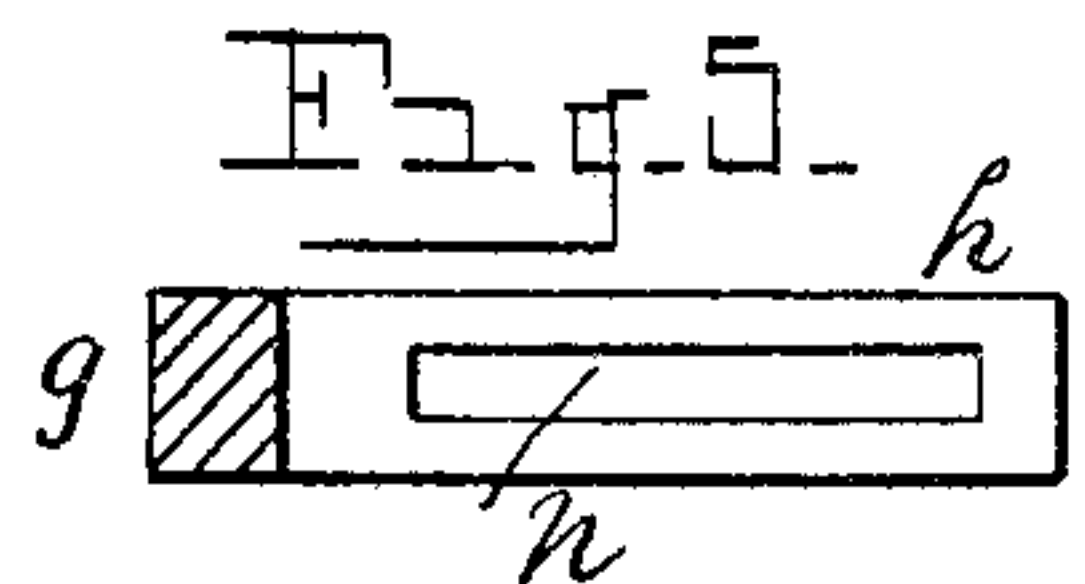
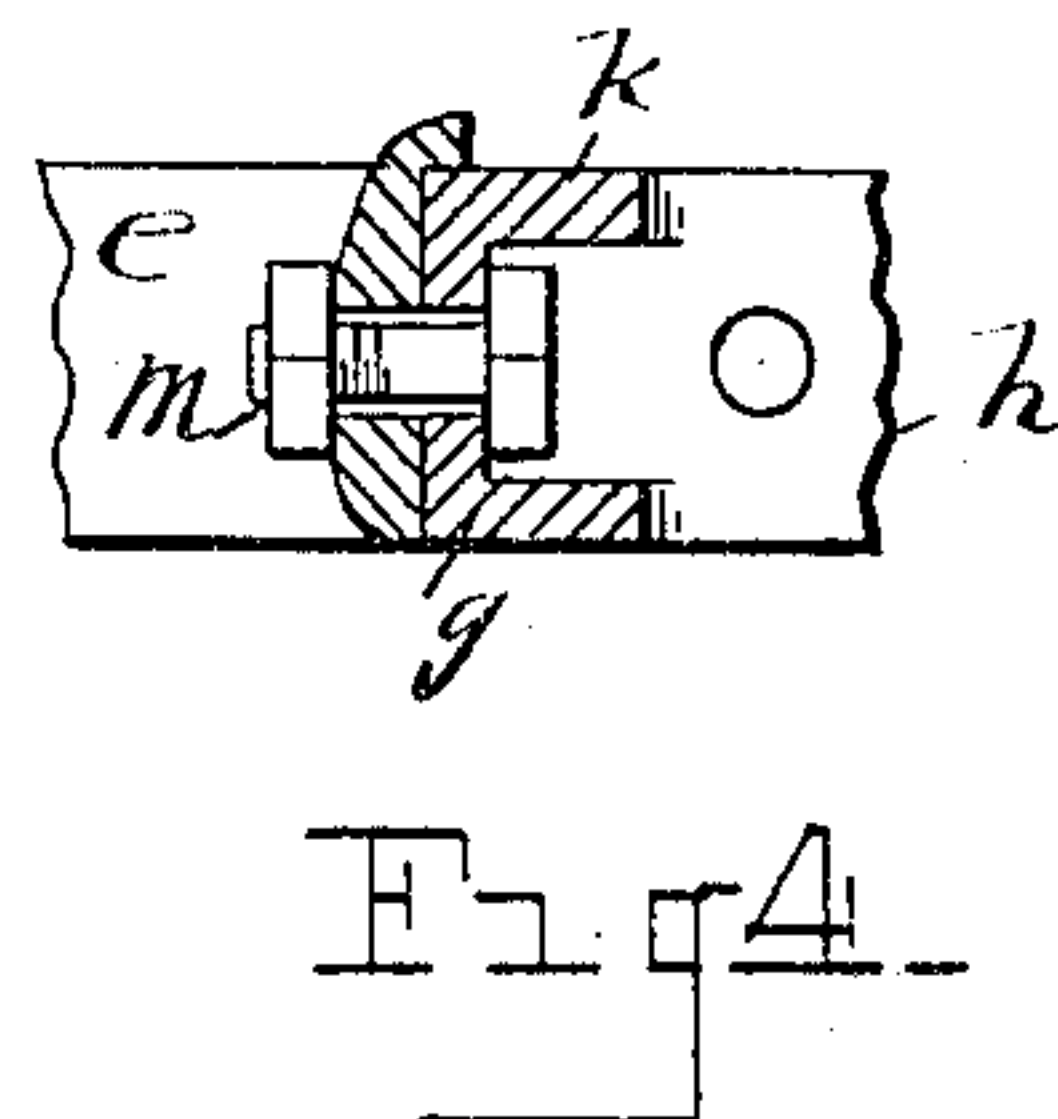
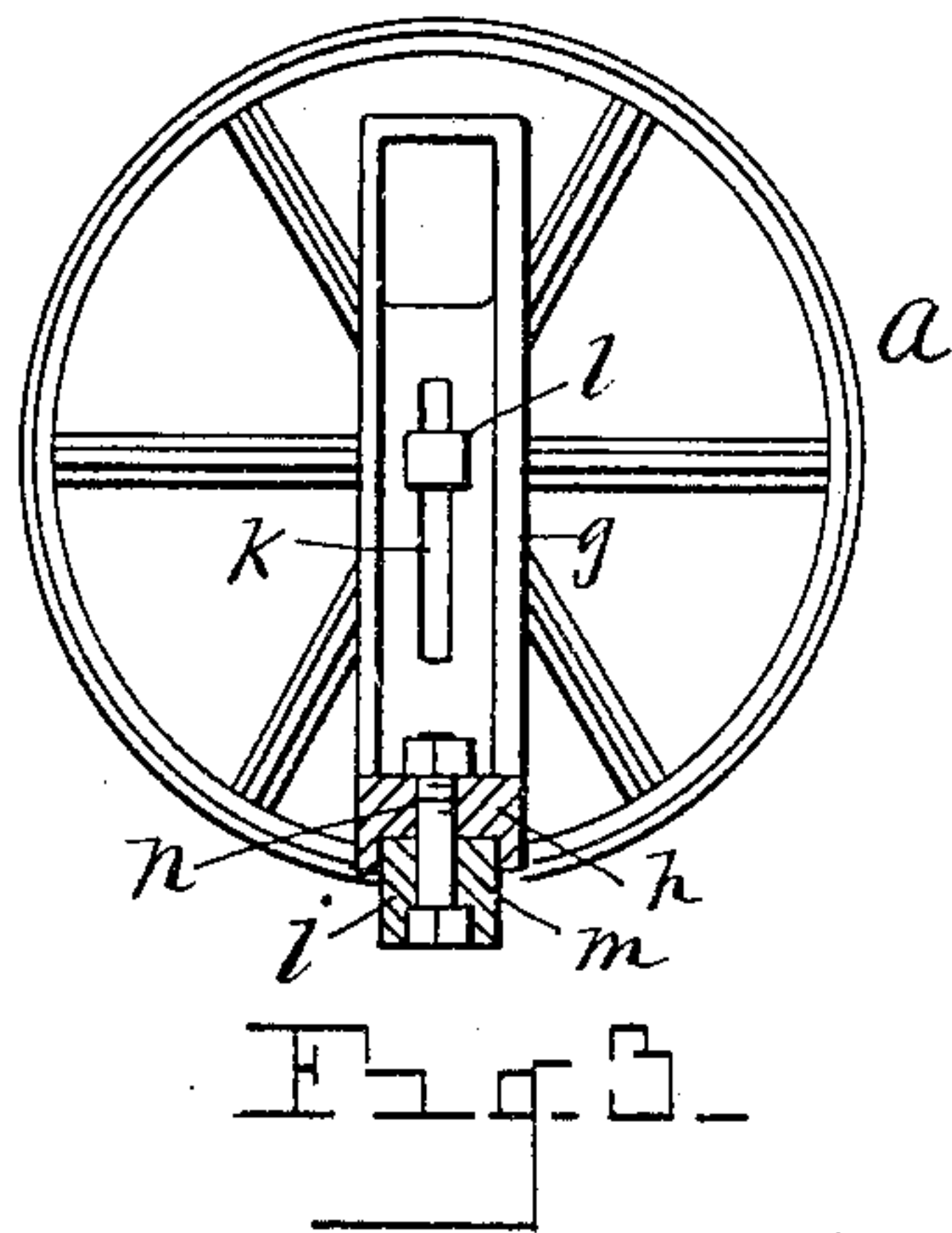
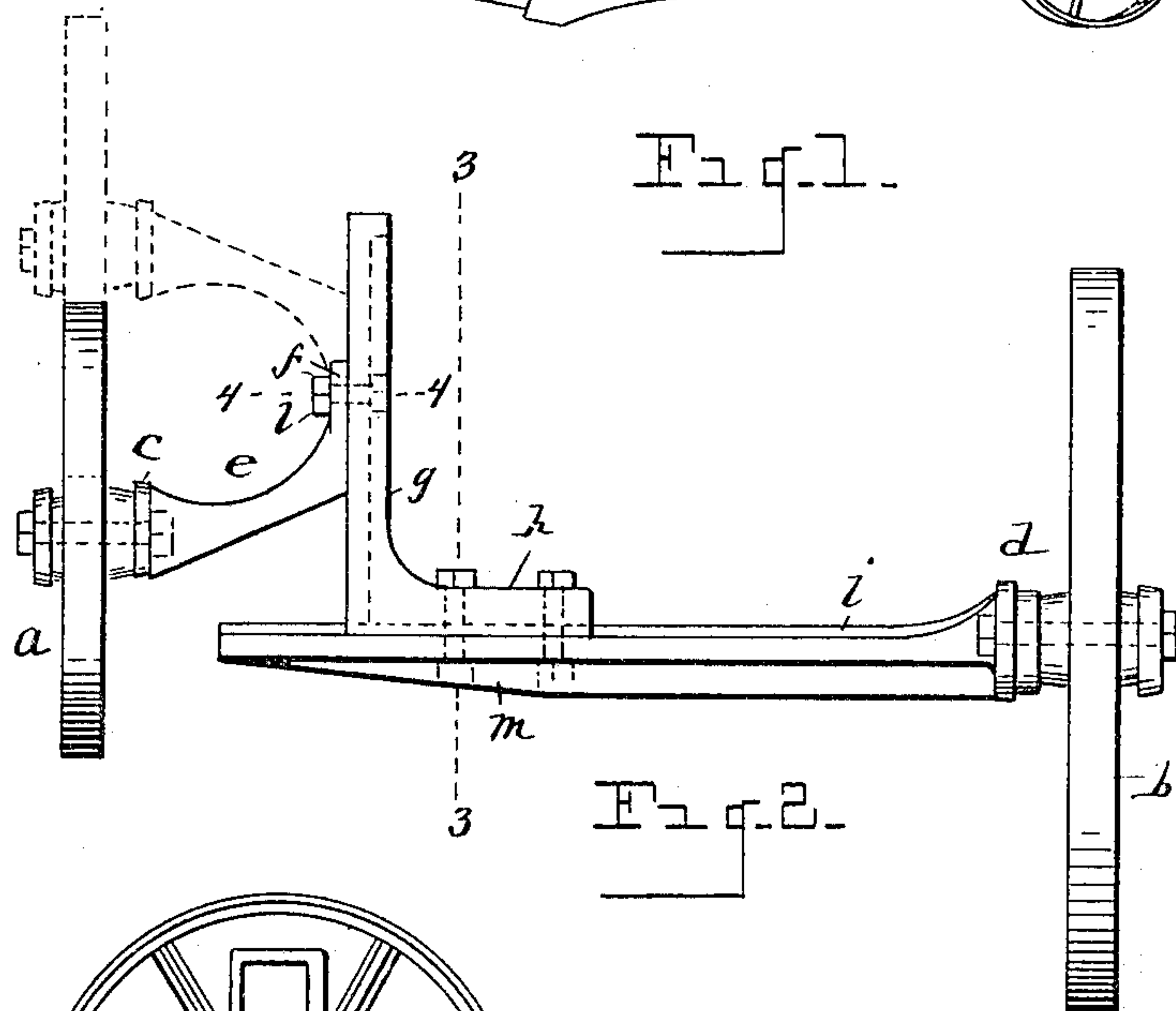
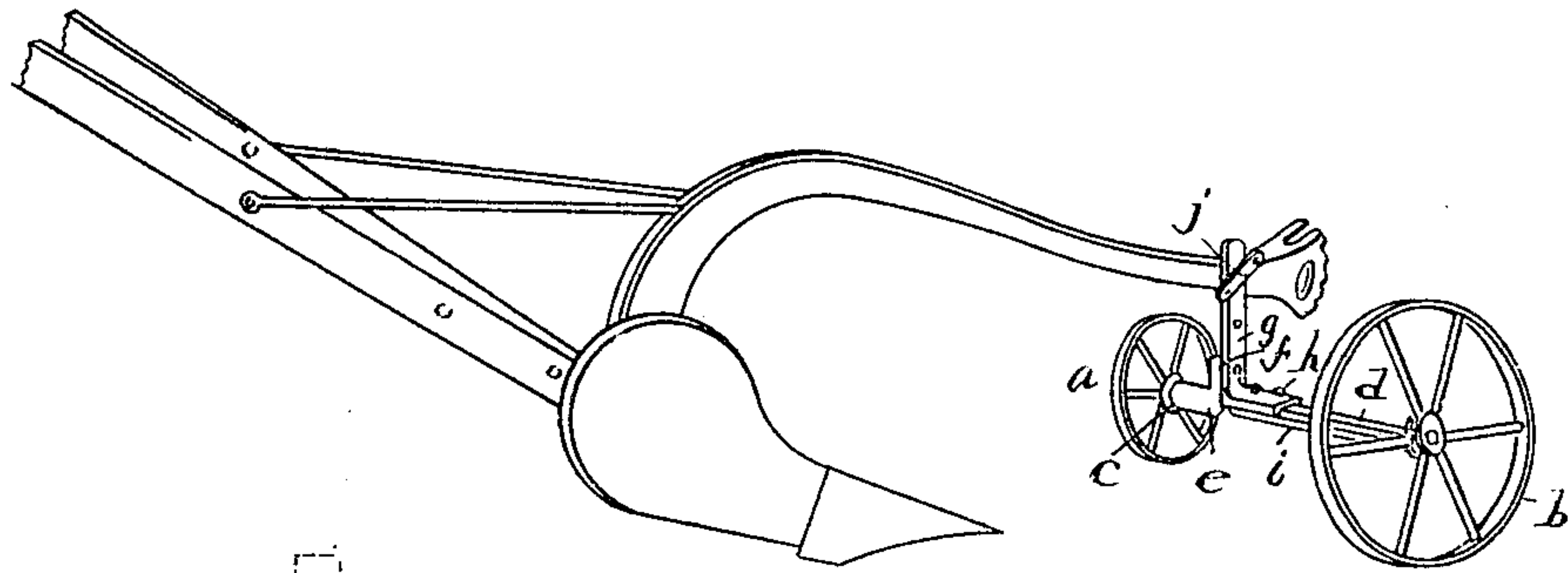


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F. L. WOODWARD.
PLOW.

APPLICATION FILED FEB. 1, 1904.



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FRANK L. WOODWARD, OF CLINTON, MICHIGAN.

PLOW.

No. 818,598.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK L. WOODWARD, a citizen of the United States, residing at Clinton, county of Lenawee, State of Michigan, have invented a certain new and useful Improvement in Plows, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object certain new and useful improvements in an attachment for plows, my invention being disclosed in the accompanying drawings and in the following specification and claims.

In the drawings, Figure 1 is a view in perspective, illustrating my invention. Fig. 2 is a view in elevation, illustrating my invention in detail, the features constituting my invention more particularly being detached from the plow-beam. Fig. 3 is a view in vertical section on the line 3 3, Fig. 2. Fig. 4 is a cross-section on the line 4 4, Fig. 2. Fig. 5 is a detail view illustrating the construction of the arm *h* of the hanger.

More specifically my invention is designed to provide improved means for attaching the axles of the furrow-wheel and of the land-wheel to a supporting-hanger, the hanger being secured to the forward end of a plow-beam.

In the drawings, *a* represents the land-wheel, and *b* the furrow-wheel. The land-wheel axle is indicated at *c* and the furrow-wheel axle at *d*. The land-wheel axle is engaged upon an inwardly-extended arm *e*, preferably having an upright portion *f* at its inner end, said upright portion having a vertical adjustment upon an upright supporting-hanger *g*. The base of the hanger is provided with a horizontal arm *h*. The axle *d* of the furrow-wheel is provided with an inwardly-extended horizontal arm *i*, having a lateral adjustment with the arm *h* of the supporting-hanger. It will be evident that the land-wheel may thus have a vertical adjustment upon the supporting-hanger to gage the depth of the furrow, while the furrow-wheel has a horizontal lateral adjustment upon the base or arm of the hanger to gage the width of the furrow.

My invention contemplates having both axles adjustably engaged upon a single supporting-hanger. The hanger may be engaged in any suitable manner upon the plow-beam, as by a clip *j*. When the hanger has once been engaged upon the plow-beam, its

engagement therewith does not need to be disturbed for any adjustment required to gage the depth and width of the furrow.

I do not limit myself solely to any particular means of engaging the arm *e* of the land-wheel upon the hanger so that it may be vertically adjusted thereupon. As indicated more particularly in Fig. 3, said hanger may be constructed with an elongated slot, as shown, and a bolt *l* be employed, passed therethrough to engage the arm *e* of said hanger. So, also, the arm *i* may have a lateral adjustment upon the base of the hanger by means of one or more bolts *m*, passed through the base *h* of the hanger, the said base being constructed with an elongated orifice at *n* to receive said bolt. The arm *e*, with its axle *c*, may be inverted, as indicated in dotted lines in Fig. 2, if it is desired to secure a higher adjustment thereof than can be secured otherwise.

It will be evident that the means herein described of supporting the axles of the land-wheel and of the furrow-wheel, permitting the vertical adjustment of the one and the lateral adjustment of the other upon a single supporting-hanger, forms a simple, efficient, and economical construction. At the same time none of the parts are liable to work loose, and the engagement of the several parts one with another will at all times be firm.

What I claim as my invention is—

1. In an attachment for plows the combination of a single supporting-hanger comprising a single upright arm to be engaged upon a plow-beam, and a horizontal arm projecting laterally from the base of the upright arm, an independent land-wheel axle having an upright portion at its inner end constructed to be engaged with the upright arm of the hanger, means to adjustably unite the upright portion of the land-wheel axle upon the upright arm of the hanger below the plow-beam, a furrow-wheel axle provided with an inwardly-extending horizontal portion, and additional means to adjustably unite the horizontal portion of the furrow-wheel axle upon the horizontal arm of the hanger, whereby both axles are independently adjustable upon the same single supporting-hanger.

2. In an attachment for plows the combination of a single supporting-hanger comprising a single upright arm to be engaged upon the plow-beam and a horizontal arm projecting laterally from the base of the upright arm,

an independent land-wheel axle having an inwardly-extended arm provided with an upright portion at its inner end and located against the upright arm of the hanger, a furrow-wheel axle provided with an inwardly-extended horizontal arm, the land-wheel axle and the upright arm of the hanger, the one constructed with a vertically-elongated slot below the plow-beam, a connecting-bolt passed through said slot to unite the land-wheel axle with the upright arm of the hanger, and the horizontal arm of the hanger and the horizontal furrow-wheel axle the one constructed with an elongated orifice, and a connecting-bolt passed through said orifice to unite the corresponding arm and axle, whereby both axles are independently adjustable upon the same single supporting-hanger.

3. In an attachment for plows the combination of a single supporting-hanger comprising a single upright arm to be engaged upon the plow-beam and a horizontal arm projecting laterally from the base of the upright arm, an independent land-wheel axle having an inwardly-extended arm provided with an upright portion at its inner end in contact with the upright arm of the hanger, means to adjustably unite the upright portion of the land-wheel axle upon the upright arm of the hanger below the plow-beam, a furrow-wheel axle provided with an inwardly-extending horizontal arm, and means to adjustably unite the horizontal arm of the furrow-wheel axle

upon the horizontal arm of the hanger, whereby both axles are independently adjustable upon the single supporting-hanger, the land-wheel axle being reversible in its engagement with the upright arm of the hanger to carry the inner end of the land-wheel axle above or below the outer end thereof whereby the land-wheel may be raised or lowered as may be desired.

4. In an attachment for plows the combination of a land-wheel axle, a furrow-wheel axle, and a single supporting-hanger intermediate the two axles, independent means to adjustably engage the single supporting-hanger with each of said axles, said single supporting-hanger constructed to be engaged at its upper end upon one face of a plow-beam.

5. The combination with a plow provided with a beam, of a land-wheel axle, a furrow-wheel axle, and an intermediate independent single supporting-hanger adjustably engaged with each of said axles, and a clip engaging the upper end of the single supporting-hanger upon the one face of the plow-beam.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANK L. WOODWARD

Witnesses:

J. A. VAN TUYLE,
W. C. ROGERS.