No. 874,268. PATENTED DEC. 17, 1907.

L. E. WATERMAN.

HARROW DISK.

APPLICATION FILED FEB. 19, 1907.

Fig. 1

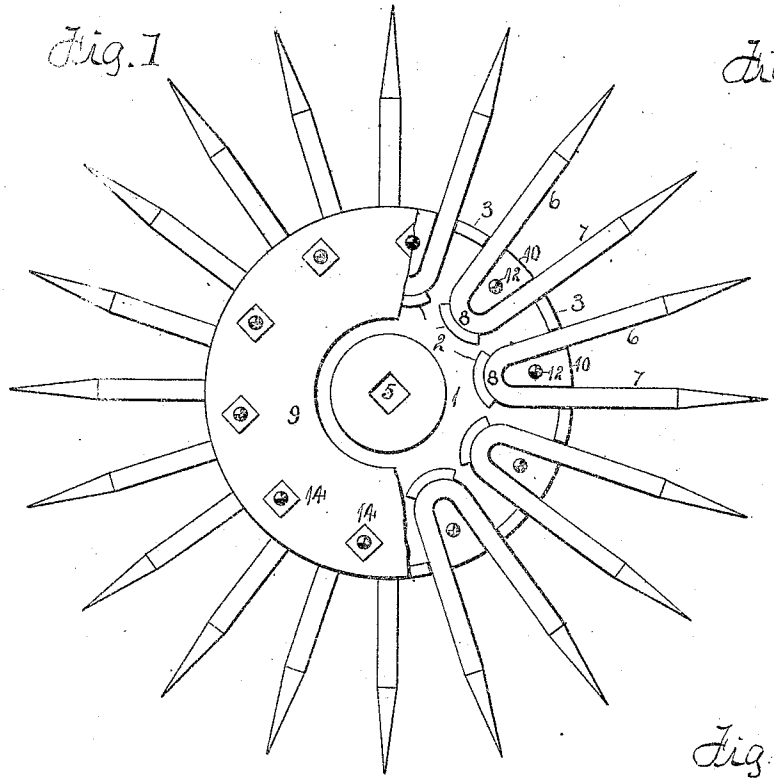


Fig. 2.

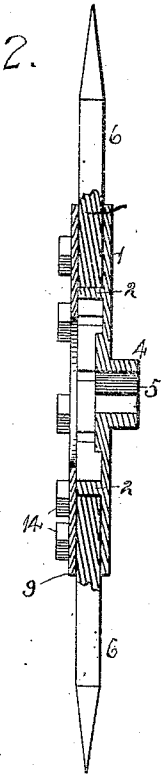


Fig. 4.

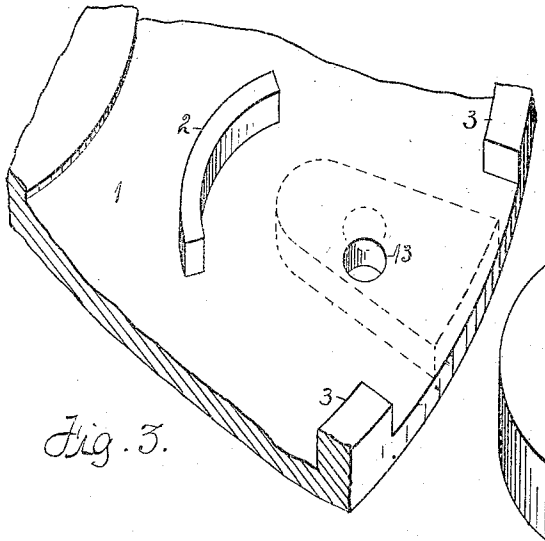
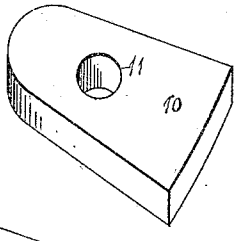


Fig. 3.



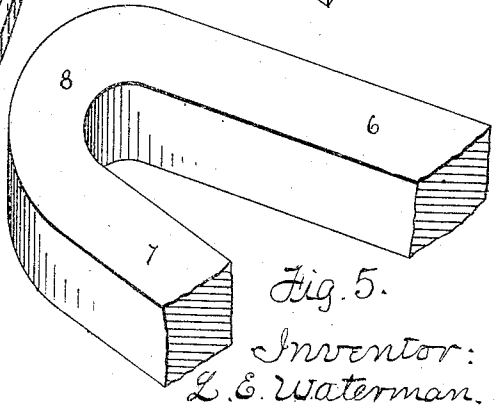


Fig. 5.

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UNITED STATES PATENT OFFICE.

LEWIS E. WATERMAN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO EMERSON MANUFACTURING COMPANY, OF ROCKFORD, ILLINOIS, A CORPORATION OF ILLINOIS.

HARROW-DISK.

No. 874,268. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed February 19, 1907. Serial No. 358,211.

To all whom it may concern:

Be it known that I, LEWIS E. WATERMAN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Harrow-Disks, of which the following is a specification.

The object of this invention is to form a connection of the teeth of a disk for harrows with their support in a manner that a double tooth can be removed without disturbing the others.

The further object of this invention is to form the support for the teeth with a rectangular opening to receive a shaft connecting all the disks of a gang.

In the accompanying drawings, Figure 1 is a face representation of a disk in which a part of the cap is removed. Fig. 2 is a transverse section of the disk. Fig. 3 is an isometrical representation of a section of the support for the teeth. Fig. 4 is an isometrical representation of one of the V shaped sections. Fig. 5 is an isometrical representation of a section of one of the double teeth.

The main section 1 of the support for the teeth is in disk form, from one face of which extend a series of curved projections 2, and the sections 3 of a rim. The center of the main portion has a hub projection 4 provided with a rectangular opening 5.

The teeth are formed in pairs, that is, double, and comprises the two branches 6 and 7 diverging from the end 8 of the union. The free ends of the branches are sharpened, and the branches are rectangular in cross-section. One of the double toothed sections is so located in connection with the main section of the teeth-support that the end 8 thereof rests against the curved projection 2, and against the ends of the sections 3 of the rim. The remaining double-toothed sections are located in the same manner in connection with the main section. The cap 9 is then placed over the teeth and rests in contact therewith. V shaped sections 10 are provided with a hole 11. A section 10 is placed between the branches 6 and 7 of a tooth and between the main section 1 and cap 9. A bolt 12 is passed through a hole 13 in the main section, through the hole 11 in the V shaped section 10, and through a hole in the cap 9 and receives a nut 14 on its projecting end. Each double-tooth is connected in a like manner. Should one of the branches of a double-tooth become broken, the tooth can readily be removed by taking out the bolt and V shaped section that holds it in place, without disturbing the cap or the other teeth.

I claim as my invention.

1. A harrow disk comprising a plate having curved projections and a segmental rim, a series of double-teeth held in position by the projections and rim, a cap located over the teeth, a removable section located between the branches of a tooth, and a bolt passing through the plate, removable section and cap.

2. A harrow disk comprising two plates, a series of double teeth, and means for holding the teeth in position between the plates, said holding means permitting the removal of a double tooth without destroying the holding means of the other teeth.

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