

(No Model.)

2 Sheets—Sheet 1.

H. H. HIGHAM.
CHILD'S WAGON OR CART.

No. 409,682.

Patented Aug. 27, 1889.

Fig. 1.

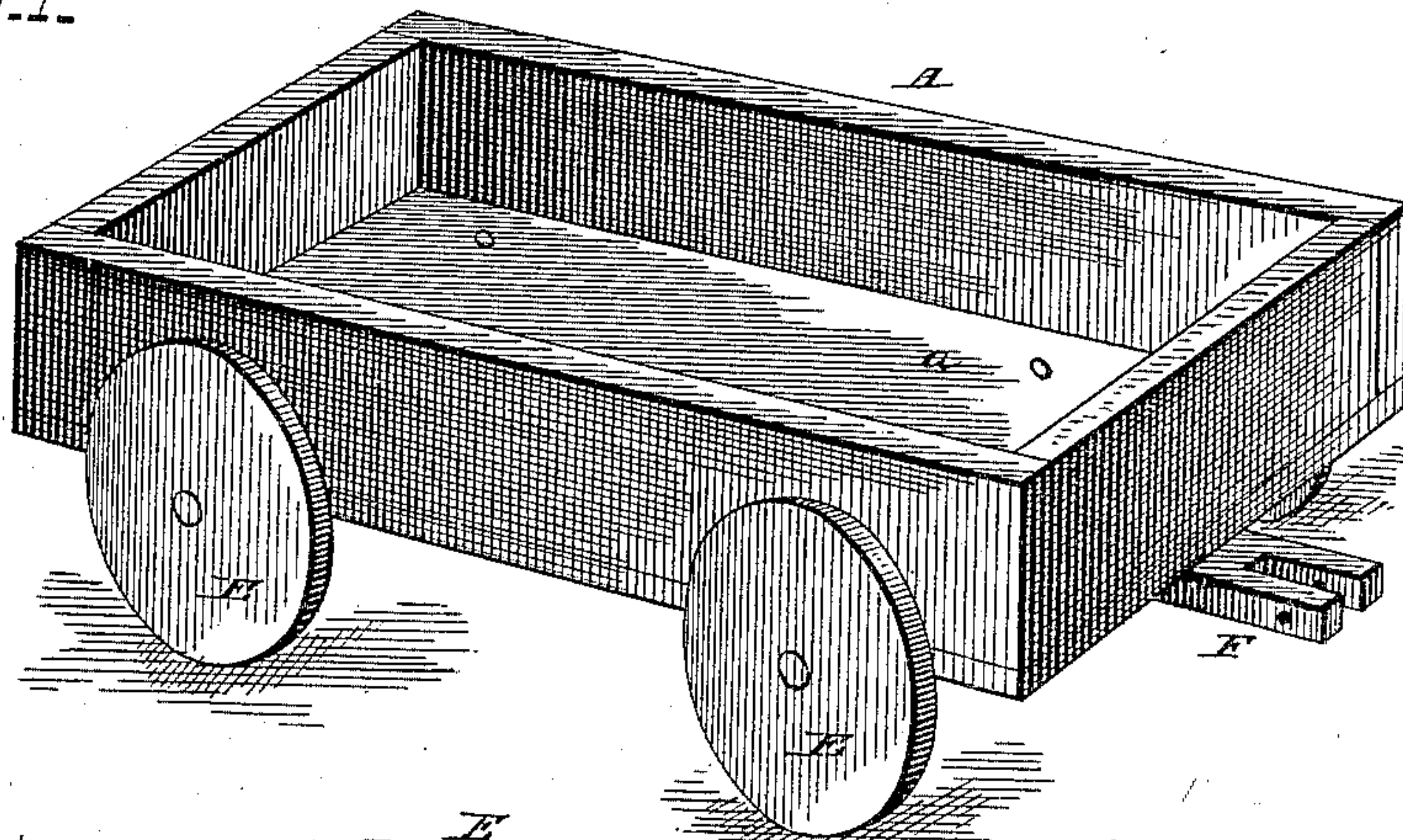


Fig. 2.

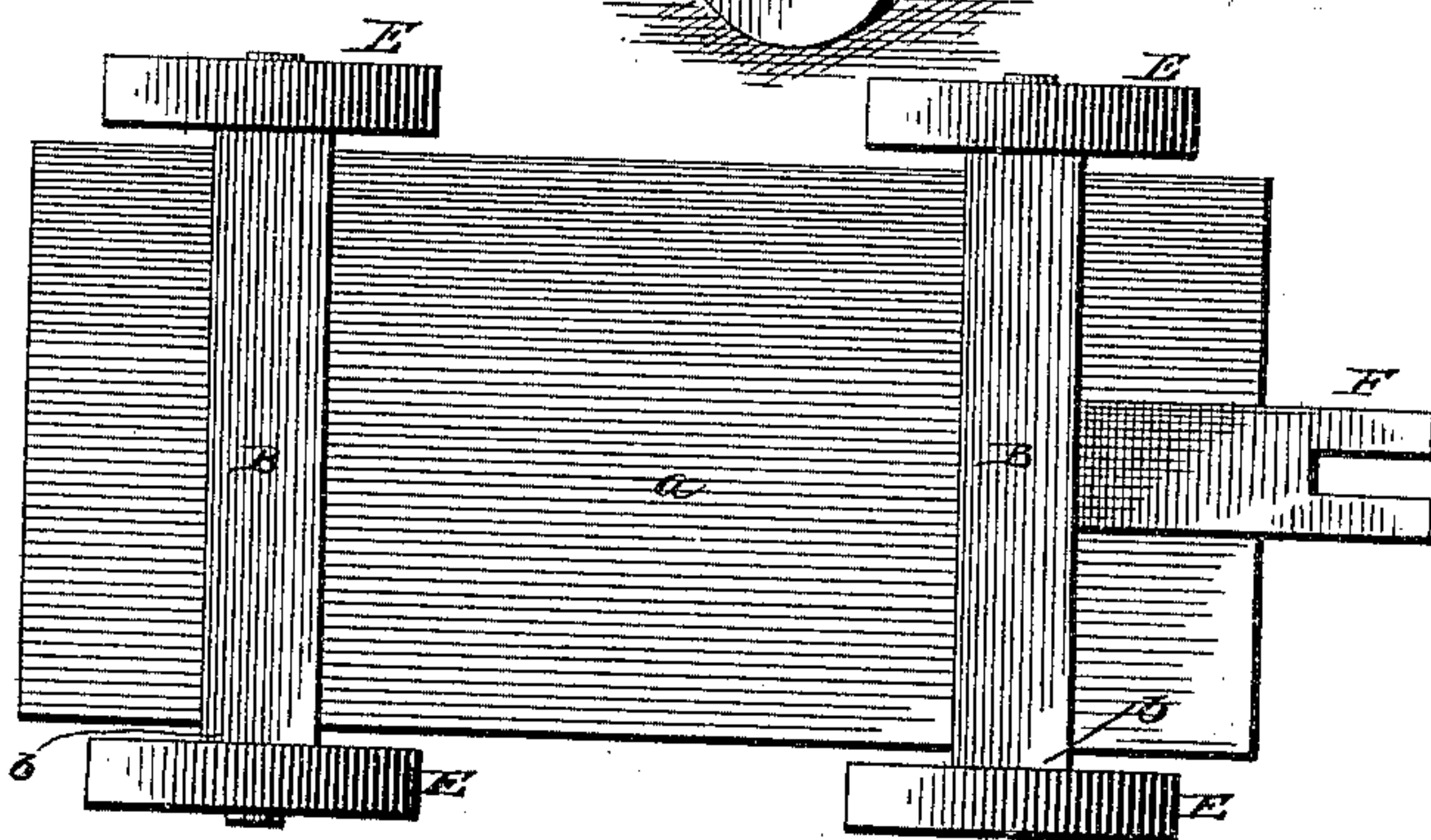


Fig. 3.

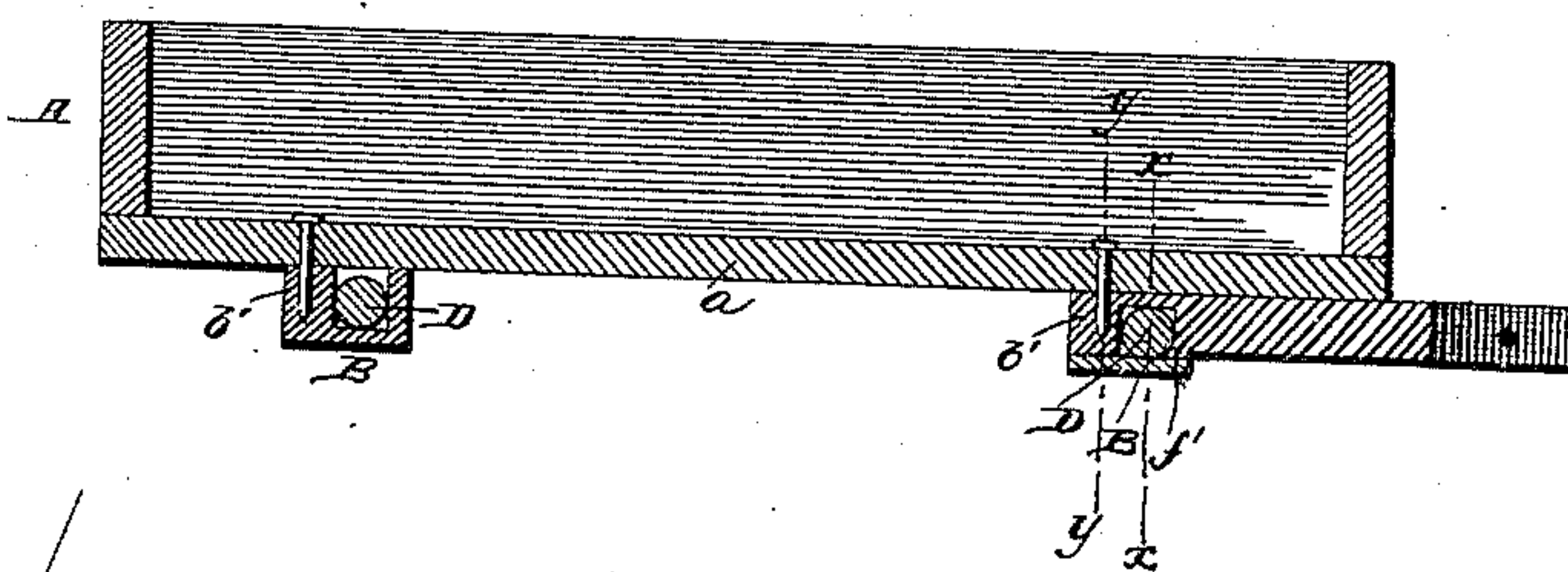
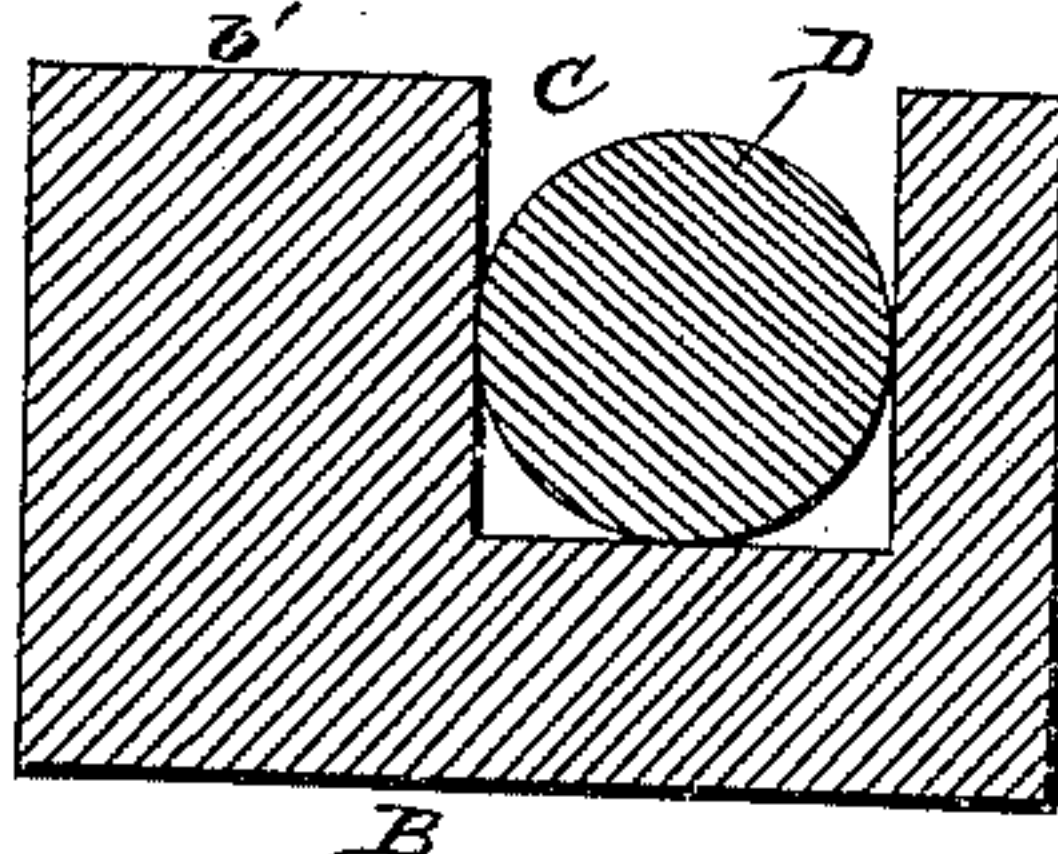


Fig. 4.



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Fig. 4.

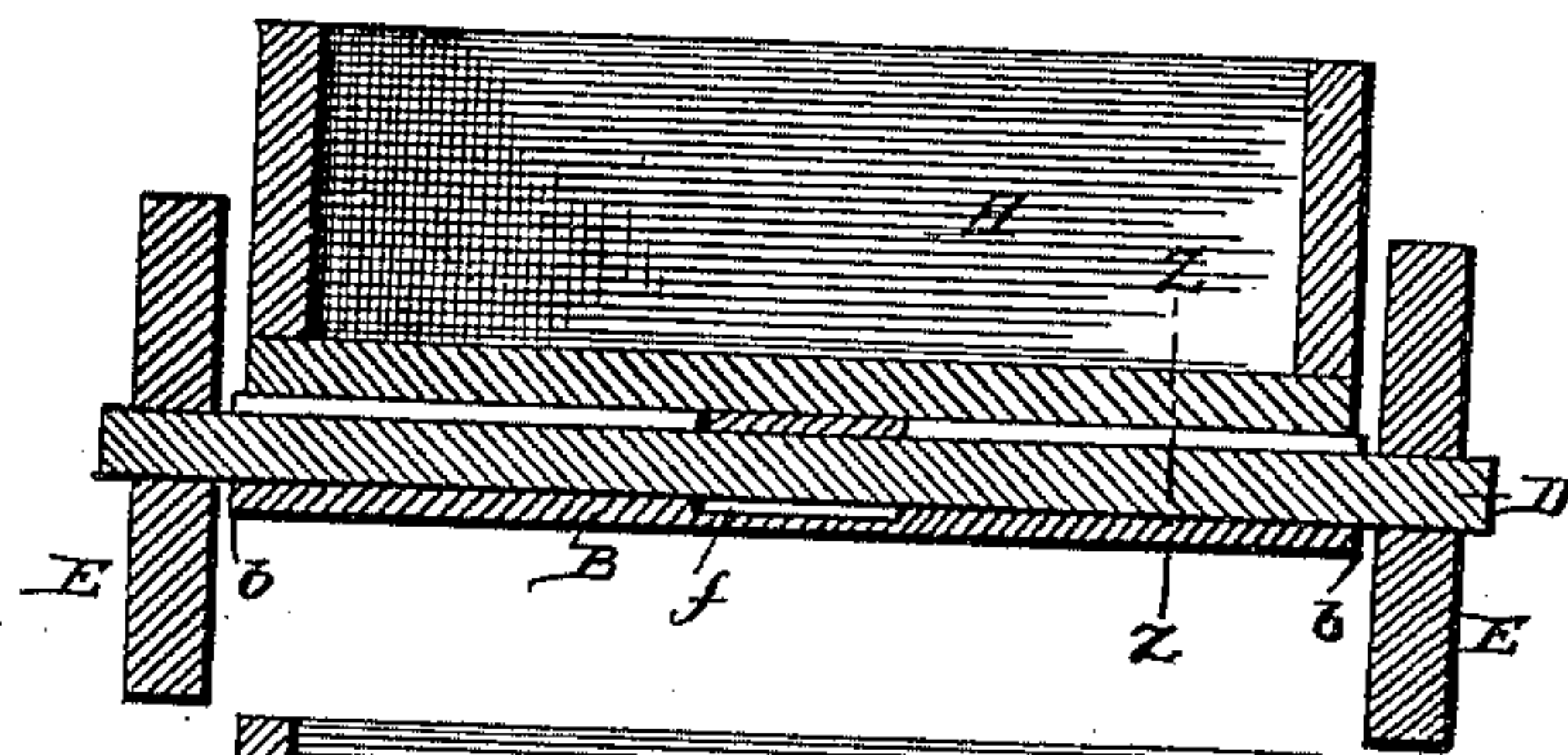


Fig. 5.

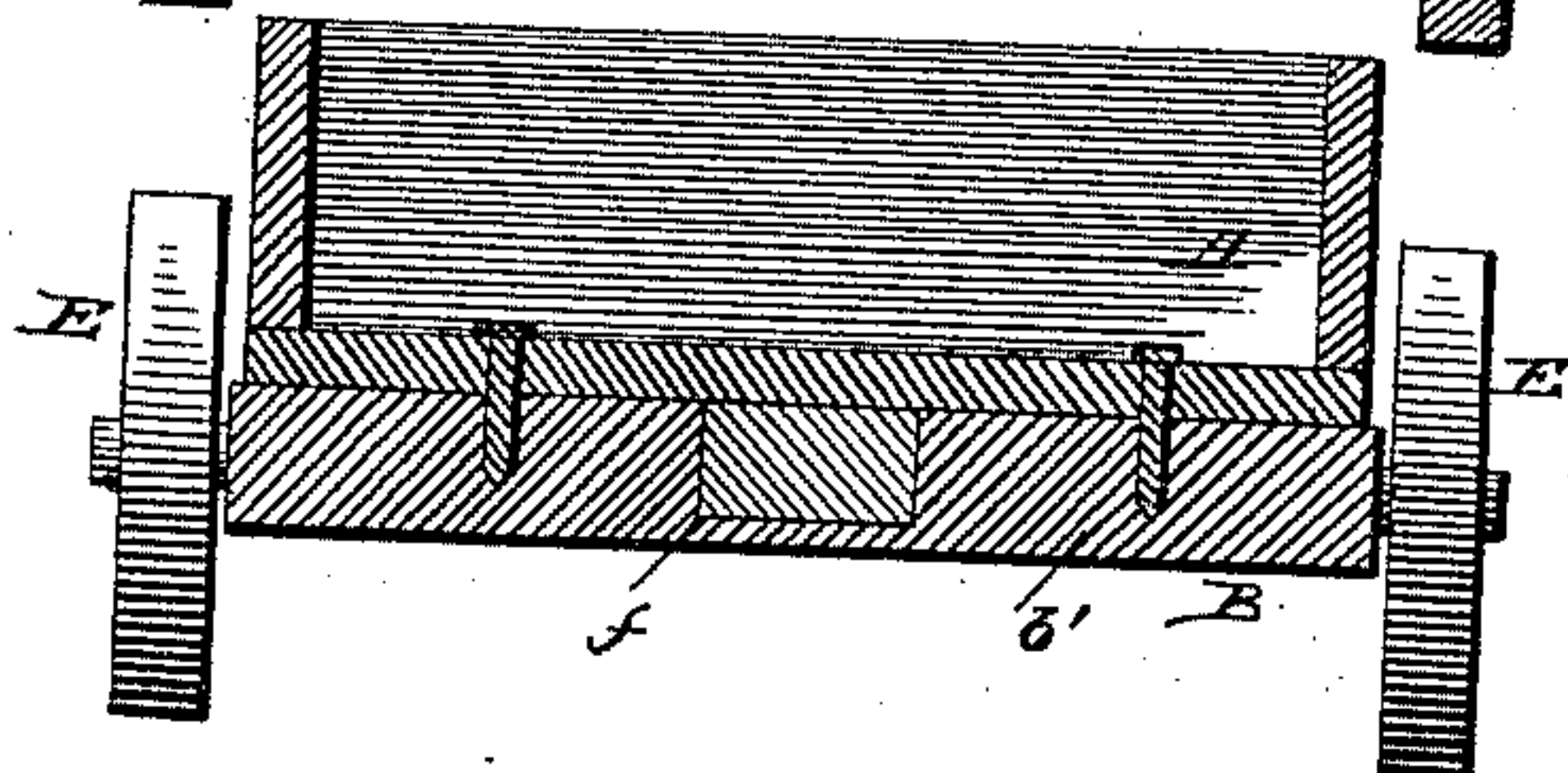


Fig. 7.

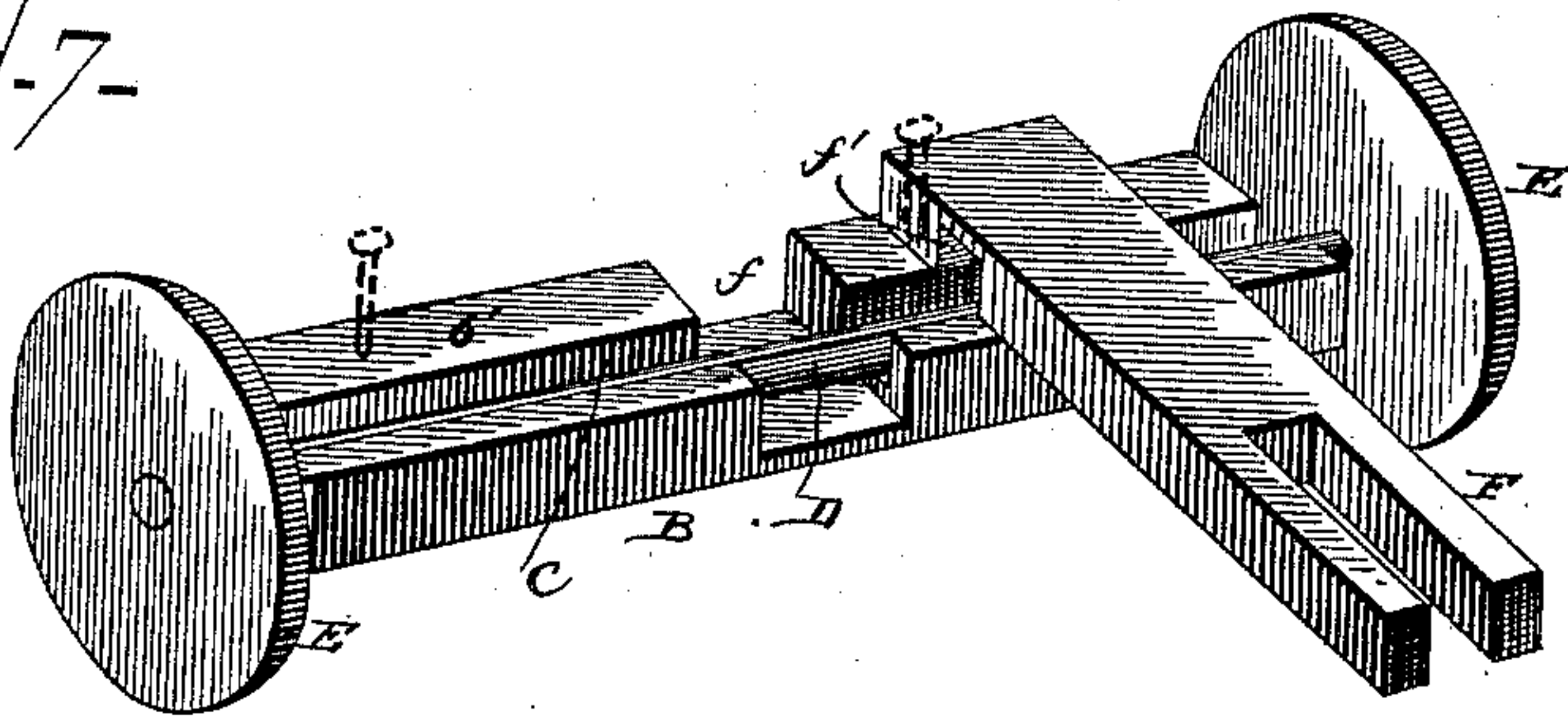


Fig. 8.

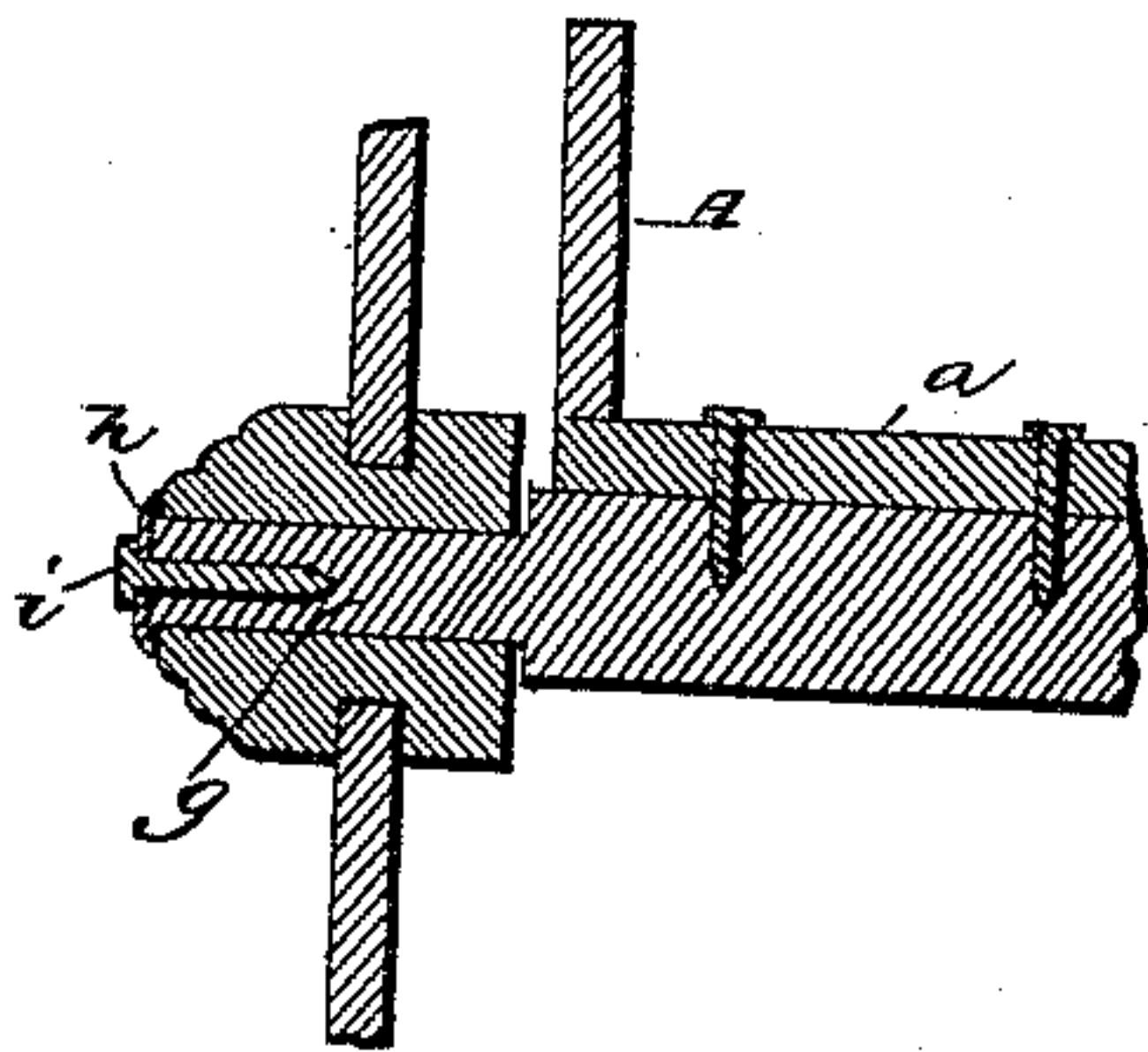
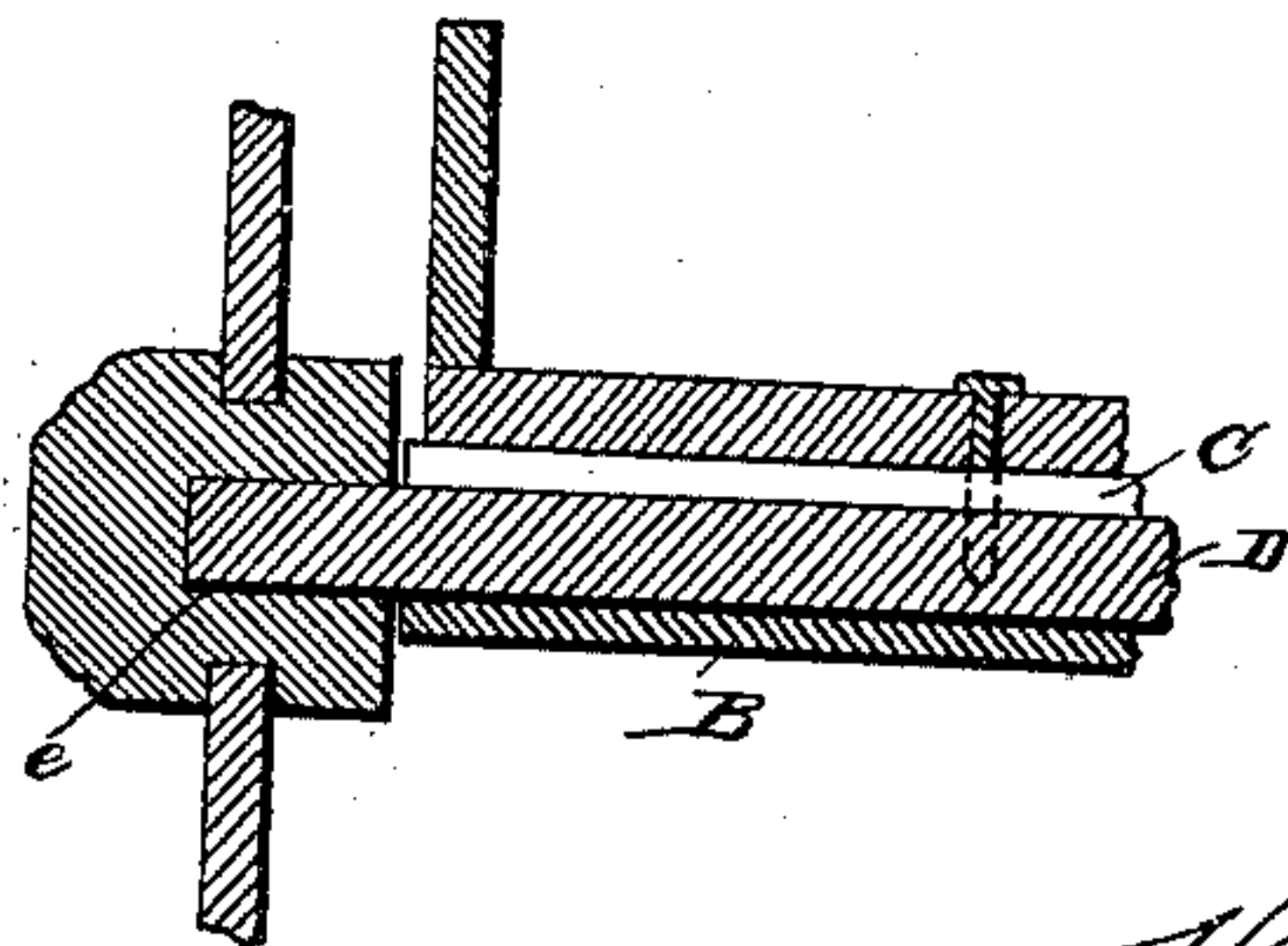


Fig. 9.



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UNITED STATES PATENT OFFICE.

HOWARD HAMILTON HIGHAM, OF PHILADELPHIA, PENNSYLVANIA.

CHILD'S WAGON OR CART.

SPECIFICATION forming part of Letters Patent No. 409,682, dated August 27, 1889.

Application filed August 30, 1888. Serial No. 284,123. (No model.)

To all whom it may concern:

Be it known that I, HOWARD HAMILTON HIGHAM, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Children's Wagons or Carts; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to toy wagons and carts of that class which are usually packed for transportation and the market in "knock-down" condition; and it has particular relation to the construction and arrangement of the axles and wheels, and also an improved arrangement and construction of the tongue or handle piece in relation thereto.

The object of my invention is to provide a simple and improved wagon or cart of this character which will effectually overcome the objections to knockdown goods, and which, furthermore, will possess advantages in point of inexpensiveness, durability, simplicity, and general efficiency. In consequence of the bulky nature of goods of this character when put together they are sent or transported in knockdown condition—that is, the bodies, the wheels, the axles, handles, and hardware are packed separately—so as to occupy a minimum space. This is necessary in order to secure advantageous classification in freight-rates, and also to secure economy in space in warehouses of wholesale dealers. Knockdown goods are, however, subject to great disadvantage in view of the fact that dealers are put to much inconvenience and expense in setting them up. Much loss of time is also incurred on account of the amount of nailing necessary. For instance, the usual process of setting up the simplest two-wheel cart with the ordinary tenoned axle and wheels with retaining-washers requires altogether for every gross the driving of about seven hundred and twenty nails and the setting of two hundred and eighty-eight wheels and a corresponding number of washers. My improvements are designed to entirely overcome these disadvantages by reducing the necessary number of nails and so obviating the handling of separate pieces that economization of

about three-fourths the time ordinarily employed in setting up is effected.

To this end my invention consists, substantially, in the employment of an improved double axle, one part of which is stationary and provided with a longitudinal groove in which the cylindrical other part revolves and carries the fixed wheels, and also in the securing and locking of the tongue-piece or handle to the cylindrical section of the two-part axle, substantially as will be hereinafter fully described, and specifically pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a toy wagon embodying my invention. Fig. 2 is a bottom or inverted plan view of the same. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a vertical transverse sectional view on the line xx , Fig. 3. Fig. 5 is a corresponding view on the line yy , Fig. 3. Fig. 6 is a detail cross-section of the axle on the line zz , Fig. 4. Fig. 7 is a detail perspective view showing the separate parts of the axle and tongue. Fig. 8 is a sectional view illustrating the old form of construction and method of securing. Fig. 9 is a sectional view illustrating the manner of securing the hubs of spoked wheels upon the revolving portion of the axle.

Corresponding parts in all the figures are denoted by the same letters of reference.

A in the drawings designates the body of a wagon or cart, which may be of any suitable construction comprising the bottom a . The two-part axle comprises a transverse strip adapted to be secured to the bottom a and preferably rectangular in cross-section. This strip B is preferably somewhat longer than the width of the body, so that its ends $b b$ will project slightly beyond the sides of the latter, as shown in Fig. 4, and form shoulders against which the hub of the wheel is adapted to bear. A longitudinal groove C is provided in the top face of the strip B, preferably at one side the center of the same, so as to leave a main portion b' , through which the only nails which are necessary to secure the axle, wheels, and body in relative operative position are adapted to be driven. (See Figs. 5 and 6.)

D designates the cylindrical portion of the

axle, which is adapted to bear in the groove C and carries the fixed wheels E E at its ends. In the case of small toy wagons employing simple disk-wheels the ends of the cylindrical portion of the axle or rod D are simply driven into corresponding eyes or perforations in the wheel-disks; but in the case of larger play-wagons or those employing wheels having hubs and spokes I prefer to only partly bore the eye or perforation *e* through the hub and thus form a recess which receives the end of the axle-rod upon which the wheel is fixed. This construction is shown in Fig. 9 and is designed to present a neat appearance in goods of the class mentioned.

To connect the tongue or handle piece without the employment of nails, I provide the fixed main portion B of the axle with a central transverse groove or recess *f*, extending, preferably, the depth of the groove C and adapted to receive the corresponding rear end of the tongue or handle piece F, a transverse groove *f'*, corresponding to the groove C, being formed in the latter for the reception and accommodation of the cylindrical rod D. By this arrangement the handle or tongue piece is securely retained in position when the axle is secured to the body against lateral or vertical displacement, and it is also locked against longitudinal displacement by the rod D, while the latter revolves in the groove C, between the bottom of the same and the top of the groove *f'*.

In the old construction (illustrated in Fig. 8) it will be noted that it is first necessary to nail the axle to the body of the wagon, then set the wheel upon the tenon *g*, adjust the retaining-washer *h*, and drive the end nail *i*, while in my invention it is only necessary to place the main portion of the axle, the rotary rod carrying the wheels, and the tongue-piece in relative position and then secure the main portion of the axle to the body of the wagon or cart, when the several parts will be all securely retained in relative position and the employment of retaining-washers and the adjustment of the wheels and driving of the securing-nails are entirely obviated.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. As an improvement in knockdown toy wagons and carts, the combination, with the body, of an axle comprising a fixed main portion of greater length than the width of said body and provided with a longitudinal groove in its top face at one side the center, forming a securing portion *b'*, and a cylindrical rod dis-

posed and adapted to revolve within the single continuous bearing formed by the main portion and body and carrying the fixed wheels at its ends, substantially as and for the purpose set forth.

2. In a two-part axle for children's wagons or carts, the combination, with the stationary portion of the axle having a longitudinal groove in its top face and provided with a transverse groove or recess and with a cylindrical rod bearing in said groove and carrying wheels at its ends, of the handle or tongue piece having its rear end received within said recess and provided with a transverse groove to receive said rod and be thereby locked, substantially as set forth.

3. The combination, with an axle of the class described, comprising a fixed main portion and a longitudinal rotary rod bearing in a groove therefor in said fixed portion and carrying the wheels, of the handle or tongue piece provided with a transverse groove for the reception of said rod and locked thereby, substantially as and for the purpose set forth.

4. In combination with the stationary portion of an axle for children's wagons or carts, having a recess, the handle or tongue portion accommodated within said recess, the tongue-piece and stationary portion being provided with grooves or their equivalent, and the transverse rotary portion of the axle bearing within the tongue-piece and stationary portion and carrying the wheels, substantially as set forth.

5. The herein-described knockdown toy wagon, comprising the body, a rear axle composed of a main fixed portion provided with a longitudinal groove in its upper face, and a rotatable portion bearing in said groove and carrying fixed wheels at its ends, the front axle composed of a fixed main portion provided with a longitudinal and transverse groove in its upper face, and a rotatable portion bearing in said longitudinal groove and carrying fixed wheels at its ends, a tongue-piece received by the transverse groove and provided with a transverse groove to receive said rod and locked thereby, and a tongue secured to said tongue-piece, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HOWARD HAMILTON HIGHAM.

Witnesses:

WILLIAM BUCKLEY,
F. B. BUCKLEY.