C. ESPING.

PLOW.

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1,203,104. Patented Oct. 31, 1916.

Fig. 1.

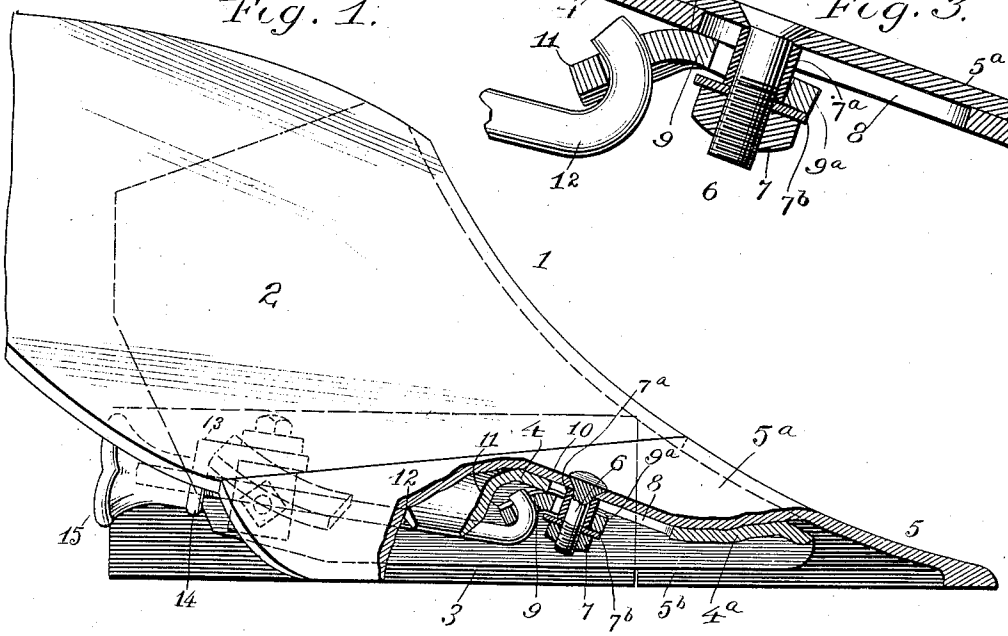
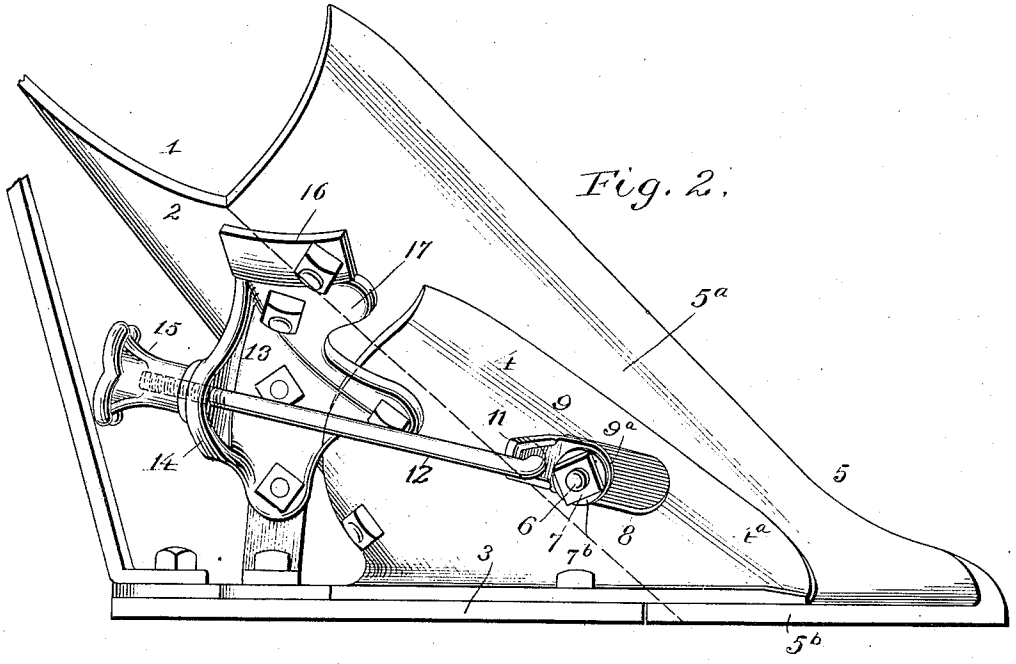


Fig. 3.

Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

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PLOW.

1,203,104. Specification of Letters Patent. Patented Oct. 31, 1916.

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To all whom it may concern:

Be it known that I, CONRAD ESPING, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Plows, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to plows, and has reference more particularly to plows in which provision is made for the connection of the share in a readily detachable manner, the object of the invention being to provide a construction in which the removal of a share and its replacement, or the substitution of another share for the same, may be speedily accomplished with great facility, which construction will be simple and durable, and which will hold the share rigidly and firmly in operative position without liability of its working loose or becoming displaced.

With these ends in view, my invention consists of the novel construction and arrangement of the parts set forth in the accompanying specification, and enumerated in the appended claims.

In the accompanying drawings: Figure 1 is a side elevation, partly in section, of a moldboard plow having my invention embodied therein, a portion of the moldboard being broken away to expose other parts to view. Fig. 2 is a bottom plan view of the same. Fig. 3 is a sectional perspective view of a detail.

Referring to the drawings: 1 represents a moldboard plow having the usual moldboard 2, and landside 3, which parts are connected together in fixed relations by a frog 4, to the sides of which, the moldboard and landside are firmly fastened by bolts or other appropriate means. 5 represents a removable share comprising a moldboard section 5^a and a landside section 5^b. The form, relation and construction of these parts is such, that when the share is applied to the plow in operative position, the under side of the moldboard section of the share will seat against the upper side of the forward portion of the frog, which projects some distance beyond the moldboard 2, as at 4^a and constitutes in effect a supporting surface for the moldboard section of the share; the upper edge of the moldboard section will abut against the lower edge of the moldboard 2, and the rear vertical edge of the landside section will abut against the forward vertical edge of the landside 3. The foregoing parts may be of the usual and well-known construction familiar to those skilled in the art, and except in so far as hereinafter indicated, they form no part of the present invention.

My invention is directed to the manner of connecting the share to the plow, so that, while the share will be held firmly and fixedly in operative position, it may, when occasion demands, such as would arise from wear or breakage, be quickly detached and another share fastened in its place. To effect this object, the moldboard section of the share is provided with a stud in the form of a bolt 6 projecting downwardly from its under side, which lug is in the form of a bolt seated in a socket in the share section and threaded to receive a nut 7 forming in effect a head on the lug. A bushing 7^a and washer 7^b are applied to the bolt between the nut and under side of the section 5^a, the arrangement being such that when the nut is screwed up on the bolt, it will, by acting on the washer and bushing, draw the bolt tightly in its socket and maintain it rigidly and firmly in fixed position perpendicular to the share-section. The lug thus formed extends, when the share is in operative position on the frog, through a fore-and-aft extending slot 8 in the projecting portion 4^a of the frog, in proximity to the rear end of the slot; and connected with the lug so that it may rock axially thereof, is a member 9, so formed and postioned that when rocked, it will bear against and fulcrum on the under side of the frog at a point adjacent the rear end of the slot, as at 10, the purpose of which will presently appear. This member consists of a body portion 9^a, having an elongated opening therethrough loosely surrounding the bushing 7^a to admit of some play on the lug, and confined on the lug between the share and washer 7^b, there being sufficient play between the parts to permit the body portion to tip or rock in a direction axially of the lug. The body portion of the member 9 has projecting from its rear end, a finger 11 which extends at an angle with respect to said body portion, the finger and body portion thus forming in effect an angular rocking member,

which at the point where the finger joins the body portion, engages and fulcrums on the frog as clearly shown in Fig. 1 on an axis parallel or substantially so to the plane of said supporting surface of the frog.

From the foregoing description it will be seen that when the member 9 is rocked, it will, by fulcruming on the frog on the axis mentioned, bear against the bushing 7^a and washer 7^b and in this manner it will act to draw the share laterally facewise toward the supporting surface of the frog and cause the moldboard section of the share to seat firmly and tightly against the upper side of the extended portion 4^a of the frog. Connected with the rocking member, is an adjusting device for rocking it, which adjusting device is in the form of a rod 12 hooked at its forward end removably in an opening in the finger 11, and sustained at its rear end by the plow, so that the rod may be adjusted endwise. The manner of sustaining the rod to adjust it endwise, is shown more clearly in Fig. 2, where it will be seen that a brace 13 is fastened at one end to the frog, and at its other end to the moldboard 2, which brace is provided between its ends with a depending lug 14, having a horizontal opening therethrough. The rear end of the rod 12 extends loosely through this opening and beyond the lug, and its extremity is threaded to receive an adjusting nut or hand-wheel 15, which bears against the lug, so that when the hand-wheel is screwed up on the rod, the latter will be drawn endwise rearwardly, and when the hand-wheel is unscrewed, the rod may be shifted forwardly.

From the construction described, it will be observed that the rocking member 9 forms in effect a jointed connection between the adjusting rod 12 and the share, of such character that when the rod is drawn or adjusted rearwardly endwise by the hand-wheel 15, it, the connection will perform two functions:—First, it will positively draw the share back and cause the edges of its landside and moldboard sections to abut against the edges of the landside and moldboard of the plow; and secondly, the member 9 will be rocked on the lug 6, and by such rocking action, it will draw the share laterally and cause its moldboard section to seat firmly and tightly against the projecting portion 4^a of the frog. These actions are effected by screwing up the hand-wheel 15 on the rod, and by this means the share may be caused to be seated and held with great firmness in its operative position relative to the plow.

In the operation of the device, when it is desired to remove the share, the hand-wheel is unscrewed and the rod is shifted forwardly, and its hooked end disengaged from the opening in the finger 11. The share is now released and it may be removed in a forward direction from the frog, the rocking member 9 in this movement passing through the slot 8. The rocking member may now be removed from the detached share and applied to the new one, and the latter slipped over the end of the frog, the rocking member passing through the slot therein. The hooked end of the rod is engaged in the opening in the finger of the rocking member, and on screwing up the hand-wheel, the share will be drawn rearwardly and seated firmly and tightly in operative position.

In order that the rear edges of the moldboard section of the share, and the moldboard 2 may be maintained in proper operative relations, and be prevented from shifting out of alinement, I provide a lug 16 on the rear face of the moldboard section of the share, which lug projects beyond the edge of the same and overlaps the under face of the moldboard 2. I provide also a lug 17, which extends from the end of the brace 13 so as to bear against the under side of the moldboard section of the share, these two lugs being extended closely side by side so that they will bear against each other. In this way the moldboard section of the share is supported at its rear portion by the lug on the brace 13, and it is also supported from the moldboard 2 by the other lug, the engagement of these two lugs with each other preventing any displacement of the share with reference to the plow in a forward direction.

In the foregoing description and in the accompanying drawings, I have disclosed my invention in the form which I prefer to adopt, and which in practice has been found to answer to a satisfactory degree the ends to be attained. It will be understood, however, that the invention may be variously changed and modified by the skilled mechanic without departing from the limits of the invention; and further it will be understood that the invention is not limited to any particular form or construction of the parts except as so far as such limitations are specified in the claims.

Having thus described my invention, what I claim is:—

1. In combination with a plow having a frog, a removable share adapted to seat against the frog, a rocking member loosely sustained by the share and engaging and fulcruming on the frog on an axis parallel or substantially so to the plane of the same to seat the share, said rocking member being disconnected from the frog, and a device sustained by the plow and connected with said rocking member for rocking the same to seat the share.

2. In combination with a plow having a frog containing an opening therethrough, a removable share adapted to seat against the

frog and provided with a stud extending in said opening, a rocking member loosely confined on the stud and adapted to engage and fulcrum on the frog on an axis parallel or substantially so to the plane of the same to seat the share, and a device sustained by the plow and connected with the rocking member for fulcruming the same.

3. In combination with a plow having a frog containing an opening therethrough, a removable share adapted to seat against the frog and provided with a stud extending in said opening, a rocking member comprising a body portion having a slot surrounding the stud and a connected angular finger projecting outwardly, said rocking member adapted to engage and fulcrum on the frog to seat the share, and an actuating rod connected with said angular finger of the rocking member and sustained by the plow for longitudinal adjustment.

4. In combination with a plow having a frog containing a slot, a removable share adapted to seat against the frog and having a laterally projecting stud extending through the slot, a head on the stud, a rocking member comprising a body portion having a slot surrounding the stud and confined loosely thereon by the head and a finger connected with the body portion and extending outwardly from the side of the frog, said rocking member adapted to engage the frog adjacent the rear end of the slot and to fulcrum thereon to seat the share, and an actuating rod connected with the angular finger and sustained by the plow for fulcruming the rocking member.

In testimony whereof, I have affixed my signature in presence of two witnesses.

CONRAD ESPING.

Witnesses:
L. C. BLANDING,
JAMES J. LAMB.