

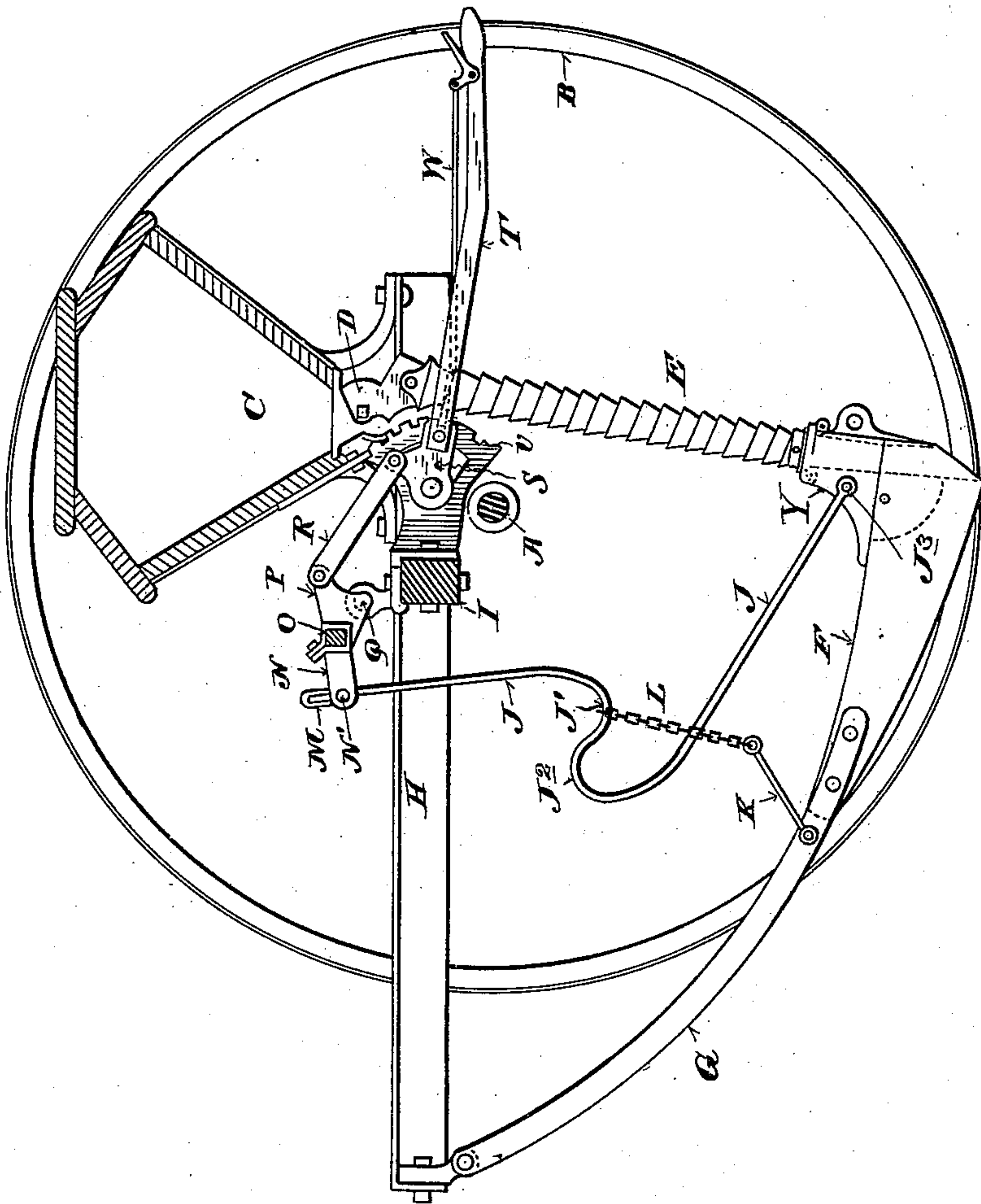
No. 710,272.

Patented Sept. 30, 1902.

J. S. HEATH & E. BASEMAN.
SEEDING MACHINE.

(Application filed June 21, 1902.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES SAMUEL HEATH AND ERNEST BASEMAN, OF MACEDON, NEW YORK,
ASSIGNORS TO BICKFORD AND HUFFMAN COMPANY, OF MACEDON, NEW
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SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 710,272, dated September 30, 1902.

Application filed June 21, 1902. Serial No. 112,667. (No model.)

To all whom it may concern:

Be it known that we, JAMES SAMUEL HEATH, a British subject, and ERNEST BASEMAN, a citizen of the United States, both residing at Macedon, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Seeding-Machines, of which the following is a specification.

Our invention relates to seeding-machines or grain-drills, and more particularly to that class of seeding-machines known as "shoe-drills," wherein an elongated wedge ordinarily formed of two sections is employed to cut the furrow within which the seed or grain is deposited in the ordinary manner, and provides improved means to be employed for imparting a spring-pressure to the shoes, whereby they are forced yieldingly into the soil and whereby they may be lifted therefrom when desired.

The invention consists in the construction and combination of parts now to be described in the specification and as finally pointed out in the claims.

The drawing shows in transverse section such parts of the drill as are necessary for an understanding of the application of the invention.

The axle A, the wheel B, the box or hopper C, the seeding mechanism D, the tube E, the shoe F, the drag-bar G, the frame H, and the bed-piece I form no part of our invention and may be of any suitable or preferred form of construction.

The transverse bar or piece O, which extends across the machine, is carried by two or more rocking pieces P, each pivoted at Q in a bracket upon the bed-piece I. A link R connects one of the rocking pieces P with a casting S, pivoted upon a quadrant U, bolted to the bed-piece I. The adjusting-arm T is rigidly secured to the casting S and is provided with a locking-piece W, which engages in notches in the quadrant U. The operation of the arm T effects the rocking of the piece O about its pivots and by suitable connections, hereinafter to be described, the raising and depressing of the shoes F and the engagement of the locking-piece W with the notches in the quadrant U enables different

degrees of pressure to be applied to the shoes and maintained thereon. Only a single shoe F is shown in the drawing and a single set of connected parts to effect its raising and lowering; but it will be understood that these may be duplicated to any desired or convenient extent.

Attached to the rock-piece O are a series of arms N, equal in number to the number of shoes. Extending from the arm N to the shoe F is a spring J, attached at its lower end at J³ to the boot Y, which forms a part of the shoe, and formed at its upper end with a loop M, which fits loosely over a pin N' on the end of the rocking arm N. The spring J is preferably shaped as follows: From the rocking arm N it passes almost vertically downward for a part of its length to the point J', where it curves upward and forward to the point J², from which point it recurves downward and backward to the point J³, where it is pivoted to the boot Y. At the point J' of the spring J a chain L is attached, the other end of which connects with a link K, attached either to the drag-bar G or to the shoe F. When the arm T is raised and held in one of the upper notches of the quadrant U, it will be seen that the lower part of the spring J will assume an almost horizontal position and that considerable downward pressure will thereby be exerted upon the shoe F, and, moreover, that the horizontal position of the lower part of the spring J will have a tendency to equalize the pressure on the shoe throughout its motion. It is not our intention to use a spring strong enough to permit of the raising of the shoe F thereby without other means, and it is because of this that we attach the chain L to the bend J' in the spring J and connect the other end to the link K, attached to the shoe or drag-bar. It will be noted that the lifting-arm N is located almost immediately above the vertical portion of the spring J, the chain L, and link K, so that when the arm T is moved downward the elevating effect of the arm N, through the upper portion of the spring J, the chain L, and link K is practically in a straight line, the whole forming a strong lifting attachment for the shoe F, which thus enables the spring J to be made

of lighter and smaller material than would otherwise be necessary. The link K is employed in preference to a continuation of the chain L to the point of attachment in order
 5 that the chain may be at all times above the drag-bar and shoe, as if a chain were employed for the entire distance the slack would fall to the side of and beyond the drag-bar and shoe in such manner as to be more liable
 10 to fouling and breakage. The upper end of the spring J is formed with an eye or loop M and is loosely connected to the arm N by means of the pin N' therefrom passing through the eye or loop, so that when pressure has
 15 been applied to the shoe and a dead-furrow or other depression has been reached the shoe will be permitted to drop therein to the extent of the length of the eye, and when the dead-furrow or depression has been passed
 20 and the shoe is restored to its normal position the spring will be again raised the length of the eye without subjecting the spring to unnecessary strains and shocks.

We are aware that a spring with a double
 25 curve has been used in the art for the purpose of applying pressure to a shoe and that this spring has been also used for the purpose of raising the shoe, either directly or by its engagement with lugs formed upon the boot;
 30 but for this purpose it is necessary that the spring be made of heavier and stronger material than would be necessary if it were employed simply for the purpose of depression. We are also aware that a chain has been em-
 35 ployed for the purpose of elevating the shoe in connection with a spring of different form employed to depress it. Our invention relates, however, to the employment of the spring described in connection with a chain
 40 and link attached to the shoe and operating means located immediately above the connected parts, as and for the purposes described.

Having thus described our invention, its
 45 construction, and mode of operation, what we claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a seeding-machine, the combination
 50 of a shoe with a spring for applying pressure to the shoe, means for operating the spring, a chain attached to the spring, and a link connecting the chain and shoe, so that when the pressure of the spring upon the shoe is relieved, the spring, chain and link form a lift-
 55 ing connection to elevate the shoe.

2. In a seeding-machine, the combination of a shoe with a spring for applying pressure to the shoe, means for operating the spring, a chain attached to the spring, and a link connecting the chain and the shoe, the spring being formed with a loop or eye by which it is attached to the operating means in such manner as to effect a loose connection therewith. 60

3. In a seeding-machine, the combination of a shoe with a spring for applying pressure
 65 to the shoe, the spring being formed with a downwardly-extending portion, a portion which curves upward and forward, and a portion which recurves downward and rearward to the point of attachment with the shoe, a
 70 connection from the vertical part of the spring to the shoe, and means for operating the spring located over its downwardly-extending portion.

4. In a seeding-machine, the combination
 75 of a shoe with a spring for applying pressure to the shoe, the spring being formed with a downwardly-extending portion, a portion which curves upward and forward, and a portion which recurves downward and rearward
 80 to the point of attachment to the shoe, and a connection from the downwardly-extending portion of the spring to the shoe, and means located above the downwardly-extending portion of the spring for operating the spring,
 85 which means are attached to the spring by means of an eye formed therein in such manner as to permit of a loose connection therewith.

5. In a seeding-machine, the combination
 90 of a shoe with a spring for applying pressure to the shoe, the said spring being formed with a downwardly-extending portion, a portion which curves upward and forward, and a portion which recurves downward and rearward
 95 to the point of connection to the shoe, a chain attached to the downwardly-extending portion of the spring, and a link attached to the chain and to the shoe, together with means for operating the spring located directly above
 100 the downwardly-extending portion.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES SAMUEL HEATH.
 ERNEST BASEMAN.

Witnesses:

B. G. THOMAS,
 D. C. TICKNOR.