby an object may be raised or lowered and shifted beneath the track.

5. The combination of a suitable frame mounted upon a truck and provided with a removable bar whereby it may be disconnected to permit of the placement of a vehicle thereunder, a centrally-located transverse track situated in the top portion of said frame, a hinged extension for said track and means for supporting the same in an extended position, means for retaining said extension in a closed or folded position, a carriage mounted upon the track and connections therefor for raising and lowering an object.

6. The combination in a derrick of the class described, of a frame having a centrally-located track, a collapsible extension secured thereto, collapsible supporting-legs for said extension, adjusting engaging points for said legs to conform to the various levels of the surface beneath, means for retaining said extensions in a true extended line from that of the main track, a carriage adapted to operate upon both the main and extended track, connections therewith for suspending an object and shifting the same laterally beneath the track, substantially as shown and described.

Signed at 156 Fifth avenue, in the county, city, and State of New York, this 27th day of February, A. D. 1901.

ALEXANDER LUTZ.

Witnesses:

THOS. L. COYBLAU,

GEO. A. ANDERSON.