No. 735,096. PATENTED AUG. 4, 1903.

E. M. HICKMAN.

WHEEL PLOW.

APPLICATION FILED FEB. 7, 1903.

NO MODEL.

Fig. 2.

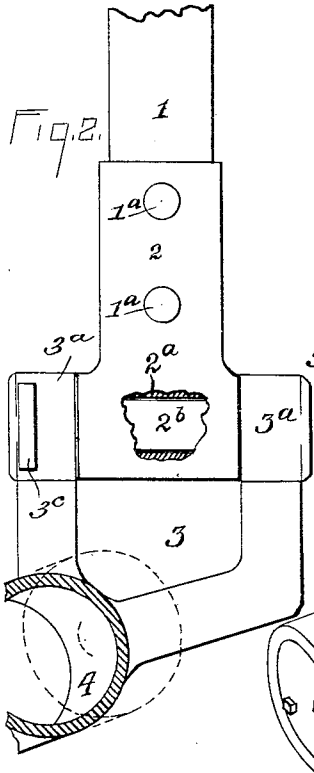


Fig. 1.

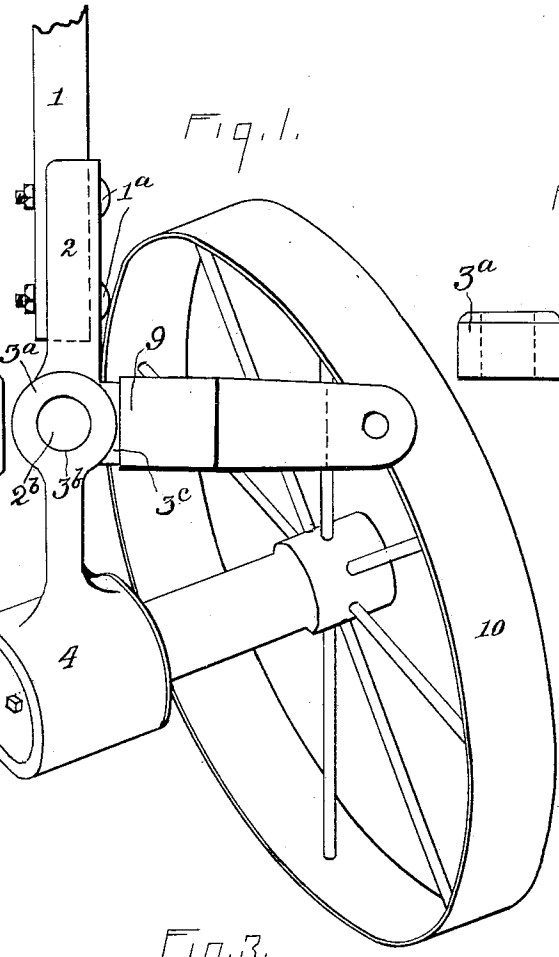


Fig. 6.

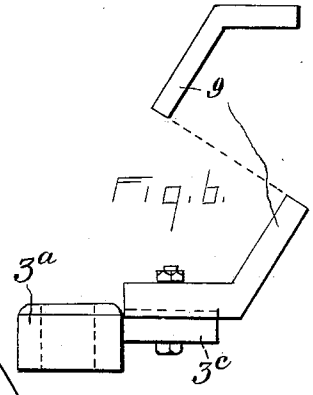


Fig. 4.

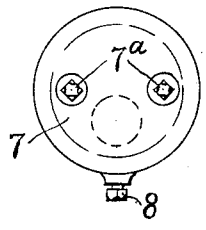


Fig. 3.

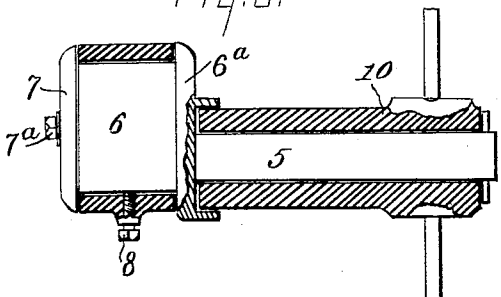
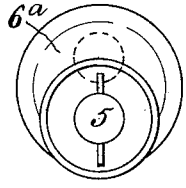


Fig. 5.



Witnesses—

Carrie R. Ivy.

Edward Hacker

Inventor—

Edgar M. Hickman

By Cyrus Kehr

Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 735,096. Patented August 4, 1903.

UNITED STATES PATENT OFFICE.

EDGAR M. HICKMAN, OF CHATTANOOGA, TENNESSEE, ASSIGNOR TO CHATTANOOGA PLOW COMPANY, A CORPORATION OF TENNESSEE.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 735,096, dated August 4, 1903.

Application filed February 7, 1903. Serial No. 142,372. (No model.)

To all whom it may concern:

Be it known that I, EDGAR M. HICKMAN, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and useful Improvement in Wheel-Plows, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to wheel-plows, and particularly to means for securing the rear caster-wheel of a wheel-plow to the beam or frame. Said means of securing the rear caster-wheel includes means for effecting a vertical adjustment between said wheel and the beam or frame of the plow.

In the accompanying drawings, Figure 1 is a plan showing the rear caster-wheel connected to the rear end of the plow-beam. Fig. 2 shows Fig. 1 turned over toward the left, so as to expose the side which is toward the right in Fig. 1, the wheel and a portion of the wheel-axle bearing being removed. Fig. 3 is an axial sectional view through the wheel and the bearing which supports the wheel-axle. Fig. 4 is an elevation of the adjacent end of Fig. 3. Fig. 5 is an elevation of the adjacent end of Fig. 3 after the wheel has been removed. Fig. 6 is a rear elevation of an arm by which the direction of the caster-wheel is controlled.

Referring to said drawings, 1 is the rear portion of the plow-beam or a portion of the plow-frame. A hinge-plate 2 is shown secured to the side of the rear end of said beam by means of bolts 1^a. Said plate has a transverse aperture 2^a to receive a cylindric shaft 2^b. A U-shaped yoke 3 has the ends of its arms 3^a provided with apertures 3^b, and said ends extend over the plate 2, so as to bring the apertures 3^b into line with the aperture 2^a and receive the ends of the shaft 2^b into the apertures 3^b. Thus the yoke 3 is hinged to the plow-beam, so as to turn laterally upon the shaft 2^b. Said yoke supports a hub or bearing 4, and said yoke and said hub may be joined in any suitable manner, preferably by casting them as an integral piece.

The axle 5 has a head 6, which is cylindric in form and of proper dimensions to fill the interior of the hub 4; but the axis of said hub and the axis of said axle do not coincide. Said head is eccentric to the axis of the axle to such an extent as to make possible the relative raising and lowering of said hub and said axle by turning said head in said hub. Figs. 3, 4, and 5 of the drawings show said axle in the lowermost position, and the dotted circle in Fig. 5 shows the uppermost position for the axle.

The head 6 may be secured in the hub in any suitable manner. The drawings show a collar 6^a surrounding said head at the junction of the latter and the axle and extending over the end of the hub which is adjacent to the axle. This prevents the movement of the head toward the left, as shown in Fig. 3. The drawings further show a circular plate 7 extending over the opposite end of the head and said hub and secured to said head by means of two screw-bolts 7^a. Said plate prevents the movement of said head toward the right, as seen in Fig. 3. Said head may be made a trifle shorter than said hub, so that the tightening of said bolts will bind said collar 6^a and the outer edge of said plate 7 against the ends of said hub, and thus prevent the rotation of said head after it has been rotated into the proper position to bring the axle 5 to the desired elevation. The drawings also show a set-bolt 8 extending through the wall of the hub 4 and bearing against the adjacent face of the head 6, so as to prevent the rotation of the latter. It will be understood that either of these means can be used separately for the purpose of binding the head 6 non-rotatably in said hub. The drawings also show said hub 4 set obliquely to the plane of the yoke 3, the right-hand end of said yoke being directed downward and forward. This causes the axle 5 to extend downward and forward, so that the upper portion of the caster-wheel 10 will lean forward and away from the vertical plane extending through said beam and yoke, whereby said wheel is given the well-known position adapting it to bear against the land side of the furrow.

The upper arm of the yoke 3 may have the lateral stub or extension 3^c for receiving an arm 9, which rises obliquely from said stub toward the right and terminates above said wheel. Any suitable connection may extend

from the upper end of said arm to some other portion of the plow for controlling the movement of the wheel 10, hub 4, and yoke 3 upon the hinge formed by the shaft 2^b. Said wheel may, however, be allowed to trail according to the movement of the beam 1.

It is obvious that the plate 2 may be omitted and the yoke 3 hinged directly to the beam. It is also obvious that the yoke 3 may be provided with but one arm. Said yoke is an oscillatory member hinged to the rear end of the plow-frame on a vertical axis, and said member comprises a hub or bearing adapted to receive the eccentric head on the axle 5.

I claim as my invention—

1. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame on a vertical axis, said member having a transverse hub, an axle having an eccentric head extending into and secured within said hub, and a wheel secured upon said axle.

2. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame on a vertical axis, said member having an oblique transverse hub, an axle having an eccentric head extending into and secured within said hub, and a wheel secured upon said axle.

3. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame on a vertical axis, said member having a transverse cylindric hub, an axle having an eccentric cylindric head extending into and secured within said hub, and a wheel secured upon said axle.

4. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame on a vertical axis, said member having an oblique, transverse cylindric hub, an axle having an eccentric, cylindric head extending into and secured within said hub, and a wheel secured upon said axle.

5. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame upon a vertical axis, said member having a transverse hub, an axle having an eccentric head extending into said hub and having a collar at the junction with said axle, and a plate, 7, extending over the end of said hub and head and secured to the latter.

6. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame upon a vertical axis, said member having an oblique, transverse hub, an axle having an eccentric head extending into said hub and having a collar at the junction with said axle, and a plate, 7, extending over the end of said hub and head and secured to the latter.

7. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame upon a vertical axis, said member having an oblique, transverse, cylindric hub, an axle having an eccentric, cylindric head extending into said hub and having a collar at the junction with said axle and a plate, 7, extending over the end of said hub and head and secured to the latter.

8. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame upon a vertical axis, said member having a transverse, cylindric hub, an axle having an eccentric, cylindric head extending into said hub and having a collar at the junction with said axle and a plate, 7, extending over the end of said hub and head and secured to the latter.

9. In a wheel-plow, the combination with the beam or frame, of an oscillatory member hinged to the rear end of said frame upon a vertical axis, said member having a transverse hub, an axle having an eccentric head extending into said hub and having a collar at the junction with said axle, a plate, 7, extending over the end of said hub and head and secured to the latter, and a set-bolt extending through said hub against said head.

10. In a wheel-plow, the combination with the beam or frame, of a hinge-plate, 2, having a vertical aperture, a yoke having arms provided with apertures in line with the aperture in said plate, a shaft extending through said apertures, and said yoke embodying a transverse hub, an axle, 5, having an eccentric head extending into said hub, and a wheel on said axle.

11. In a wheel-plow, the combination with the beam or frame, of a hinge-plate, 2, having a vertical aperture, a yoke having arms provided with apertures in line with the aperture in said plate, a shaft extending through said apertures, and said yoke embodying a transverse oblique hub, an axle, 5, having an eccentric head extending into said hub, and a wheel on said axle.

12. In a wheel-plow, the combination with the beam or frame, of a hinge-plate, 2, having a vertical aperture, a yoke having arms provided with apertures in line with the aperture in said plate, a shaft extending through said apertures, and said yoke embodying a transverse cylindric hub, an axle, 5, having an eccentric cylindric head extending into said hub, and a wheel on said axle.

In testimony whereof I have signed my name, in presence of two witnesses, this 24th day of January, in the year 1903.

EDGAR M. HICKMAN.

Witnesses:
JUDSON BUCHANAN,
C. F. MINTURN.