

1,039,581.

Patented Sept. 24, 1912.

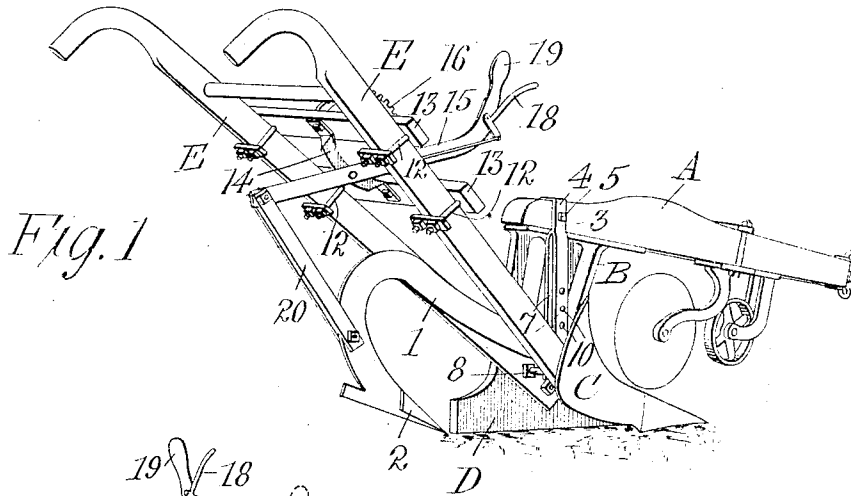


Fig. 1

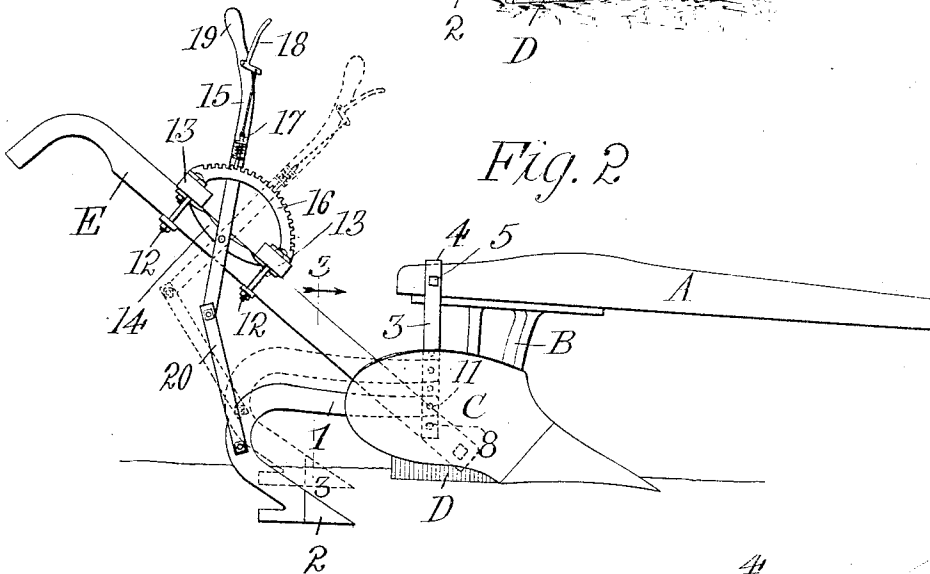


Fig. 2

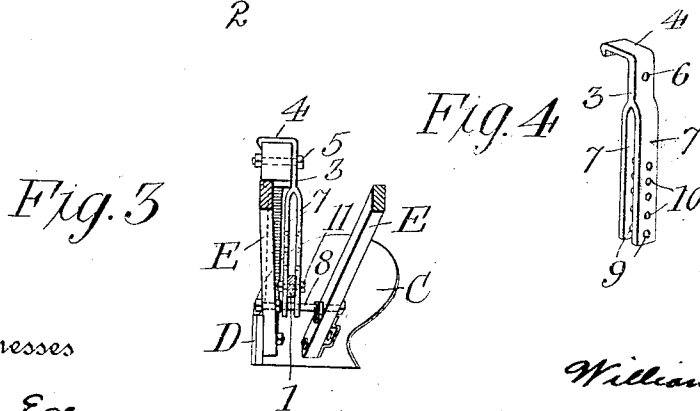
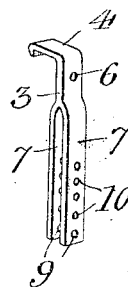


Fig. 3

Fig. 4



Witnesses
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PLOW.

1,039,581.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed May 22, 1912. Serial No. 698,926.

To all whom it may concern:

Be it known that I, WILLIAM NEWSOME, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Plows, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to plows and more particularly to a sub-soiler attachment to be used in connection therewith.

The invention has for one of its objects to improve and simplify the construction of sub-soilers so as to be comparatively simple and inexpensive to manufacture, and which is so designed as to be readily applied to plows already in use without any alteration in the construction thereof, and which can be readily adjusted to and from operative position.

Another object of the invention is the provision of a sub-soiler which can be readily adjusted to work at any depth, and which is capable of being set at the most dangerous pitch, irrespective of the depth of penetration, whereby the draft on the animals can be reduced to a minimum and yet effective work accomplished.

30 With these and other objects in view, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a rear perspective view of a plow with the sub-soiler attachment applied thereto and shown in raised or inoperative position. Fig. 2 is a side view of the plow showing the sub-soiler in operative position and shown working at different depths by full and dotted lines. Fig. 3 is a vertical section on line 3—3, Fig. 2. Fig. 4 is a perspective view of the bracket or hanger for securing the attachment to the body of the plow.

50 Similar reference characters are employed

to designate corresponding parts throughout the views.

Referring to the drawing, A designates the beam of the plow, and B, the standard to which are secured the moldboard C and landside D, and the handles are designated by E. The plow may be of any standard construction as the sub-soiler attachment is so designed as to be susceptible of use with the usual types of plows without requiring any alterations therein.

The attachment comprises a supplemental beam or equivalent element 1 which carries a blade 2 that trails behind the body of the plow. The supplemental beam 1 is attached to the plow body by a bracket or hanger 3 which is vertically disposed and formed at its upper end with a hook 4 or equivalent means for partially embracing the beam A. The hook 4 extends transversely over the beam A and is fastened thereto by a bolt 5 which passes through an opening 6, Fig. 4, in the upper part of the hanger or bracket 3. The bracket 3 is divided longitudinally into two members 7 that are spaced apart to receive between them the forward end of the beam 1. The lower end of the bracket or hanger is secured to the bolt 8, which, as shown in Fig. 3, passes through the handle bars of the plow and is a regular part of the latter. It is merely necessary to take this bolt out, and in re-applying it to pass it through openings 9 in the lower end of the bracket or hanger 3, so that the latter will be rigidly fastened at both its upper and lower ends. The members 7 have vertically spaced apertures 10 so arranged that the apertures of one member will be horizontally in line with those of the other, said apertures serving to receive a bolt 11 that passes through the front end of the supplemental beam. These spaced apertures 10 permit of the front end of the supplemental beam to be raised or lowered to any desired point, according to the depth of penetration at which the sub-soiler is desired to work.

The sub-soiler is adapted to be supported at its rear end and to be raised or lowered to and from operative position by the following means, which is carried by the han-

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dles E of the plow. Secured by clips or bolts 12 to the handles are spaced parallel cross-bars 13, and extending from one to the other and secured centrally thereof is a lever supporting bracket 14. On this bracket is fulcrumed a lever 15 which swings back and forth along a toothed sector 16 which is also fastened to the cross-bars 13, there being a spring-pressed latch 17 on the lever that engages the toothed sector for holding the lever in different positions. This latch can be released by pressing the member 18 by the hand that grips the handle 19 of the operating lever. The lower end of the lever is connected by link-forming bars or rods 20 with the supplemental beam 1 at the rear portion thereof.

The arrangement of the link 20 and operating lever is such that by throwing the handle end of the lever forwardly, the sub-soiler can be raised from an operative position, as shown in Fig. 2, to an inoperative position shown in Fig. 1, and by reverse movement, the sub-soiler can be thrown to a position for operation. The adjustment of the lever 15 is determined by the adjustment of the front end of the supplemental beam 1 on the sub-soiler. When the supplemental beam is fastened to the lowest point on the hanger or bracket 3, the lever 15 will be in its raised position, as indicated by full lines in Fig. 2, this position of the lever corresponding to the proper set of the sub-soiler for deep sub-soiling. When shallower sub-soiling is desired, the front end of the supplemental beam 1 will be attached at a higher point to the hanger or bracket 3 and the set of the lever 15, when in proper operative position, will be forward of the full line position, Fig. 2, as shown for instance by the dotted line position. By thus adjusting both the front and rear ends of the sub-soiler, the proper pitch can be maintained for carrying on the sub-soiling operation without any undue drag on the animals.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim as new, is:—

1. The combination of a plow including a beam, a plow body, and handles, with a sub-

soiler attachment comprising a bracket secured at its upper end to the beam and at its lower end between the mold board and land side of the plow body, a blade-carrying supplemental beam having its front end adjustably attached to the bracket, an operating lever mounted on the handles, a link connecting the lever with the rear portion of the supplemental beam, and a device for holding the lever in different positions for controlling the depth of penetration of the sub-soiler.

2. The combination of a plow including a beam, a plow body, and handles, with a sub-soiler attachment including front and rear supporting devices, and a supplemental beam adjustably carried by both of said devices, the front supporting device comprising a bracket having a hook at its upper end engaging the said plow beam and provided with a portion extending downwardly between the moldboard and landside of the plow body, means for securing the lower end rigidly with respect to the plow body, and means for adjusting the position of attachment of the supplemental beam to the bracket.

3. The combination of a plow including a beam, a plow body, and handles, with a sub-soiler attachment including front and rear supporting devices, and a supplemental beam adjustably carried by both of said devices, said rear supporting device comprising a lever fulcrumed on the handles above the rear portion of the supplemental beam, a link connecting the lever with the rear portion of the supplemental beam, and means carried by the handle for holding the lever in different positions of adjustment.

4. The combination of a plow including a beam, a plow body, and handles, with a sub-soiler attachment including front and rear supporting devices, and a supplemental beam adjustably carried by both of said devices, said rear supporting device comprising a pair of bars extending from one handle to the other and secured thereto, a bracket secured to the bars, a lever mounted on the bracket, a connection between the lever and the rear portion of the supplemental beam, a toothed sector carried by the said bars, and means on the lever for engagement with the sector.

5. The combination of a beam, a standard, a plow body on the standard, handle bars connected with the plow body, and a bolt extending through the lower ends of the handle bars, in combination with a hanger or bracket, means for securing the upper end of the bracket to the beam, said bracket having its lower end fastened to the said bolt, a sub-soiler beam having a vertically-adjustable point of adjustment

with the bracket, and means for supporting
the rear portion of the sub-soiler beam on
the handles in operative or inoperative po-
sition, said latter means cooperating with
5 the said bracket for permitting the set of
the sub-soiler beam to be adjusted both at
its front and rear ends.

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

WILLIAM NEWSOME.

Witnesses:

LAWRENCE CAMBREAU,
C. F. ROPER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."