

F. COCHRAN.
 PLOWSHARE.
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1,005,416.

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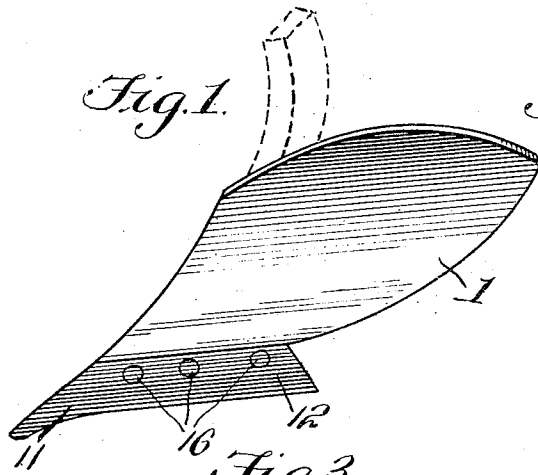


Fig. 2.

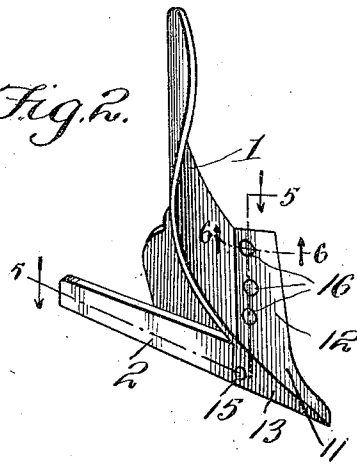


Fig. 3.

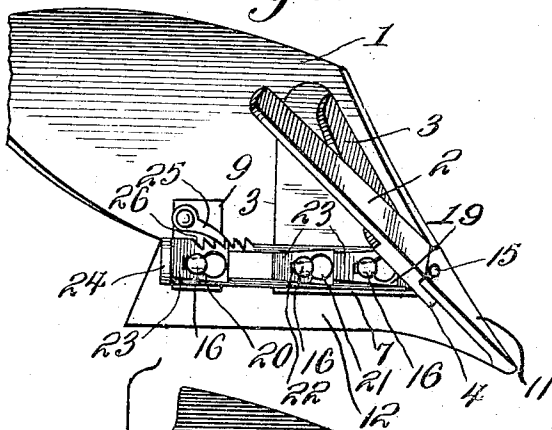


Fig. 5.

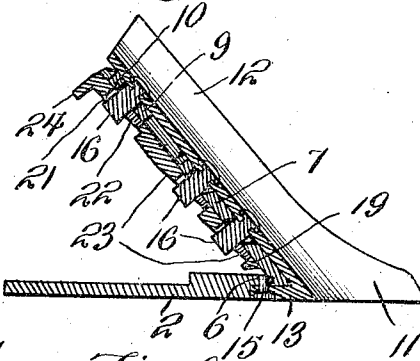


Fig. 6.

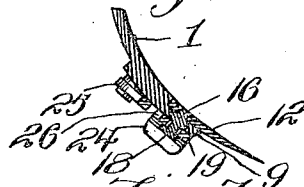


Fig. 4.

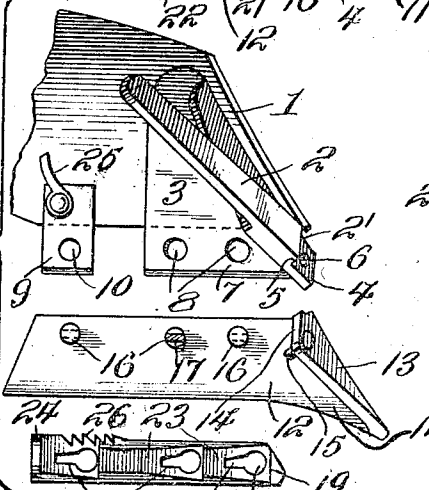
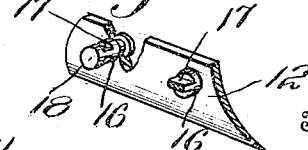


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK COCHRAN, OF ASSUMPTION, ILLINOIS.

PLOWSHARE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK COCHRAN, a citizen of the United States, residing at Assumption, in the county of Christian and State of Illinois, have invented certain new and useful Improvements in Plowshares, of which the following is a specification.

The invention relates in general to plows, being directed more especially to that class of plows embracing a removable share.

The essential features of the invention include a plow share provided with means adapted, in conjunction with means positioned on the moldboard, to maintain said share and moldboard in operative relation, and in means to securely lock said moldboard and share against accidental disengagement.

One object of the invention is to provide a removable share adapted to be quickly and conveniently attached to or removed from the cooperating moldboard without the employment of any special tools and, if necessary, by means of the hands alone and without the inclusion in the structure of disadvantageous screw bolts and nuts, the loosening and loss of which and the incidental attention required to be given thereto are well known in the use of plows of that class employing a removable share.

Another object is the provision of a plow including a moldboard and a removable share therefor which, when assembled in operative relation, are adapted to be held to such relation by the normal operation of the plow.

Another object is to provide a structure comprising few and simple parts which can be rigidly locked together by simple and effective means to present the advantage of a one-piece plow and at the same time, at the will of the operator, be adapted to be removed from locked relation to permit the share point to be sharpened, replaced, or the like.

Taken in connection with the accompanying drawings the invention will now be described.

In the drawings, Figure 1 is a perspective of the moldboard and removable share in operative relation. Fig. 2 is a perspective of the same, viewed from another angle and showing the landside. Fig. 3 is a broken perspective illustrating the means for maintaining the moldboard and share in assembled operative relation. Fig. 4 illustrates the several parts of the invention in de-

tached relation, including a broken perspective of the moldboard, a perspective, partly in section, of the removable share, and a front elevation of a locking-bar. Fig. 5 is a section taken on line 5-5 of Fig. 2. Fig. 6 is a broken section taken on line 6-6 of Fig. 2, and Fig. 7 is a broken perspective, partly in section, showing the form of the locking lugs carried by the share.

Referring now to the drawings, wherein, throughout the several views, similar characters of reference indicate similar parts, and in which the figures disclose the preferred details of my improved plow, 1 denotes a moldboard formed with usual desired curvature and outline.

2 denotes part of the landside rigidly attached at the proper angle to the moldboard through the medium of frog 3, the latter being secured to the rear face of the moldboard in any desired manner or, if preferred, the part 2 of the landside and the frog may be formed integral with the moldboard 1. An edge of said landslide, denoted by 2', is, as shown, positioned slightly in the rear of the forward point 4 of said landside to provide a shoulder 5, said forward point 4 being perforated, as at 6, for a purpose to be later explained. A portion 7 of frog 3 extends below the lower edge of the moldboard 1 and is provided with a plurality of perforations 8, while a bracket 9 either rigidly secured to or formed integral with the moldboard 1, as desired, depends below the said edge, is also provided with a perforation 10, perforations 8 and 10 being disposed in approximate alinement, the depending portions of said frog and bracket of course conforming in curvature to the general curvature of the moldboard 1.

11 denotes the removable share comprising a portion 12 in thickness equal to that of moldboard 1, and a portion 13, said portions being, as may be found expedient, either formed integral or rigidly connected. Positioned adjacent the rear edge 14 of portion 13 of the share and extending approximately at right angles thereto, is a locking-lug 15, designed, when the share and moldboard are being assembled, to seat in aperture 6 of part 4 of the landslide 2, while at the same time a plurality of locking-lugs 16, formed, as shown, on the share seat in apertures 8 and 10 of the frog 3 and bracket 9 respectively and position the share in proper operative relation to the moldboard 1, it being of course understood

that the portions of the share are of such formation and proportions that, at the conclusion of said assembling operation, they will respectively aline, one in proper curved extension with the moldboard 1 and the other in the same plane with the landside 2, as shown in Fig. 2 of the drawings. When the parts are thus assembled the rear edge 14 of the portion 13 will overlie point 4 of the landside and abut the forward edge 2' of the same and tend, in conjunction with the seated locking-lugs, to maintain the parts in proper rigid relation. Locking-lugs 16 are each provided adjacent their free ends with reduced portions 17, such reduced portions thus forming on each of said lugs a retaining head 18 and a portion of equal circumferential dimension as said head contiguous share 11, as shown in Fig. 7. 19 denotes a locking-bar, formed with a plurality of slots 20, the latter provided with heads 21 and tapering slides 22, said heads being properly proportioned and spaced to embrace the lugs 16 when the moldboard and share are being assembled. Those portions of the locking-bar 19 which embrace slots 20 are tapered or cut away to provide cam surfaces 23, the thickness of said bar at these points increasing from heads 21 toward flange 24, projecting at right angles from the body of the locking-bar.

25 denotes a latch, pivotally hung on bracket 9 and designed to be turned when the parts are in assembled position, and engage one of the teeth of ratchet 26 and effectually prevent accidental rearward movement of locking-bar 19 and incidental disengagement thereof from locking position.

In assembling the parts, lug 15 is seated in aperture 6 and lugs 16 in apertures 8 and 10 of the frog 3 and bracket 9 respectively, that portion of lugs 16 immediately contiguous share 11 being snugly embraced by apertures 8 and 10 which will aline the removable share in proper relation to the moldboard, all play between the moldboard and share being prevented by the snug fit of lugs 16 in apertures 8 and 10. The heads of slots 20 are then passed over heads 18 of lugs 16 and flange 24 given a tap with any convenient implement or the bar forced forward manually, in which operation the heads 18 will overlie the edges of the slides 22 and firmly contact with the face of said portions 23, while the reduced portions 17, in the same operation, will be securely grasped by the slides 22, resulting in the rigid connection of the moldboard and the share, while the engagement of latch 25 with ratchet 26 will maintain said bar securely

in locking position irrespective of its frictional contact with locking-lugs 16.

From the above it is evident that I have provided a plow embracing a removable share and point adapted to be connected to and detached from the moldboard with rapidity and ease without resorting to the usual employment of unsatisfactory threaded bolts and nuts or to the use of any special tool, the assembling and disengagement of the parts being readily accomplished by the hands of the user alone. It will also be observed that the parts, when thus readily assembled, are maintained in such relation by locking means effectually adapted to provide against accidental disengagement of said parts, said means being seated and unseated by a slight blow from any handy implement or, if found necessary, by the hands alone, while the parts, due to their formation and proportions, are adapted, irrespective of the locking means, to be held to operative position merely by the ordinary use of the plow.

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

1. A plow comprising a removable share, a moldboard provided with a plurality of locking apertures, locking-lugs formed integral with the share and adapted to engage the apertures in assembling the moldboard and share, a detached locking-bar adapted to engage said lugs and formed with a series of cam surfaces provided each with a locking slot formed with converging side walls, said cam surfaces and walls frictionally engaging the locking-lugs with increasing stress as the bar is moved to locking position, and a pawl and ratchet adapted to retain the bar in said position.

2. A plow comprising a removable share formed with integral locking-lugs provided with a reduced portion intermediate their terminals, a moldboard formed with a plurality of locking apertures adapted to fit over said lugs and snugly embrace that portion thereof immediately contiguous the share, a detached locking-bar formed with a series of locking slots provided with converging side walls adapted to frictionally contact with said reduced portion with increasing stress as the bar is moved to locking position, and a pawl and ratchet adapted to prevent movement of said bar from locking position.

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

FRED. COCHRAN.

Witnesses:

A. CONN EK,

A. H. CORZINE.