

W. COGSWELL.

Corn-Planter.

No. 56,183.

Patented July 10, 1866.

Fig. 1.

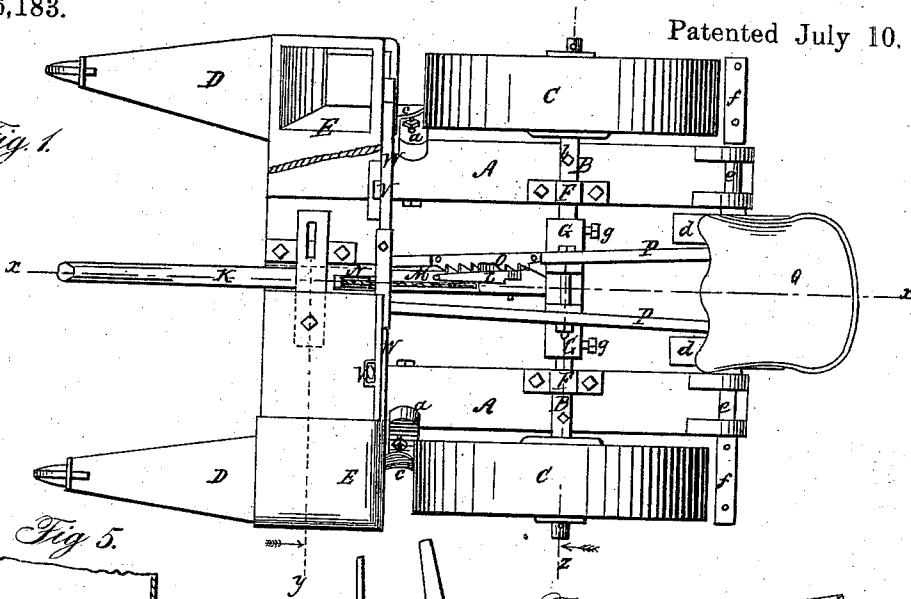


Fig. 5.

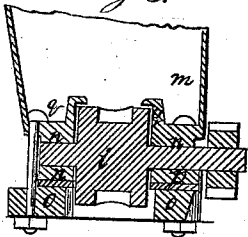


Fig. 2.

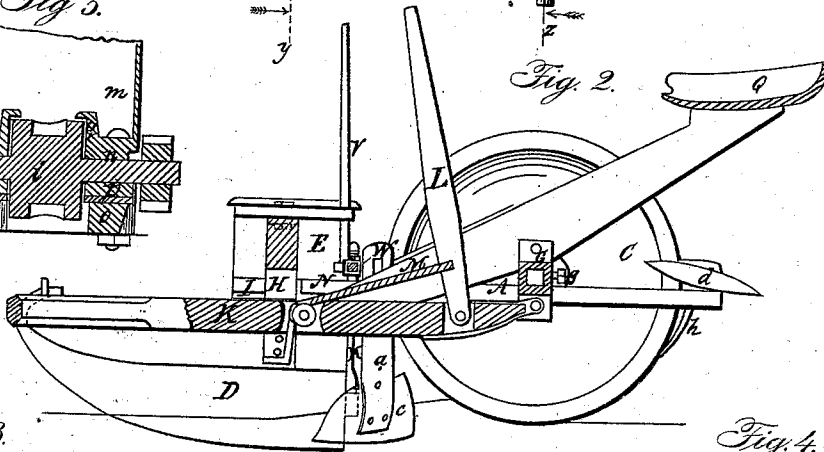
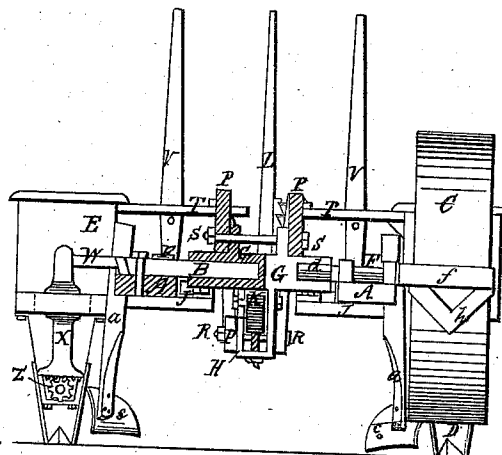
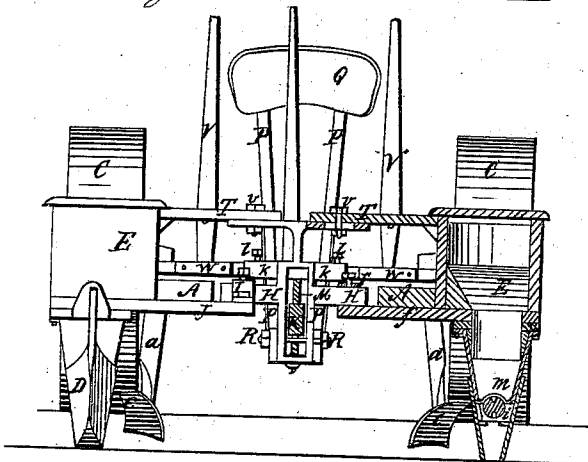


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM COGSWELL, OF OTTAWA, ILLINOIS.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. 56,183, dated July 10, 1866.

To all whom it may concern:

Be it known that I, WILLIAM COGSWELL, of Ottawa, in the county of La Salle and State of Illinois, have made new and useful Improvements in Corn-Planters; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, sufficient to enable one skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, which are made part of this specification, and in which—

Figure 1 is a plan or top view. Fig. 2 is a longitudinal vertical section on the line *x x*, Fig. 1. Fig. 3 is a partial section on the line *y*, looking rearward, and part front elevation. Fig. 4 is a partial section on the line *z*, looking forward, and partial rear elevation. Fig. 5 is a vertical section of the seed-hopper on the line *p*, Fig. 4.

The same letters refer to like parts in the different figures.

The invention consists, first, in the arrangement of parts for adjusting the width of the furrowing and planting; second, the mechanical construction of the pieces which afford adjustable connections to the front seat and beams and the loop for the shiftable tongue and hind-seat supports; third, the mechanical construction of the piece affording bearing for the hind-seat supports, sockets for the half-axles, and pivotal attachment of the tongue; fourth, the arrangement of the parts concerned in the dropping device.

In the drawings, A A are the side pieces of the frame, supported by axles B B on wheels C C, and at the forward end by the furrowers D D. The side pieces, which support the respective seed-hoppers E, are made adjustable at different distances from each other, so as to vary the width of planting according to the necessity of the case—say from three feet distance for broom-corn to four feet for the larger varieties of maize. This adjustability is secured by means of dividing the axle B, the portions being adjustable horizontally at right angles to the line of motion of the machine, and the socket-axles B B slipping in the boxes F F on the frame A A and in the piece G, which is of peculiar form, and affords

attachment for other portions, as will be presently described.

The forward portion of the machine has a similar adjustment as to width of the furrow by means of the socketing of the lateral arms of the piece H in the boxes I, secured to the lower portions, J, of the seed-boxes, which are fastened on the side piece, A, of the frame.

The tongue K is pivoted in the piece G, vibrating to a certain extent upon its said pivot, its range being limited by the loop in the piece H, through which it passes. The effect of this pivotal adjustment is to enable the depth of the furrows to be regulated by the vibration of the lever L drawing upon the cord M, which, passing over the sheave N in the tongue, is fastened to the lower end of the piece H, so that when the lever L is vibrated to the rear, the tongue, being held at the rear end by the attachment to the piece G and at the forward end by the breast-chains, becomes sufficiently rigid to allow the forward part of the machine to be raised upon it, which lessens the depth of the furrowers D in the soil.

P P are inclined supports for the seat Q, and are supported by being bolted to the piece H at R, and by resting upon an attachment to the piece G at S. One of them also carries the rack O, which detains a catch on the lever L, so as to maintain the latter at the required point of rearward adjustment.

The pieces G and H being of peculiar form, and affording the means for attachment and adjustment of the hind seat and the tongue, and also for regulating the planting width of the machine, will require a more particular description.

The piece G (seen in Figs. 1, 2, and 4) has a long socket extending throughout its length, which is occupied by the respective inner ends of the half-axles B, and it has on its upper side two flanges or lugs, to which the inclined supports P of the hind seat are bolted, the said supports also resting upon the body of the piece G. On the under side of the said piece are two projecting flanges, which embrace the rear end of the tongue, which is pivoted thereto by a bolt, R. The position of the axles B in their sockets is maintained by the set-screws *g g*, and their position as to the frames A A by the sockets F and bolts *b b*.

The piece H (seen in Figs. 2 and 3) consists of a central loop in which the tongue has a vertical motion, as the fore part of the machine is adjusted as to height in the manner formerly described. To the lower portion and outside of this loop are attached, by the bolt R, the lower ends of the inclined seat-supports P P. The laterally-projecting pieces are socketed into the boxes I on the pieces J, formerly mentioned, being secured by the set-screws above the said boxes.

At the upper portion of the piece H are arms, which are attached by bolts U to the seats T, which are secured to the seed-boxes E, and form an upper brace to the same, to prevent the tipping inwardly of the seed-boxes under a strain upon the furrowers or by the weight of the operator, who sits upon one or the other of the seats T, facing down the rows which are being crossed by the machine, so as to observe the place to drop the corn; or when the corn is dropped without previously marking off the ground the operator faces across the rows previously planted, so as to drop the corn in check-rows to admit of its being tended both ways. If it be not required to drop it in check-rows, an automatic device for periodical dropping will be sufficient, as the exact correspondence of the rows will be a comparatively immaterial affair; but this system of drilling corn or planting it in rows only one way gives a wide balk between the hills which cannot be reached by the plow, and gives the weeds and other trash a chance of growing, or necessitates the use of the hoe, which is a custom more honored in the breach than in the observance, as the whole theory is to stir the ground and kill weeds, and a man can do more with a team in an hour than with a hoe in a day.

For the purpose of convenience to the drop-per two levers, V V, are pivoted, so that in whichever direction he may be looking a lever is ready to his hand. The levers V V are respectively pivoted to the seats T T, and their lower ends pivoted to the slides W W, which, to admit of their adjustment according to the furrow-width of the machine, are socketed into the sleeve k, and secured therein by the set-screws l l. To the ends of the slide-bars W are attached the arms X, Fig. 4, on whose lower ends are racks Y, which engage with the pinions Z, and thereby simultaneously rotate the seed-cylinders i of the respective seed-hoppers.

The covering-shares c are attached by the legs a to the frame, and draw in a portion of the soil upon the seed which has just been dropped and previous to the passage over it of the wheel C, whose broad head acts as a roller to flatten the earth above it, which makes it more easily seen when it comes up and more easily tended from the absence of clods in its vicinity, which would be so readily rolled upon it while young and small. These are very important points in machines which

are intended to dispense to a considerable extent with manual labor, and which are to be followed by horse-hoes and cultivators which do not admit of being stopped for the purpose of uncovering the corn.

The special arrangement of the dropping device will be presently explained; but I wish to draw attention to the divisibility longitudinally of the machine. By the loosening the set-screws l l on the slide-bar, the screws I I on the piece H, those g g on the piece G, and the screws V V on the seats, the sides of the machine are detached from the central portion, the latter consisting of the tongue, the seat Q, with its supports, and the pieces G and H, while the side frames, A, detached, are associated with the seed-boxes, furrowers, wheels, axles, seed-slides, and scrapers. This feature enables the machine to be laid away with great accuracy of space during the very long intervals between corn-planting seasons, embracing at least eleven-twelfths of the current year, for there is not a month of usefulness for it in any one year if proper advantage is taken of the season, and in these times of farming machinery, what with the various implements for putting in, tending, and gathering crops, preparing the results for and hauling them to market, the shelter and care of tools require almost as much space as the housing of the stock, and get a great deal more in some cases—worse luck for the cattle.

The seeding device, Fig. 5, consists of the hopper m, at whose lower end are two lugs, n n, on opposite sides, through which the axis of the rotating cylinder passes, the boxing p below it being held in place by the cap-piece o, which is bolted to the hopper. On the floor of the latter are two raised rims, q, which cover the ends of the seed-cylinder to prevent the grain from working in at those points, and the cut-off rubbers, which keep back the corn in the hopper, except the contents of the pocket in the cylinder i, are retained in position by clamping between the upper surface of the cap-piece o and the lower edge of the hopper, upon which it abuts. By filling up the holes in the cylinder with plugs of leather it may be made to drop broom-corn, sorghum, &c.

It is not believed to be necessary to go through a consecutive description of the operation of the machine, as that has been incidentally described when treating of the mode of construction and adjustment—to wit, the elevation and depression of the furrowers to regulate the depth of planting by the lever L, and the width of planting by the socketing of the half-axles and the seed-slides in the pieces G k respectively, and the arms of the piece H in the boxes I and seat-boards T.

The scrapers behind the wheels are operated by the foot, as required, by pressure upon the treadles d, which are attached to the axles e, bringing the scraper h against the wheel and peeling the dirt therefrom one wheel at a

time, which does not impede the machine to so great extent as the operation on both wheels at the same time. The vertical motion of the fore carriage raising the furrowers from the ground enables the machine to be taken from or to the field and turned at the ends of the rows with much more facility than those in common use, where the fore part is commonly lifted by hand in turning. It is also important, in backing the machine, to commence a row at the right spot, and also to pass over a bunch of clogging stalks which may have gathered before the furrowers, and which is dropped by raising the fore carriage and passing over it. The vertical adjustability is also necessary to secure penetration in ground of different character, such as soddy, hard, soft, or tenacious, and the desirable depth of planting depends upon the character of the ground, the state of the weather, and the season.

Having described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The provisions for adjusting the width of planting and for dividing the machine, as described, by means of the divided axles and the divided connections at the fore part, as described and represented.

2. The piece G, constructed substantially as shown, affording a bearing for the seat-supports, sockets for the divided axles, and pivotal attachment for the tongue.

3. The piece H, constructed as described, affording adjustable connections to the forward seats and beams, the loop for the rising and falling tongue, and attachment for the rear seat-supports.

4. The combination of the hopper *m* with its lugs *n n* and the cap *o*, the latter holding in position the cut-off rubbers *p* and the journal-boxes *s s* of the oscillating feed-cylinder.

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Witnesses:

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