

B. HOLMES.  
Dumping Wagon.

No. 94,315.

Patented Aug. 31, 1869.

Fig. 3.

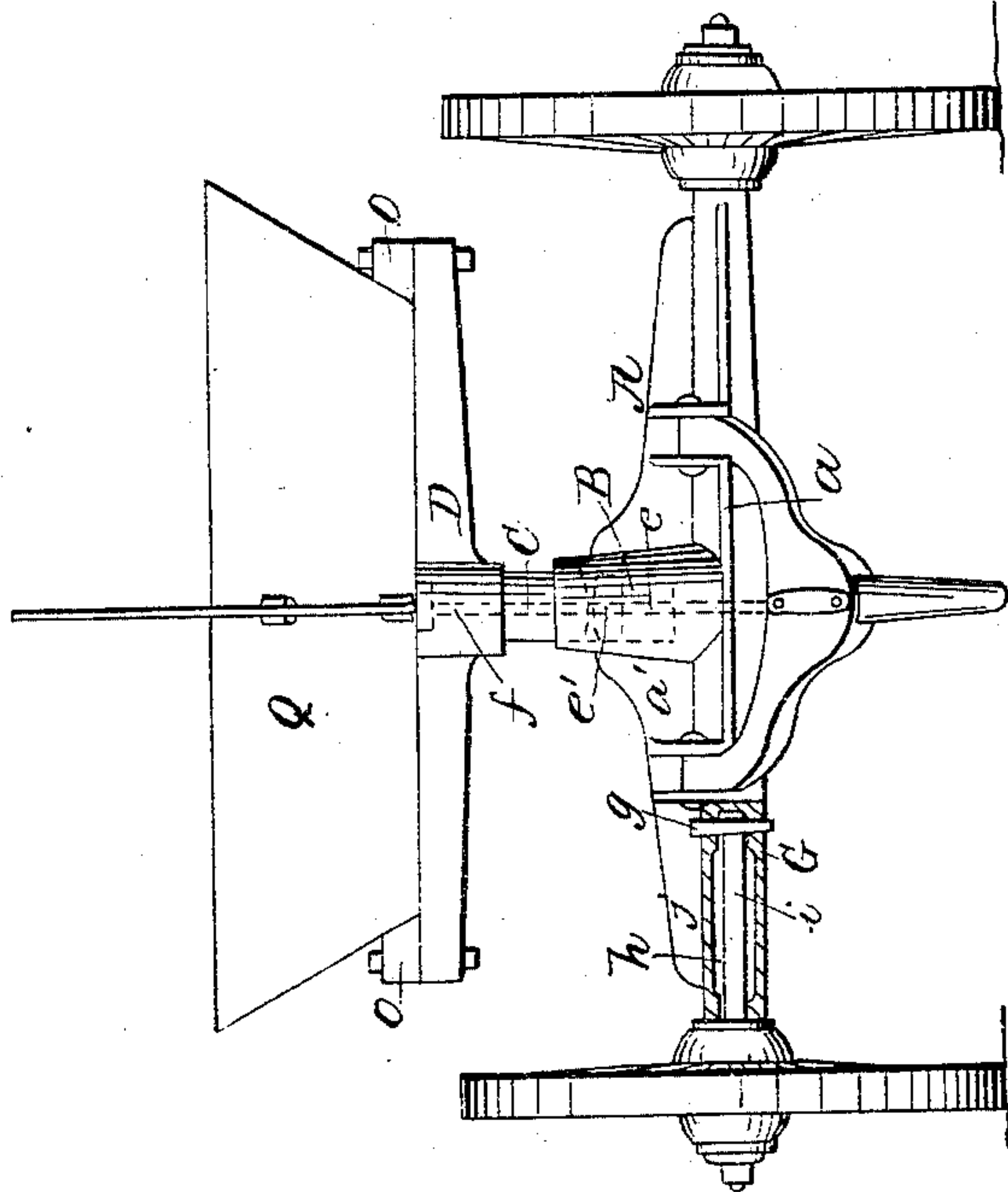


Fig. 2.

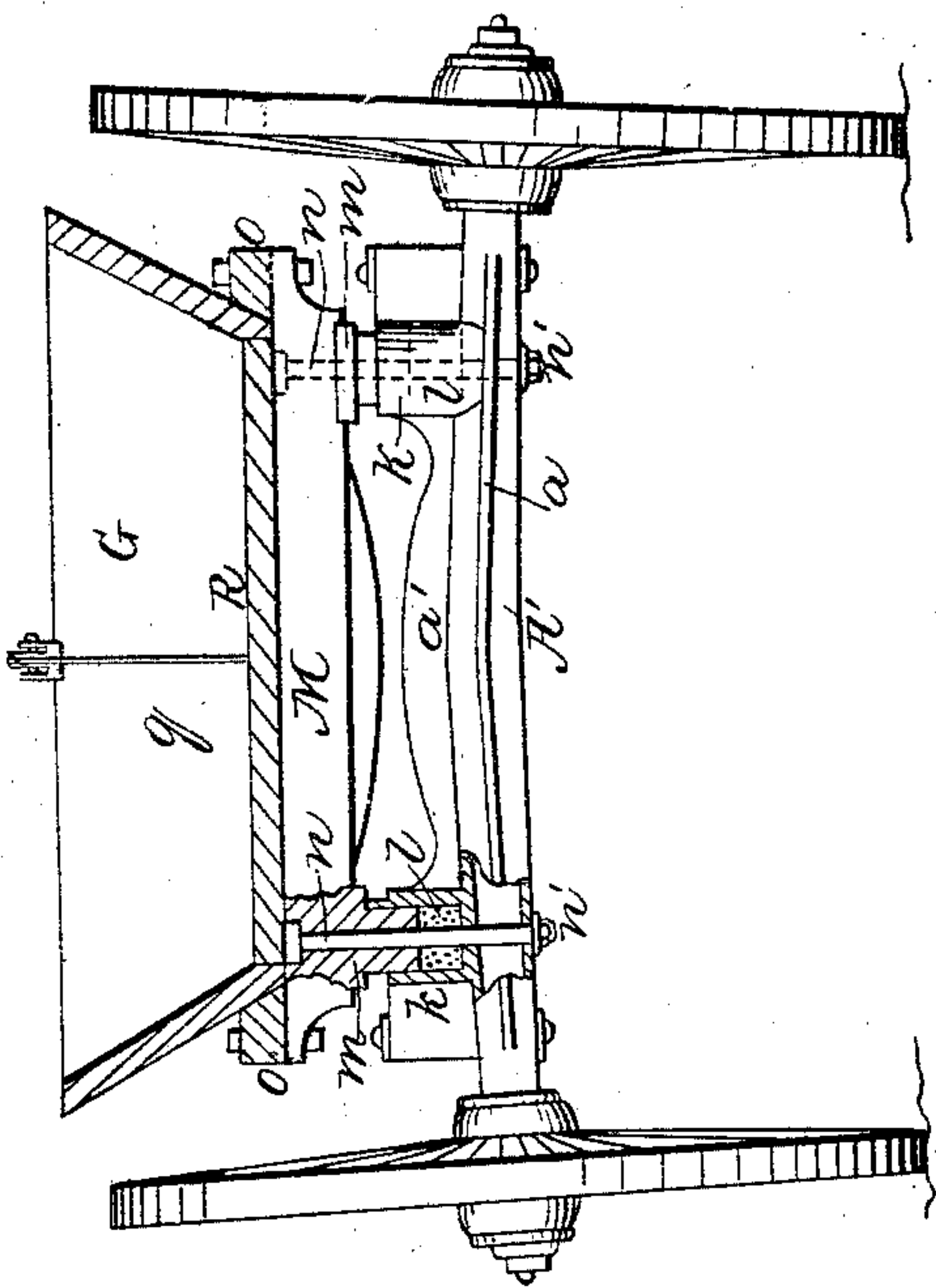


Fig. 1.

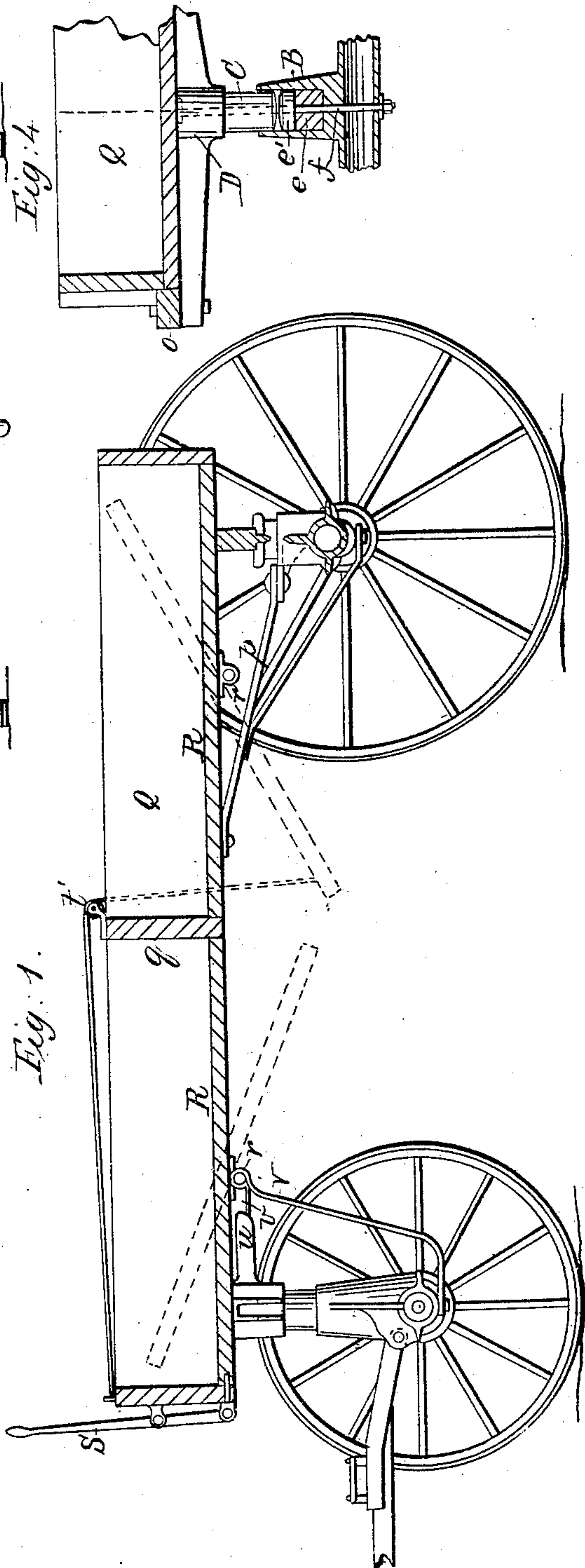
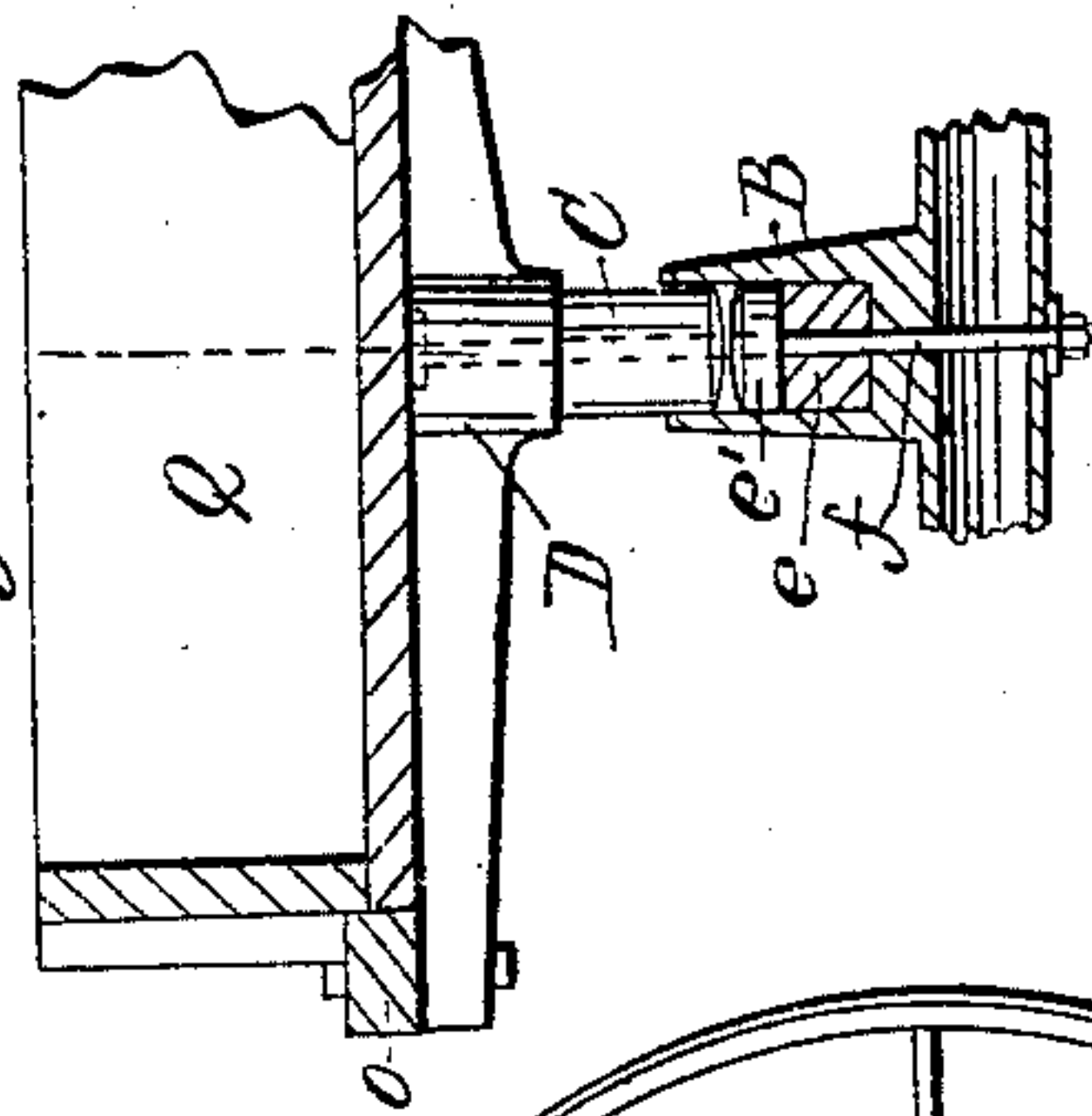


Fig. 4.



Witnesses.

Victor H. Becker,  
Jno. J. Bonner

Inventor.

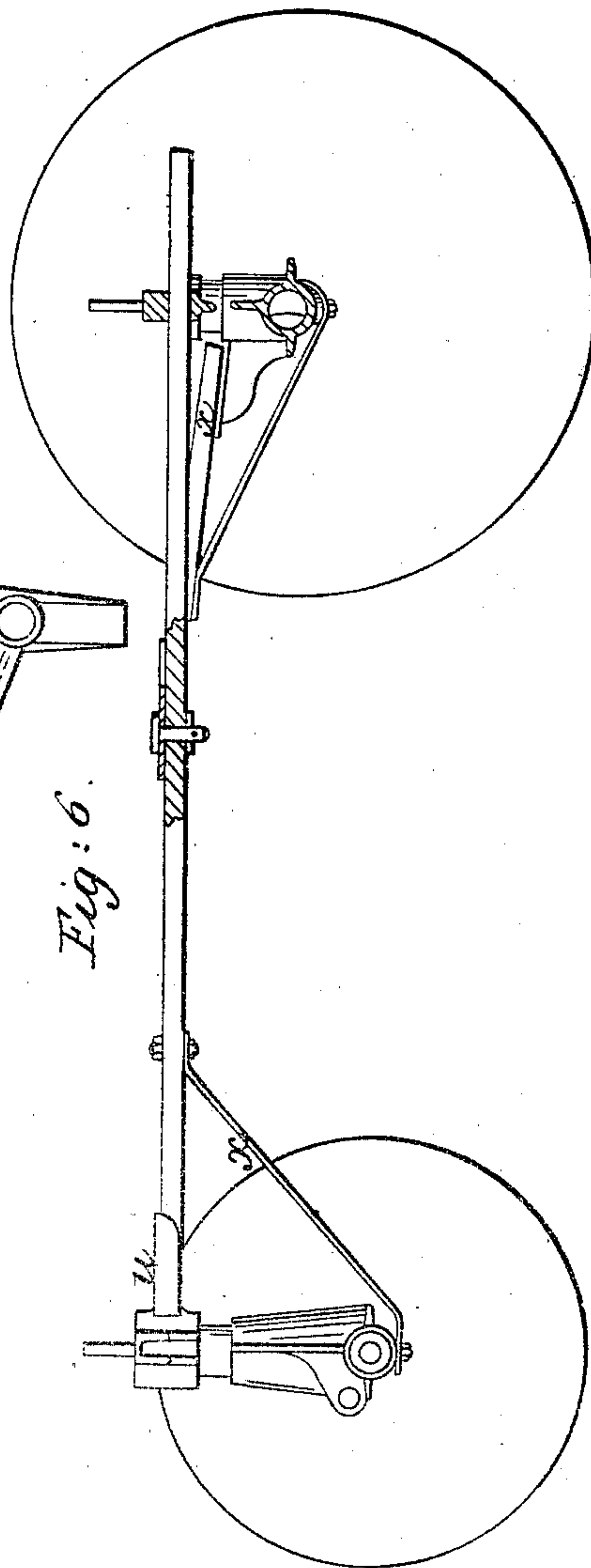
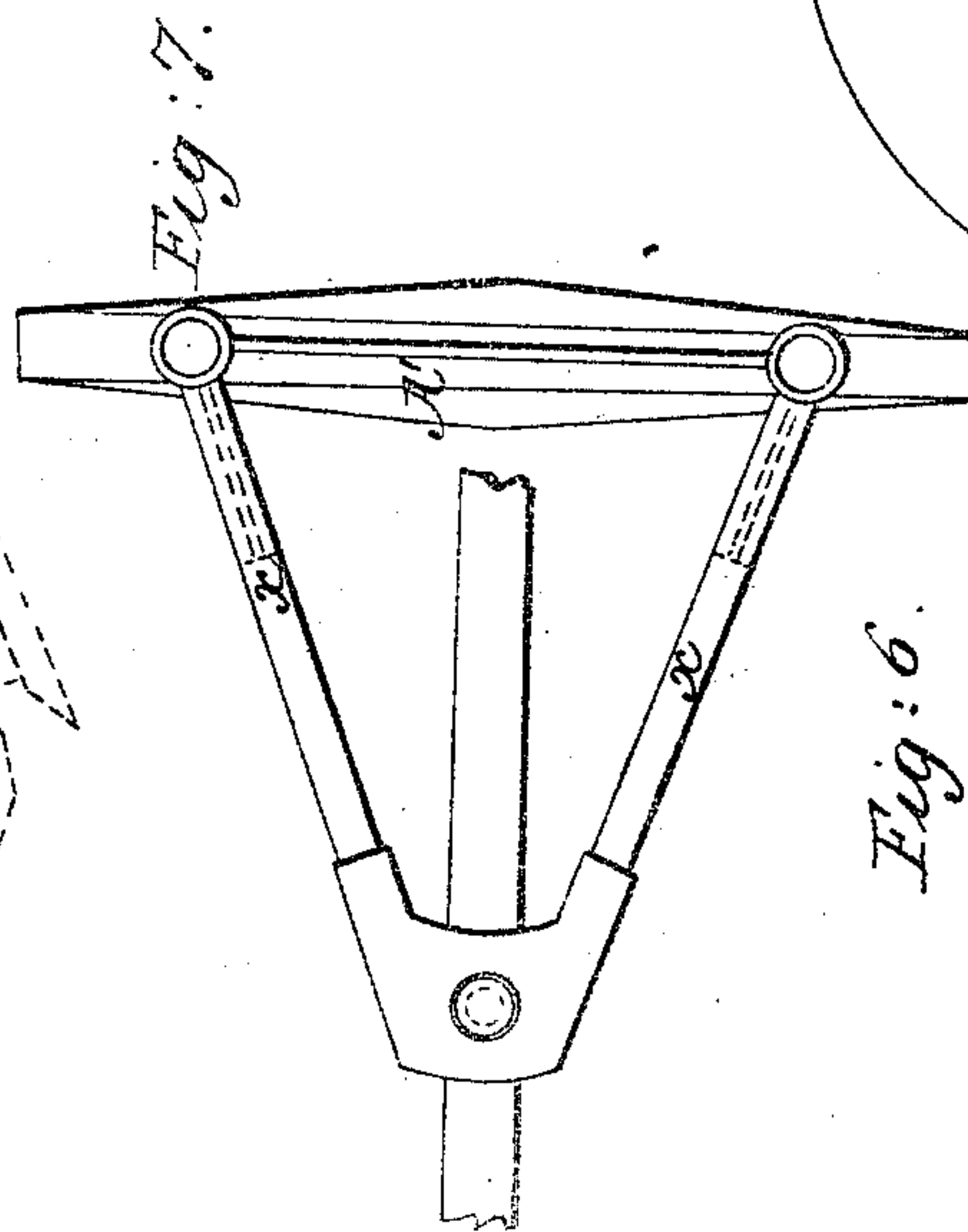
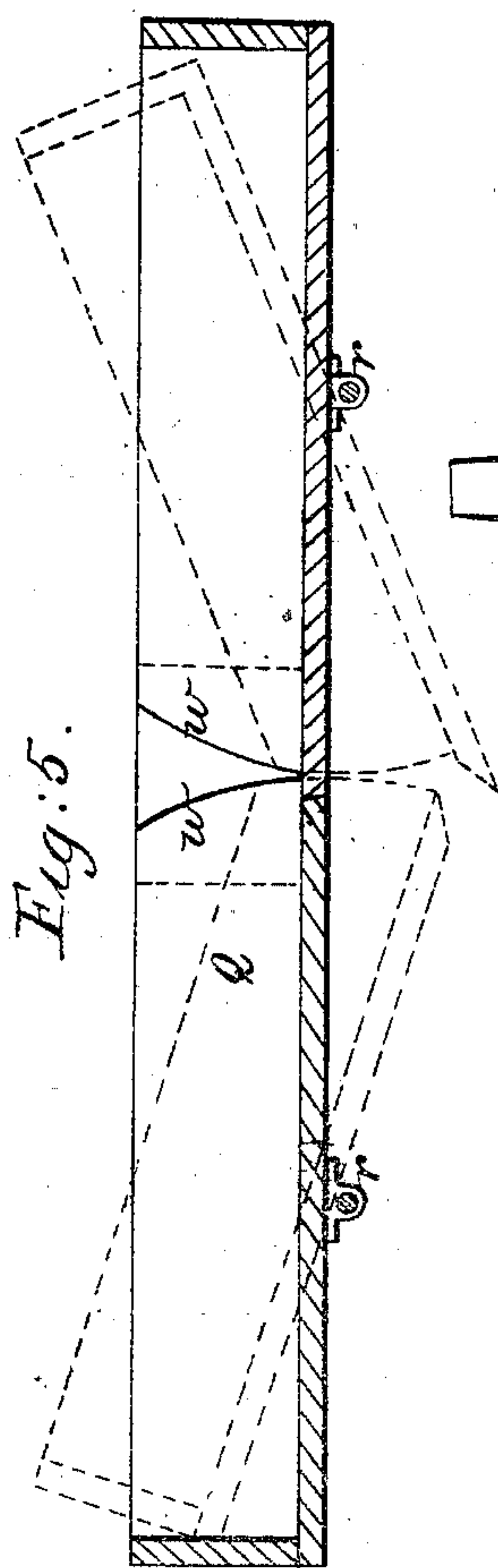
B. Holmes  
by L. H. Heyatt, atty.

B. HOLMES.  
Dumping Wagon.

2 Sheets—Sheet 2.

No. 94,315.

Patented Aug. 31, 1869.



Witnesses  
Wm. H. Beebe  
Geo. J. Bonner

Inventor  
B. Holmes  
by Forbush & Hyatt



# UNITED STATES PATENT OFFICE.

BRITAIN HOLMES, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN DUMPING-WAGONS.

Specification forming part of Letters Patent No. 94,315, dated August 31, 1869.

*To all whom it may concern:*

Be it known that I, BRITAIN HOLMES, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Wagons; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

My invention, which relates more particularly to heavy or lumber wagons, consists, first, in connecting the forward bolster with the axle by means of a pivot-post from the former, which fits and turns in an elevated socket or sleeve of the latter, whereby the use of the ordinary hounds or braces and turntable are dispensed with; second, in the employment of a rubber spring in the base of said socket, so that the forward end of the load may rest thereon; third, in the construction of the tubular cast-iron axles, as hereinafter described; fourth, in forming an oil reservoir or chamber around the shanks of the journals by enlarging the sockets formed for their reception in the end of cast-iron axles, and, in connection therewith, forming a groove along the upper side of the journal leading from such reservoir, in which the oil from the latter is gradually and automatically fed to the journals, as required; fifth, of a transversely-divided and dumping bottom or box, the two sections thereof so arranged as to dump the load toward the center of the space between the two axles, leaving it, when required, in a compact heap, whereby the running-gear is protected from the sand and other dirt which usually falls thereon, while the shortness of the sections enables them to be swung back away from the ground, so as to permit the wagon to readily pass over the unloaded mass; sixth, in the arrangement of a rearward-projecting arm from the forward cast bolster, with the brace connecting the under side of the axle with the dumping-axis of the forward section of the bottom, for securing and bracing the parts.

In the drawings, consisting of three sheets, Figure I is a longitudinal vertical section of the body and rear axle of my improved wagon, with one of the forward wheels removed. Fig. II is a rear elevation of the running-gear, with the body shown in section. Fig. III is a front

elevation, with a portion of the axle shown in section for exhibiting the construction of my lubricating device. Fig. IV is a vertical transverse section in line of the forward axle, showing the manner of connecting the bolster with the latter, and a modified construction of box or body. Fig. V is a longitudinal vertical section of the modification of the box detached. Fig. VI is a sectional side elevation of the running-gear, shown connected by a reach. Fig. VII is a plan of the rear axle, showing the connection of the reach therewith.

Like letters of reference designate like parts in each of the figures.

A and A' are the forward and rear axles, cast hollow, with side ribs, *a*, and a vertical rib, *a'*. This construction insures the greatest strength with the least weight and quantity of material, which are important considerations in the construction of wagons.

B is the elevated socket of the forward axle, and C the pivot-post, cast with the bolster D, and fitting within the former, as shown in Fig. IV.

*e e* represent the rubber spring arranged in the base of the socket, and *e'* a friction block or washer on the top thereof, made preferably with convex or rounded top, on which is supported the end of the post C. A bolt, *f*, passes through the bottom of this post and the axle, where it is provided with a nut which secures the parts against undue vertical play.

The ends of the axles are bored to receive the end of the wrought-iron journal G, which is made slightly tapering, so as to wedge therein, being secured in place by a key, *g*. The central portion of these sockets which receive the ends of the journals I enlarge into a recess or oil-chamber, *h*, surrounding the journal, leaving a sufficient portion of the socket at each end closely fitting the journal to form suitable bearings to firmly secure it therein, as shown in Fig. III.

In the upper side of the journal I form a small groove, *i*, extending along the same, which forms a conduct for the oil from the reservoir *h*. The lubricating-oil is introduced into the receptacle through a suitable hole, *j*, in the upper side of the axle. The jolting action of the axle will agitate the oil and cause portions of it to dash over the axle into the



groove, along which it will gradually find its way to the journal, thus keeping it automatically lubricated.

The rear axle,  $A'$ , is cast with short cylindrical pillars  $k k$ , formed with suitable pockets in their top to receive and retain the rubber springs  $l l$ .

$M$  is the rear bolster, made preferably of cast-iron, with bosses  $m m$ , cast therewith, corresponding in position with the supports  $k$ , so as to rest upon the rubber blocks  $l$ , as shown in Fig. II. Bolts  $n n$ , with heads countersunk in the top of the bolster, extend downward through the axle, where they are provided with nuts  $n'$ , by which the bolster is retained against any undue vertical movement.

$O O$  are two girders or side pieces connecting the two bolsters, to which they are firmly secured by bolts, as shown. At the rear they are further secured by braces  $p$ , as represented in Fig. I. Within and to these side pieces is secured the box  $Q$ , constructed, preferably, with inclined sides, as shown in Figs. II and III.

The box is divided centrally by a transverse partition,  $q$ , into two compartments. The bottoms  $R$  of these divisions rest on the bolsters, and on two transverse axes,  $r r$ , to which they may be secured in any suitable manner. These axes are firmly secured, by proper bearings, to the under side of the girders  $O$ , at such a point as to cause the inner ends of each bottom to slightly preponderate, to facilitate dumping. The bottoms may be secured in horizontal position by a bolt and lever,  $S$ , as shown at Fig. III, or by cord or chain and pulley  $t t'$ , or by any other suitable means.

The contents of both compartments of the box may be dumped together, as indicated in dotted lines, or separately, as may be required.

The forward bolster is cast with a rear arm or extension,  $u$ , to which is bolted the arm  $v$  of the brace  $V$ . This brace connects the lower side of the forward axle with the axis  $r$ , by which arrangement the connecting parts are more firmly maintained in their proper relative position.

Instead of the bottom only of the box dump-

ing, as before described, the sides of the box and bottom may be fastened together and constructed, as shown in Figs. IV and V, so as to dump together, as represented in dotted lines. In such case the contiguous ends  $ww$  of the sideboards at the division-point have to be cut to the form of an arc, having its center at or near the axis  $r$ , so as to prevent them abutting and wedging against each other in dumping.

Figs. VI and VII represent the manner of attaching a reach when one is employed. The front end is secured to the arm  $u$ , while the rear end passes through a hole in the bolster and is fastened to the braces  $x x$  in the ordinary manner.

The advantages of my improved wagon are as follows: The bolsters and axles being readily cast, enables them to be made at a comparatively small cost. The rubber springs serve not only to relieve the load from the jar and jolting to which it would otherwise be subjected, but also serve as a cushion to lessen the concussion and strain on the axles. The wagon complete possesses lightness of structure, strength, durability, facility for short or sudden turning, while broken parts can be easily replaced at but a trifling cost.

What I claim as my invention is—

1. In combination with the forward bolster and axle, the socket  $B$  and pivot-post  $C$ .
2. The rubber spring  $e$  and bearing-block  $e'$ , in combination with the said socket and pivot-post, substantially as set forth.
3. The ribbed and tubular cast-iron axles, when constructed substantially as described.
4. The oil-reservoir  $h$ , aperture  $j$ , and groove  $i$ , constructed, arranged, and operating substantially as and for the purpose set forth.
5. The two pivoted sections  $R R$  of the bottom arranged so as to dump the load at the center, substantially as set forth.
6. The arm  $u$  of the bolster  $D$ , combined and arranged with the brace  $V$  and axle-rod  $r$ , as shown and described.

BRITAIN HOLMES.

Witnesses:

JNO. J. BONNER,  
VICTOR H. BECKER.