(No Model.)

J. M. FENDER.

SPRING DEVICE FOR GRAIN DRILLS.

No. 492,465. Patented Feb. 28. 1893.

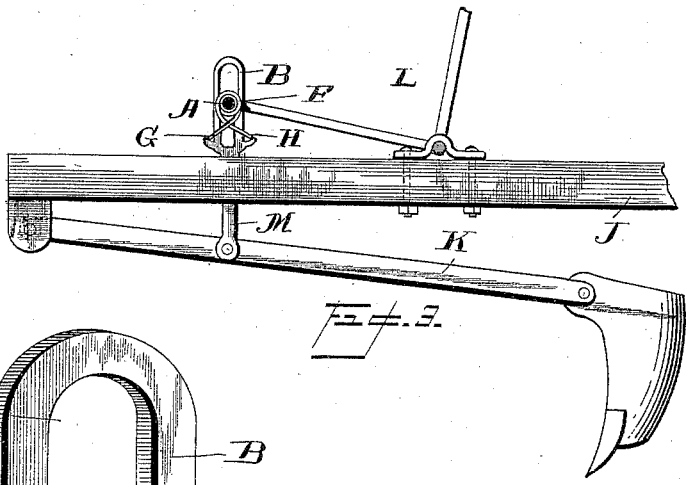

Fig. 3.

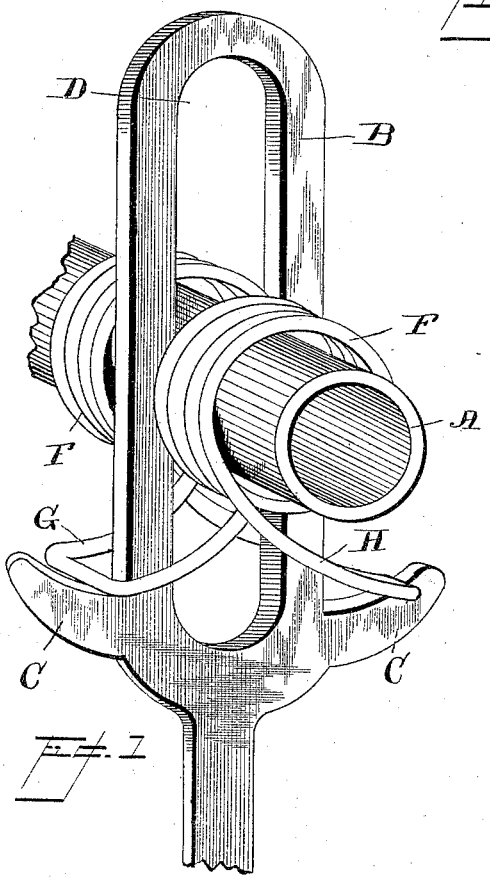

Fig. 1.

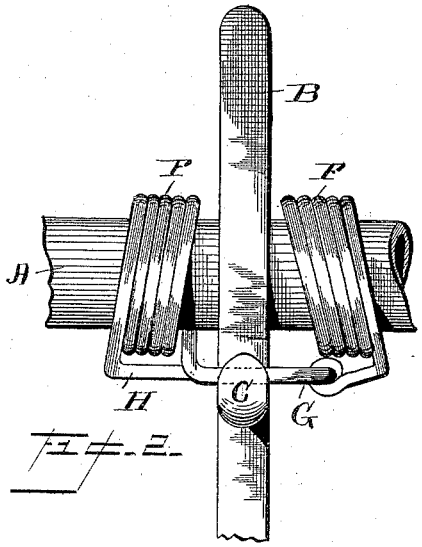

Fig. 2.

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JOHN M. FENDER, OF LIBERTY, INDIANA, ASSIGNOR TO THE COLUMBIA DRILL COMPANY, OF SAME PLACE.

SPRING DEVICE FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 492,465, dated February 28, 1893.

Application filed November 16, 1892. Serial No. 452,232. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. FENDER, of Liberty, Union county, Indiana, have invented certain new and useful Improvements in Spring Devices, of which the following is a specification.

This invention pertains to improvements in devices for connecting parts through the instrumentality of springs.

My improvements have been designed primarily for use in connection with seeding machines in which a rising and falling part is designed to exert elastic pressure upon drag-bars, but the invention will be found of utility in other situations.

My improvements will be readily understood from the following description taken in connection with the accompanying drawings, in which:—

Figure 1, is a perspective view of my improved spring device. Fig. 2, is a front elevation of the same: and Fig. 3, a side view of parts of a seeding machine exemplifying an application of my improved spring device.

In the drawings:—A, indicates a cylindrical bar or tube: B, a yoke consisting of a longitudinally slotted bar disposed at right angles to the cylindrical bar, the cylindrical bar passing through the slot of the yoke so that the yoke may play endwise upon the bar and also lengthwise of the bar: C, projections outwardly from the edges of the yoke, the two projections being disposed opposite each other: D, the slot in the yoke: E, a coil of spring wire around the cylindrical bar at one side of the yoke: F, a similar coil of wire upon the cylindrical bar at the other side of the yoke, these two coils being formed of one piece of wire as hereinafter explained: G, the wire joining the two inner terminals of the coils, this wire forming a loop projecting outwardly from the coils and around one side of the yoke and resting over one of the projections C of the yoke: and H, a wire similarly connecting the outer portions of the coils, the loop formed by this wire projecting from the coils in the direction opposite the loop G, which it incloses, and resting on the opposite projection C of the yoke.

The two coils, as before mentioned, are, or may be, formed of one piece of wire, the extremities of the piece being united, preferably, at the cross-portion of one of the loops. In Fig. 2 this juncture is shown as formed at one side extremity of the loop H. If cylindrical bar A be pressed downward in the slot, the yoke resisting the movement, the tendency will be to wind up the coils of the spring and the cylindrical bar will thus exert its pressure elastically downward upon the yoke. If, in the example shown, the cylindrical bar be lifted in the yoke it moves without moving the yoke until the upper extremity of the slot D is reached, after which the yoke is lifted by the bar. This form of spring may obviously be employed in transmitting motion elastically upward or downward or in either direction according to how the projections C engage the loops. It will be noticed that there is is no rigid connection between either the yoke or the cylindrical bar and the spring, and therefore a series of the devices may be strung upon one cylindrical bar and have free sidewise motion and pivotal motion upon the cylindrical bar.

Fig. 3 shows an exemplifying application in connection with a seeding machine:—J, indicating the usual seeder frame: K, the usual drag-bars, arranged in a rank: L, the usual lever for giving pressure to the drag-bars, the cylindrical bar A being carried by this lever and extending across over the drag-bars: and M, the pressure and suspension links attached to the drag-bars and having at their upper ends the yokes engaging the cylindrical bar A.

The operation of the lever L will exert pressure simultaneously upon all the drag-bars of the rank through the medium of the spring-devices in an obvious manner. The drag-bars with their links M and connecting spring devices may adjust themselves freely along the length of the cylindrical bar as their movements may require.

I claim as my invention—

In a spring device, the combination, substantially as set forth, of a slotted yoke provided with opposite projections, a cylindrical bar engaging the slot of said yoke, and a spring formed of two coils disposed upon the cylindrical bar on opposite sides of the yoke and joined by loops projecting from the coils and engaging the projections of the yoke.

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Witnesses:
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