

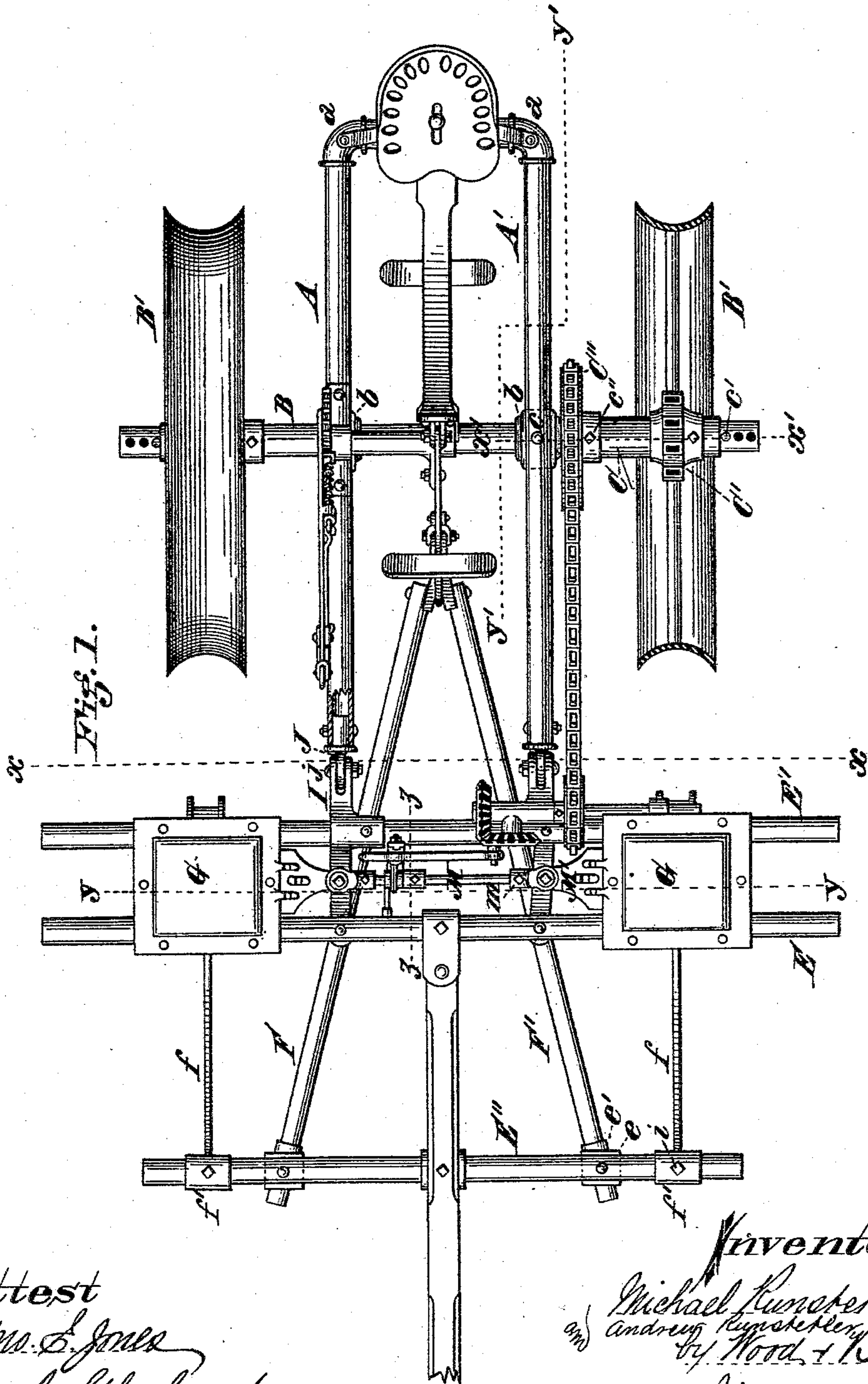
(No Model.)

3 Sheets—Sheet 1.

M. & A. RUNSTETLER.  
CORN PLANTER.

No. 281,204.

Patented July 10, 1883.



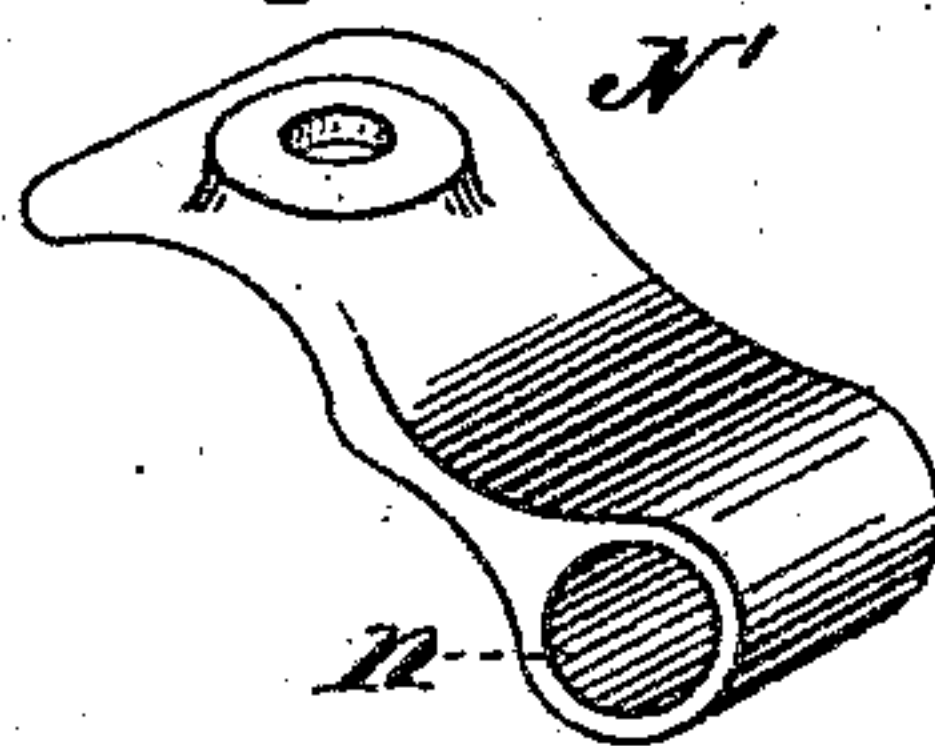
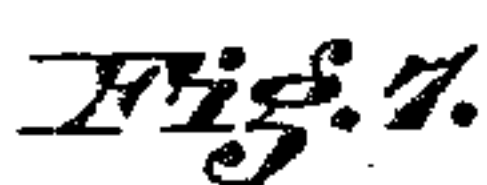
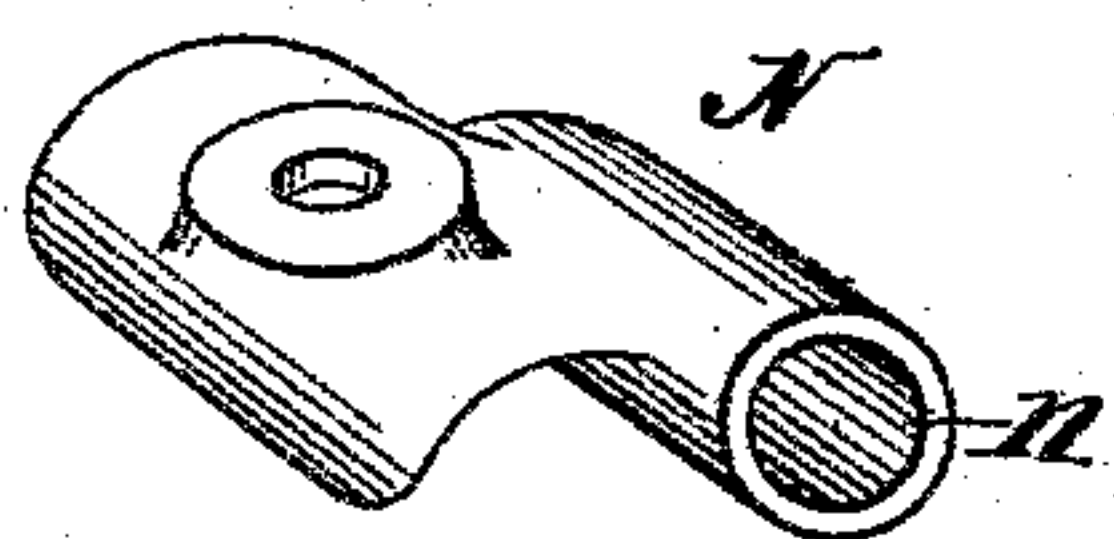
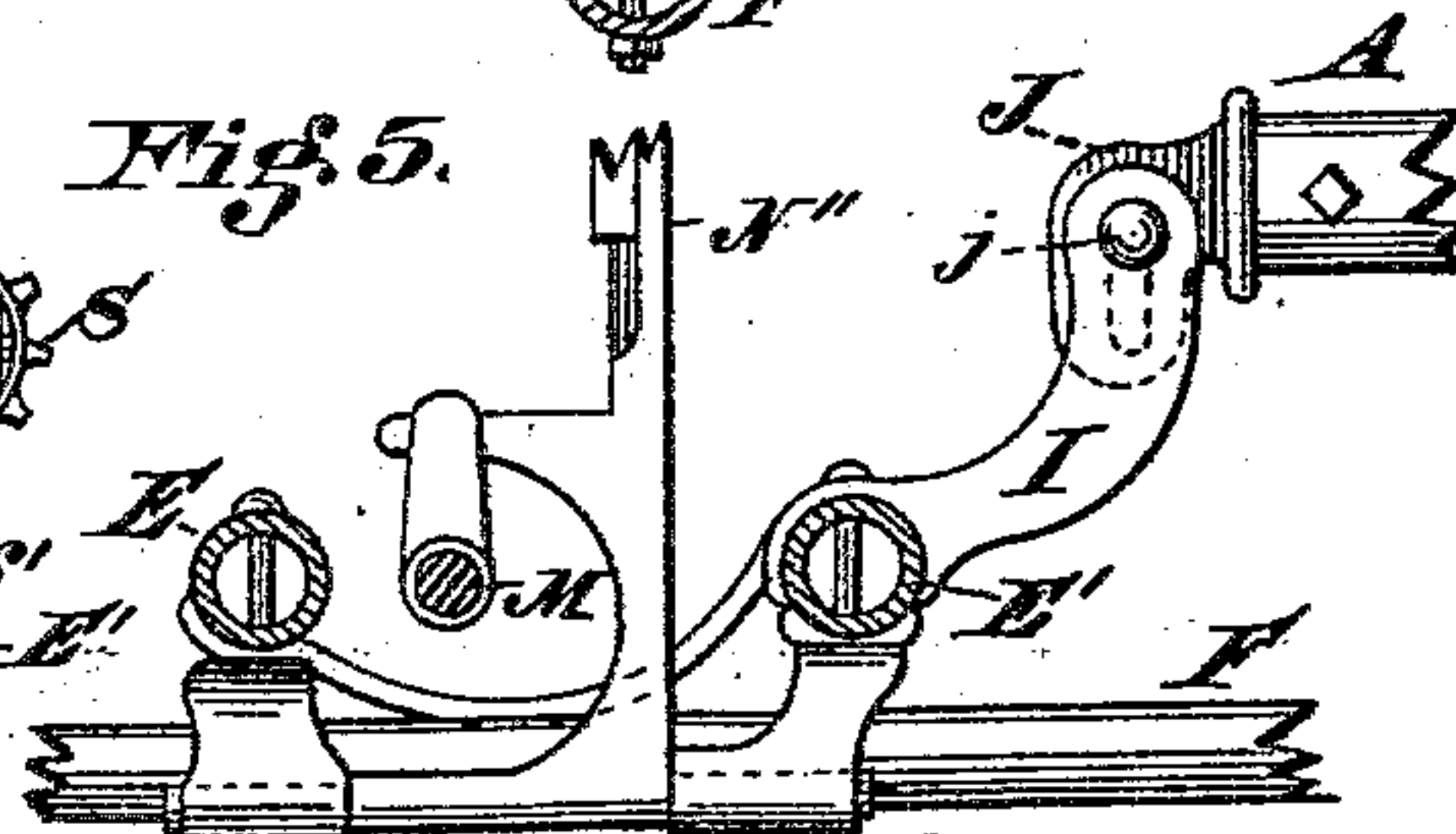
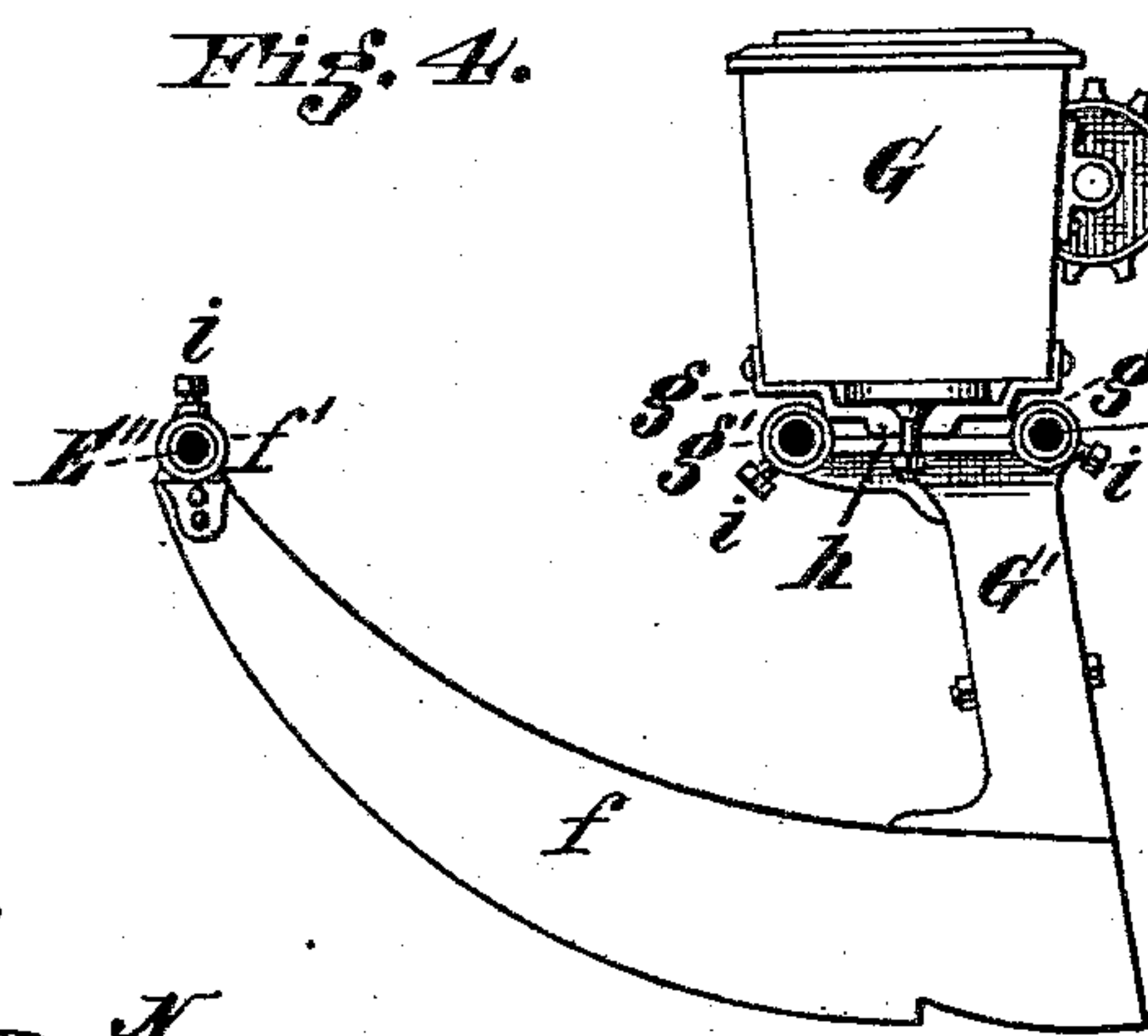
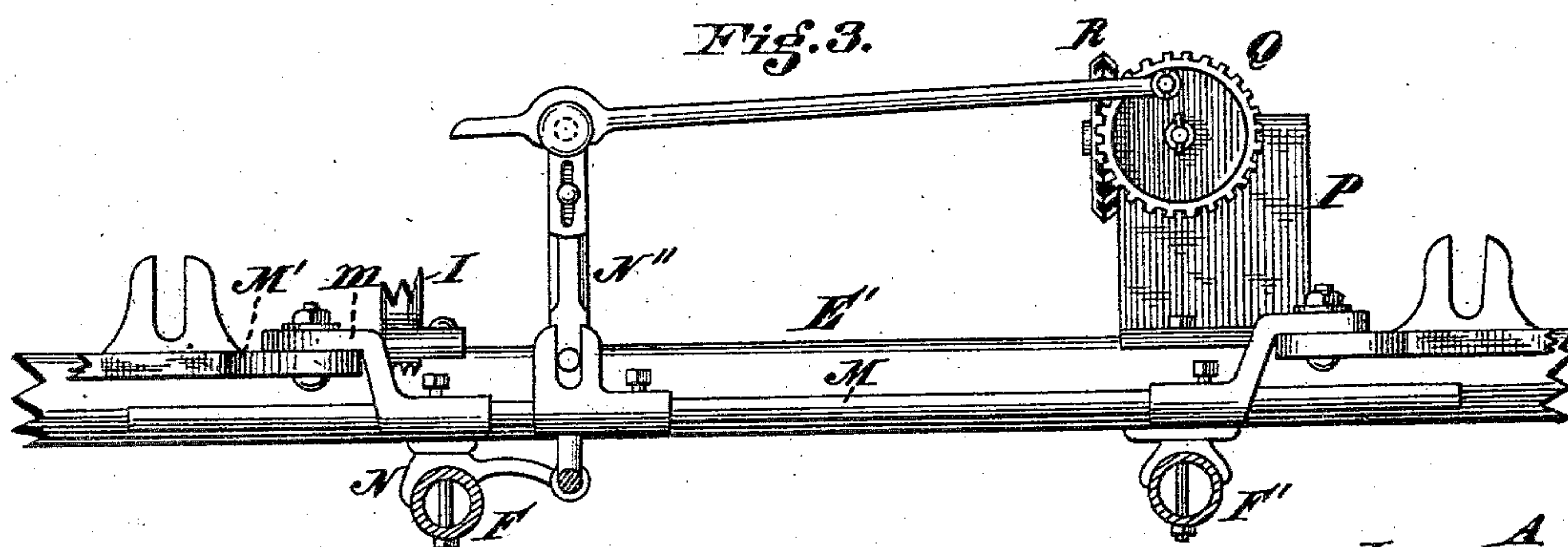
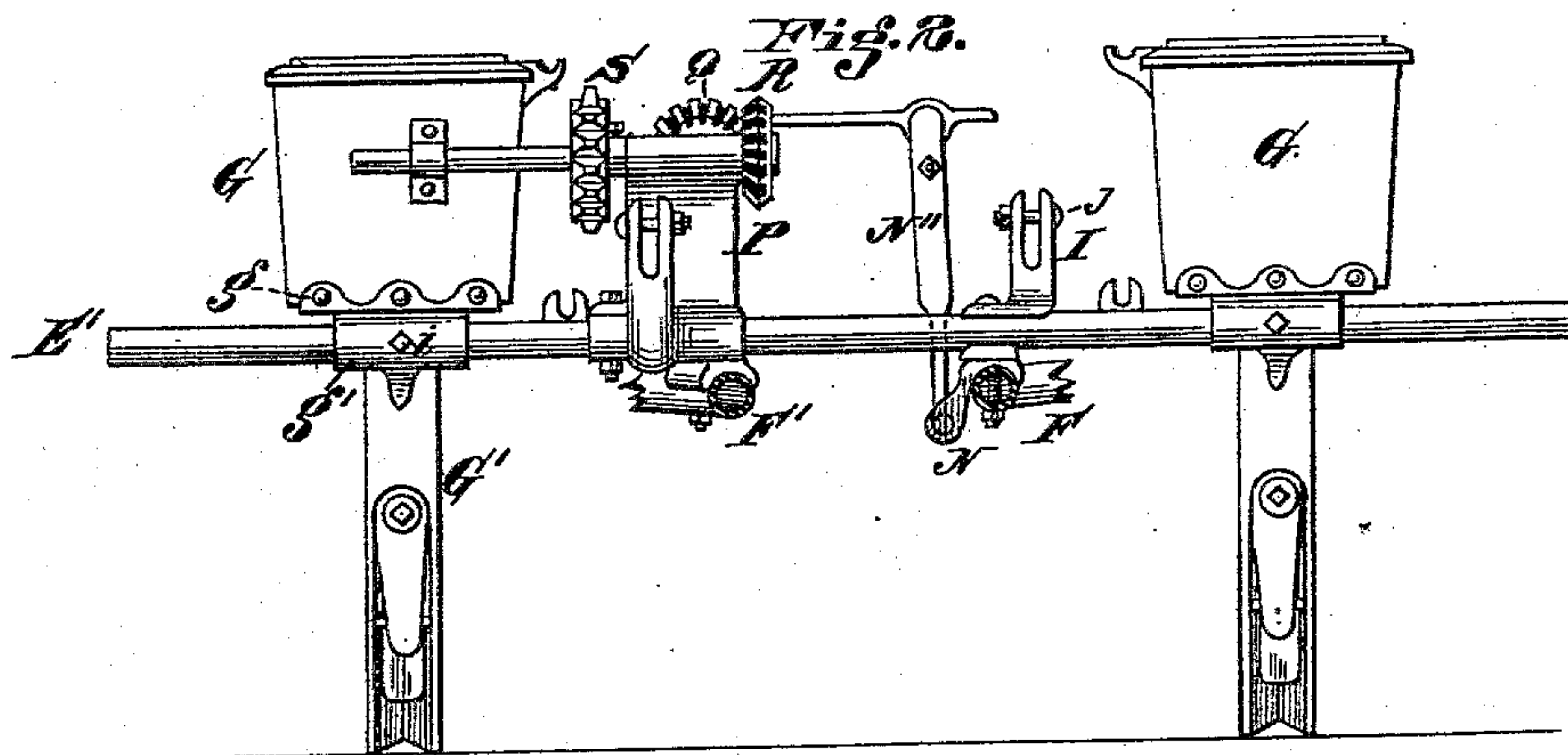
Attest  
per E. Jones  
A. Gluchowsky.

Inventors  
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and Andrew Runstetler  
by Wood & Boyd  
his Attorneys &c.


3 Sheets—Sheet 2.

No. 281,204.

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Jno. S. Jones  
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*Michael Runstetter,*  
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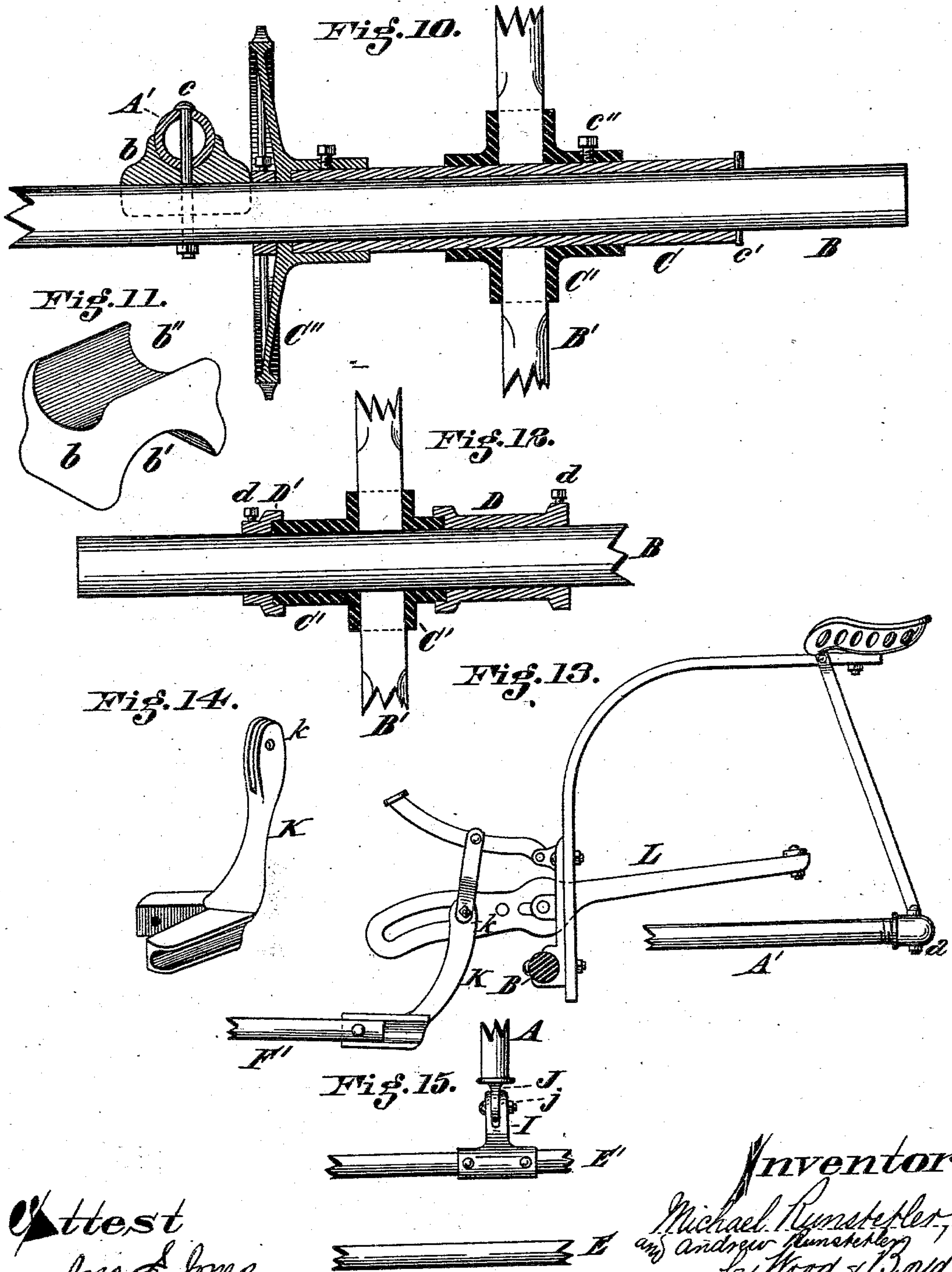
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3 Sheets—Sheet 3.

M. & A. RUNSTETLER.  
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# UNITED STATES PATENT OFFICE.

MICHAEL RUNSTETLER AND ANDREW RUNSTETLER, OF DAYTON, OHIO,  
ASSIGNORS TO THE FARMERS FRIEND MANUFACTURING COMPANY, OF  
SAME PLACE.

## CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 281,204, dated July 10, 1883.

Application filed November 18, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, MICHAEL RUNSTETLER and ANDREW RUNSTETLER, citizens of the United States, and residents of Dayton, in the  
5 county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

Our invention relates to the construction of  
10 corn-planter frames.

The object of our invention is to construct the frame of a center-coupled corn-planter of tubular iron, and so combining the parts that the wheels and seed-boxes can be readily ad-  
15 justed laterally to widen or narrow the distance between the rows, as occasion may require, without disturbing the connections of the frame, all of which will be fully explained in the accompanying drawings, in which—

20 Figure 1 is a plan view of a corn-planter embodying our invention, but showing a modified form of link or arm connecting the main and runner frames. Fig. 2 is a sectional elevation on line *x x*, Fig. 1, showing the rear of the runner-frame. Fig. 3 is an enlarged sectional front elevation, taken on the line *y y*,  
25 Fig. 1, with the hoppers removed and the dropper-plate and one of the tubes of the runner-frame broken off. Fig. 4 is an end elevation of the runner-frame with the reach and tongue removed to show the manner of mounting the hoppers and runners on the hollow frame-bars. Fig. 5 is an enlarged sectional  
30 elevation on line *z z*, Fig. 1, showing the same modified link for connecting the main and runner frames, and the bracket-bearings for journaling the crank-lever which drives the reciprocating dropper-bar; also shown in cross-section. Fig. 6 is a detail perspective view  
40 of one of the detachable bracket-bearings for journaling the crank-lever, in this instance the rear one, shown in Fig. 5. Fig. 7 is a detail perspective view, showing the other bracket-bearing, in this instance the forward one, shown in  
45 Fig. 5. Fig. 8 is an enlarged central longitudinal section of the forward end of one of the reaches or hounds, showing the manner of coupling it with the forward tubular bar of the runner-frame. Fig. 9 is a detail perspective  
50 view of one of the semicircular couplings

for uniting the various parts of the round-iron frame. Fig. 10 is an enlarged longitudinal section, partially in elevation, showing the manner of adjustably mounting the ground-wheels of the machine on one end of the axle  
55 and the sprocket for driving the dropper mechanism. Fig. 11 is an enlarged detail perspective view of the coupling-block, shown in section in Fig. 10, for uniting the main frame and the supporting-axle of the machine. Fig. 12  
60 is an elevation of the broken end of the supporting-axle, showing the manner of adjustably mounting one of the ground-wheels thereon. Fig. 13 is an enlarged sectional elevation on line *y' y'*, Fig. 1, showing the manner of  
65 connecting the rear end of the hounds on the runner-frame with the raising and lowering devices on the main frame. Fig. 14 is a detail perspective view, showing the coupling-bracket for connecting the hounds of the run-  
70 ner-frame with the raising and lowering devices on the main frame, the same as that shown in Fig. 13. Fig. 15 is a detail plan of broken parts of the runner and main-frame bars, showing the preferred form of link for  
75 uniting them together.

A A' represent the side rails of the main frame, which are made of tubular iron, united to a tubular end rail by means of pipe knee-couplings *a a*.  
80

B represents a stationary axle on which the ground-wheels B' are journaled.

*b b* represent semicircular coupling-blocks having circular faces *b' b''*, as shown in Fig. 11, into which the tubular parts A A' and B  
85 respectively fit, and which are rigidly united together by means of a screw-bolt, *c*, thereby forming a light and durable main frame.

C' represents the hub of the wheels B', which is attached rigidly to sleeve C, which jour-  
90 nals on the axle B.

C'' represents a sprocket driving-wheel connected to sleeve C and revolving with wheel B' for operating the dropping devices.

*c'* represents a pin for preventing lateral  
95 movement of sleeve C.

*c''* represents a set-screw passing through hub C' for securing wheel B' in position, and to allow of an easy lateral adjustment of the wheel on the shaft to widen or narrow the dis-  
100



tance between rows. Fig. 12 shows a modified form of journaling one of the wheels on the axle-shaft B.

D represents a bearing having at one end an annular flange, in which annulus one end of hub C' journals, and D' a similar bearing for opposite end of hub C'. The bearing-sleeves D D' are held in position by set-screws *d*, which allow of the lateral adjustment of the wheel.

The runner-frame is composed of tubular cross-rails E E' E'' and longitudinal hounds F F', which are rigidly connected to the cross-rails by means of semicircular couplings *e e'*, each of which is formed as shown in Fig. 9, *e* representing a boss or bearing, so that when the two couplings are joined they may be readily adjusted to each other and to the plane of the tube, and secured firmly together by means of a screw-bolt. Hounds F F' are shown approaching each other as they extend rearwardly toward the main frame, so as to better brace the runner-frame; but they can be placed in parallel planes.

*f f* represent runners of the usual form, and *f' f'* sleeve-couplings for securing their front ends to the front rail, E''.

G represents the seed-boxes, which are rigidly attached to the standards G' of the runners *f* by means of a bolt connecting bracket *g* of the seed-box to flange *h*, formed at the top of standard G'.

*g' g'* represent sleeve-couplings rigidly secured to flange *h* of standard G', and through which pass the cross-rails E E'.

*i i* represent set-screws tapping the sleeve-couplings *g'* and *f'* for adjusting the runners and seed-boxes laterally on the pipe-rails and securing them in any desired position.

I represents a coupling-arm having a sleeve or circular bearing at one end, fitting upon rail E', to which it is rigidly bolted, and forked at the opposite end, through which forks passes a bolt, *j*, uniting the coupling to slotted bracket J, which is fastened to side rails, A A', as shown in Figs. 1, 5, and 15. It is obvious that the brackets J might be forked, instead of the coupling-arm I. Brackets J might also be made to fit around rail A, instead of inside, as shown.

K, Fig. 14, represents a standard provided with curved coupling-joints F'', fitting the tubular hounds F F'. The shank end *k* is forked and pivoted in the slot of treadle L. The sleeve and treadle are preferably constructed as shown in Letters Patent No. 259,054, granted February 21, 1882.

M represents the shaker-rod, which is connected to the reciprocating dropper-bar M' by means of coupling-arms *m m*, which are provided with a sleeve passing over rod M and secured by set-screws. This mode of connecting the dropper-plates is very convenient, as it allows the throw of the bars M' to be readily adjusted to accommodate the different widths to which the machine-runners may be set apart. This rod M is of sufficient length

to accommodate the widest adjustment, and by making an offset in the arms *m* it extends under the dropper-plates M'. It is also adapted to any corn-planter, as the throw of the rod M by this means can be nicely adjusted to any dropper device employed.

N N' represent journal-brackets secured to hounds F F' and provided with eye-bearings *n*, in which crank-shaft N' journals.

P represents a coupling journal-bracket attached to rail E', and upon which the gears Q R are journaled, and which gears are driven by sprocket-wheels S and C''.

The mode of constructing and operating the remaining parts of the dropping devices, and the mode of constructing and operating the elevating and depressing lever, have been fully shown and described in previous Letters Patent granted A. RUNSTETLER and M. RUNSTETLER, and will not be herein described.

Coupling-blocks *b*, instead of being made of one piece, could be made of two pieces, of the form shown in Fig. 9, and the rails joined, as shown at *e e'*, Fig. 1. So, too, when hounds F F' are constructed to be in parallel lines, a solid coupling, *b*, might be used instead of the duplex parts *e e'*; but the latter is the easiest mode of fitting and adjustment.

By making one side of the coupling *b* journal-boxes a revolving axle could be employed instead of a revolving sleeve, in which case the driving-wheels should be made fast to the axle itself. The axle is shown as made solid. It can be made tubular, if desired.

The semicircular form of coupling-blocks, connecting the tubular parts by through-bolts, provides a ready means of adjusting the connected rails, as well as allowing the ready removal of any one of the parts without taking the entire frame apart.

We claim—

1. A corn-planter having the main or riding frame constructed of tubular rails united together and connected to the axle by means of bolts and semicircular coupling-blocks, substantially as herein set forth.

2. In a corn-planter, the front runner-frame, composed of tubular cross-rails and longitudinal tubular hounds, connected together by means of semicircular coupling-pieces *e* or their described equivalents, substantially as herein set forth.

3. In a corn-planter, the tubular main and runner frame, coupled together by means of connecting-arms I, and brackets J, adapted to connect the tubular parts of said frames, substantially as herein set forth.

4. In combination with the tubular hounds F F' of the runner-frame, the coupling-standard K, having the semicircular coupling-arms and united by through-bolts, connected to the hounds and hinging them to the treadle L, substantially as herein set forth.

5. The tubular runner-frame composed of tubular cross and longitudinal rails connected by semicircular couplings, in combination with seed-boxes containing dropper-plates con-



5 nected together by the adjustable extension shaker-rod M, and mounted upon the runners and connected to the tubular frame by sleeve-couplings and laterally adjustable thereon, substantially as herein set forth.

10 6. A corn-planter having tubular riding-frames A A', united to axle B by means of semicircular coupling-blocks, upon which axle the wheels are journaled by means of revolving sleeves C, to which they are connected and are laterally adjustable thereon, substantially as herein set forth.

15 7. A corn-planter the frames of which are composed of tubular rails or rods, the cross parts of which are adjustably connected together by means of semicircular coupling-blocks and through-bolts, substantially as herein set forth.

20 8. In combination with the reciprocating dropper-bar M', the extension coupling-rod M,

and bent coupling-arms *m*, for adjusting the throw of bar M', substantially as herein set forth.

9. In combination with the crank-shaft N'', journal-brackets N N', connected and supported upon the tubular frame, substantially as herein set forth. 25

10. In combination with the axle-shaft B, and wheel-hub C', the annular journal-collars D, all said parts being mounted on said shaft, so as to have lateral adjustment thereon, substantially as herein set forth. 30

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

MICHAEL RUNSTETLER.  
ANDREW RUNSTETLER.

Witnesses:

J. A. MARLAY,  
GEORGE O. WARRINGTON.