



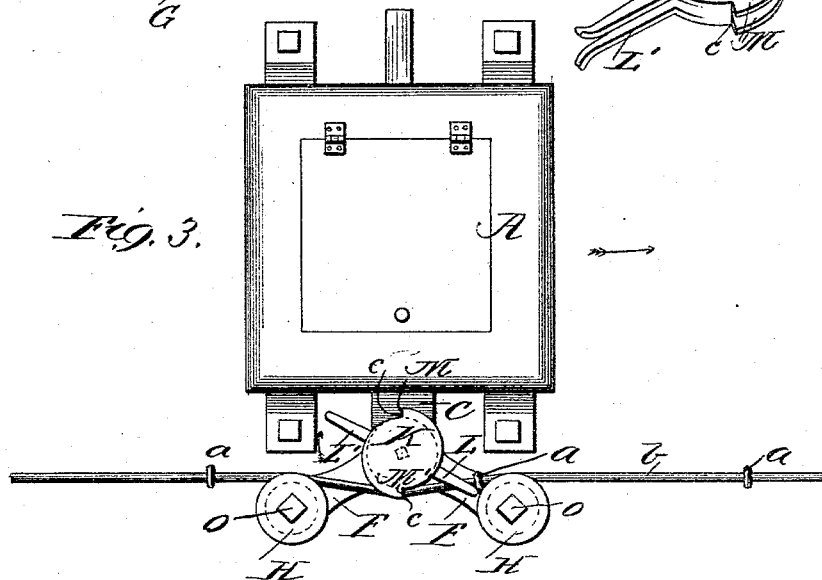
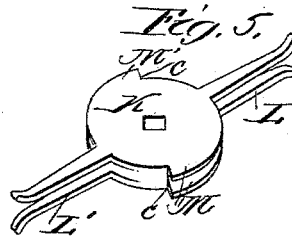
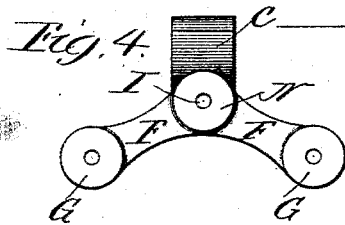
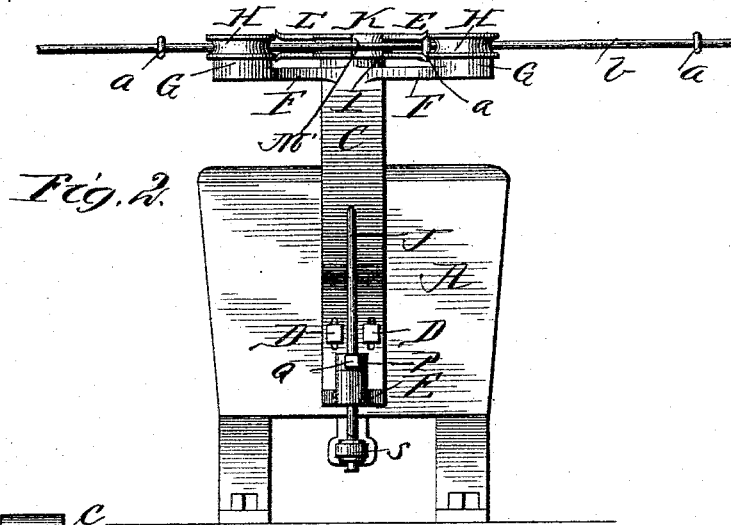
(No Model.)

2 Sheets—Sheet 2.

R. CHADWICK.  
CHECK ROWER.

No. 490,268.

Patented Jan. 24, 1893.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ROBERT CHADWICK, OF SUMNER, NEBRASKA.

## CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 490,268, dated January 24, 1893.

Application filed April 27, 1892. Serial No. 430,824. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT CHADWICK, a citizen of the United States, residing at Sumner, in the county of Dawson and State of Nebraska, have invented a certain new and useful Improvement in Check-Rowers, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the seed-boxes of a corn-planter, with my check-rower attached to the seed-boxes, and showing the portion of the corn-planter to which the seed-boxes are attached. Fig. 2 is an end elevation of one of the seed-boxes, with the check-rower attached. Fig. 3 is a top or plan view of the same. Fig. 4 is a top or plan view of my check-rower, with the pulleys removed; and, Fig. 5, a perspective view of the arm cam-pulley, through which the crank of the check-rower is operated.

My invention relates to that class of check-rowers, which have a wire, carrying buttons, or a cord, with knots in it, which is carried in an attachment to the seed-box of the corn-planter, in suitable devices adapted to be operated by the buttons or knots, to operate a slide connected with the seed-dropper in the seed-box, to drop the corn at suitable intervals as the corn-planter moves along over the field.

My invention consists in providing a bracket which can be readily attached to the side of the seed-box, carrying on its upper end a bearing for the vertical crank-shaft, and bearings for grooved pulleys; also having at its lower end a bearing for the vertical crank-shaft.

It further consists in the construction and arrangement of the various parts of the check-rower and its attachments, all as hereinafter fully described and made the subject matter of the claims.

In the accompanying drawings, A represents the ordinary seed-box of the corn-planter. B, the cross-pieces of the corn-planter frame, which support the seed-boxes.

C is my check-rower bracket, which is firmly secured to the seed-box A, by bolts, D. The check-rower bracket may be provided with slots, through which the bolts D pass, to ad-

mit of its adjustment, vertically or otherwise. This bracket C has at its lower end an arm, E; and at its top two arms, F—F, on the ends of which are horizontal bearings, G—G, for grooved pulleys, H—H. It also has at its top, two arms, F—F, on the ends of which are horizontal bearings, G—G, for the grooved pulleys H—H. It also has at its upper end a bearing, I, for the vertical crank-shaft, J. The vertical crank-shaft J also passes through the bracket C, near its middle portion, where it may also have a bearing. Although I do not find it necessary that it should have a bearing there, the purpose of its passing through the bracket C, at or near this point, is to admit of the bracket extending beyond the upper end of the shaft at its upper end.

K, is a grooved pulley, carrying the arms, L—L', and having two grooved cams, M—M', on its periphery. This grooved pulley has an irregular, or square hole in its center, to fit tightly on the upper end of the crank-shaft J, so as to cause the crank-shaft to revolve with it. The upper end of the crank-shaft is preferably made square, to fit into the grooved pulley K, but it may be rigidly connected therewith, in any well-known way. The pulley K rests on the bearing, N, on the top of the bracket C. The grooved pulleys H are provided with spindles, which I preferably make fast in the supporting bearings G; the pulleys being secured on the spindles by the nuts, O—O, or they may be held in position on the bearings G in any suitable way, which will admit of their revolving freely on their axis.

P, is a ring, surrounding the cam-shaft J, and rigidly connected therewith by means of a set-nut, Q. This ring is for the purpose of giving a supporting bearing to the crank-shaft J, on the arms E, so that the weight of the crank-shaft will not be supported entirely by the grooved pulley K.

R, is a crank on the lower end of the crank-shaft J.

S, is a pitman connected with the crank R, and pivotally connected to the slide T, supported in bearings, U, connected with the seed-box. This reciprocating slide T I connect with the seed-dropping device in the bottom of the seed-box in any well-known way

of connecting reciprocating slides in the bottom of the seed-boxes, with the seed-dropping device.

The cams M—M' on the grooved pulley K are for the purpose of causing the grooved pulley to continue to revolve after the button, *a*, leaves its contact with the arms of said grooved pulley. The grooved pulley K is placed nearer the seed-box than the grooved pulleys O—O'. The arms L—L', projecting in opposite directions from the sides, would not be carried around sufficiently far to bring the ends of one pair of arms in front of a button *a*, before the other pair of arms would leave its contact with a button *a*. These cams impinge against the wire *b*, causing the continued revolution of the pulley K, until the pair of projecting arms are brought in front of the next approaching button *a*, when the wire leaves the square shoulders, *c*, of the cam, and allows the wire to pass between the arms, so that the button comes in contact therewith, when it approaches and revolves the grooved pulley K, and with it the crank-shaft. Each pair of these arms, together with one of the grooved cams, causes a half-revolution of the grooved pulley K, and with it the crank-shaft J.

It will be observed that by means of a single bracket, constructed in the form shown, having only three projecting arms—the brackets forming the bearings for the crank-shaft—I am enabled with very simple devices, all supported by the bracket, to operate a reciprocating slide, which in turn operates the seed-dropping devices in the seed-box, giving two strokes to the reciprocating slide to each revolution of the crank-shaft.

The pitman S enables me to convert the rotary motion of the crank-shaft J to a reciprocating motion given to the slide T; and the

parts which are carried by the bracket C are simple and cheap, and so arranged upon the bracket as to be conveniently and readily operated by the check row wire.

Having fully described the construction and operation of my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a check-rower for corn-planters, a bracket, provided with means for attaching it to the seed-box, and a vertical crank-shaft, operated by the check-rower wire, and having its bearings in the bracket, and suitable means connected with the crank-shaft to operate the seed-dropper of the corn-planter, as specified.

2. In a check-rower for corn-planters, the bracket C; crank-shaft J, and grooved pulley K, having arms L—L'; and grooved cams M—M', the grooved pulley K being rigidly connected to the end of the crank-shaft J, as specified.

3. In a check-rower for corn-planters, the bracket C, provided with a horizontal arm E, the crank-shaft J, having bearings in the horizontal arm E; the arms F—F at the top of the bracket C; the grooved pulley K, and the pulleys G, supported by the arms F—F, whereby the crank-shaft and the parts which operate it are all supported by the bracket C, as specified.

4. In a check-rower for corn-planters, the grooved pulley K, carrying two sets of arms, L—L', and provided with grooved cams M—M', whereby the crank-shaft is operated, substantially as specified.

ROBERT CHADWICK.

Witnesses:

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