No. 808,021. PATENTED DEC. 19, 1905.

S. E. DAVIS.

SCRAPER FOR DISK DRILLS.

APPLICATION FILED SEPT. 2, 1905.

Fig. 1.

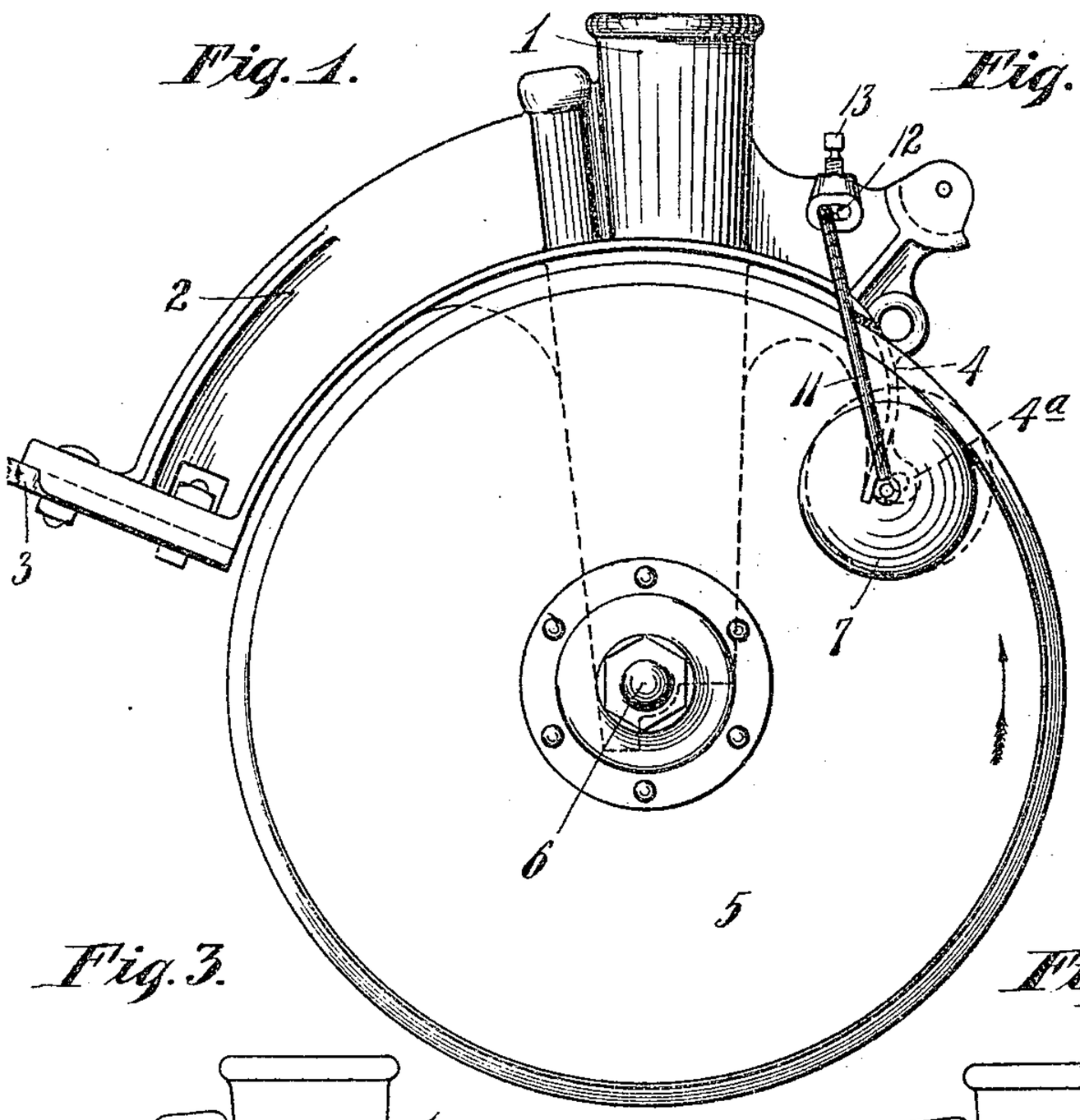


Fig. 2.

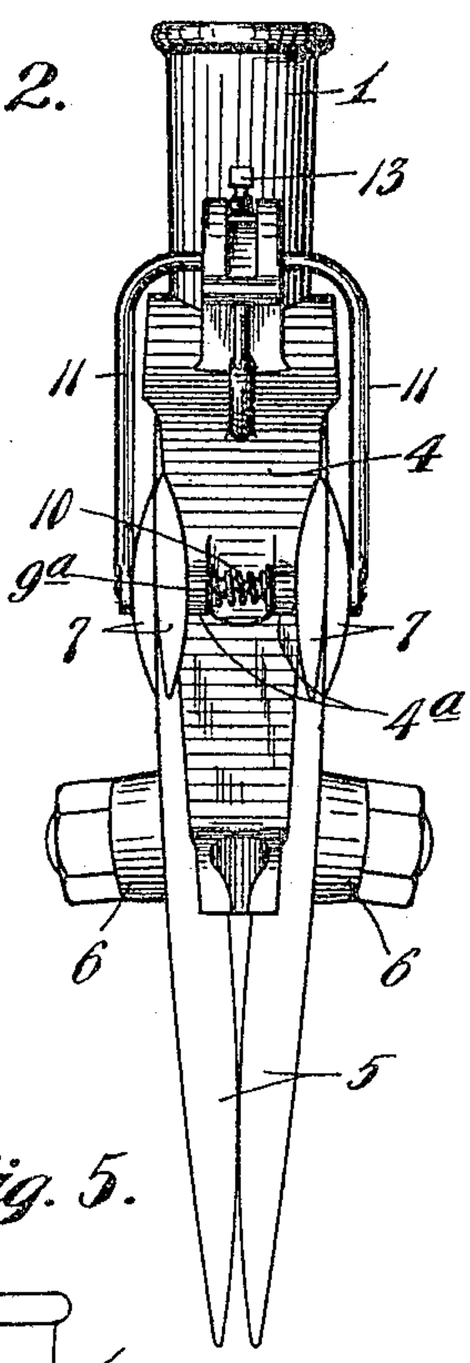


Fig. 3.

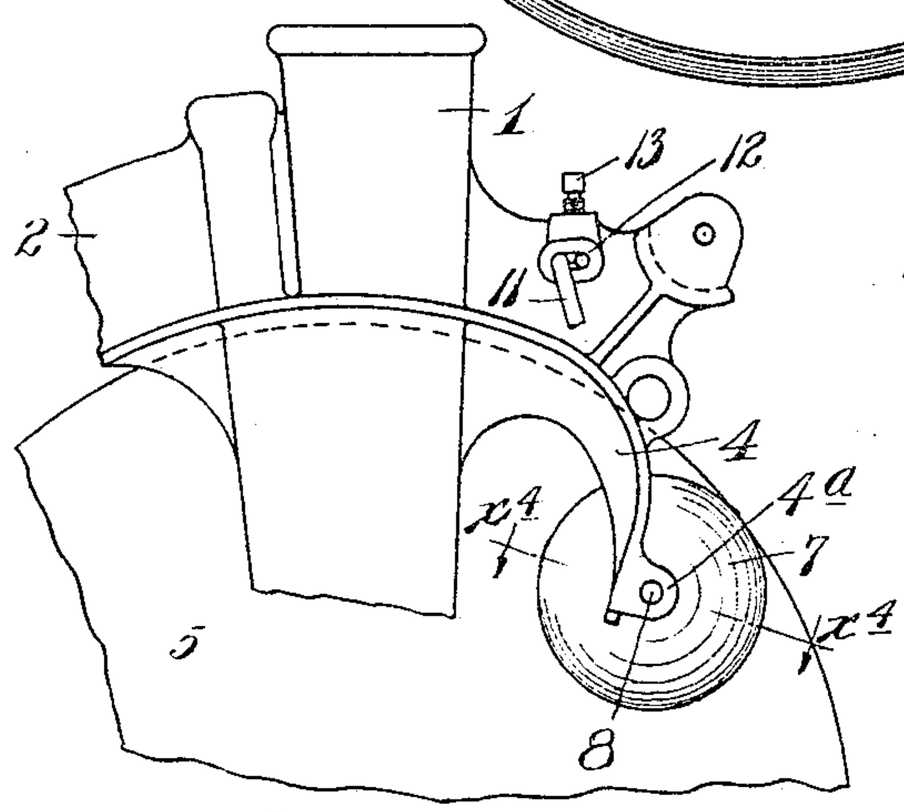


Fig. 5.

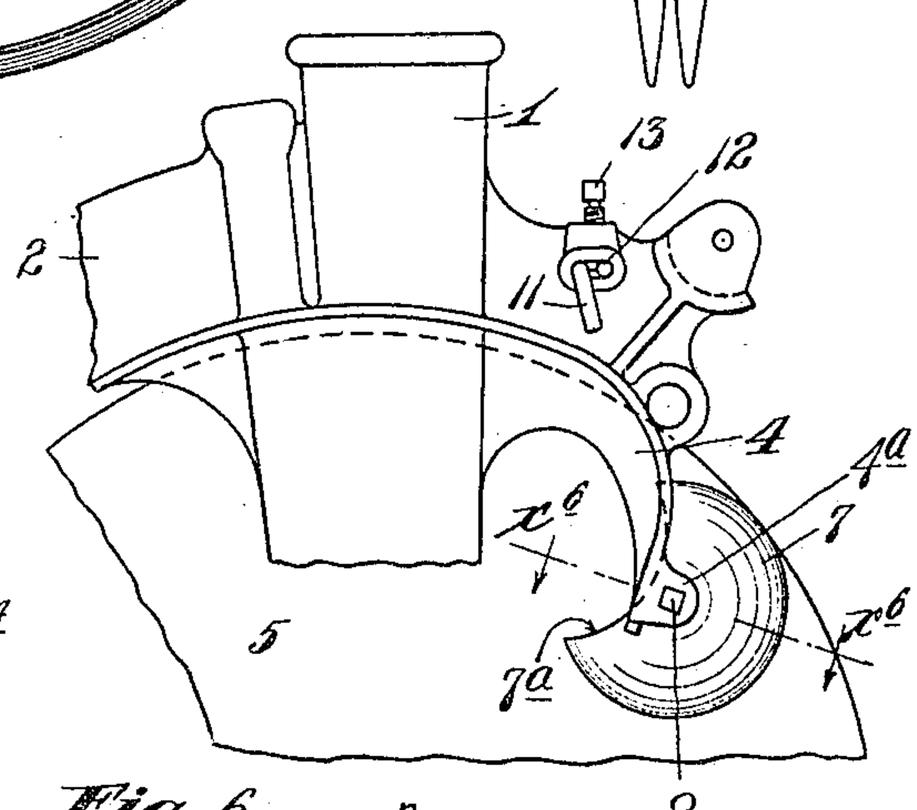


Fig. 4.

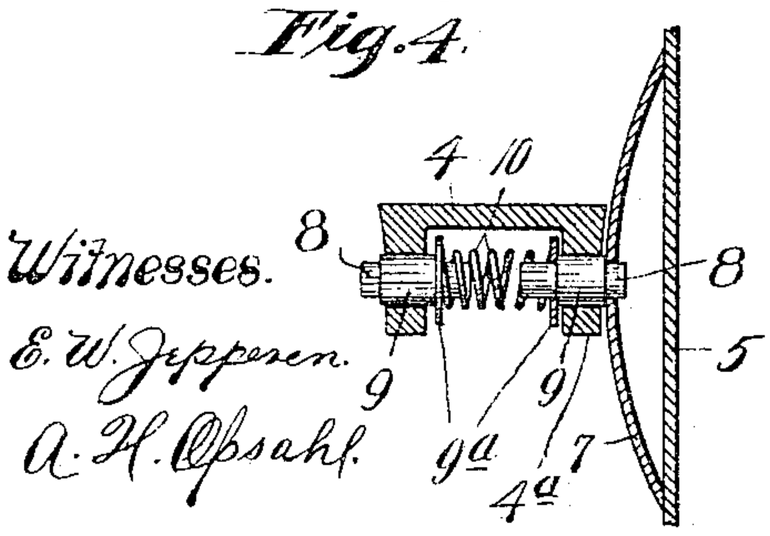
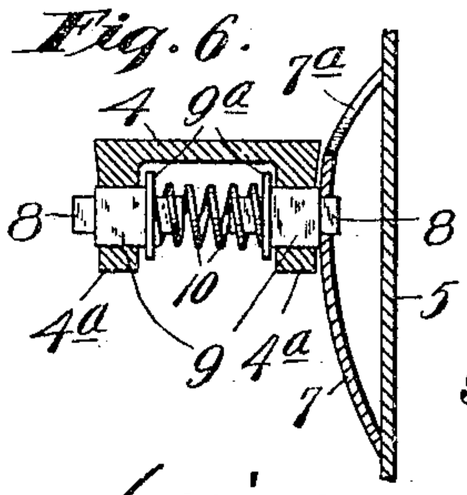


Fig. 6.



Witnesses.

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By his Attorneys.

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UNITED STATES PATENT OFFICE.

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SCRAPER FOR DISK DRILLS.

No. 808,021. Specification of Letters Patent. Patented Dec. 19, 1905.

Application filed September 2, 1905. Serial No. 276,803.

To all whom it may concern:

Be it known that I, SPENCER E. DAVIS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Scrapers for Disk Drills; and I do hereby declare the following to be 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 disk drills, and has for its object to provide improved scrapers therefor.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate my invention, like characters indicate like parts throughout the several views.

Figure 1 is a view in side elevation, showing a seed-boot, a pair of disks, and coöperating scrapers applied to said disks, said scrapers being constructed and applied in accordance with my invention. Fig. 2 is a rear elevation of the parts shown in Fig. 1. Fig. 3 is a fragmentary side elevation of the device with one of the disks and its coöperating scrapers removed from working position. Fig. 4 is a detail in section on the line x^4 x^4 of Fig. 3. Fig. 5 is a view corresponding to Fig. 3 and illustrating a modified form of one of the inner scrapers, and Fig. 6 is a detail in section on the line x^6 x^6 of Fig. 5.

The numeral 1 indicates a seed-boot, having a forwardly-projecting arm 2, to which a drag-bar 3 is rigidly secured in the customary way. The seed-boot is also provided with a rearwardly and downwardly projecting bearing-flange 4, shown as cast integrally therewith.

The numeral 5 indicates the disks, which are of the usual construction and are journaled to the lower portion of the boot 1 at 6.

The scraper-blades 7 are concavo-convex and are preferably applied both to the inner and outer surfaces of the disks 5. As best shown in Figs. 3 and 4, the scrapers 7, that are applied to the inner surfaces of the disks, are circular. These inner scrapers 7 are journaled on the reduced outer ends 8 of short plungers 9, that are mounted to work endwise through depending flanges 4^a of the boot-flange 4. The inner ends of the plungers 9 are also reduced, and washers 9^a are placed thereon. A coiled spring 10, telescoped over the reduced ends of the plungers 9, reacts against the washers 9^a and yieldingly presses the plungers outward, and thereby holds the scrapers against the inner surfaces of the coöperating disks, with freedom for lateral movements, to adapt themselves to irregularities in the movements of said disks.

The concavo-convex scrapers 7, which work on the outer surfaces of the disks, are notched or cut away at 7^a. These notches are preferably segmental, so that the scrapers are made crescent-shaped in side elevation. These segmental scrapers are, as shown, riveted or otherwise rigidly secured against rotation to the lower ends of spring-arms 11, the upper ends of which are turned inward, are passed into a seat 12 on the end boot-flange 4, and are rigidly secured by a set-screw 13 or other suitable device. The segmental scrapers should be set with their notches 7^a turned away from their operative edges—that is, from those edge portions against which the dirt carried by the disks is thrown directly into engagement. The purpose of the notches 7^a is to permit any dirt which may be carried into the concavities of the scrapers to be worked outward therefrom under the rotation of said disks. This form of scraper I believe to be novel and desire to claim the same broadly. The segmental scrapers may also be applied to the inner surfaces of the disk, as illustrated in Figs. 5 and 6. When the segmental scrapers are applied to the inner surfaces of the disk, they should be held against rotation, and to accomplish this the plungers 9 and their reduced outer ends 8 should be square or angular in cross-section and should fit correspondingly-formed seats in the flanges 4^a and in the said segmental scrapers 7, respectively.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a disk or wheel, of a segmental concavo-convex scraper placed with its concaved side toward the face of said disk or wheel and having its edge placed flatwise against the same, substantially as described.

2. The combination with a disk or wheel, of a segmental concavo-convex scraper held against rotation, set with its concave side toward the face of said disk or wheel and with its edge engaged flatwise therewith, substantially as described.

3. The combination with a seed-boot, and a pair of disks journaled thereto, of a pair of spring-pressed plungers mounted between said disks and supported by said boot, and

scrapers applied to the ends of said plungers and yieldingly pressed against the inner faces of said disks, substantially as described.

4. The combination with a seed-boot and a pair of disks journaled thereto, of a pair of spring-pressed plungers mounted between said disks and supported by said boot, and a pair of concavo-convex scrapers mounted on the ends of said plungers and yieldingly pressed against the inner faces of said disks, substantially as described.

5. The combination with a seed-boot and a pair of disks journaled thereto, of a pair of spring-pressed plungers located between said disks and supported by the said seed-boot with freedom for endwise movements, of concavo-convex rotary scrapers applied to the outer ends of said plungers, and yieldingly pressed thereby against the inner surfaces of said disks, substantially as described.

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

SPENCER E. DAVIS.

Witnesses:

MALIE HOEL,

F. D. MERCHANT.