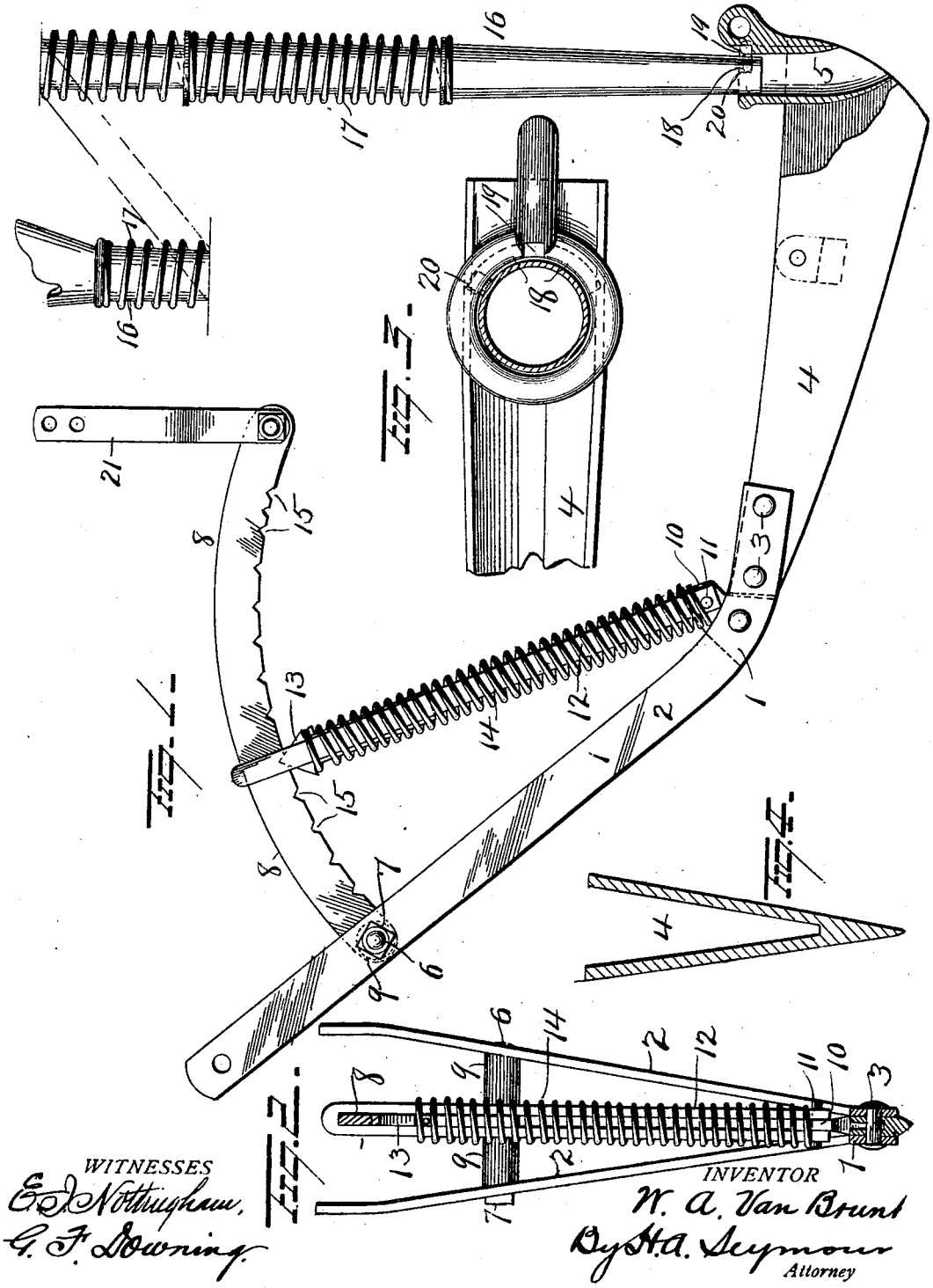
No. 676,593. Patented June 18, 1901.

W. A. VAN BRUNT.

GRAIN DRILL.

(No Model.) (Application filed Sept. 1, 1900.)



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GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 676,593, dated June 18, 1901.

Application filed September 1, 1900. Serial No. 28,782. (No model.)

To all whom it may concern:

Be it known that I, WILLARD A. VAN BRUNT, a resident of Horicon, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Grain-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 an improvement in grain-drills, the object of the invention being to provide improved means for regulating the spring-pressure of the shoe in the ground; and with this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, illustrating my improvements. Fig. 2 is a sectional view, and Figs. 3 and 4 are views of details of construction.

1 represents an inclined drag-bar comprising two bars 2, spaced their greatest distance apart at their forward end and gradually inclining toward each other to their rear ends, where they have secured between them by means of bolts or rivets 3 a shoe 4, which latter is made V shape in cross-section, narrowest at its forward end and widest at its rear end, in which is secured a heel 5, having an opening in its rear wall to drop the grain in rear of the shoe. A bolt 6 is passed through the bars 2 near their forward ends and secured in place by nut 7. Said bolt is also passed through a hole in one end of a curved lever 8, spaced centrally between the bars 2, by means of spacing-sleeves 9, mounted on the bolt. A lug 10 is secured between the bars 2 at the forward end of the shoe and made with a hole for the reception of a bolt or pivot-pin 11, on which is pivoted a frame 12, which latter comprises a rod bent upon itself between its ends to form two parallel members, one end of said frame being pivoted on the bolt 11, as above explained, and the other end surrounding the lever 8. A toothed plunger or dog 13 is located between the parallel members of frame 12, and a coiled spring 14 is mounted on said frame, bearing at its lower end against bolt 11 and connected at its upper end to the plunger or dog 13, so as to force the latter into any one of a series of notches 15 in the lower face of lever 8, so as to hold the frame in any position on the lever to which it may be moved, and the spring will hold the shoe in the ground at any pressure desired, according to the position the frame is adjusted on the lever, as will more fully hereinafter appear.

A grain-conductor 16 connects the grain-receptacle (not shown) of the drill with the heel 5, said grain-conductor comprising a series of telescoping tubular sections, a coiled spring 17, inclosing the upper and intermediate tubes and secured at its upper end to the upper tube, at its lower end to the top of the lowest tube, and between its ends to the top of the intermediate tube. The heel 5 is made with an internal flange 18, having a notch 19 therein to permit the entrance of a lug 20 on the lower end of the lowest tube, which latter when turned so as to throw the lug 20 out of alinement with the notch 19 will lock the seed-conductor against accidental removal from the heel, as the lug 19 will be disposed beneath the flange 18 and the lower tube-section held thereby.

The free end of lever 8 is connected by link 21 with any approved operating mechanism (not shown) to force the lever down and contract spring 14, thus increasing the pressure of the shoe 4 in the ground.

It will be seen that owing to the fact that the lever 8 is curved in the arc of a circle concentric with bolt 11, on which frame 12 is pivoted, when the frame is moved adjacent to the pivotal point of the lever a downward movement of the lever will contract the spring but slightly, and as the spring is disposed at an incline its downward pressure will be but slight, but as the frame is moved toward the free end of the lever the spring will be contracted to a greater extent and its pressure will be in a more direct line, thus exerting a greater pressure in the ground, and by simply moving the frame toward and away from the pivotal point of the lever the pressure of the shoe can be varied at will.

It is a simple matter for the operator to change the position of the frame 12, as it is simply necessary to force the frame in the di-

rection desired, when the plunger or dog 13 will leave the notch in the lever in which it has sprung and move to and spring into any other notch desired.

While I have shown and described my improvements in connection with a shoe-drill, it is evident that they are equally adapted for use with a disk or hoe drill, and I do not wish to be limited to the use of my improvements on shoe-drills, and I would also have it understood that the curved lever might be pivoted at the end of drag-bar or on the rigid frame of the drill without departing from my invention.

Various other changes might be made in the details of construction of my improved drill without departing from my invention, and hence I do not wish to be limited to the precise details shown and described.

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

1. In a grain-drill, the combination with a drag-bar and a shoe secured thereto, of a curved lever pivotally connected to said drag-bar, and a spring disposed between said lever and drag-bar and adapted to be moved to different positions on the lever.

2. In a grain-drill, the combination with a drag-bar and shoe secured thereto, of a curved lever pivotally connected to the drag-bar, a coiled spring pivotally connected at one end to the drag-bar and adjustably connected at its other end to said lever.

3. In a grain-drill, the combination with a drag-bar and a shoe connected thereto, of a spring pivotally connected to the drag-bar, a lever pivotally connected to the drag-bar and curved concentric to the pivotal point of the spring and means for locking the free end of the spring to any position on the lever.

4. In a grain-drill, the combination with a drag-bar and a shoe secured thereto, of a lever pivotally connected to the drag-bar near its forward end, a frame pivotally connected to the drag-bar near the forward end of the shoe, and a spring mounted on said frame in position to be compressed by said lever.

5. In a grain-drill, the combination of a furrow-opener, a curved lever and a spring pivoted to the furrow-opener and adjustably connected to the lever.

6. In a drill, the combination of a furrow-opener, a pivoted curved lever and a spring disposed between said lever and furrow-opener.

7. In a grain-drill, the combination with a drag-bar, a furrow-opener and a lever pivoted to the drag-bar, of a spring connected to said lever whereby a downward pressure on the lever imparts a yielding pressure to the furrow-opener.

8. In a grain-drill, the combination with a drag-bar a furrow-opener, and a lever pivoted to the drag-bar, of a spring connected to the drag-bar and lever whereby a downward pressure on the free end of the lever imparts a yielding pressure to the furrow-opener.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLARD A. VAN BRUNT.

Witnesses:
EUGENE HILL,
CHAS. HAWKS.