No. 762,942. PATENTED JUNE 21, 1904.

J. A. RANSON.

GRAIN DRILL SHOE.

APPLICATION FILED SEPT. 25, 1903.

NO MODEL.

FIG. 1.

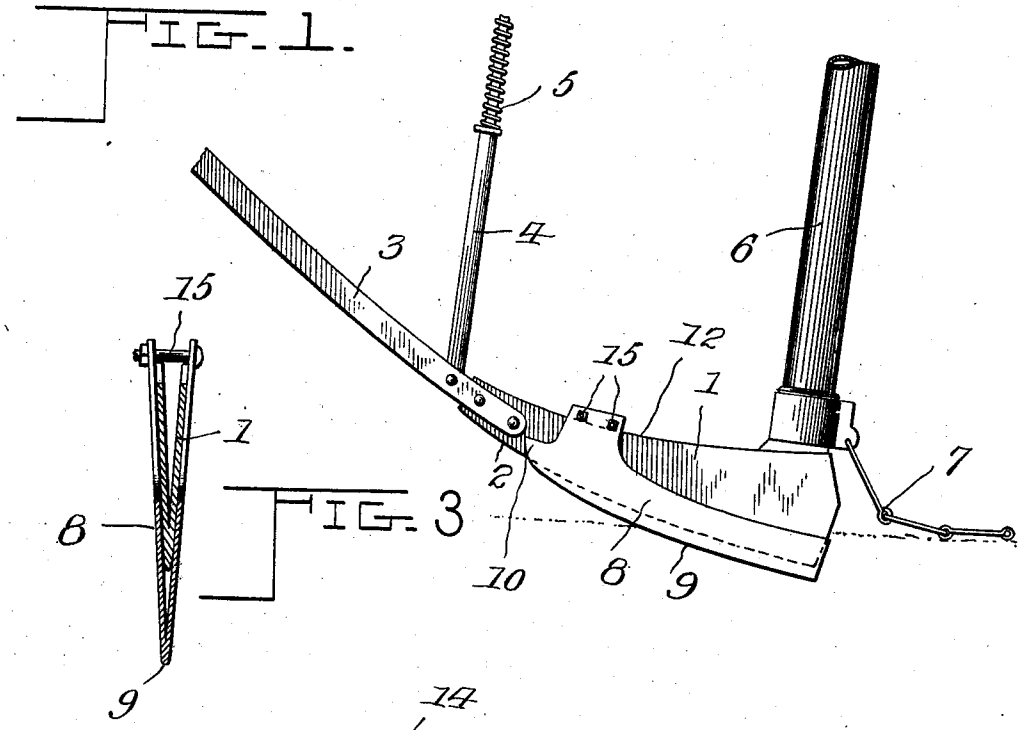
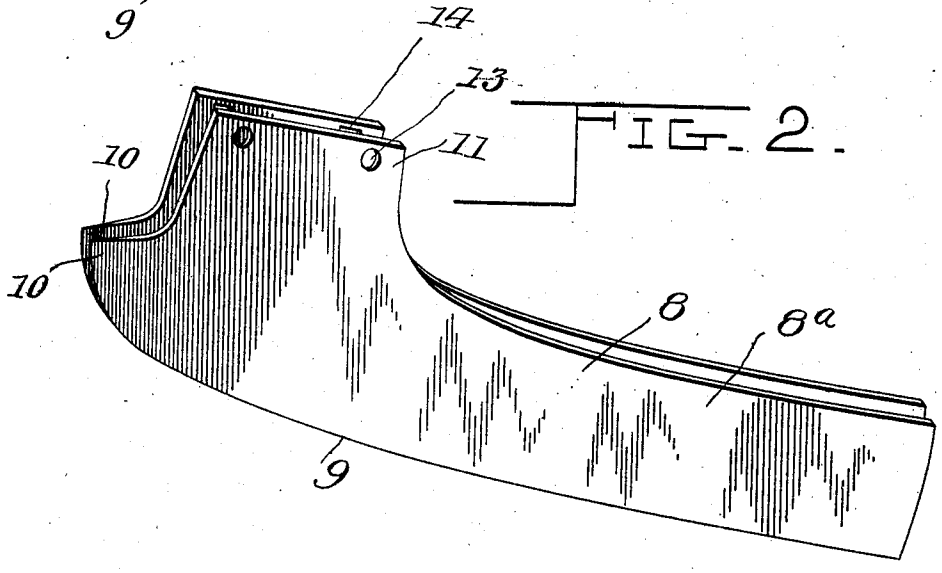


FIG. 3

FIG. 2.



Witnesses:

J. Ed. Page.

F. D. Cummer

John A. Ranson, Inventor

By Marion & Marion

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 762,942. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

JOHN AMBROSE RANSON, OF CARBERRY, CANADA.

GRAIN-DRILL SHOE.

SPECIFICATION forming part of Letters Patent No. 762,942, dated June 21, 1904.

Application filed September 25, 1903. Serial No. 174,680. (No model.)

To all whom it may concern:

Be it known that I, JOHN AMBROSE RANSON, residing at Carberry, in the county of Norfolk, in the Province of Manitoba, in the Dominion of Canada, have invented certain new and useful Improvements in Grain-Drill Shoes; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to grain drills or seeders, and especially to those drills which are known as "shoe-drills" and which employ bifurcated plates called "shoes" that are drawn along so as to form furrows and which receive the seed to be sown in the furrows.

The object of the invention is to provide an auxiliary or outer shoe adapted to be attached to the shoe or shoes of the drill, and this auxiliary shoe is so constructed as to be removable and easily replaced. From this arrangement the wear and tear upon the shoes of the drill are materially reduced.

The invention consists in the construction and combination of parts to be more fully described hereinafter and definitely set forth in the claims.

In the drawings, which fully illustrate my invention, Figure 1 is a side elevation of the lower portion of a grain-drill, showing a shoe and adjacent parts. Fig. 2 is a perspective representing the outer shoe referred to above. Fig. 3 is a vertical cross-section supposed to have been taken through the shoe shown in Fig. 1.

Throughout the drawings and specification the same numerals of reference denote like parts.

Referring more particularly to the parts, 1 represents one of the shoes of a grain-drill, which consists of a bifurcated plate having a curved and inclined forward edge 2, adapted to cut through the earth as the implement advances, the said shoe being attached forwardly to a drag-bar or shoe-arm 3. As usual in machines of this kind, a press-rod 4, in conjunction with a spring 5, affords means for pressing the shoe 1 resiliently toward the ground, and a seed tube or conductor 6 is attached near the rear of the shoe for the purpose of conducting the grain or seed to the shoe in the usual manner. Behind the shoe a short chain 7 may be attached, for the purpose of covering the seed, in the well-known manner.

To the shoe 1 aforesaid I attach an outer shoe or overshoe 8, the form of which is most clearly shown in Fig. 2. It consists of a bifurcated plate presenting elongated cheeks 8^a, meeting in an inclined and curved cutting edge 9, preferably of substantially the same contour as that of the shoe 1 for the lower portion thereof. This overshoe is adapted to be applied to the shoe 1 in the manner shown in Fig. 1, it being understood that the edge 2 of the inner shoe is received behind the cutting edge 9 of the outer shoe. Forwardly the shoe 8 is formed into upwardly-curved noses 10, between which the adjacent portion of the inner shoe 1 lies, and above this point the said outer shoe is formed with upwardly-disposed ears or lobes 11, which overhang and project beyond the upper edge 12 of the shoe 1, as indicated most clearly in Fig. 1. These are provided with openings 13 14 to receive bolts 15, preferably of the carriage-bolt type. The ears or lobes 11 are preferably extended above the said upper edge far enough and the said ears extend longitudinally of the inner shoe far enough so that a plurality of openings, as 13 and 14, may be provided in said ears disposed at different points above said inner shoe, so that the securing-bolts 15 will be disposed in such relation to the said shoe as to form a lock to prevent vibration of the outer or removable shoe, said means being so disposed as to hold the same in position without the necessity of bolts or rivets being projected through the removable shoe and the said inner shoe. It has been quite necessary in devices heretofore suggested to bore one or more holes through the permanent shoe to permit of attaching the removable shoe thereto, but farmers are not generally equipped with tools for that purpose. Hence my improved shoe is constructed in the form of a clip adapted for ready attachment and removal without the necessity of such boring. It should be understood that these bolts enable the outer shoe 8 to be tightly clamped to the inner shoe 1 and that as they

are removable, the outer shoes may be taken off when worn and replaced by new shoes.

The arrangement described operates very advantageously and economically, for the reason that the outer shoes are of reduced dimensions, sufficient, however, to present a cutting edge, and they are consequently of less weight and more inexpensive than the inner shoes ordinarily found in machines of this class. Evidently they must operate very beneficially in extending the period of usefulness of the inner shoes.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

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

1. In a grain-drill, in combination, an inner shoe, an outer shoe consisting substantially of a bifurcated plate presenting oppositely-disposed cheeks overlying the sides of the inner shoe, said outer shoe having upwardly-disposed ears projecting beyond the upper edge of the inner shoe, and a plurality of bolts projected through said ears above the inner shoe and approximately in contact therewith, said bolts being disposed at different distances from the front end of said inner shoe.

2. In a grain-drill, an inner shoe, a removable outer shoe, and a plurality of securing means for said outer shoe projected above said inner shoe at different distances from the end thereof.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN AMBROSE RANSON.

Witnesses:

G. S. HASLAM,

W. R. PENNY.