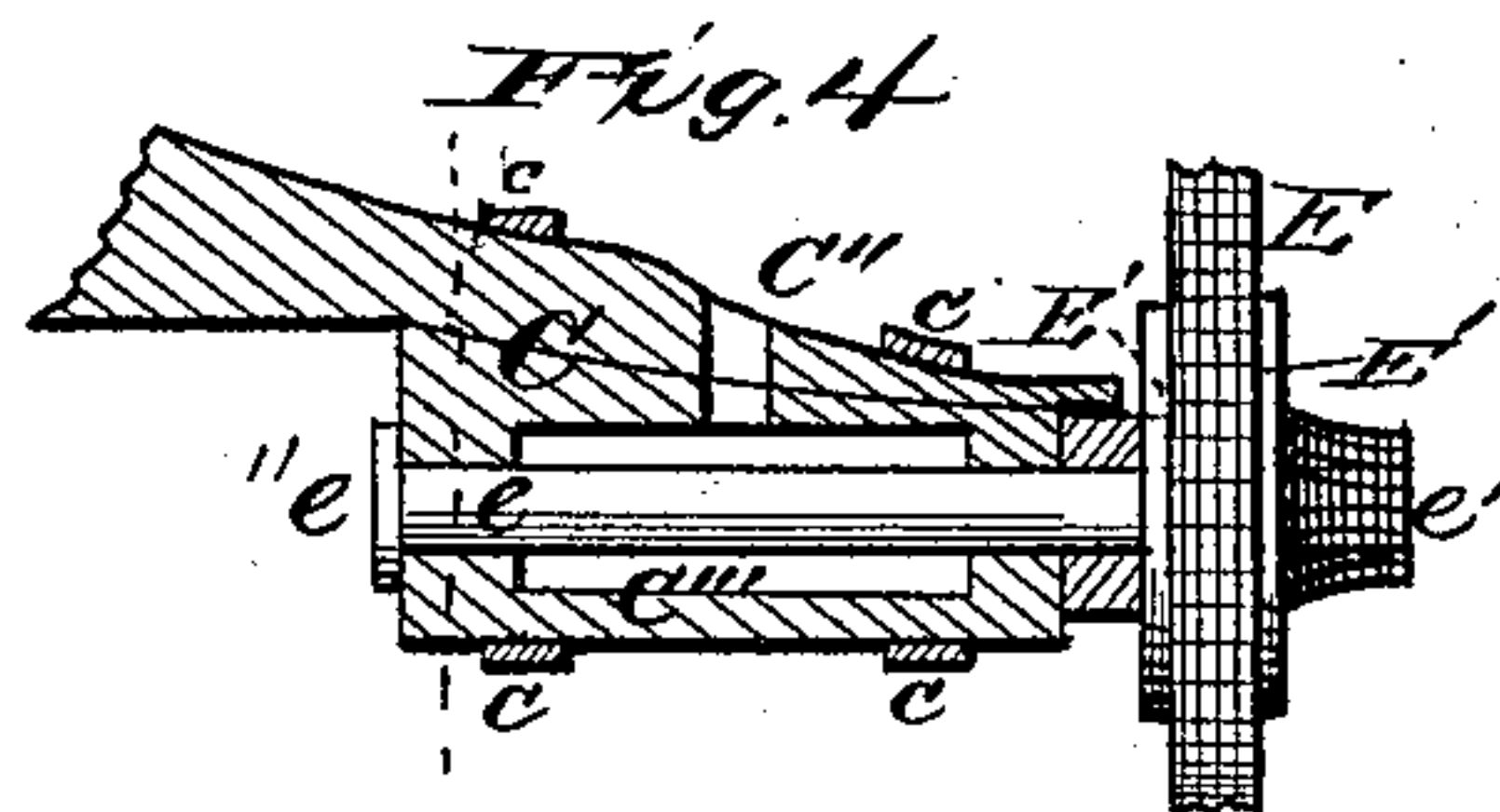
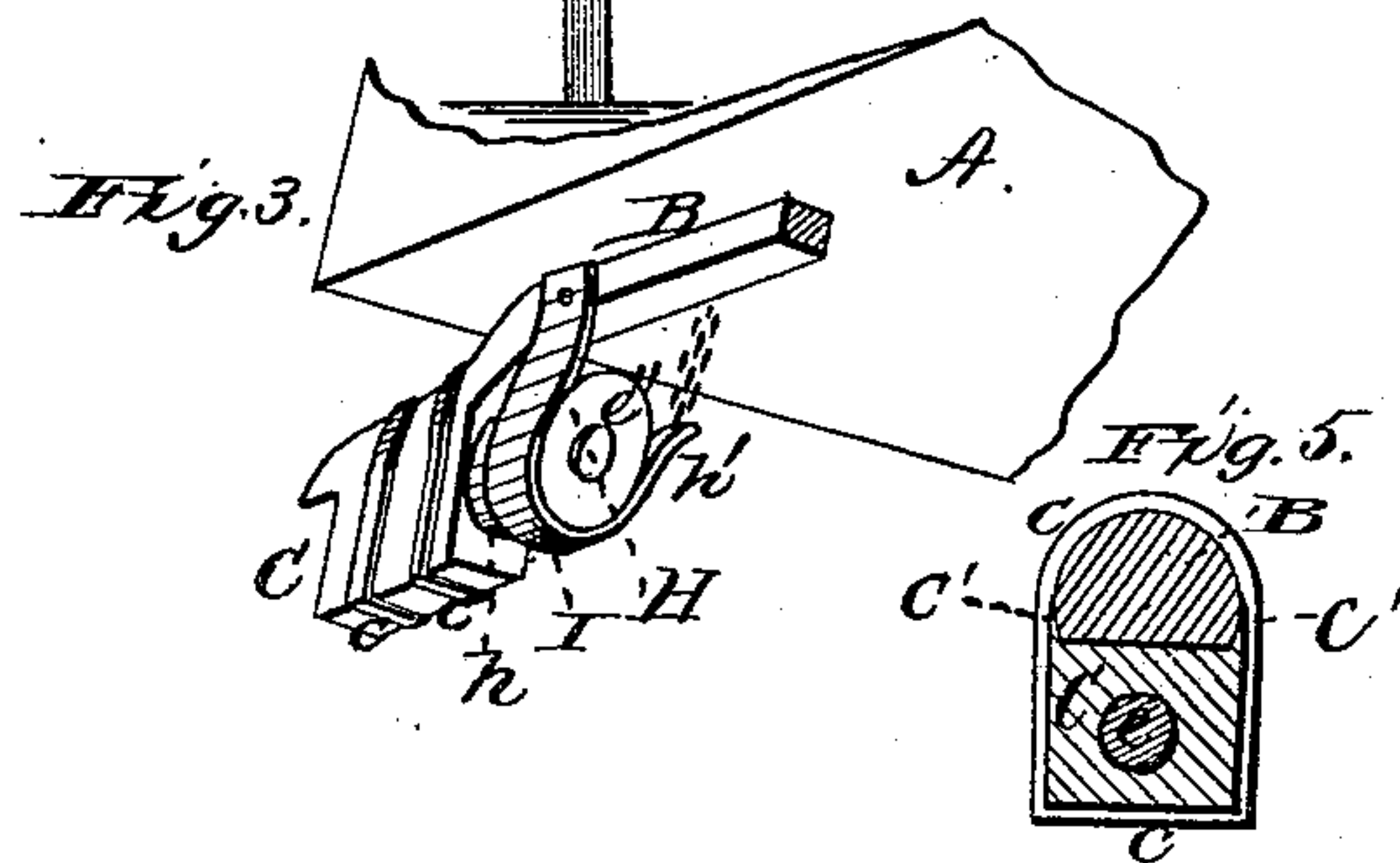
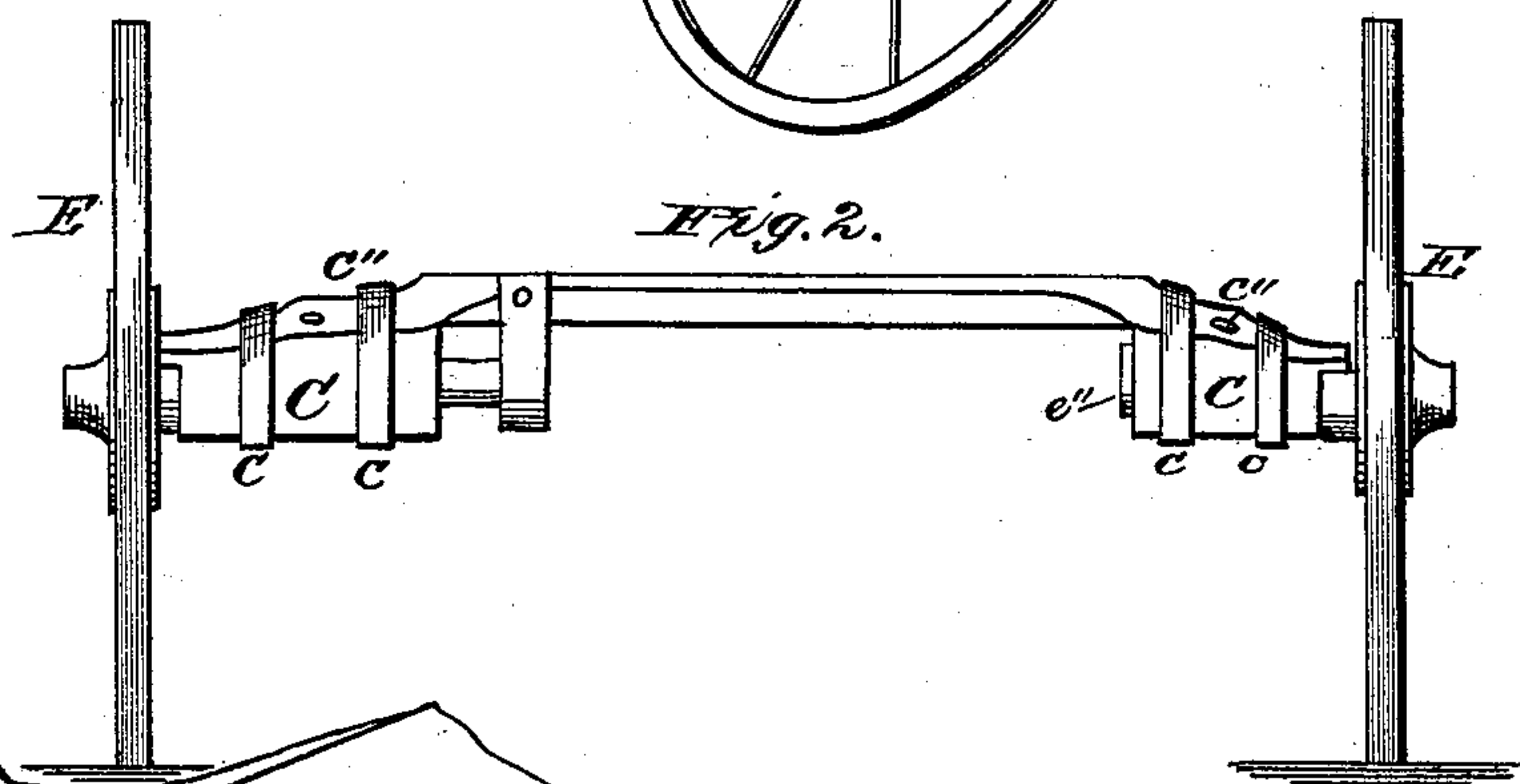
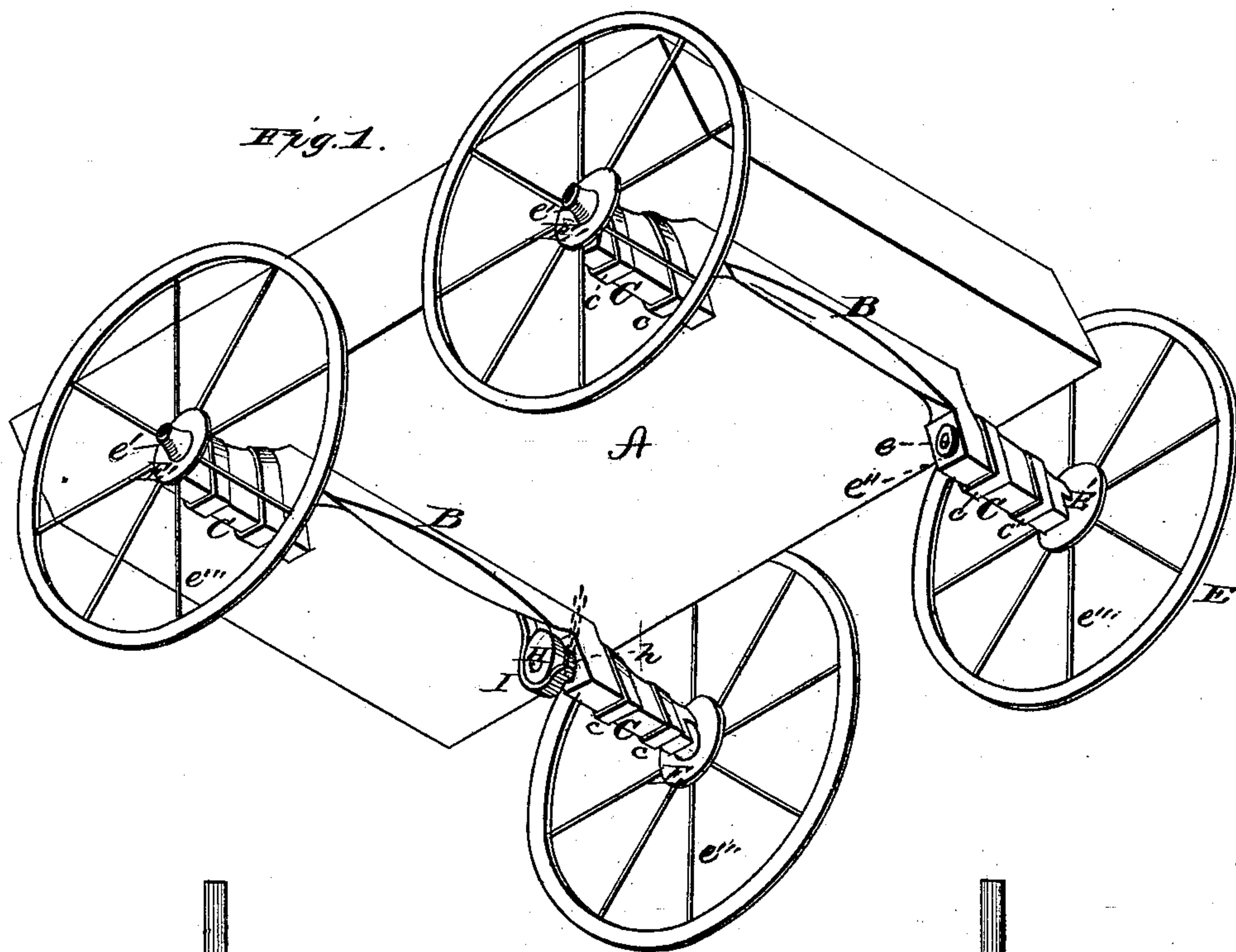


W. H. KINTER & B. F. WILLIAMS.
Carriage Wheel and Axle.

No. 202,551.

Patented April 16, 1878.



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WILLIAM H. KINTER AND BENJAMIN F. WILLIAMS, OF COOKPORT, PA.

IMPROVEMENT IN CARRIAGE WHEELS AND AXLES.

Specification forming part of Letters Patent No. **202,551**, dated April 16, 1878; application filed January 3, 1878.

To all whom it may concern:

Be it known that we, WILLIAM H. KINTER and BENJAMIN F. WILLIAMS, of Cookport, in the county of Indiana and State of Pennsylvania, have invented certain new and useful Improvements in Carriage Wheels and Axles, of which the following is a specification:

Figure 1 is a perspective view from the under side, showing a carriage with our invention applied to the wheels and axles. Fig. 2 is a front elevation of one pair of the wheels. Fig. 3 is a perspective view, showing the brake and device for measuring distances. Fig. 4 is a vertical central section through one of the journal-boxes and shaft. Fig. 5 is a cross-sectional view of Fig. 4.

The object of the present invention is to produce certain improvements in the wheels and axles of vehicles; and to this end it consists more particularly in the special detail of constructing the wheels; and in the attachment and combination of the wheels to the axles; and in the journal; and in the provision for oiling the axle or bearings; and in the brake used to stop the wheels; and in the attachment of a device to and upon which can be adapted a tape or line or any like means for measuring distances; and in the general detail of constructing the wheels and axles, and uniting the same in a vehicle, whereby a neat, serviceable, and very excellent carriage will be produced, all as will now be more in detail set out and explained.

In the accompanying drawings, A denotes a carriage or vehicle of any ordinary construction for business or domestic driving purposes. B are the axles, to the outer end of which are secured axle-boxes C by means of clips *c c*, which encircle the box and axle. The box is cast in one or more pieces, and has flanges *c'* at the upper edges, which serve to form a bed or seat for the axle to rest on. The inner part of this box is made of suitable shape and size to form a proper bearing or seat at each end for the spindle or shaft *e* of the wheel E, and an oil-chamber in the center. This wheel is rigidly attached or fastened to the said spindle or shaft, at or near its outer end, by means of a nut, *e'*, or in any desired way, while its inner end, on the opposite side of the axle-box, has a nut, *e''*, and washer,

to prevent the shaft slipping out of its bearings, the said attachment being such as to allow free movement to the wheel upon its shaft in the journal or axle-box. In the upper side of said box is an opening, *c''*, to the passage leading to the seat or space *c'''*, in which the shaft moves, and said opening and passages serve as easy means for lubricating the shaft.

The wheels E have thin spokes *e'''*, secured at the outer ends to the felly in any usual manner, while the inner ends are held between the annular metal plates E', one on each side. These plates are riveted together, and thus serve to make a strong and secure seat for the ends of the spokes when they may be otherwise fastened in any proper manner, if desired.

Any one of the wheel-shafts or spindles may extend inwardly at some distance beyond the axle-box, and, by means of a thimble, *h*, over it and the nut *e''* at the end, the said shaft will be held firmly in its seat. The purpose of thus extending the shaft inward is to afford a space for drum H on the end of the thimble *h*, over which drum the brake I can be bent or wound. The end of said brake is secured to the bottom of the carriage, while its opposite end, *h'*, has a chain or cord attached to it leading to the driver, and by pulling on the same the brake will be brought close in contact with said drum H, and thus prevent the revolution of the wheel. The surface of the thimble *h* may be utilized for the attachment of any device for measuring distances.

The axle-box may be flush at the outer end, or so made that it will, at the upper side, have a flange slightly projecting over the wheel-shaft.

The advantage of this method of constructing wheels and axles are many and very important. The shafts can be easily put in or taken out when occasion calls, as in repairing or replacing the same. It is also very easy to take up any end play of the shafts by means of the nuts and washers on the inner end. Likewise there is no need for delay or trouble in oiling the shafts, as the access to the bearing-surface by means of the lubricating-passage above described, is as easy and simple as can well be devised.

In our vehicle or carriage, by the construc-

tion of the wheels especially, is dispensed with the cumbersome hub heretofore generally used; and in attaching said wheels to the axles a very considerable gain is made in driving-room, while no loss in the safety or in any other respects is occasioned.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The axle-box C, having lubricating-aperture *c'* and chamber *c''*, and combined with axle B, substantially as and for the purposes set forth.

2. The combination, with the shaft *e* and

axle-box C and wheel E, constructed as described, the drum H and brake I, substantially as and for the purposes set forth.

3. The thimble *h*, combined with shaft *e*, and wheel E, substantially as and for the purposes set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

WILLIAM H. KINTER.

BENJAMIN F. WILLIAMS.

Witnesses:

JOHN N. EVANS,

SAMUEL S. GIBSON.