

(No Model.)

2 Sheets—Sheet 1.

E. D. & O. B. REYNOLDS.

WHEEL PLOW.

No. 321,052.

Patented June 30, 1885.

Fig. 1.

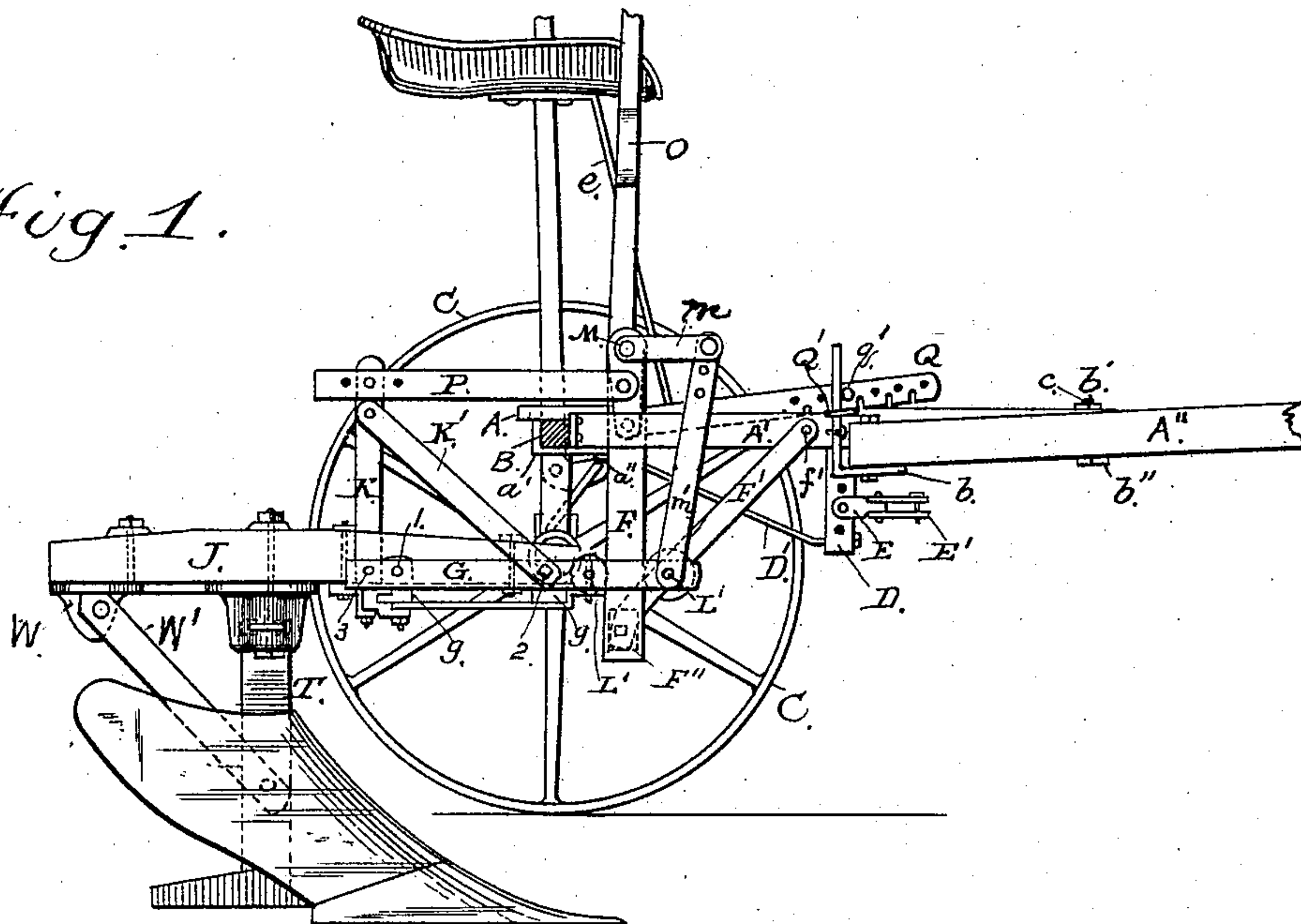
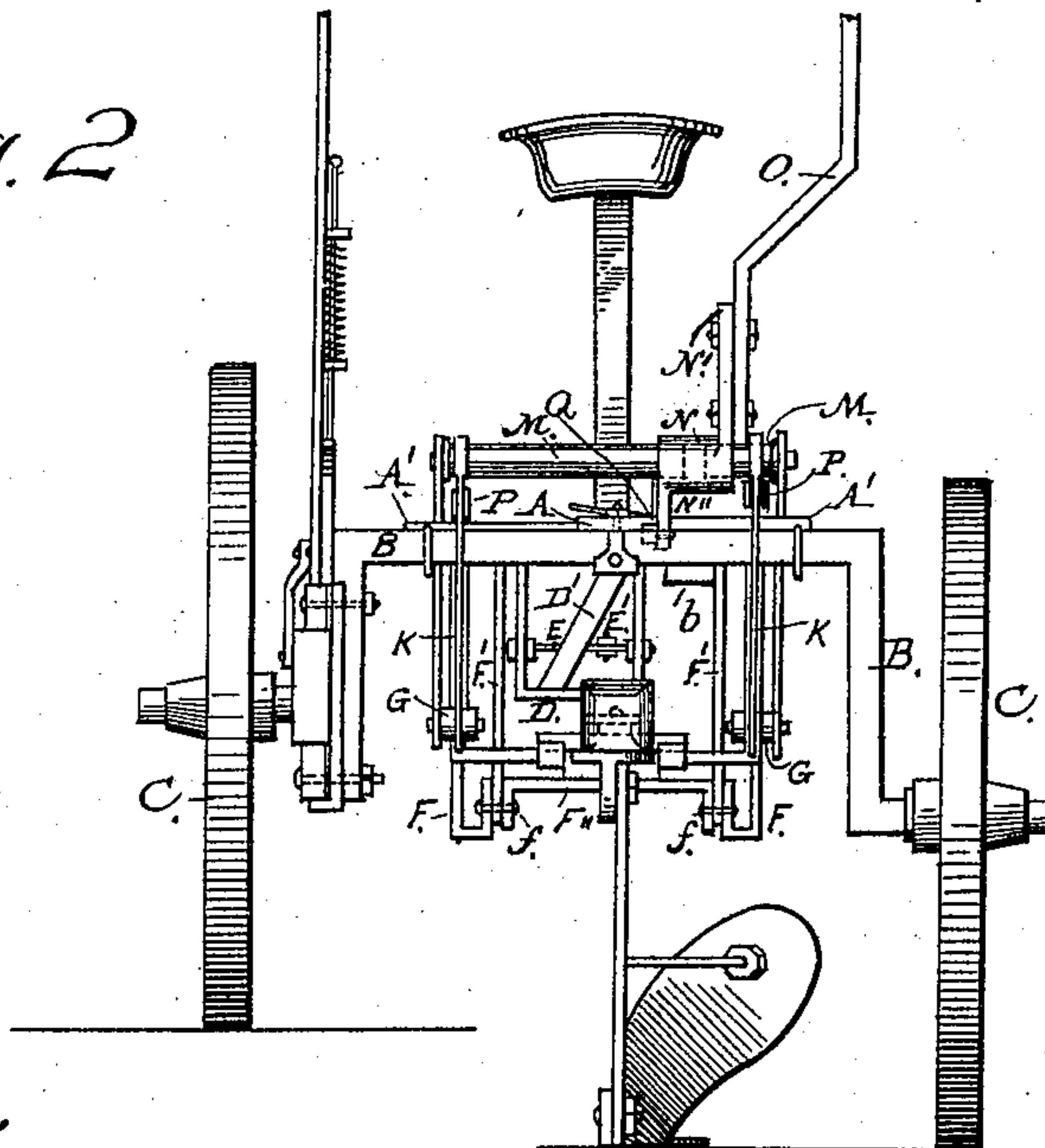


Fig. 2



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(No Model.)

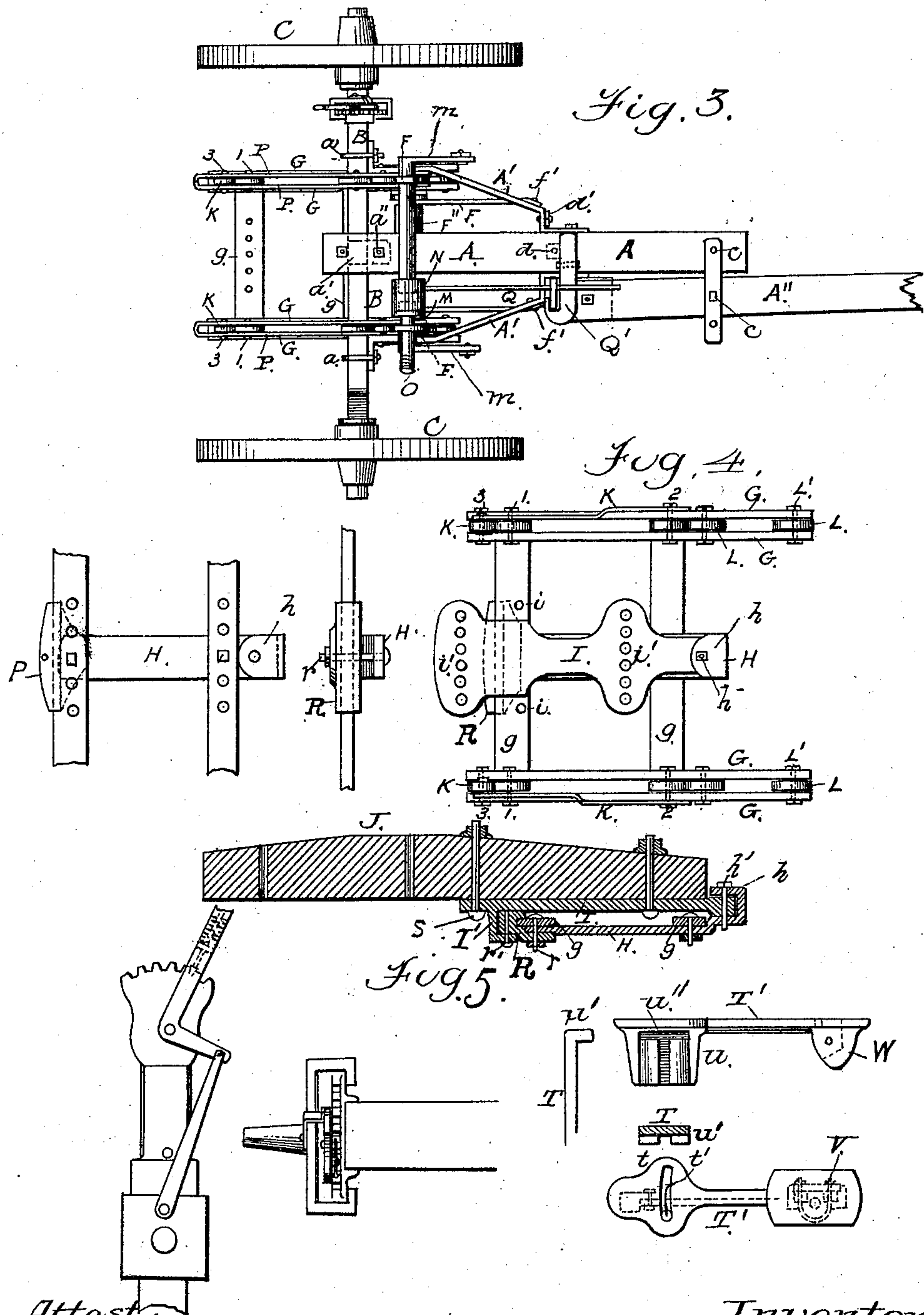
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UNITED STATES PATENT OFFICE.

EDMUND D. REYNOLDS AND OLIVER B. REYNOLDS, OF BROCKTON, MASS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 321,052, dated June 30, 1885.

Application filed April 26, 1884. Renewed January 5, 1885. (No model.)

To all whom it may concern:

Be it known that we, EDMUND D. REYNOLDS and OLIVER B. REYNOLDS, citizens of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Wheel-Plows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a wheel-plow with the near wheel and a portion of the axle broken away. Fig. 2 is a rear elevation of the same. Fig. 3 is a plan view. Figs. 4 and 5 show several details, to be referred to.

Our present invention relates to that class of agricultural implements known as "wheel-plows;" and it consists of the several combinations of devices hereinafter explained and claimed.

To enable others skilled in the art to make and use our invention, we will proceed to describe the exact manner in which we have carried it out.

In the drawings, A represents the pole-stub of our plow, B the axle, and C the wheels. The braces A' A' are bent, as shown in Fig. 4, the front ends being fastened to the pole-stub A by means of a bolt, and the rear ends being secured to the axle by the yoke-bolts *a a*, as shown in Fig. 3. The rear end of the pole-stub A is securely fastened to the axle by means of the clasp-plate *a'* and bolt *a''*, as shown in Fig. 1. The pole A'' is united to the pole-stub A in a manner we will now proceed to explain. To the rear end of the pole we bolt the angle-plate *b*, (see Fig. 1,) which is in turn bolted to the brace A'. (See Fig. 1.) To the front end of the pole-stub the pole is tied by the straps *b'* and *b''*, placed above and below the pole-stub and pole, as shown in Figs. 1 and 3, and secured by the bolts *c c*. The outer ends of these straps are provided with perforations to allow of a lateral adjustment of the pole from or toward the pole-stub.

D is the frame-work, to which is attached the equalizer, as will be hereinafter explained. One end of the frame D is bent at right angles and secured to the pole-stub A by a bolt, *d*, the other end being fastened to the brace A'

by the bolt *d'*, as shown in Fig. 3. The frame is secured at its lower end to the strap D', the other end of the strap being secured to the pole-stub by the bolt *a''*, as shown in Fig. 3. 55

E is a plate, to which the equalizer strap E' is attached. The plate E is perforated, so as to admit of a lateral adjustment of the equalizer-strap to accommodate a team of three horses, when desired. The seat-support *e* is secured to the pole-stub by bolts or other convenient means. 60

The standards F are bolted to the braces A (see Fig. 1) and are bent at their ends to form three sides of a rectangle, as shown in Fig. 2. 65 This construction allows the draft-bars G to be lowered the full length of the vertical portion of the standards. At the lower end of the standards F we attach the draft-straps F', between which we place the brace F'', as shown in Fig. 2. These several parts are securely fastened together by means of the bolts *f f*. The upper ends of the draft-straps F' are secured to the braces A' A' by means of the bolts *f' f'*. The draft-bars G G are placed on each side of the standards F, and are separated by the ends of the tie-plates *g*, which are bent up at right angles, the bent portion lying between the bars, and all being securely fastened in position by the bolts 1 and 2, as shown in Figs. 3 and 4. The parts G and *g*, when thus bolted together, form a frame which is vertically adjustable on the standards F F, and to which the bar H, plate I, and beam J are attached, as shown in Fig. 4. At the rear ends of bars G are the standards K, the lower ends of which are secured between the bars by the bolts 3. To the upper end of these standards we attach the braces K', which are fastened at their lower ends to the bars G by bolts 2, thus rendering the standard K perfectly rigid. 80 85 90

Between the front ends of the bars G we secure the friction-wheels L by means of bolts L', having their bearings in the bars G. One of these wheels is placed before and one behind each of the standards F F. The shaft M M passes through the upper ends of the standards F F, which form bearings for the shaft. On the outer ends of this shaft we form the arms *m m*, as shown in Fig. 3, while the inner ends of the shaft are securely fastened in the block N, which is provided with an 95 100

arm, N', to which is secured the lever O, by means of which the shaft M M is operated.

To the outer ends of the arms *m m* we attach the links *m'*, the opposite ends of these links being attached to the outer end of the bolt L', as shown in Fig. 1. The upper ends of these links *m'* are perforated, so as to allow of a vertical adjustment of the frame G *g* as it is evident that by shortening or lengthening the links *m'* the forward end of the frame is correspondingly raised or lowered. It is also evident that by our construction we are able to cant the frame G *g* at pleasure by simply changing the relative length of the links *m'* or making one longer than the other.

The bars P are pivoted at their rear ends to the top of the rigid standards K, and at the forward ends to the standards F, as shown in Fig. 1. The object of these bars is to resist the upward pressure of the plow when at work by transferring the pressure from the standard K to the standard F. These bars also tend to hold the frame G horizontal while being raised or lowered on the standards F by the lever O. The rear ends of bars P are perforated, so as to afford an adjustment of the relative positions of the standards K and F, as shown in Fig. 1. These standards are supposed to be vertically parallel. It is evident that by moving the bars P backward or forward the standards F will be thrown toward or from the standards K, and necessarily from a vertical position, thereby causing the rear portion of the frame G *g* to be raised or depressed.

The notched bar Q is pivoted to arm N', (see Fig. 2,) and extending forward passes through a slot in the upper portion of the angle-plate *b*, (see Fig. 1,) the lower edge of the slot serving as a dog to enter the notches and hold the bar Q in any desired position. The arm N'' being formed on the opposite side of the block N to the arm N', it is evident as the arm N' is moved in one direction by the lever O the arm N'' will receive a corresponding movement in the opposite direction. Thus as the lever O is thrown back the notched plate Q will be thrown forward, and by means of the notches and the dog on the plate *b* the plate will be held in place, thus securing the lever O until the plate is again released from the dog.

Under circumstances not necessary to explain it may become necessary to release the plate Q quickly, and sometimes it may be to retain it in a released position. To accomplish this we pivot to the pole-stub the foot-plate Q', extending over the pole and under the plate Q, with its outer point bent in a hook-shape around the outer edge of the angle-plate *b*, (see Fig. 3,) thus steadying the latter plate in its position. The outer end of the foot-plate Q' being the heavier, the normal position of the plate will be with its outer end resting on the brace A', as shown in Figs. 1 and 3, while the inner end will be slightly elevated. It is evident from this description that if the driver's foot be pressed upon the

inner end of the foot-plate Q' the outer end will be elevated, and in rising must also raise the notched bar Q and release it from the dog. A latch or button may be applied to hold the foot-plate down, so as to retain the notched bar in its raised position.

The plate Q is also perforated, as shown in Fig. 1, to receive a pin, *q'*, to prevent the plate from being withdrawn from the slot when released from the dog, while it is free to go forward to accommodate an irregular surface by allowing the plow to rise and fall freely, the extent of the fall being determined and controlled by the pin *q'*.

We will now proceed to describe the manner in which we attach the plow-beam J to the frame G *g*.

Below the plates *g g* we secure the plate H, the front end of which is bent, as shown in Fig. 4, fitting snugly in front of the plate *g*, and then extending forward, and bending back on itself, so as to form the hook *h*, in which fits the forward end of the plate I, and where it is secured by the pivot-bolt *h'*, which allows a lateral swing to the rear of the plate I, while the plate H has a lateral adjustment on the plates *g* by means of the perforations *i i*. The beam J has a similar adjustment on the plate I by means of the perforations *i' i'*. On the rear plate, *g*, we bolt a block, R, secured by the bolt *r*, which fastens the plate H to the rear plate *g*. Around the rear face of this block R fits the lipped flange I', formed on the rear end of the plate I, as shown in Fig. 4. Through this lip and block passes the bolt *r'*, by which means the plate I can be held steadily in a fixed position. The bolts S, passing through the beam J, enter the perforations *i' i'* in the plate I, furnish the means for a lateral adjustment of the beam on the plate. It is thus evident that by the swing of the beam afforded by the pivoting of the plate I, as described, and by the lateral adjustment of the beam on the plate, the line of draft in relation to the plow may be adjusted in any way desired.

The plow-standard T is secured to the beam J by a means which we will now explain.

A cap-plate, T', is secured to the under side of the beam, the rear portion of the plate being widened at *t*, and slotted, as shown in Fig. 5. This is to allow the cap to be adjusted laterally, and thus adjust the position of the plow, as may be desired. The bolt *t'*, working in the slot, secures the rear end of the cap-plate to the beam. The plow-cap is provided with a housing, U, which, extending down, receives the upper end of the standard T, which is slotted or bifurcated, and the bifurcations *u'*, bent at right angles, fit into recesses *u''* in the upper part of the housing. The bifurcating or slotting of the bent end of the standard allows the bolt *t'* to pass between the bent portions of the standard. The inner portion of the housing is also grooved vertically to receive the bolt V, as shown in Fig. 4.

The parts thus formed being properly placed

together are secured in position by the yoke-bolt V. On the rear under side of the cap-plate T' is formed a projection, W, recessed to fit and receive the upper end of the brace W', while the lower end of the brace is firmly bolted to the standard. Thus fitted and secured the brace retains its relative position to the standard T, regardless of the adjustment of the standard by the cap-plate T'.

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

1. In a wheel-plow, the pole-stub A, provided with the clasp-plate *a'*, in combination with the pole A'', angle-plate *b*, braces A', and tie-straps *b'* and *b''*, all constructed to operate substantially as and for the purpose described.

2. The standards F, the lower ends of which are bent to form three sides of a rectangular figure, and the braces A', in combination with the frame G *g*, provided with the friction-wheels L, the straps F', brace F'', all constructed substantially as set forth.

3. The draft-bars G G, carrying the friction-wheels L, in combination with the bars *g*, having their outer ends bent up at right angles and secured between the bars G G, substantially as and for the purpose set forth.

4. The vertically adjustable frame G *g* and standards F F, in combination with the bar H, plate I, and beam J, all constructed to operate substantially as and for the purpose set forth.

5. The vertically adjustable frame G *g*, in combination with the standards K, braces K', adjustable bars P, and standards F, all constructed to operate substantially as and for the purpose set forth.

6. The standards F and shaft M M, provided with the arms *m m'*, in combination with the block N, provided with the arm N', and the lever O, all constructed to operate substantially as and for the purpose set forth.

7. The shaft M, provided with the arms *m* and lever O, in combination with the adjustable links *m'*, standards F, and adjustable frame G *g*, substantially as and for the purpose set forth.

8. The block N, provided with the arm N' and lever O, in combination with the notched bar Q and the slotted angle-plate *b*, all constructed to operate substantially as and for the purpose set forth.

9. The block N, provided with the arm N' and lever O, in combination with the notched and perforated bar Q, the slotted angle-plate *b*, and the pivoted foot-plate Q', all constructed to operate substantially as and for the purpose set forth.

10. The adjustable beam J and frame G *g*, in combination with the adjustable and swinging plate I, block R, and plate H, all constructed to operate substantially as and for the purpose set forth.

11. The standard T, having its upper end bifurcated and bent at right angles, in combination with the cap-plate T', the housing U, provided with recesses *u''*, the bolt *t'*, and the yoke-bolt V, substantially as and for the purpose set forth.

12. The cap-plate T', provided with the projection W, recessed to fit the brace W', and having the housing U to receive the standard T, in combination with the brace W', substantially as and for the purpose set forth.

13. The draft-bars G G, standards K, bar P, and brace K', in combination with the standards F, substantially as and for the purpose set forth.

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Witnesses:

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LORING W. PUFFER.