

(No Model.)

3 Sheets—Sheet 1.

W. R. RUSSELL.
PLOWSHARE.

No. 472,400.

Patented Apr. 5, 1892.

Fig. 1.

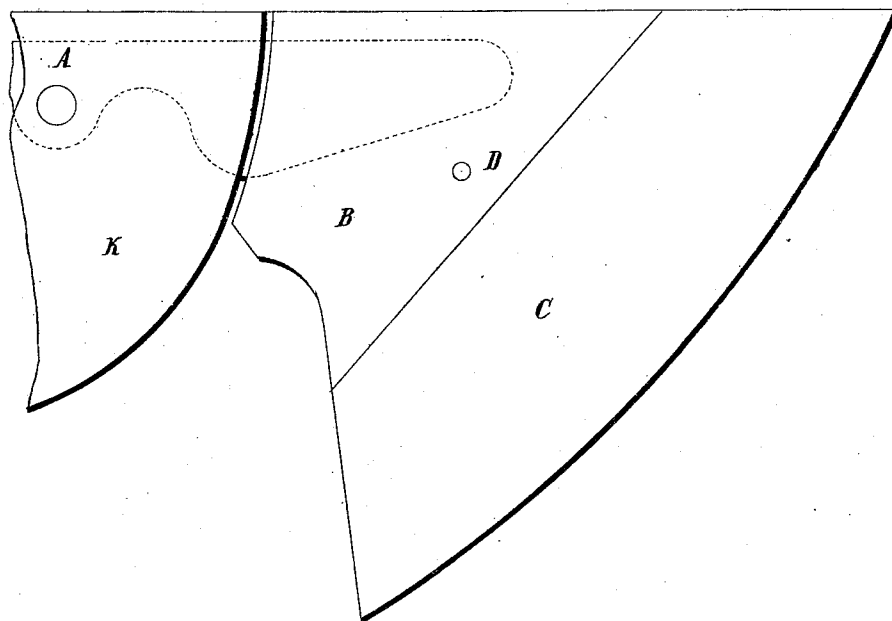
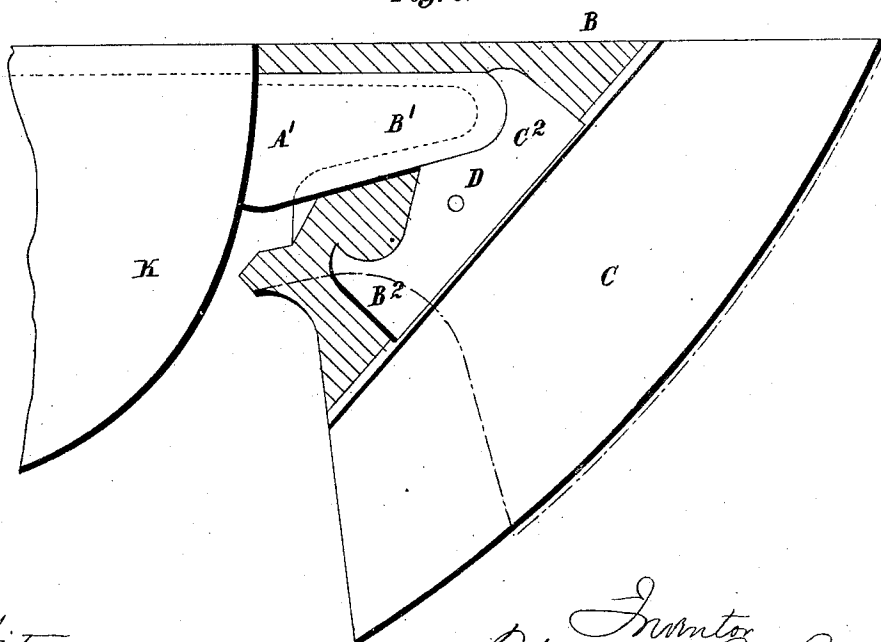


Fig. 2.



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Fig. 3.

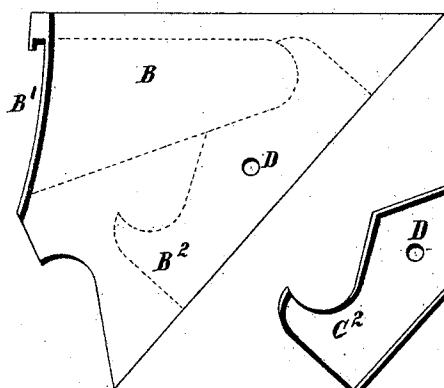


Fig. 4.

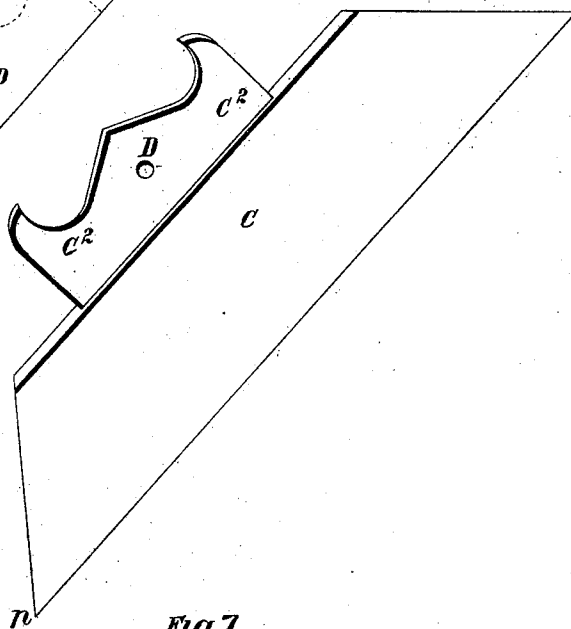
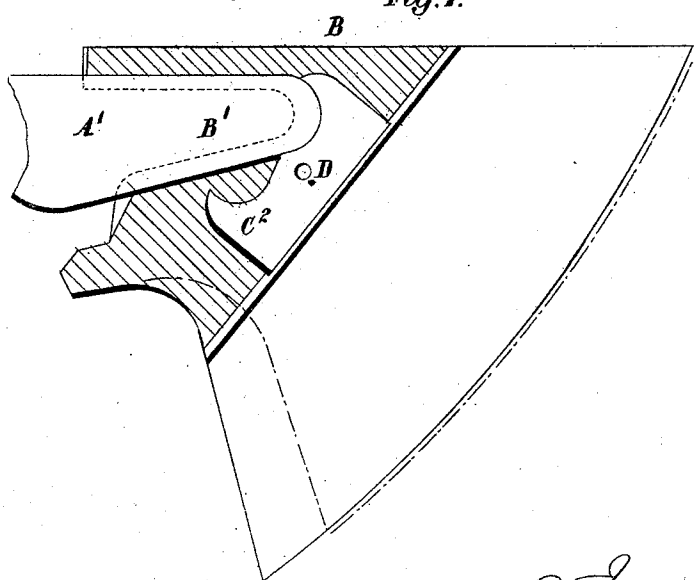


Fig. 7.



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Fig 5.

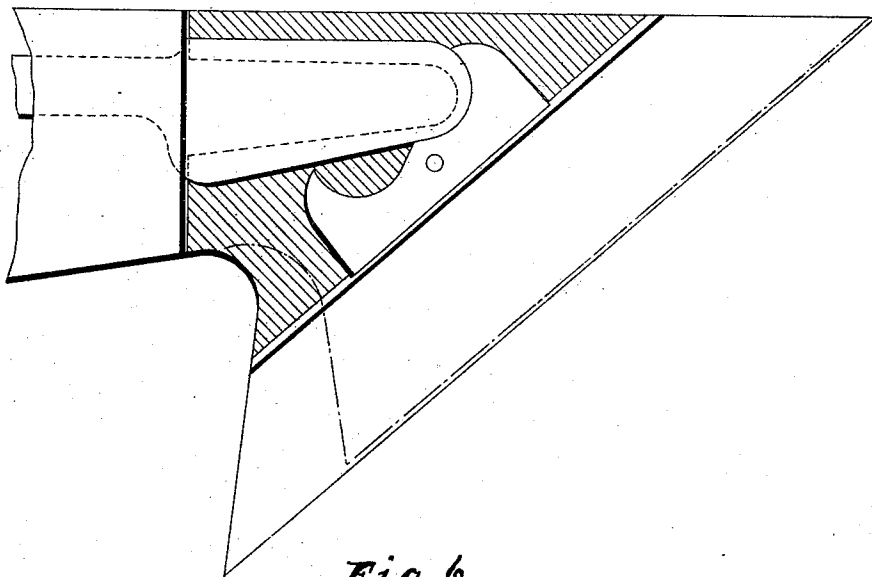
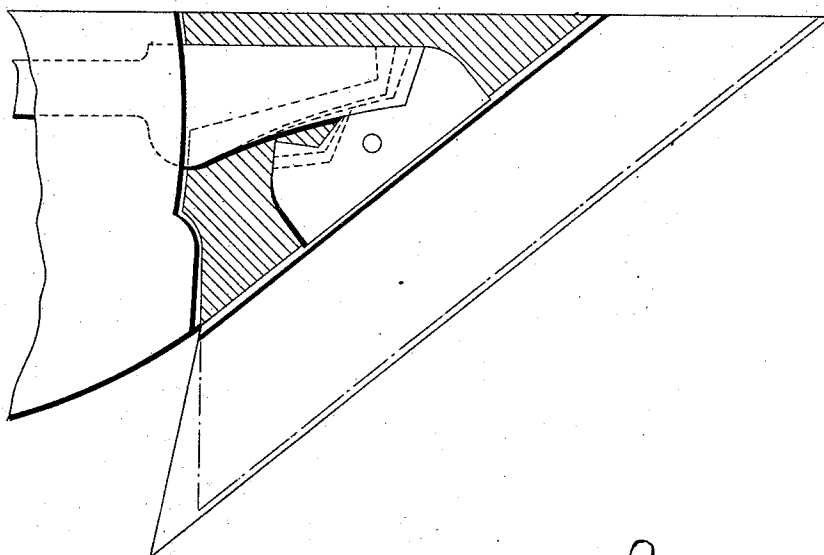


Fig 6.



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UNITED STATES PATENT OFFICE.

WILLIAM REID RUSSELL, OF ADELAIDE, SOUTH AUSTRALIA, ASSIGNOR OF ONE-HALF TO ERNEST EYSTON HARROLD, OF SAME PLACE, AND WILLIAM HEITHERSAY, OF PETERSBURG, SOUTH AUSTRALIA.

PLOWSHARE.

SPECIFICATION forming part of Letters Patent No. 472,400, dated April 5, 1892.

Application filed February 18, 1891. Serial No. 381,845. (No model.) Patented in Victoria August 15, 1890, No. 7,997; in New South Wales August 18, 1890, No. 2,430; in Queensland August 19, 1890, No. 1,100; in New Zealand August 28, 1890, No. 4,565; in England September 15, 1890, No. 14,530; in France October 23, 1890, No. 209,077; in Germany October 23, 1890, No. 58,397; in Belgium October 25, 1890, No. 92,476; in Cape of Good Hope November 22, 1890; in South Australia December 4, 1890, No. 1,799; in Canada February 17, 1891, No. 36,639, and in Argentine Republic July 29, 1891, No. 1,034.

To all whom it may concern:

Be it known that I, WILLIAM REID RUSSELL, engineer, a subject of the Queen of Great Britain, and a resident of Adelaide, in the Colony of South Australia, have invented a certain new and useful Improved Plowshare, (for which I have obtained Letters Patent in Great Britain, No. 14,530, dated September 15, 1890; in Canada, No. 36,639, dated February 17, 1891; in France, No. 209,077, dated October 23, 1890; in Belgium, No. 92,476, dated October 25, 1890; in Germany, No. 58,397, dated October 23, 1890; in Cape of Good Hope, dated November 22, 1890; in Argentine Republic, No. 1,034, dated July 29, 1891; in Victoria, No. 7,997, dated August 15, 1890; in New South Wales, No. 2,430, dated August 18, 1890; in Queensland, No. 1,100, dated August 19, 1890; in New Zealand, No. 4,565, dated August 28, 1890, and in South Australia, No. 1,799, dated December 4, 1890,) consisting of a reversible blade with a plug fitting into a corresponding recess in a socket-piece made and varied to fit different kinds of plows, of which the following is a specification, reference being had to the accompanying drawings.

The object of this invention is to enable a reversible share to be applied to a plow having a foot of the form substantially shown in the drawings, and more particularly described hereinafter. The reversible shares which have been hitherto manufactured and used under what is known as "Heithersay's" or "Heithersay and Harrold's" patents have required a specially-constructed foot projected not in the line of progression, but at an angle of forty-five degrees thereto, and it has been necessary before the share could be used on existing plows to have a new foot constructed and attached thereto. Hence, although the reversible share has been found to answer well where used, the expense and inconvenience of altering the feet of plows at present in use has been found a drawback to its general adoption. To overcome this difficulty in

regard to plows of the usual patterns is the object of this invention. It is accomplished by casting or making the share in two parts: first, a socket-piece, which may be of shape to suit any approximately straight foot and having at its outer part a recess, and, secondly, a blade of equal shape at both points and having a central projecting part called a "plug" which fits into the recess provided in the socket-piece.

In order that my invention may be fully understood, I will now describe the same by reference to drawings, in which the same letters refer to similar parts.

Figure 1 is a plan about quarter-size of share with portion of mold-board standard and P-foot. Fig. 2 is a plan, partly in section, showing the middle of the share and the reversible blade with projecting part or plug. Fig. 3 is a plan of the socket-piece detached. Fig. 4 is a plan of the reversible share-blade detached. Fig. 5 is a plan view, partly in section, showing the application of the invention to a D-foot. Fig. 6 is a similar view showing the same applied to a V-foot. Fig. 7 is a similar view showing the P-foot with the wing shortened by reducing the width of the plug.

A represents the leg or standard with foot A' of the pattern known as "P-foot" and in common use.

B is the socket-piece, which is formed with a socket B' to fit the foot A'. This socket-piece will be of the shape internally to fit the foot A' and externally to suit the plow and the work required. It is provided at the outer side with a recess approximately centrally situated and formed to receive a corresponding projecting part or plug of the share-blade C. The share-blade C is constructed of such shape and extent that, together with the socket-piece, the two form the equivalent of the ordinary share suitable for a P or other foot.

C² is the plug constructed and shaped to fit into the recess B², which is shaped so as to fit round the toe of the foot A', as shown in the drawings. By this means it is allowed to be

made of sufficient strength even in cast metal and receives a part of the bearing from the foot, giving strength and solidity. The other end of the plug at the same time fitting into the curve of the recess, adds further strength and compactness to the combined share. The blade may be additionally secured in position by a pin D, passing through suitable holes in the socket-piece B and the share-blade C.

The bottom of the foot A' and the bottom of the socket-piece B and share-blade C are parallel with the surface of the ground, or may, if preferred for hard ground, be so arranged as to give a slight dip to the point or nose of the share. The cutting-edge of the share lies between the letters *m* and *p* and is at an angle of forty-five degrees, or thereabout, with the direction of progression of the plow or at the usual angle with the plow in use.

The shares consisting of the socket-piece B and the share-blade C may be manufactured of cast-iron, malleable iron, or cast-steel, or the socket-piece may be made of one metal and the blades of another, and the socket-piece will last a great length of time, while the blade, being the wearing part, can be renewed. The share is used as an attachment below and in front of a mold-board, such as K, usually found in the description of plow in which renewable shares can be advantageously used. The long and short dotted line shows the outline of the usual share.

In operation, when the share has been used for a time, the point *m* will be worn blunt and would in the ordinary plowshare have to be sharpened, involving great delay, or else a new share would have to be substituted. By my invention the point *p*, having become sharpened by the action of the plow, the pin D is knocked out, the share-blade C is turned over and reversed, so that the point *p* takes the place of the point *m*, and the point *m* takes the place of the point *p*. The pin is replaced and the plow set to work again. By the time the point *p* gets blunt the point *m*

has been again sharpened and the reversal takes place again, and so on until the share is worn close up to the socket. The cutting-edge of the blade C may be either straight or slightly rounded, if so preferred, to suit different requirements of soil or circumstances.

I have hitherto described the application of my invention to a P-foot. It may be applied to nearly every other kind of approximately straight plow-feet, such as those in ordinary use for plows and similar implements. In Fig. 5 I have shown its application to a D-foot, and in Fig. 6 to a V R I, and in other cases a slight variation will have to be made in the shape of the socket-recess and plug to suit the style of foot.

In Fig. 7 I have shown the P-foot with the wing shortened by reducing the width of the plug C².

I do not limit myself to the exact configurations and details of construction herein set forth.

What I claim is—

1. In a plow, the combination, with a plow-foot having an approximately straight outer face and central or nearly-central recess, of a reversible share-blade having a projection or plug C², provided with duplicate recesses to receive the foot, substantially as described.

2. In a plow, the combination, with a plow-standard A, having a foot A', of a reversible share having a plug or projection C², provided with duplicate recesses adapted to fit the plow-foot interchangeably, said plug having a bolt-opening D, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM REID RUSSELL.

Witnesses:

CHARLES N. COLLISON,
Patent Agent, Adelaide.

FREDERICK JOHN WILSON,
Clerk to Collison & Co., Patent Agents, Adelaide.