E. R. BEEMAN.

SCRAPER FOR DISK OPENERS.

APPLICATION FILED FEB. 16, 1910.

975,499.

Patented Nov. 15, 1910.

Fig. 1.

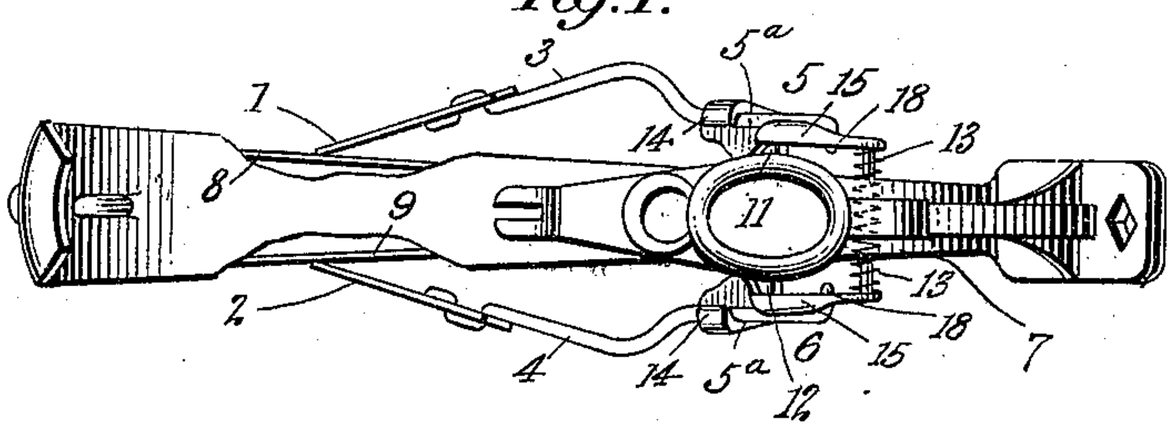


Fig. 2.

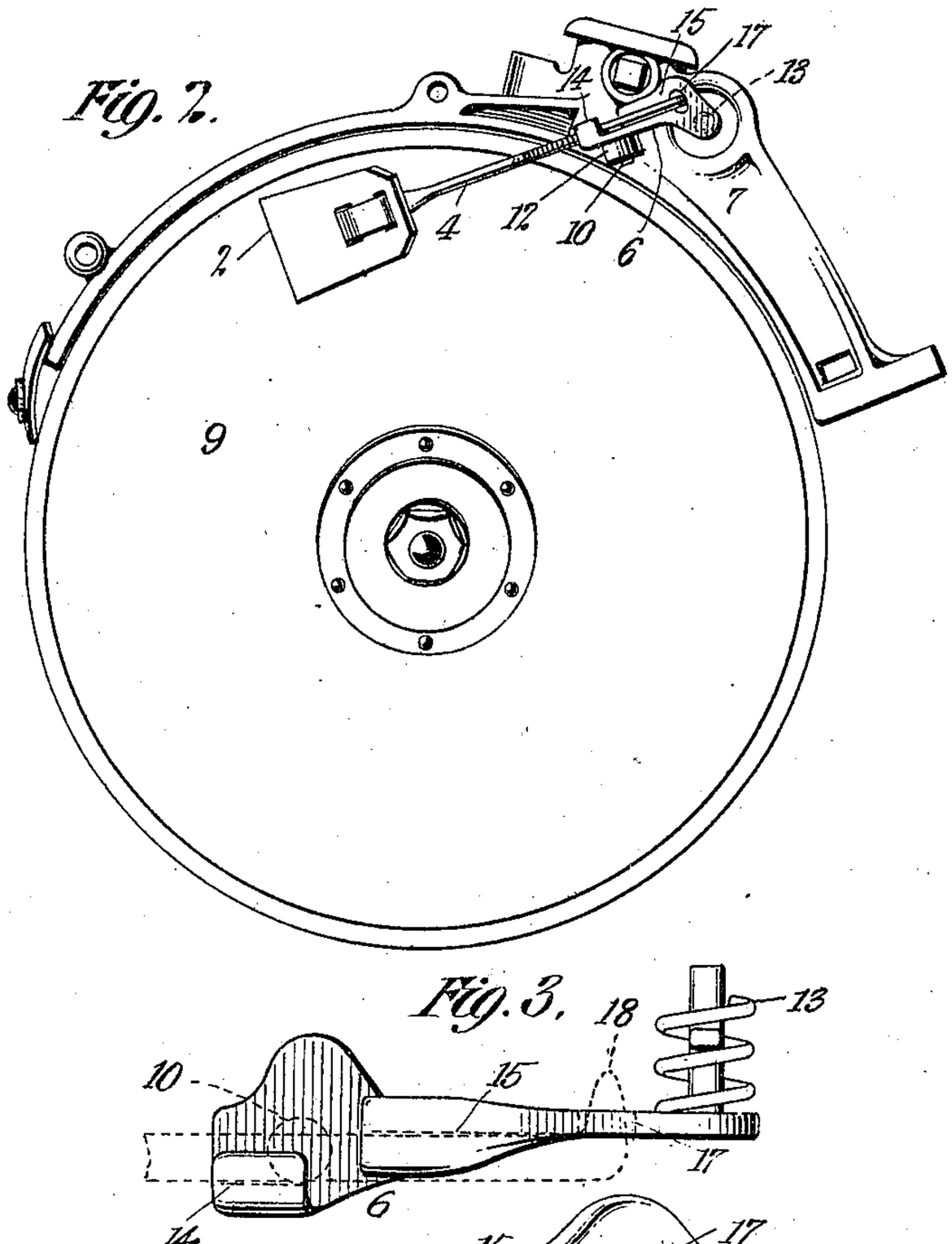
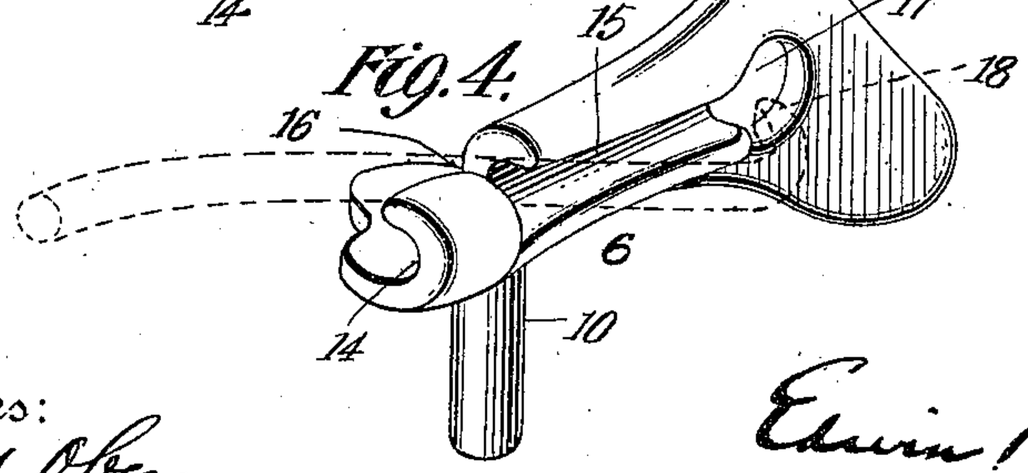


Fig. 3.

Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN R. BEEMAN, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO MONITOR DRILL COMPANY, A CORPORATION OF MINNESOTA.

SCRAPER FOR DISK OPENERS.

975,499. Specification of Letters Patent. **Patented Nov. 15, 1910.**

Application filed February 16, 1910. Serial No. 544,159.

To all whom it may concern:

Be it known that I, EDWIN R. BEEMAN, of Minneapolis, county of Hennepin, and State of Minnesota, have invented a new and useful Improvement in Scrapers for Disk Openers, of which the following is a specification.

This invention relates to a scraper device for use in connection with furrow opening disks, which scraper device usually consists of two scraper blades held by spring pressure against the outer faces of the disks and acting, as the disks are rotated, to dislodge any adhering soil and keep them clean.

The present invention consists of various improvements in scraper devices of this general character and is directed more particularly to the form of the scraper arm holder and the scraper arm, whereby the latter is permitted to swivel in the holder, is retained against escape therefrom, and may be conveniently and readily applied to the holder or detached therefrom by a tipping movement of one of the parts relative to the other, thereby avoiding the use of separate fastening means.

In the accompanying drawings: Figure 1 is a top plan view of a pair of disk openers, the boot on which they are mounted, and my improved scraper device applied thereto. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view on an enlarged scale of one of the scraper holders detached. Fig. 4 is a perspective view of the same, the dotted lines therein indicating the manner in which the scraper arm is attached to or detached from the holder.

Referring to the drawings: My improved scraper device comprises a pair of scraper blades 1 and 2, arms 3 and 4 to which the blades are connected, and scraper arm holders 5 and 6 in which the arms are mounted, the holders being so sustained by a boot or frame 7 that the blades will act on the outer faces of the two disks 8 and 9 journaled on the boot.

The holders 5 and 6 are elongated in form and provided with longitudinal bearing sockets 5^a, in which the forward ends of the arms are loosely mounted to turn or swivel on a longitudinal axis, and each of the holders is formed with a depending stud 10 mounted loosely in bearing openings in lugs 11 and 12, projecting laterally from opposite sides of the boot, the construction being such that the holders may rock to and from the disks, a spring 13 being interposed between the forward ends of the holders and acting by its expansion to maintain the blades yieldingly against the faces of the disks. The scraper arms are so mounted in the sockets in the holders that they will be prevented from escaping endwise therefrom, but will be allowed a limited swiveling or turning movement on a longitudinal axis, and the form of the parts is such that the arms may be attached to or detached from the holders by a tipping movement and without the necessity of employing any separate attaching confining devices, such as cotter pins and the like. To accomplish these objects, the socket in the holder is provided with opposing confining walls 14 and 15 spaced apart longitudinally so as to leave an intervening space 16 between the adjacent ends of the walls, and at the forward end the holder is formed with a slot 17. When the arm is in place in the holder, it extends in the socket between the opposing walls and is provided with a projection 18 on its end, which engages in the slot, the projection being formed by bending the end of the arm laterally. As a result of this construction, the projection on the arm by engaging in the slot prevents the arm from escaping endwise from the holder, and at the same time limits the swiveling motion by engaging respectively the ends of the slot.

To detach the arm, it is first tipped to the position shown in Fig. 4, which action will withdraw the projection from the slot, whereupon the arm may be lifted through the space between the ends of the walls of the socket and free of the holder. In attaching the arm, these operations are reversed, that is, it is first placed in an inclined position so as to pass into the space between the opposing walls, whereupon it is turned into alinement with the socket, which action will enter the projection in the slot. In this position, the parts are interlocked and held together, and by reason of the fact that the blades are held against the disks, the projections on the arms will be maintained in the slots and any accidental tipping, such as would tend to disengage the parts, is prevented. While I have shown the holder as specifically formed to adapt it to fulcrum on the boot so as to permit of the movement of the blades to and from the

disk, it will be understood that the holder may be otherwise mounted, the present invention having relation to the manner of interlocking the arm with the holder without regard to the mounting of the holder on the boot.

As a result of the construction described, the parts may be produced at little cost, the arms are held securely and effectively in the holders, while at the same time they may be readily attached and detached, and this without the use of separate fastening devices and the consequent loss of time in effecting the removal of the parts.

While in the accompanying drawings I have shown my invention in the form which I prefer to adopt, and which in practice has been found to answer to a satisfactory degree the ends to be attained, I wish it to be understood that the invention is not limited to any particular details except in so far as such limitations are specified in the claims.

Having thus described my invention, what I claim is:—

1. In a disk scraper, the combination with a scraper arm holder provided with a bearing socket, of a scraper arm detachably engaged in said socket and adapted to be disengaged by a tipping motion of one of the parts relatively to the other, and a blade connected with the arm.

2. In a disk scraper, the combination with a scraper arm holder provided with a bearing socket, of a scraper arm detachably engaged in said socket and adapted to be disengaged by a tipping motion of the arm relative to the holder, and a blade carried by the arm.

3. In a disk scraper, the combination with a scraper arm holder formed with an open longitudinal bearing socket and a transverse slot, of a scraper arm seated in the socket and removable sidewise therefrom and having a lateral projection extending in the slot, whereby the arm will be allowed to swivel but will be prevented from escaping endwise from the socket, and a scraper blade carried by the arm.

4. In a disk scraper, the combination with a scraper arm holder provided with an opening and with a bearing socket having walls adapted to engage the arm respectively on opposite sides and respectively at different points in its length, the said walls being separated longitudinally by an intervening space, a scraper arm seated between the opposing walls of the scraper and having a projection extending in the opening in the holder, whereby the arm will be prevented by the projection from escaping endwise from the holder, but may be disengaged by a tipping movement to withdraw the projection and enable the arm to pass through the space between the walls of the socket, and a scraper blade carried by the arm.

In testimony whereof I hereunto set my hand this 4th day of February, 1910, in the presence of two attesting witnesses.

EDWIN R. BEEMAN.

Witnesses:

HORACE L. HAMILTON,

A. B. MCINTYRE.