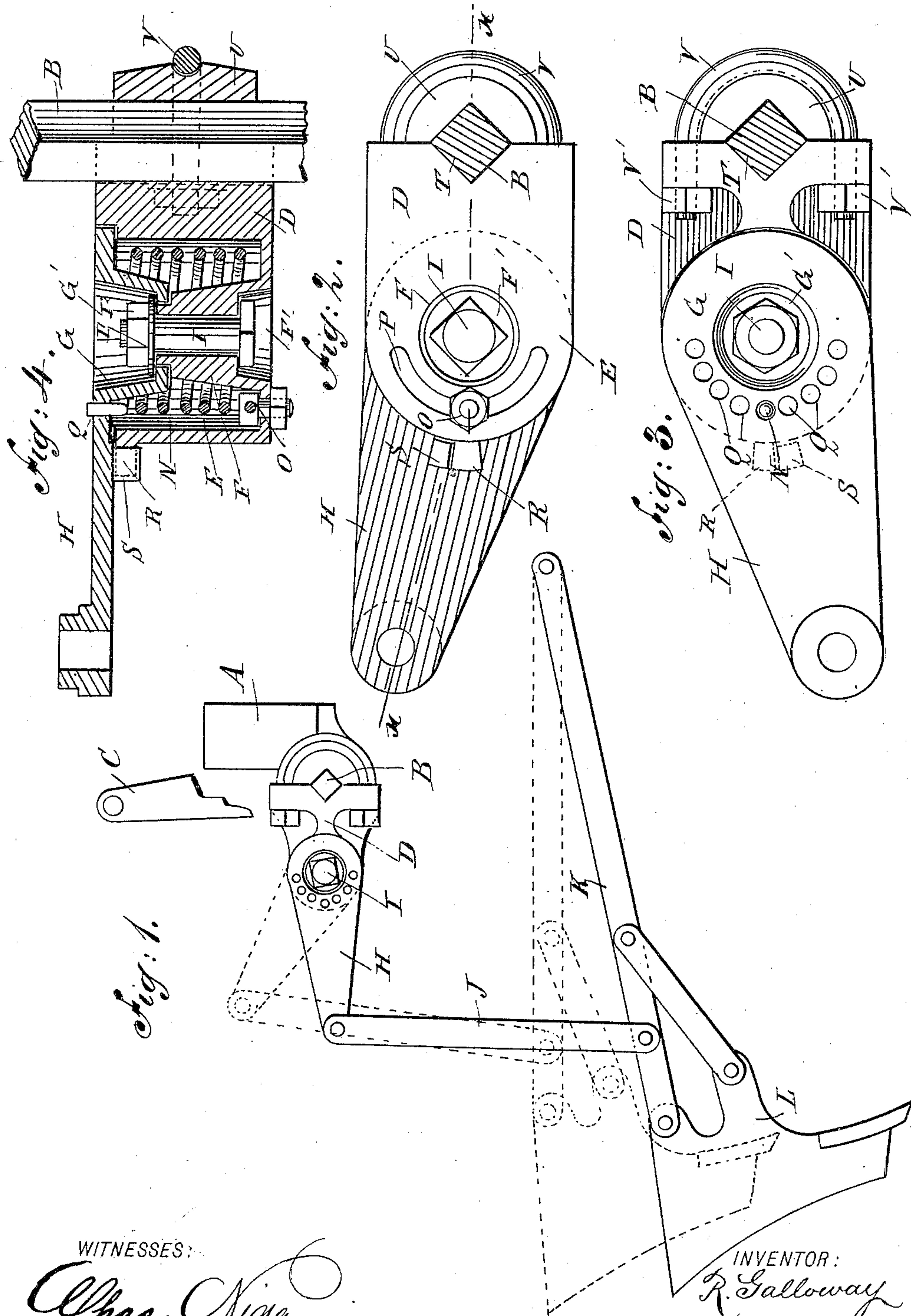


(No Model.)

R. GALLOWAY.
GRAIN SEEDING MACHINE ATTACHMENT.

No. 432,664.

Patented July 22, 1890.



WITNESSES:

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ROBERT GALLOWAY, OF MACEDON, NEW YORK.

GRAIN-SEEDING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 432,664, dated July 22, 1890.

Application filed December 26, 1889. Serial No. 334,989. (No model.)

To all whom it may concern:

Be it known that I, ROBERT GALLOWAY, of Macedon, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Grain-Seeding-Machine Attachments; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in grain-seeders or drill attachments, and particularly to the mechanism employed therein to control the plows or drill-teeth, the object being to provide a cheap and effective mechanism for holding the plows or teeth at the proper depth by spring-pressure, which may be used either on the right or left hand sides, and which may be quickly and easily adjusted and manipulated to elevate the plows or teeth.

The invention consists in certain novel details of construction and combinations and arrangements of parts to be hereinafter described, and pointed out particularly in the claims at the end of this specification.

Referring to the accompanying drawings, Figure 1 is a side elevation of a section of a seeder having my invention applied thereto. Fig. 2 is an enlarged elevation of the bracket and arm, taken from the opposite side. Fig. 3 is a front elevation of the same in an inverted position. Fig. 4 is a sectional view on line *x x* of Fig. 2, looking downward.

Like letters of reference in the several figures indicate the same parts.

My invention may be applied to grain-seeding machines of any ordinary or preferred construction, and I therefore have not deemed it necessary to show or describe the same in detail.

In the said drawings, A indicates the main frame or a cross-piece forming a part of the same on which is journaled the operating-shaft B and provided with an operating-handle C of ordinary construction for turning the shaft to elevate or lower the plows or drill-teeth, as will now be explained. At proper intervals along the shaft corresponding to the plows or drill-teeth are secured brackets D, having barrels and circular recesses in their

free ends with projecting stems or lugs F, which stems or lugs are perforated for the passage of bolts I and have recesses F' on the outside for the reception of the heads of the bolts. Seating over the mouth of the barrel-recesses in brackets D are arms H, having at their base projecting bosses G, fitting within the barrel-recesses and taking a bearing on the ends of the stems or lugs F, recesses G', corresponding to F', being formed on the outside for the accommodation of the nuts and washers I' I² of the bolts I, which it will now be seen hold the arms and brackets together and do not project beyond the bracket D or the arm H, but permit one to swing on the other without danger of working loose.

The plows or drill-teeth L are carried by drag-bars in the usual way, and are connected to the arms H by links J. Now, in order to hold the teeth down with a uniform and steady pressure, coiled springs N are placed within the barrel-recesses and around the projecting stems and bosses on the brackets and arms. One end of each of the springs is adjustably connected to its arm by having its end bent outward and inserted in radial apertures Q therein, and the opposite end of each spring is adjustably connected to its bracket by means of the set-bolt O, which works in a segmental slot P, as shown. Thus not only can the tension of the spring be given a very wide range, but the greatest nicety of adjustment can be secured.

As a means for limiting the downward movement of the arms H and teeth, the brackets are provided with stops, projections, or lugs R, against which abut correspondingly-arranged stops or lugs S on the arms H. Thus it will be seen that when the arm has reached a point in line with the bracket its downward movement will be arrested, and by changing the stop or lug S from one side to the other of lug R the device may be used when turned either to the right or left hand, it of course being necessary to change the adjustment and the spring, so as to work in the opposite direction.

The connection between the brackets and shaft is preferably made by forming a recess or notch T in the bracket to fit the shaft, applying a correspondingly-notched block U to the opposite side of the shaft and uniting

them by the yoke or U-shaped bolt V, held by the nuts V', which clamp the parts securely together and prevent all danger of the same slipping or getting out of line.

5 In operation the tension of the coiled spring N holds the teeth down firmly and evenly, insuring a perfect operation; but at the same time they may readily yield upward should they encounter an obstruction, thereby saving the machine from disastrous strain.
10 When it is desired to elevate the teeth, the lever C is operated, turning the shaft B, thereby swinging the brackets and elevating all the arms and their attached teeth. This construction, it will be seen, permits any one or
15 more of the teeth to be elevated by hand independently of the others, should it be necessary for cleaning or repairing the same.

The barrel-recesses protect the springs from the weather or the accumulation of dirt and moisture, thereby preventing corrosion and consequent deterioration and shortening of the life of the spring.

I am aware that it has been heretofore proposed to hold the teeth down with an even pressure by means of jointed arms having springs interposed in the joints, and therefore I do not wish to be understood as claiming such construction.

30 Having thus described my invention, what I claim as new is—

1. In a grain-seeding-machine attachment, the combination of the bracket adapted to be secured to the operating-shaft, a barrel or
35 spring-case formed on its free end, and the projecting stem or lug having the adjusting-slot extending partially around the same, substantially as described.

2. In a grain-seeding attachment, the combination of the bracket secured to the operating-shaft, a barrel or spring-case formed on its free end, the projecting stem or lug having the adjusting-slot extending partially around the same, and the adjusting set-bolt
45 contained in the said slot, substantially as described.

3. In a grain-seeding-machine attachment, the combination of the bracket secured to the operating-shaft, a barrel or spring-case formed on its free end, the projecting stem or lug carrying the recess F', the segmental adjusting-slot, and the set-bolt contained in the said slot, substantially as described.

4. In a grain-seeding-machine attachment,
55 comprising a bracket adapted to be secured

to the operating-shaft, the barrel or spring-case having the segmental adjusting-slot and the adjusting set-bolt, the projecting stem or lug having the recess F', and the right and left hand abutting-stop on the said barrel, 60 substantially as described.

5. In a grain-seeding-machine attachment, a bracket adapted to be secured to the operating-shaft having a barrel or spring-case formed on its free end, the projecting stem or
65 lug, and an arm pivoted thereon having the projecting bosses G fitting within the barrel and taking a bearing on the end of the projecting stem or lug F, the said pivoted arm having the adjusting-apertures arranged in the segment of a circle, substantially as described. 70

6. In a grain-seeding-machine attachment, the combination of the arm pivoted on the brackets having the radially-adjusting apertures, the projecting bosses G, and the recess
75 G', and the right and left hand abutting-stop S, changeable to either side of the stop R, substantially as described.

7. In a grain-seeding-machine attachment, comprising a bracket having a barrel formed
80 on its free end, a torsion-spring held in the said barrel-recess and engaging with a set-bolt held adjustably in a segmental slot in the bracket.

8. In a grain-seeding-machine attachment, 85 the combination of an adjustable spring-pressed pivoted arm under the control of the operator, a bracket adapted to be secured to the shaft, a barrel formed on the free end of the bracket, an arm pivoted on the bracket, 90 the fulcrum being in the center of the barrel, a torsion-spring held in the said barrel and engaging with one end, one of a series of adjusting-apertures arranged in the segment of a circle on the said yielding arm; and a set-
95 bolt held adjustably in a segmental slot in the bracket, substantially as described.

9. In a grain-seeding-machine attachment, the combination of a reversible spring-pressed pivoted arm, a barrel carrying the right and
100 left hand abutting-stop R, and arm having the stop S, adapted to engage either side of the abutting-stop on the bracket, whereby the device may be reversed, substantially as described.

ROBERT GALLOWAY.

Witnesses:

ISAAC DEAN,
EMORY BEAL.