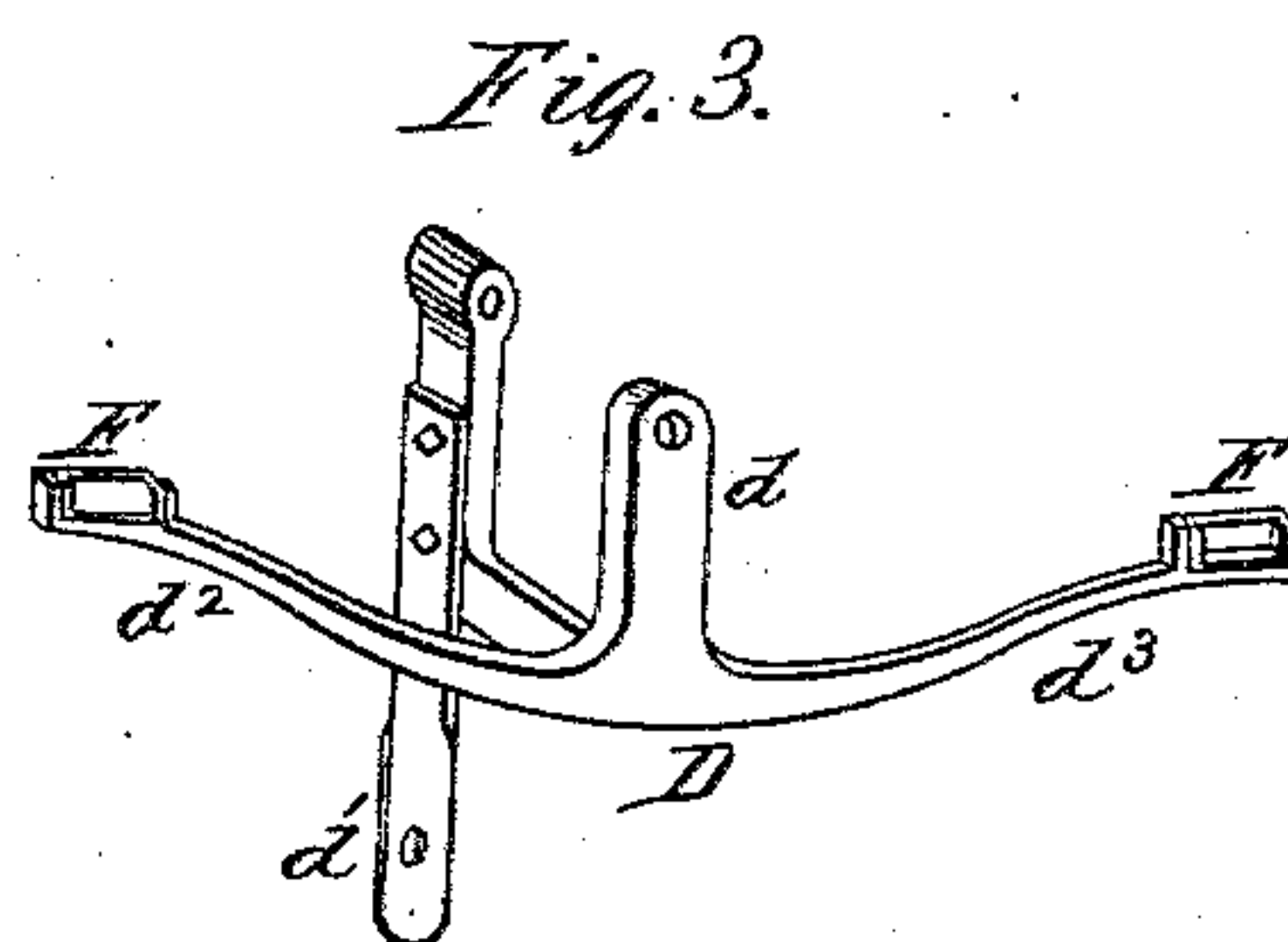
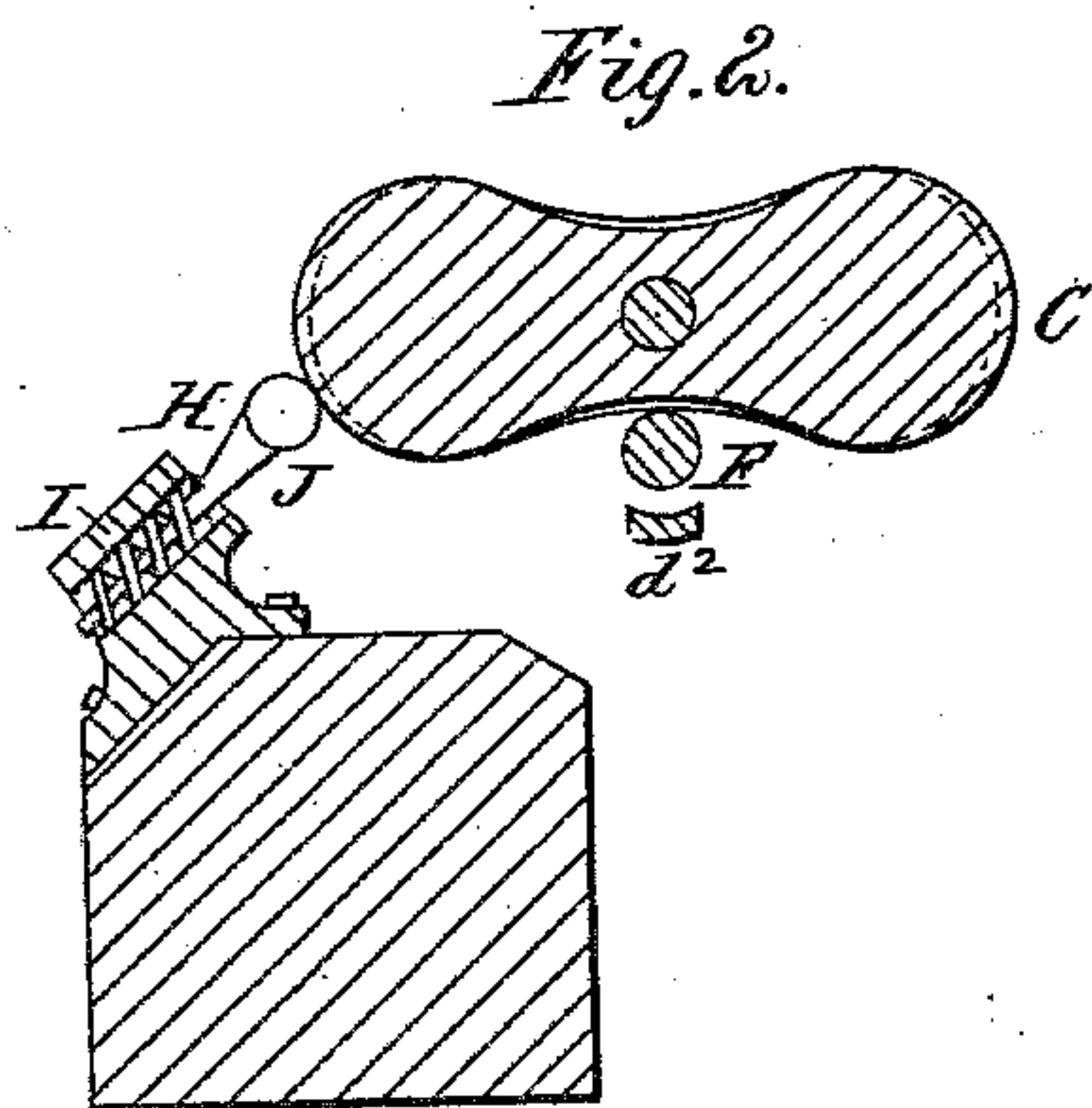
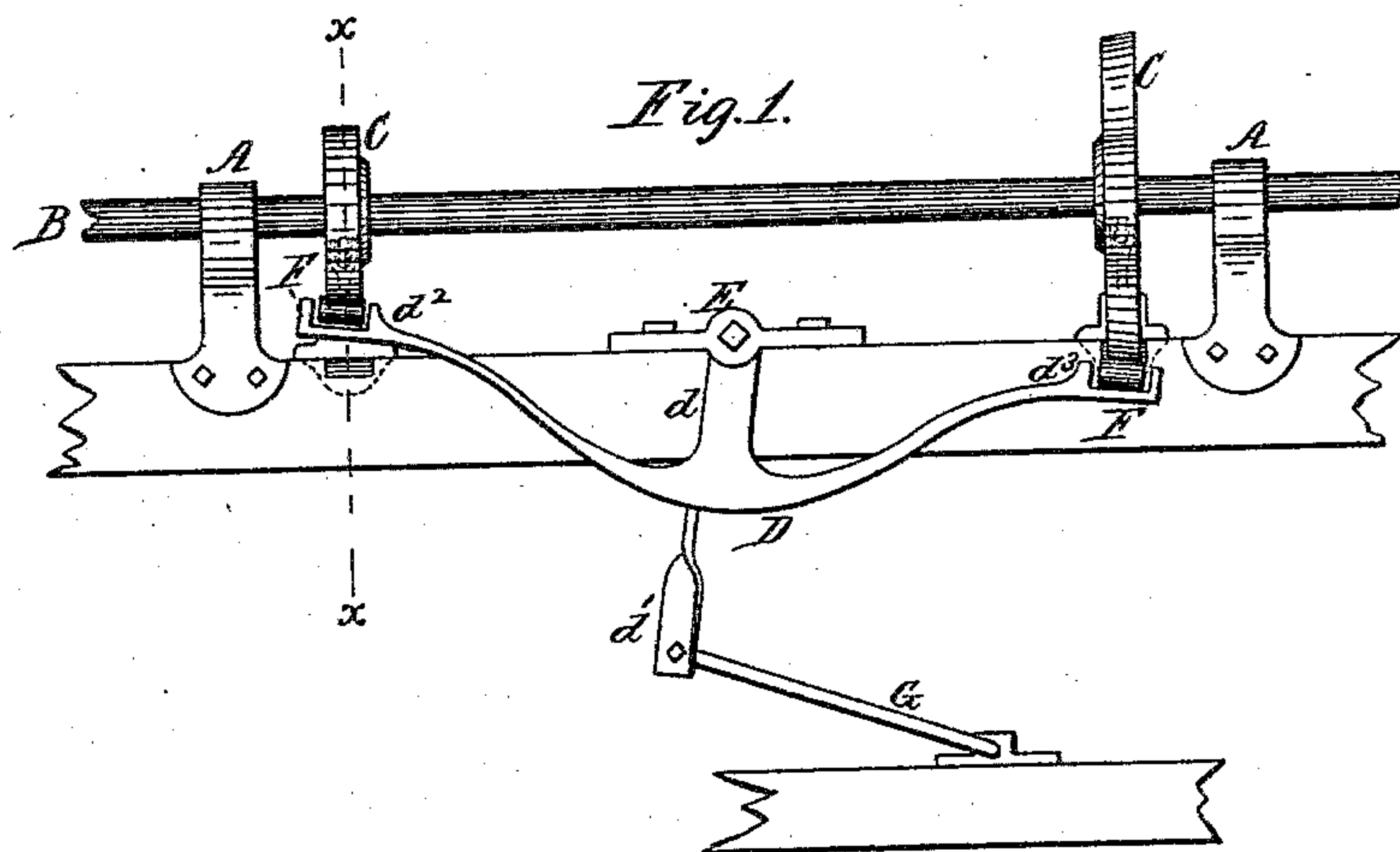


(No Model.)

L. SCOFIELD.  
CHECK ROWER.

No. 283,425.

Patented Aug. 21, 1883.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LEVI SCOFIELD, OF GRAND HAVEN, MICHIGAN.

## CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 283,425, dated August 21, 1883.

Application filed May 16, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, LEVI SCOFIELD, of Grand Haven, in the State of Michigan, have invented a new and useful Improvement in Check-Rowers for Corn-Planters, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improvement. Fig. 2 is a cross-section taken on the line  $x x$  in Fig. 1. Fig. 3 is a perspective view of the four-armed lever, hereinafter described.

My invention relates to that class of corn-planters in which the dropping-slide is actuated, through connecting devices, by a knotted or beaded rope or wire stretched across the field and suitably connected with the planter; and it consists in certain improved devices for transmitting the power to and actuating the dropping-slide, all of which will be hereinafter more fully described, and pointed out definitely in the claims.

As the general construction of this class of corn-planters is well known in the art, I deem it unnecessary to exhibit or describe the same, as my improvement is adapted to any of the ordinary forms of this class of planters.

In the drawings, A A are bearings attached to opposite sides of the planter, preferably to the usual board or beam which extends across the planter from one seed-hopper to the other, and a shaft, B, is mounted in these bearings and provided upon its outer end with any of the ordinary or appropriate devices connecting it with the knotted rope, and whereby it is caused to revolve at regular intervals. This revolving shaft is a well-known feature of construction in this class of planters, and a great variety of devices have been employed to transmit the power from this shaft to the dropping-slide. These devices are more or less objectionable, principally because of the great friction involved in their working. It is of the utmost importance that this friction should be reduced to the very minimum, so as to relieve the rope stretched across the field from all possible strain, as well as to make a light-working machine. The combination of devices for transmitting this motion herein described is believed to be so constructed as to be operated with the minimum of friction, and

with the greatest certainty and ease of operation.

The cams C C (shown in detail in Fig. 2) are attached upon the shaft with their lines of elongation in opposite directions. A four-armed lever, D, having the two vertical arms,  $d$  and  $d'$ , and the nearly horizontal arms  $d^2$  and  $d^3$ , is pivoted at the upper end of the short vertical arm  $d$  by a bolt or pivot in the plate E, attached to the frame-work of the planter beneath the shaft B.

The outer ends of the arms  $d^2$  and  $d^3$  are provided with horizontal friction-rolls F F, which fit in contact with the periphery of the cams C C upon the shaft B. The usual reciprocating bar is attached by the connecting-rod G to the lower end of the short vertical arm  $d'$  upon the lever D. In operation, the cams C C, by the revolution of the shaft B, bear upon the rolls F F, so as to alternately depress and raise the arms  $d^2$  and  $d^3$  of the lever D, thus causing the short arm  $d'$  to vibrate, and thus operate the reciprocating bar of the planter through the pivoted connecting-link G.

An important advantage is secured by mounting the lever D so as to bring the arms  $d^2$  and  $d^3$  and the rolls F F directly beneath the shaft B and under the cams C C, as the power is thus applied directly in the line of the motion required—to wit, in a line running to the axis of the lever D—and, what is an equally important advantage, the periphery of the actuating-cam is thus maintained in continual contact with the rolls upon the lever D, thus giving a smooth and steady motion, while, on the contrary, if the construction were such as to bring the arms  $d^2$  and  $d^3$  and the rolls F F at one side of the shaft B, it would be necessary to employ cams of radically different construction, and in the form of hubs with arms or projections upon their sides, which should strike alternately against the ends of the arms of the lever, which is a very objectionable construction, as the lever is thus operated by a continued succession of blows, which jar the apparatus and strain the operating cord or line, and occasion frequent repairs—a disadvantage wholly overcome in the construction above described.

In the preferable construction the periphery



of each of the cams C C is slightly beveled and at a different angle in different portions, so that the surface of the periphery in contact with the rolls F shall fit it in all positions of the lever D.

The check-rower above described is simple in construction, and is operated with ease and with the minimum of friction.

Any of the ordinary or suitable appliances for locking the shaft B during the intervals between the movements of the dropping-slide may be applied in connection with this check-rower.

I have provided a simple device for this purpose, which is described as follows: An ordinary spring-bolt, H, is inserted in a suitable socket, I, which is attached to the frame of the planter just in front of each of the cams C. A friction-roller, J, is mounted in the outer end of the bolt, and the device is so adjusted that the roller J is brought just beneath and in front of the elongation upon the cam C when the latter is in a horizontal position. When the elongation upon the cam is thus brought into contact with the roller J, it is retained locked in position until power is again applied to revolve the shaft B, when the cam presses back the spring-bolt H and passes it, when the movement being completed the spring-bolt opposite the other cam locks it in position in a similar manner, thus preventing the shaft B from being carried beyond the required quarter-revolution by its momentum.

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

1. In a check-rower, the combination of a revolving shaft provided with two cams having their lines of elongation in opposite directions and transverse to the shaft, with a pivoted lever provided at the ends of its horizon-

tal arms with horizontal rollers in contact with the periphery of the cams, and which actuates the slide by its rocking motion, substantially as and for the purpose set forth.

2. In a check-rower, the combination of a revolving shaft provided with two cams having their lines of elongation in opposite directions, with a four-armed lever having one of its vertical arms pivoted to the frame-work of the planter and the other to the connecting-rod to the reciprocating bar, and with each of its horizontal arms provided at their outer ends with horizontal rollers, and constructed so as to bring the rollers beneath the revolving shaft and cams, and in contact with the periphery of the cams, substantially as and for the purpose set forth.

3. In a check-rower, the combination, with a pivoted lever actuating the reciprocating bar, and having rolls at the extremity of the arms extending upon each side of its axis, of elongated cams mounted upon the revolving shaft of the planter, and having their peripheries beveled at a different angle in different portions, so as to fit the rolls in all positions of the pivoted lever, substantially as described.

4. In a check-rower, the combination of a revolving shaft provided with two cams having their lines of elongation in different directions, a pivoted lever actuating the reciprocating bar of the planter, and operated by the cams, substantially as described, and a locking mechanism, consisting of spring-bolts, provided with rollers in their outer ends which abut against the elongated portion of the cams when they are in a horizontal position, substantially as and for the purpose set forth.

LEVI SCOFIELD.

Witnesses:

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