

(No Model,)

M. W. & D. M. LEONARD.

CHECK ROWER.

No. 364,118.

Patented May 31, 1887.

Fig. 1.

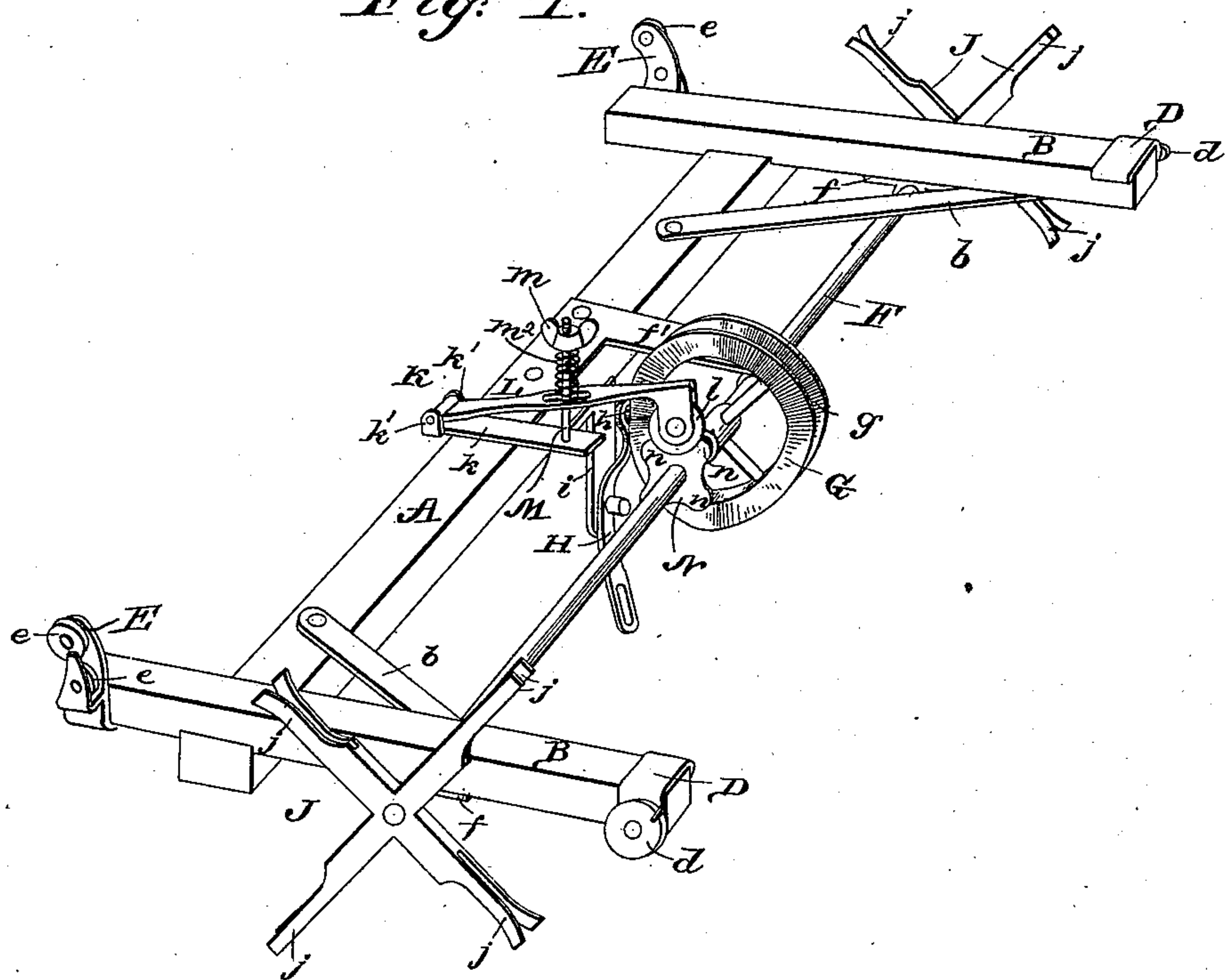
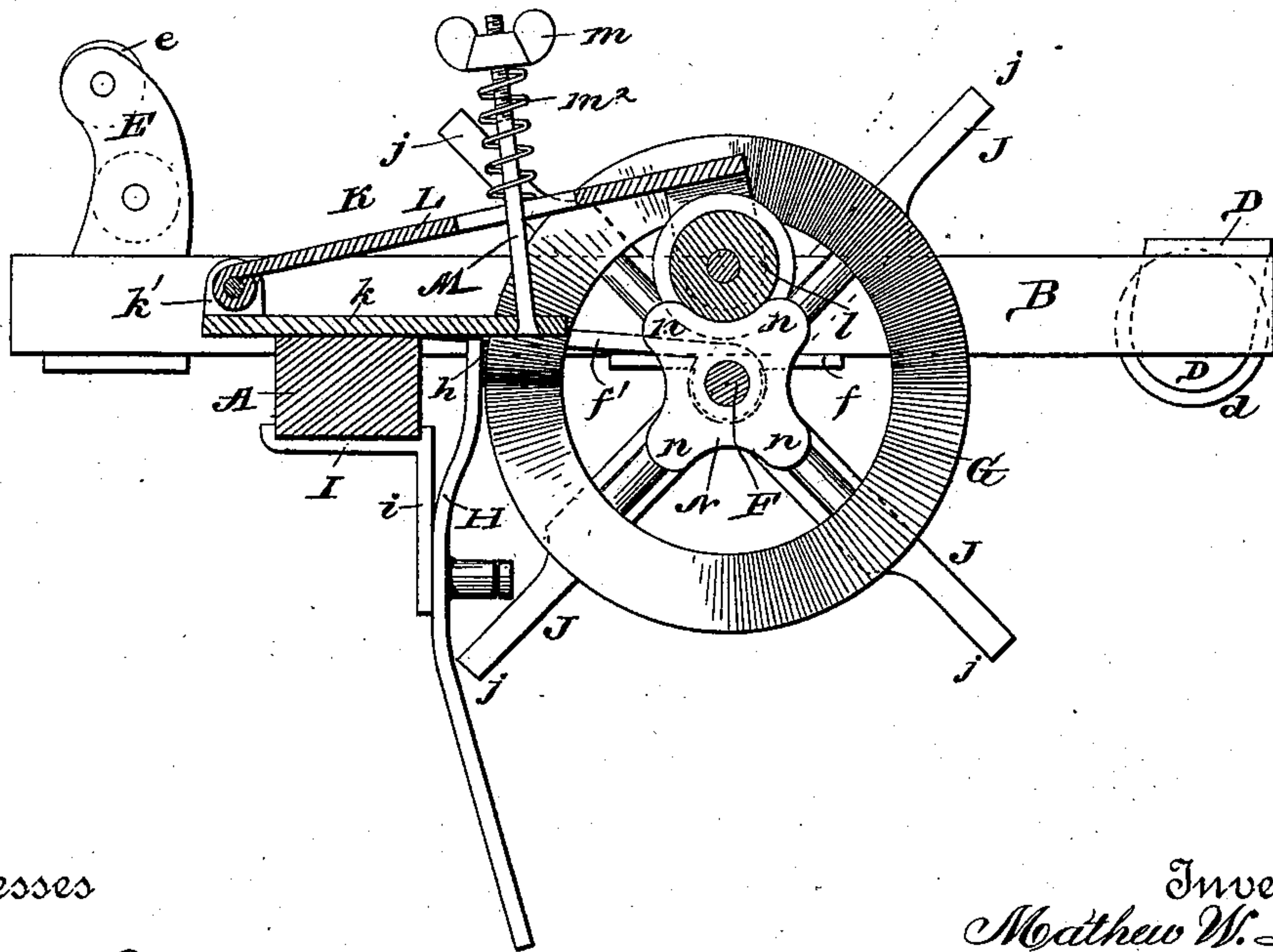


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

MATHEW W. LEONARD AND DAVID M. LEONARD, OF UTICA, NEBRASKA.

CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 364,118, dated May 31, 1887.

Application filed May 29, 1886. Serial No. 203,645. (No model.)

To all whom it may concern:

Be it known that we, MATHEW W. LEONARD and DAVID M. LEONARD, citizens of the United States, residing at Utica, in the county of Seward and State of Nebraska, have invented a new and useful Improvement in Check-Rowers, of which the following is a specification.

Our invention relates to improvements in check-rowers for corn-planters; and it consists of the peculiar combination and novel construction and arrangement of the various parts for service, substantially as hereinafter fully set forth, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of a check-rower for corn-planters embodying our invention. Fig. 2 is a vertical sectional view on an enlarged scale through the locking device or brake.

Referring to the drawings, in which like letters of reference denote corresponding parts in both the figures, A designates the carrying beam of a corn-planter of any preferred or well-known class, which, however, we have not shown herein, as our invention can be applied to corn-planters of different constructions that are operated by check-wires. The carrying-beam is secured upon the corn-planter in the well-known manner and place, and at its ends it is provided with arms B, which are rigidly secured in place by bolts or other like or equivalent means. These arms are braced and strengthened by inclined brace rods or bars *b*, and at their extremities the arms are provided with supporting brackets D and E, which are rigidly secured in place. The bracket D extends from the arm in one direction, and is provided with a single guide-roller, *d*, that is loosely journaled therein, and the bracket E extends from its arms in the opposite or reverse direction and carries two friction or guide-rollers, *e*, which are arranged a suitable interval apart and loosely journaled in suitable pins or shafts, so that they are free to rotate under the force of the check-wire and the buttons or stops thereon.

F designates the rotary shaft that is arranged longitudinally of the beam A, and journaled at its ends in suitable bearings or boxes, *f*, secured to the arms B, and the middle of the said shaft is supported or journaled in a hanger,

f', that is secured to the beam A, as will be readily seen. This shaft F carries a cam or eccentric wheel, G, that is rigidly secured in proper place thereon, and the cam-wheel is provided with a serpentine groove, *g*, in its periphery, in which works a friction-roller, *h*, that is loosely journaled on a pin or shaft that is carried by one end of an oscillating arm or lever, H. This lever H is pivoted at or near its middle to a lug, *i*, of a supporting-plate, I, suitably secured on the carrying-beam A, and the opposite end of the lever on which the friction-roller is journaled is bent or inclined at an angle to the other end and slotted longitudinally, as shown. A connecting bolt or pin is passed through this slot to secure the lever to a reciprocating seed-slide, which, however, we have not shown herein, as it may be of any construction desired, and this bolt may be moved in the slot to vary the stroke or length of movement of the slide, and thus regulate the quantity of seed dropped or sown. When the shaft is rotated, the cam-wheel carried thereby actuates the lever H, which in turn reciprocates the slide, and the movement of the latter can be regulated as above mentioned.

The ends of the rotary shaft F carry the radial tappet-arms J, which are formed in a single piece of metal and arranged at substantially right angles to each other. The arms are suitably secured upon the extremities of the shaft exterior to the standards thereon, and the free outer ends of the arms are slotted or bifurcated to provide the laterally-yielding fingers *j*, which are bent or flared outwardly to permit of the free passage of the buttons or stops of the check-wire, as is obvious.

K designates our improved brake or locking device for retarding the motion of the shaft F simultaneously with the time when the balls of the check-wire leave the arms J, which is preferably arranged near the middle of the shaft, alongside of the cam-wheel carried thereby. The brake comprises a back plate, *k*, which is suitably secured to the beam A and provided with the ears or lugs *k'*, a lever or arm, L, pivoted at one end between the ears and carrying a friction-roller, *l*, at its opposite end, that is journaled on a pin or shaft and is free to rotate thereon, and a guide pin or bolt, M,

that is secured to the back plate and passes through the lever, the outer end of the guide-pin being threaded and provided with a binding or clamping nut, *m*, that bears against the pivoted lever and serves to force the latter inwardly against the tension of a retracting-spring, *m*², that encircles the guide-pin and bears against the pivoted lever and the nut to normally force the lever toward the plate. The rotary shaft *F* carries a disk, *N*, which is provided with a series of projections or protuberances, *n*, and the friction-roller of the pivoted lever is grooved at its periphery and receives the projections of the disk *N*, the edges of the disk intermediate of the projections being curved, as shown, so that the friction-roller can ride freely over the disk and force or actuate the pivoted lever outwardly and inwardly against and under the tension of the coiled retracting-spring.

The operation of our invention is obvious. The wires of the check-row pass between the friction-rollers of the brackets *D* and *E* and between the fingers of the tappet-arms to rotate the latter and the shaft *F*, so that the cam-wheel *G* will be revolved to actuate the pivoted lever *H*, and thus actuate the seed-slide. The disk *N*, with its projections, will also be revolved with the shaft, so that the projections will force the lower end of the pivoted lever *L* away from the shaft and against the tension of the spring, and when the projections successively pass the friction-roller and are out of contact therewith the spring forces the lower end of the lever and the friction-roller carried thereby inwardly in the path of the projections, so that the roller will ride upon the curved edges of the disk. The jar that is brought upon the tappet-arms and the rotary shaft is thus taken up by the coiled retracting-spring of the brake or locking device, and the tension of the spring can be regulated to bear on the lever with increased or diminished force,

and consequently on the disk *N* of the shaft. Although we have shown the disk *N* as provided with four radial projections or protuberances, so that the revolutions of the shaft *F* are checked to a sufficient degree at every one-quarter revolution, still the number of the protuberances can be varied to check the shaft at every one-half of a revolution or any other fractional part thereof, as is obvious.

The improvements are simple and strong in construction, and they can be readily applied to check-row corn-planters of any preferred class.

Slight changes in the form and proportion of parts can be made without departing from the spirit of our invention.

The protuberances in the rotating disk *N* engage with the brake simultaneously with the time when the tappets of the check-wire leave the tappet-arms, so that the arms are prevented from going too far.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of a carrying-beam, a bracket-plate, *I*, affixed thereto and having a depending arm, a vertically-disposed lever, *H*, pivoted to the arm of the plate and carrying a friction-roller at one end and having a longitudinal slot at its lower end, through which is passed a bolt to adjustably connect the lever with the seed-slide, and a rotary shaft having a cam-wheel provided with a serpentine groove, in which the friction-roller of the lever works, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

MATHEW W. LEONARD.

DAVID M. LEONARD.

Witnesses:

H. M. COLMAN,

H. N. COLMAN.