No. 822,632. PATENTED JUNE 5, 1906.

N. SANDERS.

EXPANDING WHEELED PLOW.

APPLICATION FILED APR. 30, 1904.

Fig. 1.

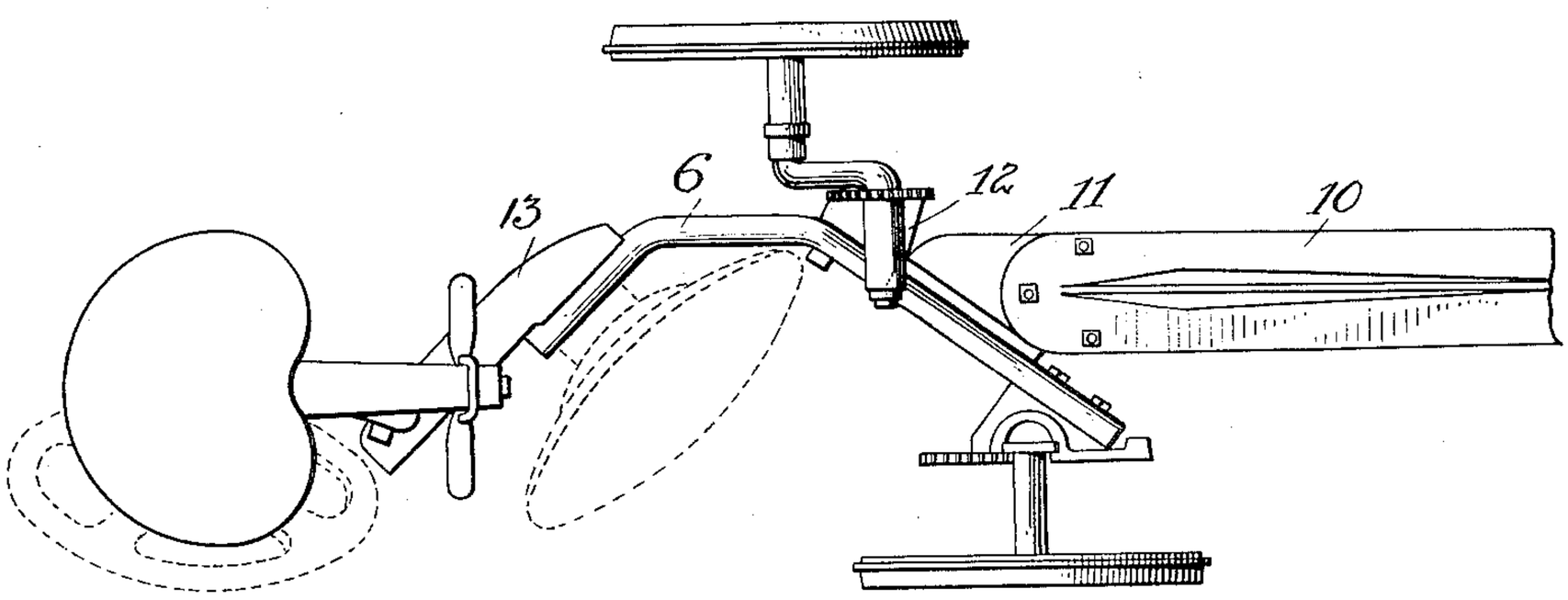


Fig. 5.

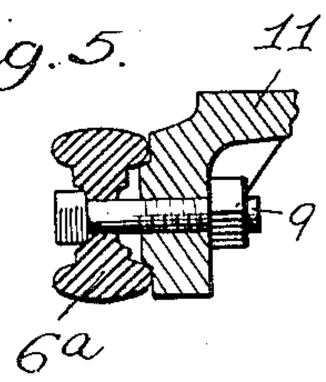


Fig. 3.

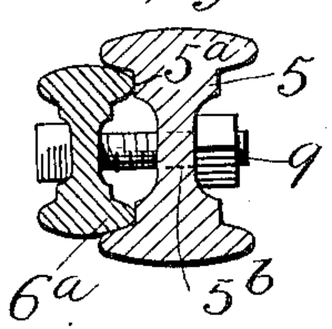


Fig. 4.

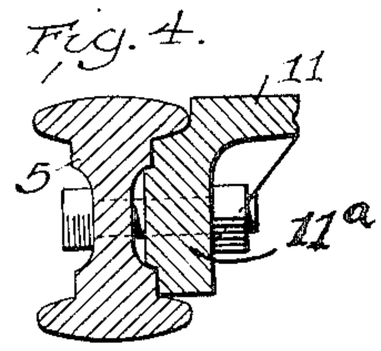
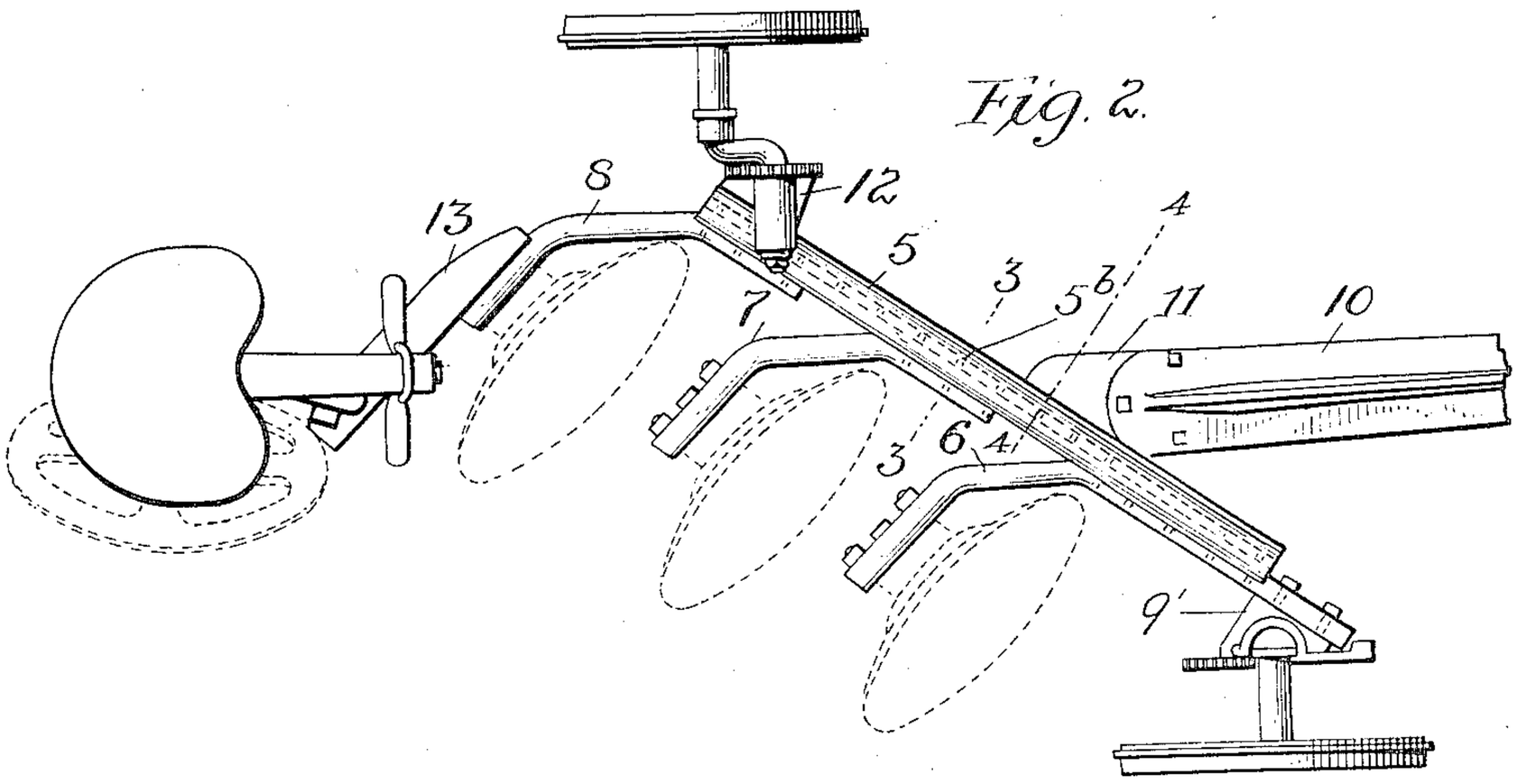


Fig. 2.



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UNITED STATES PATENT OFFICE.

NEWELL SANDERS, OF CHATTANOOGA, TENNESSEE.

EXPANDING WHEELED PLOW.

No. 822,632. Specification of Letters Patent. Patented June 5, 1906.

Application filed April 30, 1904. Serial No. 205,702.

To all whom it may concern:

Be it known that I, NEWELL SANDERS, a citizen of the United States, residing at Chattanooga, Tennessee, have invented certain new and useful Improvements in Expanding Wheeled Plows, of which the following is a specification.

My invention relates to expanding and convertible wheeled plows.

While the invention relates more especially to plows employing rotary disks as furrow-openers, and I have shown such furrow-openers in the drawings accompanying this specification, it will be understood that the invention is not necessarily limited in this respect.

The object of the invention is to provide a simple, durable, strong, and rigid construction, which may be readily changed from a single-disk plow to one having two, three, or four disks, or any number of disks, or vice versa.

A further object is to provide a plow of this character in which the furrow-openers may be easily adjusted to vary the width of furrow, while at the same time provision is made for adjusting the tongue and front furrow and land wheels, whereby the proper line of draft and the proper position of these wheels is secured.

I have also aimed to so construct the plow that when restricted to a single-furrow opener all unnecessary parts shall be eliminated, thereby securing minimum weight and number of parts with maximum strength and rigidity.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the plow with but a single disk. Fig. 2 is a similar view of the plow expanded to carry three disks or furrow-openers. Fig. 3 is a cross-section in line 3 3 of Fig. 2, and Fig. 4 a cross-section on line 4 4 thereof. Fig. 5 is a cross-sectional detail.

Referring by reference characters to the said drawings, the numeral 5 designates a main frame member or main beam, which consists of a single bar of iron or steel, preferably of the shape shown in the sectional views.

6, 7, and 8 designate primary, secondary, and tertiary beams, which are likewise made of iron or steel, preferably of the same shape as the member 5, but of smaller size, so that the flanges 6^a of the smaller beams will rest against the shoulders 5^a and inside of the flanges of the frame member 5. The frame member 5 is provided with a plurality of holes 5^b, as indicated in dotted lines, and bolts 9 are passed through these holes and through corresponding holes in the beams, whereby they are clamped firmly together.

Each beam comprises a central portion adapted to extend longitudinally of the plow, a forward portion inclined at approximately an angle of thirty-five degrees, whereby it is adapted to be bolted to the member 5, as above described, and a rear portion inclined in the opposite direction and adapted to carry the furrow-opening device. It will be understood, however, that I do not restrict myself to the specific angle of inclination of the parts, but show and describe that which I have found most desirable.

The holes in the main beam are made sufficiently numerous and are spaced equal distances apart, corresponding with the holes in the disk-carrying beams and so placed that the beams may be readily adjusted to secure wider or narrower furrows.

The forward ends of each of the beams 6, 7, and 8 are alike, as above described, with the exception of the primary beam 6, which has its forwardly-inclined end extended sufficiently to provide for bolting thereto the bracket 9′, which carries the front furrow-wheel. The bracket 9′ is secured to the forward end of beam 6 by bolts passing through beam 6 and also through frame 5 when necessary. The tongue is shown at 10 and is secured in a suitable manner to a bracket or block 11, constructed and adapted to be bolted to the front side of the member 5 by bolts passing through holes in a rib or flange 11^a of the bracket and the holes in the member 5. By this construction it will be seen that the tongue may be readily shifted to correspond with the number and location of the furrow-opening devices and the number of draft-animals used, whereby the plow is properly balanced and the proper line of draft secured. The land-wheel with its adjusting mechanism is carried by bracket 12, constructed and adapted to be bolted at any point to the front side of the member 5, and the seat and rear furrow or trailing wheel are carried by a bracket 13, constructed and adapted to be connected to the rear inclined end or portion of any one of the beams.

As will be readily understood by comparison of Figs. 1 and 2, the frame member 5 is only necessary when a plow having more than one furrow-opening device is desired.

When a plow with a single furrow-opening device is desired, the member 5 is discarded entirely, the brackets 11 and 12 being bolted directly to the front side of the forwardly-inclined portion of beam 6, as they are constructed and adapted to be thus secured. The bracket 13 is likewise bolted directly to the rear part of the beam 6. This arrangement is clearly shown in Fig. 1.

It will of course be understood that one furrow-opening device only may be omitted and the plow used for opening a double furrow, or, if desired, by setting the beams at the front and rear out to the limit four or more furrow-opening devices could be used.

It is understood that other lengths of frames may be used and other numbers of furrow-opening devices may be attached without limit. This method of expansion and contraction provides for a longitudinal as well as a lateral adjustment of the disks which accommodate the larger or smaller furrows as produced by the expansion and contraction. This is not accomplished by other methods in use which provide for lateral adjustment only or lateral adjustment with small longitudinal movement.

I prefer the specific form of iron or steel shown, as it provides effective bearing-flanges and shoulders, securing a firm and rigid construction, while at the same time space between the members is provided to receive bolt-heads, whereby longer bearing-surfaces may be secured without conflict. It will, however, be understood that where parts come directly opposite each other, as indicated at 12 in Fig. 2, longer bolts are used, extending through all three parts, or the bolt-heads may be contained by the opening between the frame and the beams.

Having thus described my invention, what I claim is—

1. In an expanding plow, one or more beams carrying furrow-opening devices and having inclined forward ends, a frame member constructed and adapted for adjustable connection with said beam or beams, and a tongue-carrying member having an inclined face constructed and adapted to be connected either directly to one of said beams or to said frame member, substantially as described.

2. In an expanding plow, a plurality of beams carrying furrow-opening devices, a frame member constructed and adapted for adjustable and detachable connection to said beams, and a tongue-carrying member adapted to be adjustably connected to either the frame member or one of the beams, substantially as described.

3. In an expanding plow, a plurality of beams carrying furrow-opening devices, a frame member constructed and adapted to be adjustably and detachably connected to the front side of said beam, a tongue-carrying member constructed and adapted to be adjustably and detachably connected either to the front side of said member or detachably connected to the front side of one of the beams, a land-wheel constructed and adapted to be adjustably and detachably connected either to the frame member or to one of the beams, a front furrow-wheel carried by the forward beam and a rear furrow-wheel-carrying member constructed and adapted to be connected to the rear end of any one beam, substantially as described.

4. In an expanding plow, a diagonally-arranged frame member having a plurality of equally-spaced holes, a plurality of beams carrying furrow-opening devices adjustably and detachably bolted to said frame through said equally-spaced holes, a bracket carrying a front furrow-wheel bolted to the forward beam, and suitably-connected landside and furrow wheels, substantially as described.

5. In an expanding plow, a diagonally-arranged frame member having a plurality of equally-spaced holes, a plurality of beams carrying furrow-opening devices adjustably and detachably bolted to said frame member through said equally-spaced holes, a bracket carrying a front furrow-wheel bolted to the forward beam, a bracket carrying a landside-wheel and adjustably and detachably bolted to said frame through certain of said equally-spaced holes, and a bracket carrying a trailing wheel and constructed and adapted to be bolted to the rear end of any of the beams, substantially as described.

6. In an expanding plow, a plurality of beams carrying furrow-openers and having inclined forward portions, a diagonally-arranged frame member adjustably and detachably bolted to said inclined front portions, a tongue-carrying member constructed and adapted to be adjustably and detachably bolted either to the front side of the frame member or to one of the inclined forward portions of the beams, a furrow-wheel bracket adjustably bolted to the forward end of the forward beam and a rear furrow-wheel-carrying member constructed and adapted to be detachably connected to the rear end of any beam, substantially as described.

7. In an expanding plow, a diagonally-arranged frame member having a plurality of equally-spaced holes, a tongue-carrying member constructed and adapted to be detachably bolted to the front side of said frame, a plurality of beams carrying furrow-opening devices having inclined forward ends constructed and arranged to be detachably and adjustably bolted to the rear side of said frame, a front furrow-wheel bracket adjustably bolted to the forward beam, and suitably-connected rear furrow and landside wheels, substantially as described.

8. A frame for a gang-plow comprising a plurality of beams having portions arranged

longitudinally of a line oblique to the line of draft and having angular extensions or portions for attachment of furrow-openers, and a single main beam to which all said oblique portions are connected so as to be longitudinally adjustable, substantially as described.

9. A frame for a gang-plow comprising a plurality of elongated beams having portions arranged longitudinally in line with each other and oblique to the line of draft, and having angular extensions or portions for attachment of furrow-openers, and means whereby said oblique portions are rigidly but adjustably connected together, substantially as described.

10. A frame for gang-plows comprising a plurality of beams having portions arranged longitudinally of a line oblique to the line of draft and angular extensions or portions for attachment of furrow-openers, a single main beam having a plurality of equally-spaced holes, and bolts adjustably connecting said oblique portions to the main beam through said equally-spaced holes, substantially as described.

11. A frame for a gang-plow comprising a plurality of elongated beams having portions arranged longitudinally of a line oblique to the line of draft and in line with each other, and having angular extensions or portions for attachment of furrow-openers, and a single main beam to which all of said oblique portions are rigidly connected, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

NEWELL SANDERS.

Witnesses:
R. S. SHARP,
A. W. LANTER, Jr.