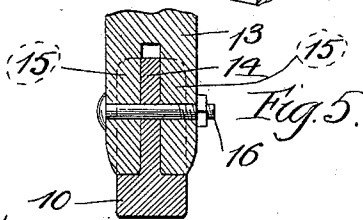
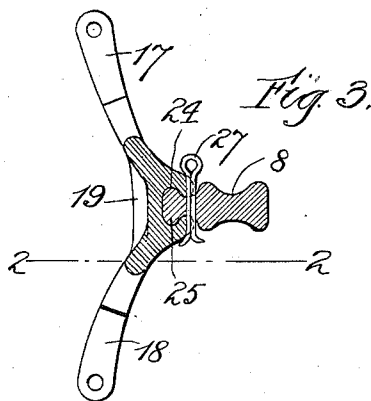
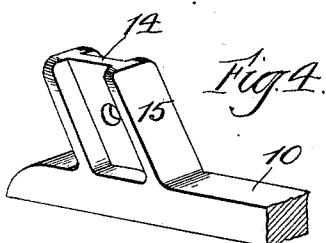
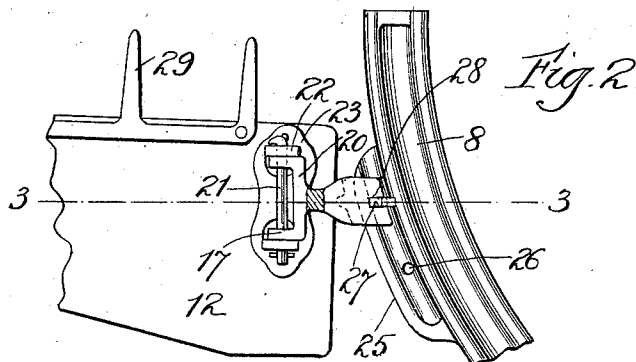
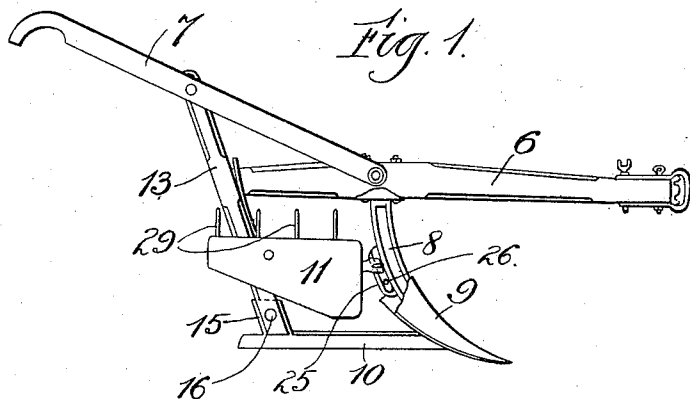


(No Model.)

E. C. SCHROEDER.
COMBINATION PLOW.

No. 566,414.

Patented Aug. 25, 1896.



Witnesses:

Wm. M. Schemm
Wm. F. Hanning

Inventor
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by *Andersen, Pickard & Jackson*
his Atty's

UNITED STATES PATENT OFFICE.

ERNST C. SCHROEDER, OF ITASCA, ILLINOIS.

COMBINATION-PLOW.

SPECIFICATION forming part of Letters Patent No. 566,414, dated August 25, 1896.

Application filed November 26, 1894. Serial No. 529,993. (No model.)

To all whom it may concern:

Be it known that I, ERNST C. SCHROEDER, a citizen of the United States, residing at Itasca, Du Page county, Illinois, have invented a certain new and useful Combination-Plow, consisting of a potato marker, hiller, and digger, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is an enlarged detail, being a vertical section on line 2 2 of Fig. 3. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is a perspective view of the heel of the plow. Fig. 5 is a longitudinal vertical section of the device shown in Fig. 4.

My invention relates to agricultural implements, and particularly to plows comprising a combination of mechanical parts which renders the same suitable for marking furrows for planting, hilling, and digging potatoes.

My invention has for its object to provide certain improvements in the combination-plow described in my former patent, No. 316,403, dated April 21, 1885. As will be understood from reference to that patent, the plow therein described is provided at each side with wings made of sheet metal or other suitable material, which wings are of irregular shape and are provided along one edge with rake-teeth. Such wings are pivotally supported at their forward ends so that they may be turned outward, and are so arranged that they may be turned down when so expanded for the purpose of hilling up the soil. Furthermore, such wings are so mounted as to be capable of being reversed and interchanged to bring the rake-teeth on the under side when the implement is used for digging potatoes.

My present implement is in general of the same construction as that illustrated in my said patent, the improvements relating principally to the devices for mounting the adjustable wings so that the different adjustments may be more readily made.

That which I regard as new will be set forth in the claims.

In the drawings, 6 indicates the plow-beam; 7, the handles; 8, the curved plow-standard; 9, the shovel; 10, the shoe; 11 12, the wings, and 29 the teeth carried by said wings.

13 indicates a standard, which is connected at its upper end to the handles by a suitable intermediate device and at its lower end to the heel of the shoe 10. In order to better secure the standard 13 to the heel, it is provided with a fork at its lower end which is adapted to receive a web 14 in a casting 15, rising from the heel of the shoe 10, as shown in Fig. 4. The lower end of the standard 13 is secured to the casting 15 by a bolt 16 or other suitable device. By this construction the lower end of the standard 13 is very firmly secured in place.

The wings 11 12 are pivotally connected at their forward ends to arms 17 18 of a bracket 19, and for this purpose each of said arms is provided with a yoke 20, adapted to receive a pivot-pin 21, which passes through said yoke and through ears 22, carried by a casting 23, secured to the forward end of the wing, as shown in Fig. 2. By this construction lateral movement of the wings is freely permitted.

The central portion of the bracket 19 is provided with a slot 24, which is substantially dovetailed in cross-section and is adapted to receive a dovetailed rib 25, formed with or secured to the back of the plow-standard 8, as shown in Figs. 2 and 3. The rib 25 is provided with a number of holes 26, through which a split key 27 may pass for the purpose of locking the bracket 19 at different heights, the bracket 19 being provided with a suitable transverse slot 28, which also receives the split key 27, as shown in Figs. 2 and 3. By this construction when it is desired to adjust the position of the wings 11 12 by withdrawing the split key 27 the bracket 19 may be moved up or down; or in case it is desired to reverse and interchange the wings 11 12 this may also be accomplished, as the bracket may be freely lifted out of engagement with the rib 25, turned over, and replaced upon said rib. Instead of a split key any other suitable device may of course be used.

I do not wish to limit myself to the use of the particular devices shown for pivotally connecting the wings to the arms 17 18, as other devices may be used; but those shown are very satisfactory. Neither do I wish to limit myself to making the rib 25 dovetailed

in cross-section, as it may be made of different form, provided its shape is such as to prevent the bracket 19 from accidentally becoming disengaged with it.

5 An important advantage of my improved construction is that both wings may be removed and reversed at the same time and with one operation. This is an important consideration, for the reason that it effects a
10 great saving of time and makes the operation of reversing and interchanging the wings much simpler.

That which I claim as my invention, and desire to secure by Letters Patent, is—

15 1. The combination with a plow-standard, of a reversible duplex-armed detachable bracket mounted on the back of the plow-standard, and side wings pivoted respectively to the two arms of the said bracket, substantially as described.
20

2. The combination with a plow-standard, of a reversible duplex-armed bracket vertically adjustable on the back of the standard and detachably connected therewith, and side
25 wings pivoted respectively to the arms of the said bracket, and both moving with the bracket when the latter is adjusted vertically and also when it is removed from the plow-standard, substantially as described.

30 3. The combination with a plow-standard having a rib on its rear portion, of a duplex-armed bracket slidable vertically on and removable from the said rib of the plow-standard, devices for holding the bracket in the

desired position of adjustment, and side wings 35 pivotally attached respectively to the arms of the bracket, and both moving with the bracket when the latter is adjusted vertically and also when it is removed from the plow-standard, substantially as described. 40

4. The combination with a plow-standard having a dovetailed rib on its rear portion, of a double-armed bracket having a dovetailed slot removably engaging said rib, means for
45 securing the bracket in any desired position of vertical adjustment on the rib, and side wings pivoted respectively to the arms of the bracket, and both moving with said bracket when the latter is adjusted vertically and also when it is removed from the plow-standard, 50 substantially as described.

5. The combination with a plow-standard 8, having a rib 25 projecting from its rear portion, of a duplex-armed bracket 19 vertically adjustable on said rib, means for secur- 55 ing the said bracket in the desired position of adjustment on the rib, each arm of the bracket being provided with a yoke 20, side wings 11 and 12 having castings 23 provided with ears 22, and pivot-pins 21 extending 60 through the ears of the castings and through the yokes of the bracket-arms, substantially as described.

ERNST C. SCHROEDER.

Witnesses:

CHARLES SANDHAGEN,
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