

No. 871,219.

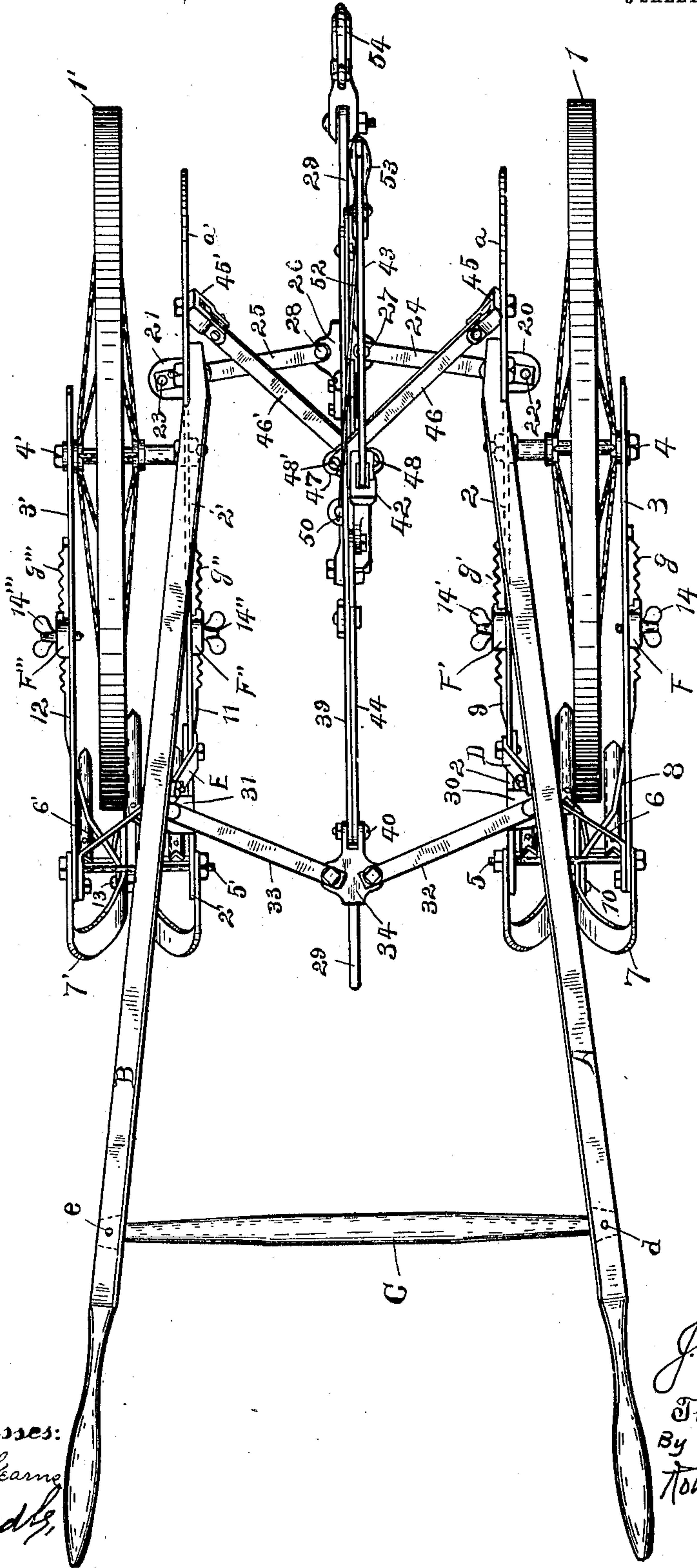
PATENTED NOV. 19, 1907.

J. T. FOULKE.
EXPANSION PLOW.

APPLICATION FILED MAR. 20, 1907.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

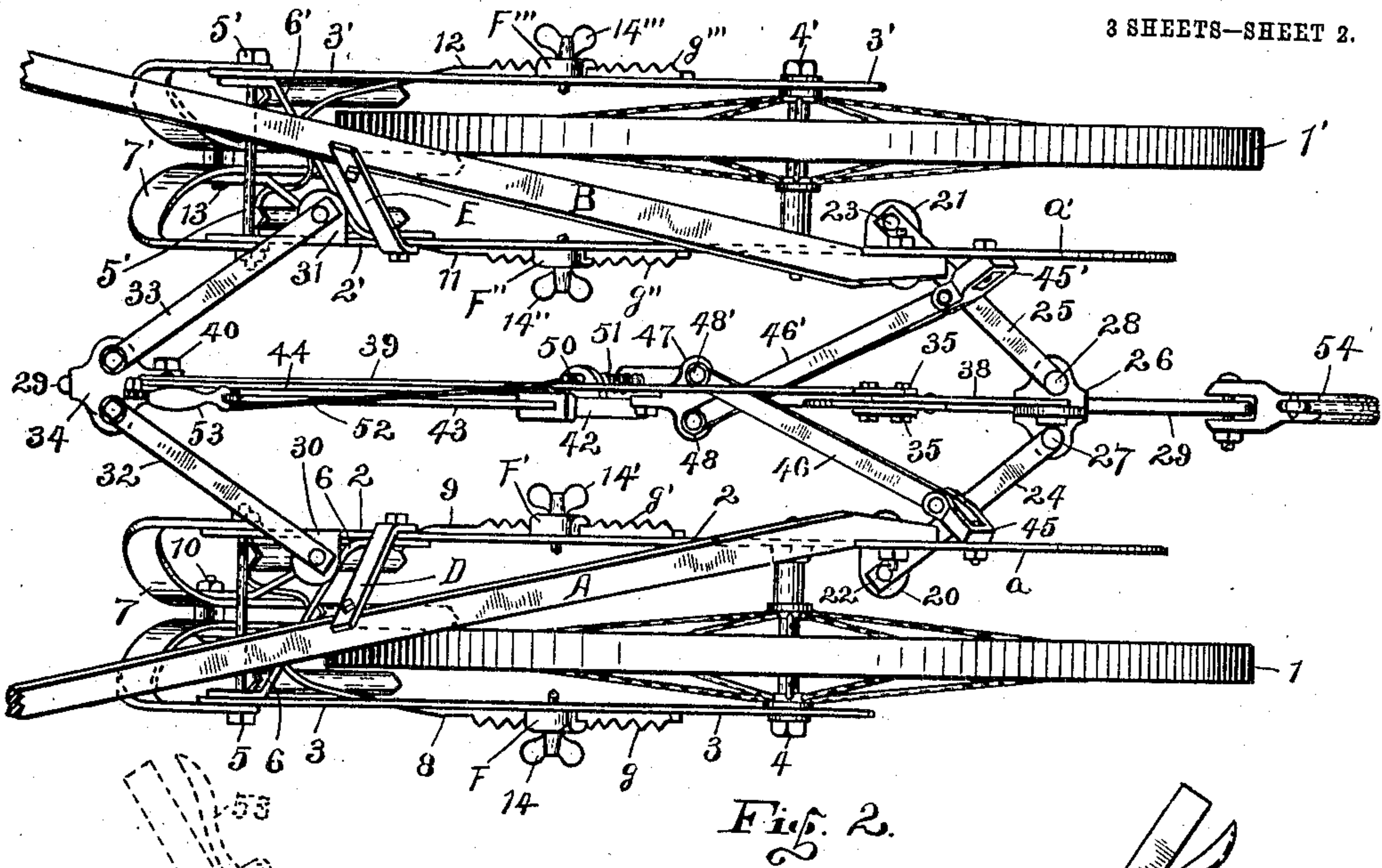


Fig. 2.

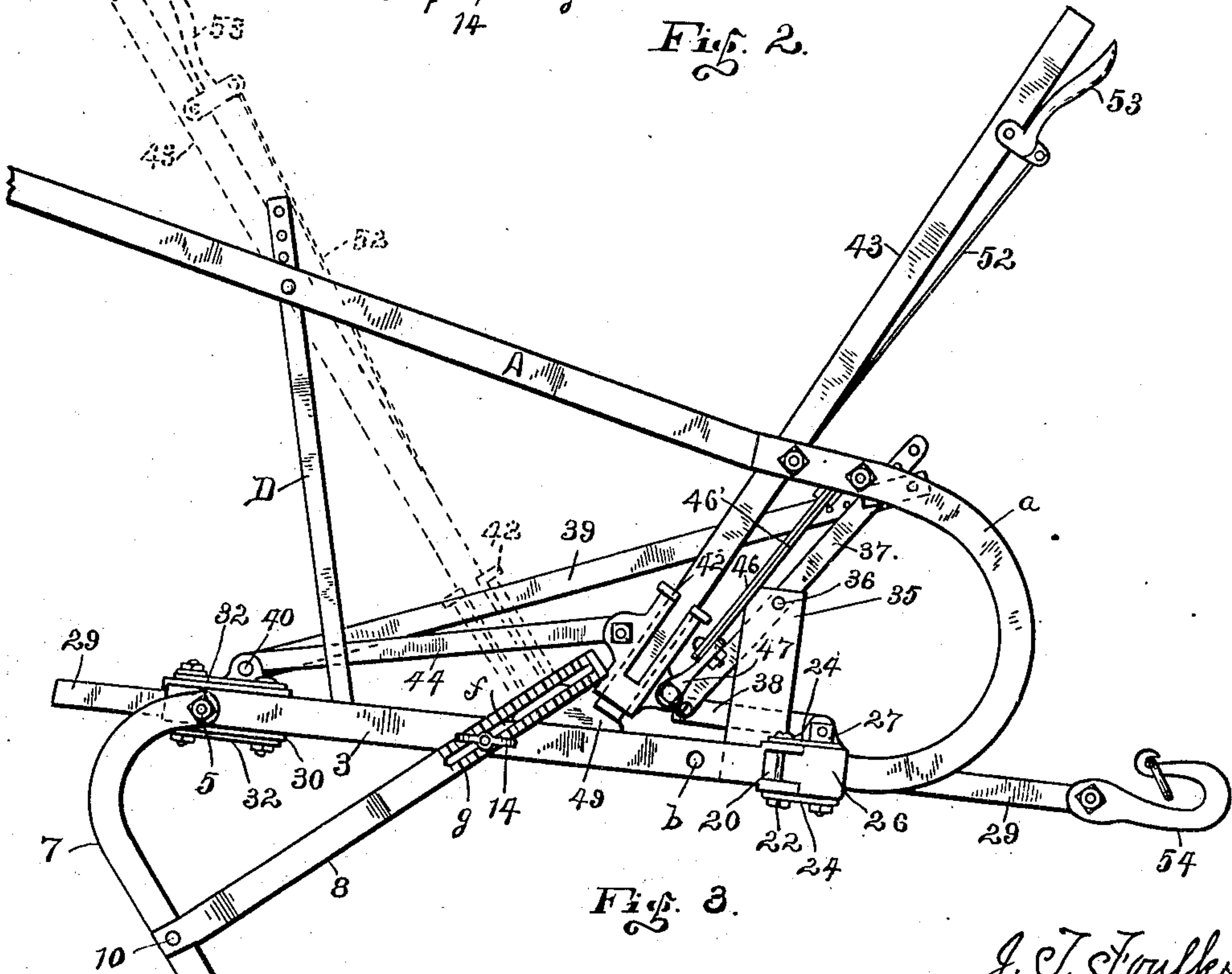


Fig. 3.

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3 SHEETS—SHEET 3.

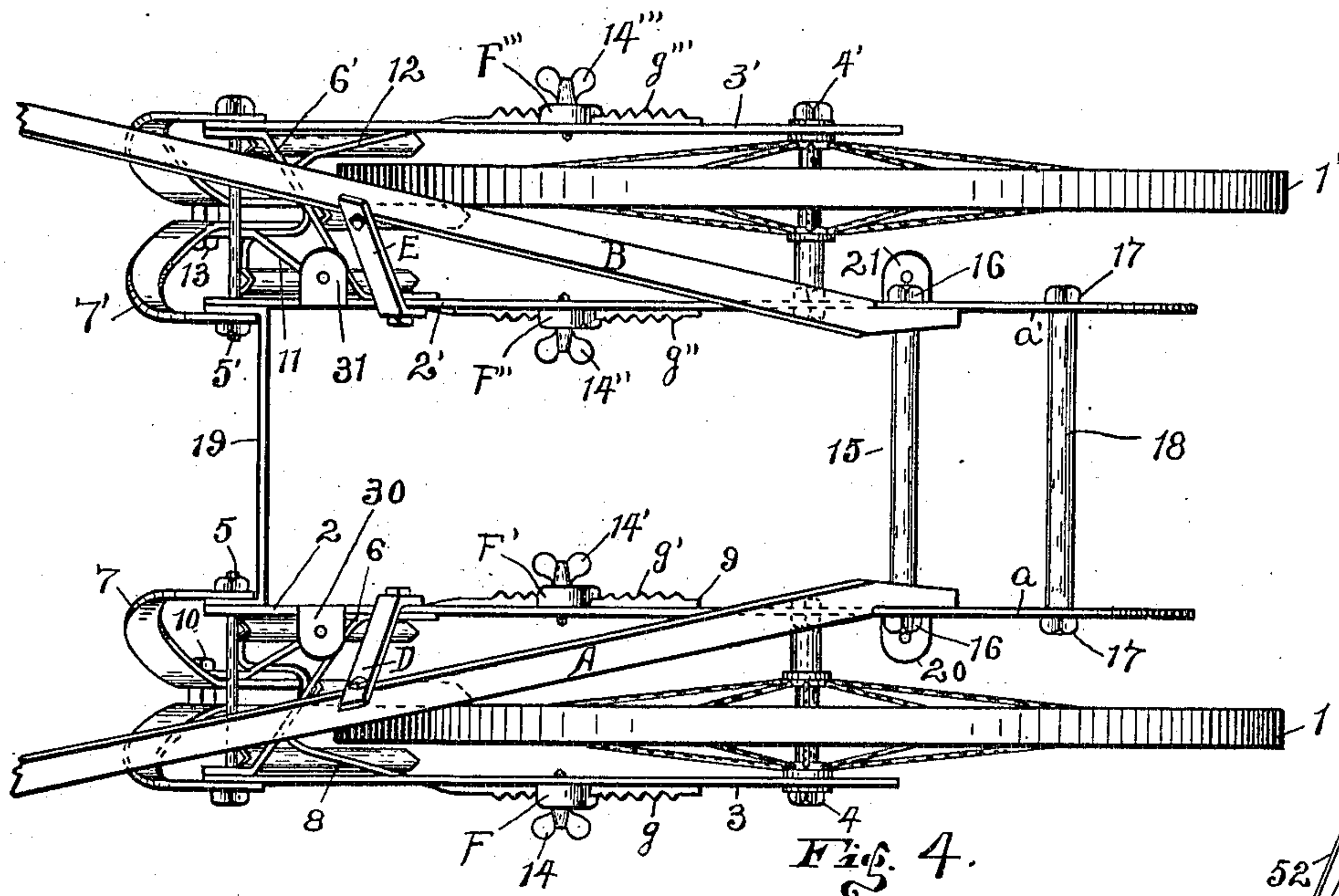
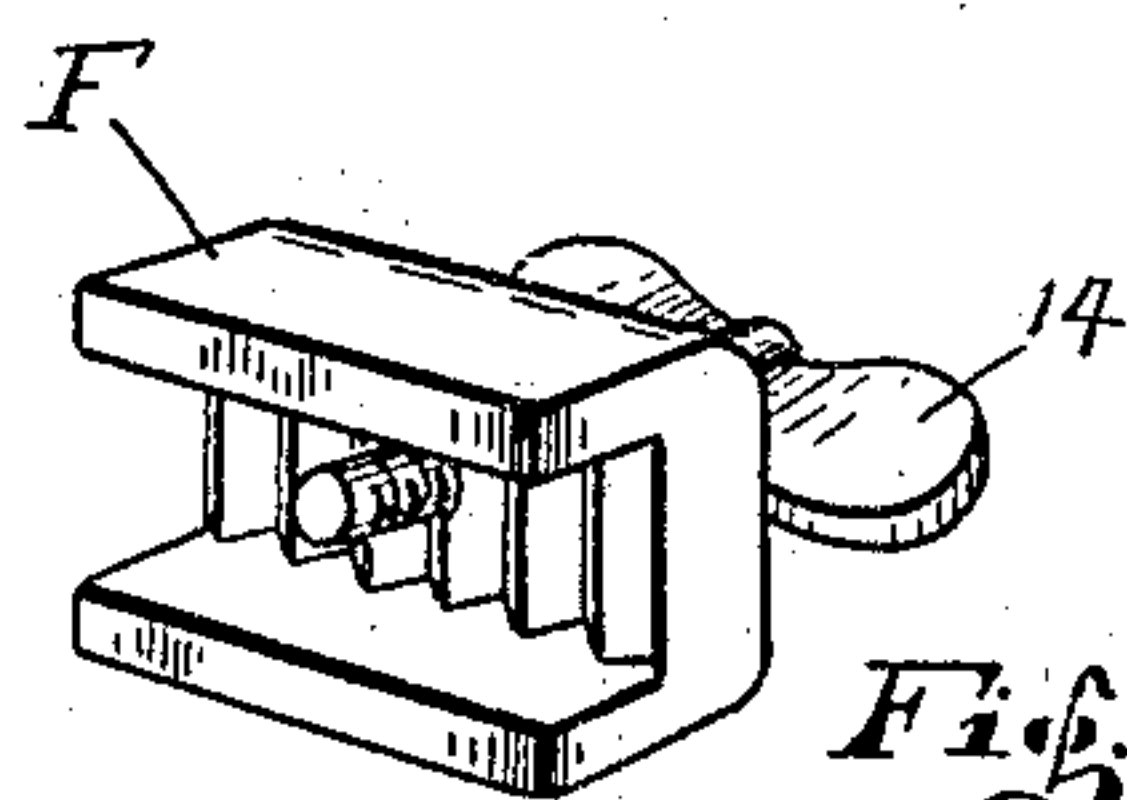
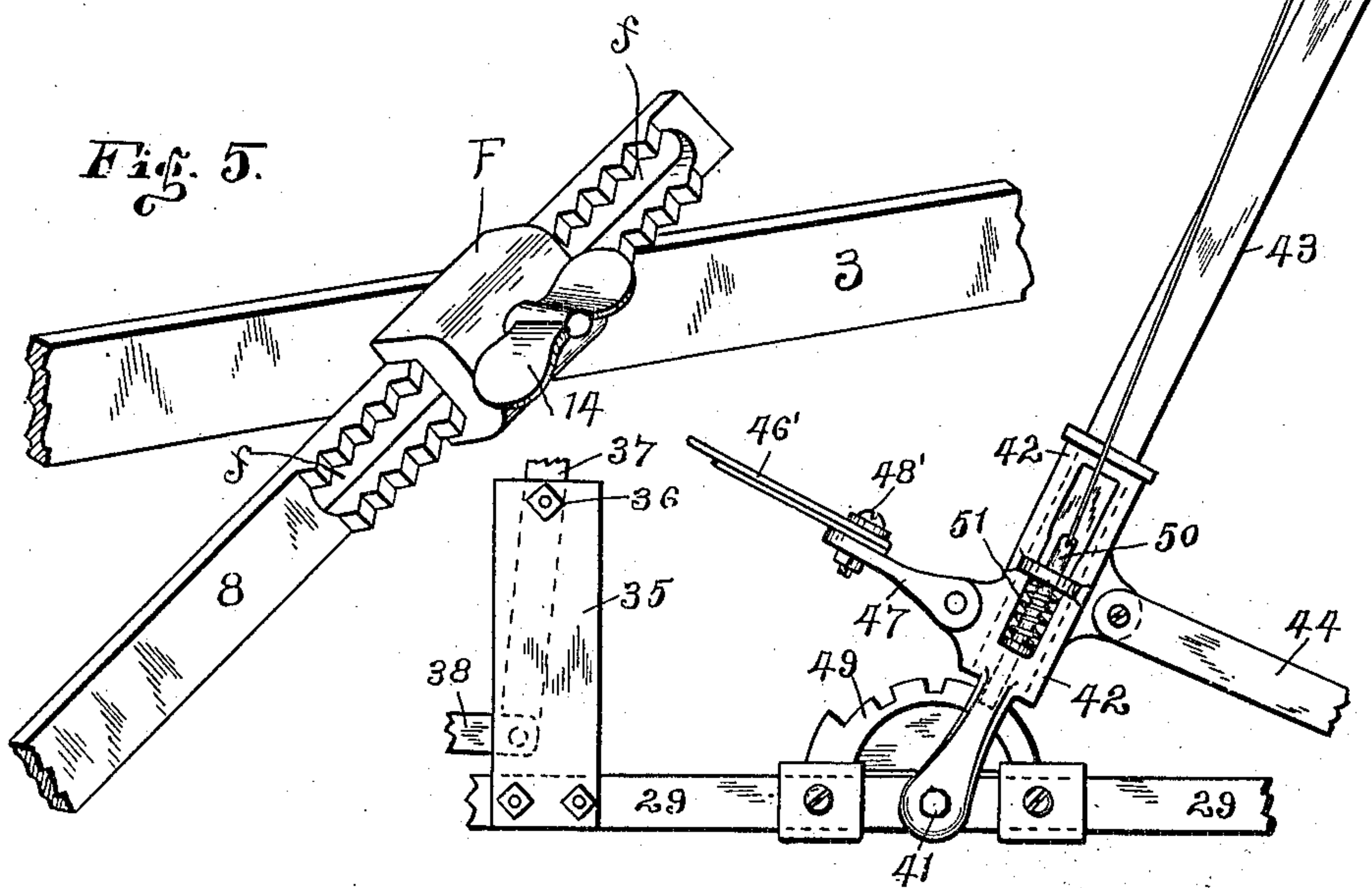


Fig. 5.



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Fig. 6.
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UNITED STATES PATENT OFFICE.

JOHN T. FOULKE, OF RICHMOND, INDIANA.

EXPANSION-PLOW.

No. 871,219.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 20, 1907. Serial No. 363,351.

To all whom it may concern:

Be it known that I, JOHN T. FOULKE, a citizen of the United States, residing in the city of Richmond, county of Wayne, and State of Indiana, have invented certain new and useful Improvements in Expansion-Plows, of which the following is a full, clear, and accurate specification of the best manner I have found for its construction, being such as will enable others to construct and operate the same.

The object of my present invention, broadly stated, is to provide a cultivating plow operable either by hand or other power, and capable of a wide scope of usefulness and efficiency, and to provide a plow which can be manufactured and sold at a comparatively low price, considering the many advantages which it will accentuate.

More specifically speaking my object is to provide a cultivating plow having two parts which are identical with each other, and to provide intermediary means whereby the two parts may be easily and quickly spaced the requisite distance apart and locked in their adjusted positions.

Other minor objects and particular advantages will be brought out in the course of the ensuing specification, and the construction of the plow and the various operations thereof are shown most clearly in the accompanying three sheets of drawings.

In the drawings Figure 1 shows a plan view of my plow complete and in operative position; the two main parts being spread apart almost to their limit of expansion. Fig. 2 shows a plan view of the main portions shown in Fig. 1, the two main parts brought towards each other. Fig. 3 is a side elevation of the main parts of my plow, showing more clearly the means for expanding and contracting the plow, one of the positions being shown in dotted lines. Fig. 4 is a plan view of my plow with the adjustable expansion means removed and the two parts spaced by permanent rigid means. Fig. 5 is a detail perspective view of my means for securing the sheth-braces to the beams. Fig. 6 is a detail elevation of the adjustable extension lever and the parts adjacent thereto. And Fig. 7 is a detail perspective view of one of the clips for attaching the sheths to the beams.

Similar indices designate like parts throughout the several views.

The principles of my plow are quite simple and, as will be apparent, the advantages that it will possess are many and varied, and the construction and operation of the invention I will now describe as briefly and as compactly as I may.

The two main portions of my plow are identical with each other therefore it will be necessary only to describe one side in detail and refer to like parts of the opposite side by like characters primed.

The characters 1 and 1' denote the ground-wheels of my plow.

The characters 2 and 2' denote the plow-beams, having their forward end portions curved upward and backward, as shown in Fig. 3, forming the arms *a* and *a'* which are integral with the respective beams. Located parallel with the beams 2 and 2', and separated therefrom, are the respective auxiliary beams 3 and 3'. The wheel 1 is mounted between the forward ends of the beam 2 and the auxiliary beam 3, being revoluble on the axle-bolt 4, the latter being disposed through holes therefor in the beams, as for instance the hole *b* shown in Fig. 3; and in like manner the wheel 1' is mounted between the forward ends of the beam 2' and the auxiliary beam 3', being revoluble on the axle-bolt 4' as indicated.

The rear end portions of the members 2 and 3 are connected by the bolt 5, and by the angular-brace 6; and the members 2' and 3' are likewise connected by the bolt 5', and the angular brace 6'. The disposition of the braces 6 and 6' are such as to relieve the auxiliary beams of strain and at all times carrying them forward with the main beams as will presently be made apparent.

The characters 7 and 7' denote the two sheths each having two upwardly flaring braces which are connected to the respective beams and auxiliary beams by said bolts 5 and 5'. The lower ends of said sheths are adapted to receive ordinary shovels as shown. Extending upwardly and forward from the lower portions of the sheth 7 are the two braces 8 and 9, their lower ends being pivotally secured to the sheth by a bolt 10 common to both. The upper ends of said braces 8 and 9 are adjustably connected to near the center of the respective members 2 and 3 as shown in Fig. 5 and which will presently be described in detail. Extending upward and forward from the lower portion

of the sheth 7' are the two braces 11 and 12, their lower ends being pivotally connected to the sheth by a bolt 13 common to both. The upper ends of said braces 11 and 12 are
 5 adjustably connected to near the center of the respective members 2' and 3' as will presently be described in detail.

The letters A and B refer to the handles, having their forward ends attached to the
 10 arms *a* and *a'*, and the rearward portions of said handles are connected by the rung C. The ends of said rung are pivoted in the handle by the pivots *d* and *e*, whereby the forward end of the handles may be moved
 15 to-and-from each other as desired. The said handles are supported near their centers by the braces D and E which extend down to the respective beams 2 and 2' where they are secured. The upper ends of the braces
 20 8, 9, 11 and 12 are adjustably connected to their respective beams as shown in Fig. 3, and in detail in Fig. 5, which I will now describe in detail: A threaded aperture is formed through the beam at the desired point
 25 to receive the threaded stem of the fly-nut 14; a slot *f* is formed longitudinally in the brace 8, and notches *g* are formed across the brace and on its face extending the length of said slot. The letter F denotes a clip adapted
 30 to engage with the brace 8 and having notches on its inner face adapted to engage with the said notches *g* whereby said brace may not be slid endwise through said clip after the fly-nut has been tightened. The stem of the
 35 fly-nut 14 passes through an aperture therefor in the clip F, and also through the slot *f*, by which it is apparent that when the nut 14 is tightened that it will hold the arm 8 from moving endwise, but it may be adjusted
 40 in order to give the requisite inclination to the sheth.

Referring now, particularly, to Fig. 4, it will be noted that the two sides of the plow are retained the desired distance apart by the
 45 following means: The free ends of the arms *a* and *a'* and the ends of the handles A and B, are connected by a comparatively long bolt 16 which extends through a pipe 15, the two acting as a strut and stay; and in like manner
 50 the bolt 17 extends through the pipe 18 and they jointly acting as a strut and stay for the forward ends of the beams; and the rear portions of the beam are connected by the bar 19. It is manifest that the length of the
 55 members 15, 16, 17, 18 and 19 may be varied in order to dispose the two sides of the plow the desired distances apart.

In place of the parts last referred to it is apparent that the two sides of the plow may
 60 be connected by an adjustable mechanism, shown in Fig. 6, also shown in Figs. 1, 2 and 3, which mechanism I will now describe: Secured to the forward portions of the beams 2 and 2' are the clips 20 and 21, respectively,
 65 each having a vertical bolt 22 and 23, re-

spectively, therethrough on which is pivoted the outer ends of the double (that is upper and lower) arms, 24 and 25 respectively.

The numeral 26 denotes a sliding-block to which is pivoted, by the respective bolts 27
 70 and 28, the inner ends of the arms 24 and 25 as shown.

The numeral 29 denotes the draft-bar on which the sliding-block 26 is slidably mounted.

Secured to the rearward portions of the
 75 beams 2 and 2' are the clips 30 and 31, respectively, each having a vertical bolt therethrough on which is pivoted the outer ends of the double arms 32 and 33, respectively.

The numeral 34 denotes a sliding-block to
 80 which is pivoted the inner ends of the arms 32 and 33. Said block being slidable on the rear portion of the draft-bar 29 as indicated.

Secured to the draft-bar 29 at a point slightly in the rear of the sliding-block 26 is
 85 a pedestal-hanger 35, in the upper end of which is pivoted, by the bolt 36, the rocker-arm 37. To the lower end of the rocker-arm 37 is pivoted the rear end of the link 38. The forward end of the link 38 is pivoted in
 90 the top of the sliding-block 26, as shown in Fig. 3. To the upper portion of the arm 37 is pivoted the forward end of the rearwardly extending link 39. The rear end of the link 39 is pivoted by the bolt 40 to the sliding-
 95 block 34.

Pivoted by the bolt 41 to near the center of the draft-bar 29 is the lever-base 42, which carries the upwardly extending lever 43. To the rear edge of the lever-base 42 is pivoted
 100 the rearwardly extending link 44 whose rear end is pivoted on said bolt 40, together with the link 39.

Secured to each of the arms *a* and *a'*, near the ends of the handles A and B, are the
 105 respective angular clips 45 and 45'. Pivoted in said clips are the forward ends of the respective crossing-arms or equalizers 46 and 46'.

The numeral 47 denotes a pivot-hanger
 110 which is pivoted for vertical movements to the forward edge of the lever-base 42 and having horizontally disposed wings on its forward portion carrying the pivot-bolts 48 and 48' by which is pivoted the rear ends of
 115 the crossing-arms 46' and 46 respectively.

Secured to the draft-bar 29 centrally of and located on each side of the pivotal connection of the lever-base 42 is the rack 49. A plunger 50 is carried in the lever base 42
 120 with its lower end adapted to engage in the notches of said rack and it is held normally in contact therewith by the helical spring 51. A rod 52 extends from said plunger upward to near the top of the lever 43 where it is con-
 125 nected to the hand-grip 53, whereby said plunger may be operated as desired.

A draft hook 54 may be attached to the forward end of the draft-bar 29 as shown to which power may be attached to the plow. 130

From the above description, taken in connection with the accompanying drawings, it is manifestly apparent that the operation of the lever 43 forward and backward will even-
 5 tuate in separating or bringing towards each other the two parts or halves of body of the plow, and that when spaced the desired distance apart they may be retained at that point by reason of the plunger 50 engaging
 10 in the notches of the rack 49.

I desire to have it understood that I reserve the right to make various changes in the several details of construction without departing from the spirit of my invention or
 15 sacrificing any of the several advantages or the several details of construction which are new and useful.

Having now fully shown and described my invention and the preferred manner for carrying out the several details thereof, what I
 20 claim and desire to secure by Letters Patent of the United States, is—

1. In an expansible plow, the combination of a frame comprising two relatively adjustable side sections, a pair of longitudinally
 25 movable blocks disposed respectively intermediate the forward and rearward portions of said sections, two pairs of actuating links pivoted at their inner ends to the blocks and
 30 at their outer ends to the frame sections and so disposed that movement of said blocks in opposite directions causes the frame sections to approach or separate in parallelism, and
 35 single actuating means for moving said blocks simultaneously.

2. In an expansible plow, the combination of a frame comprising two relatively adjustable side sections, a draft bar intermediate
 40 and independent of said frame sections, a pair of blocks slidable longitudinally on said bar, two pairs of actuating links pivoted at their inner ends to the blocks and at their
 45 outer ends to the frame sections and so disposed that movement of said blocks in opposite directions causes the frame sections to approach or separate in parallelism, and
 50 single actuating means for moving said blocks simultaneously.

3. In an expansible plow, the combination of a frame comprising two relatively adjustable side sections, a draft bar intermediate
 55 and independent of said frame sections, a pair of blocks slidable longitudinally on said bar, two pairs of actuating links pivoted at their inner ends to the blocks and at their
 60 outer ends to the frame sections and so disposed that movement of said blocks in opposite directions causes the frame sections to

approach or separate in parallelism, an operating lever mounted on the draft bar, a
 60 secondary lever pivotally supported intermediate its length by said bar, a link connecting the operating lever and one of the blocks, a link connecting said block with the
 65 secondary lever at one side of the pivot of the latter, and a link connecting the remaining block with the secondary lever at the other side of the pivot.

4. In an expansible plow, the combination of a frame comprising two relatively adjustable side sections, a draft bar intermediate
 70 and independent of said frame sections, a pair of blocks slidable longitudinally on said bar, an operating lever mounted on the draft bar, a secondary lever pivotally supported
 75 intermediate its length by said bar, a link connecting the operating lever and one of the blocks, a link connecting said block with the secondary lever at one side of the pivot of
 80 the latter, a link connecting the remaining block with the secondary lever at the other side of the pivot, two pairs of actuating links pivoted at their inner ends to the blocks and
 85 at their outer ends to the lower portions of the frame sections, and a third pair of links pivoted at their inner ends to the operating lever and at their outer ends to the upper
 90 portions of the frame sections.

5. In an expansible plow, the combination of a frame comprising two relatively adjustable side sections, a draft bar intermediate
 90 and independent of the frame sections, a pair of blocks slidable longitudinally on said bar, an operating lever mounted on the draft bar, a secondary lever pivotally supported
 95 intermediate its length by said bar, a link connecting the operating lever and one of the blocks, a link connecting said block with the secondary lever at one side of the pivot of
 100 the latter, a link connecting the remaining block with the secondary lever at the other side of the pivot, two pairs of actuating links pivoted at their inner ends to the blocks and
 105 at their outer ends to the lower portions of the frame sections, and a third pair of links pivoted at their inner ends to the base of the operating lever, crossing, and pivoted at
 110 their outer ends to the upper portions of the frame sections.

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

JOHN T. FOULKE.

Witnesses:

R. W. RANDLE,
 R. E. RANDLE.