(No Model.) 2 Sheets—Sheet 1.

N. C. BOLIN.

APPARATUS FOR SETTING OUT OR TAKING UP BARB FENCE WIRE, CHECK ROW WIRE FOR CORN PLANTERS, &c.

No. 261,658. Patented July 25, 1882.

Fig. 1.

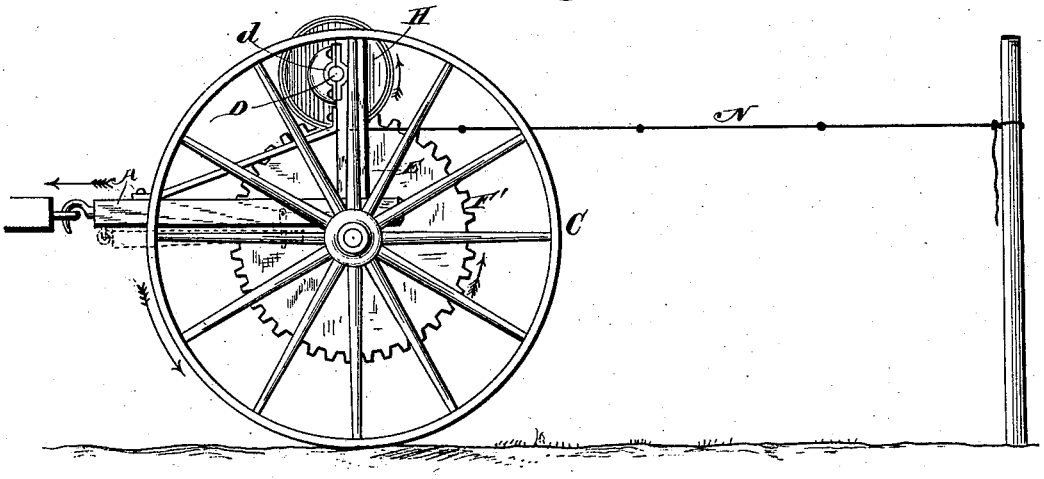
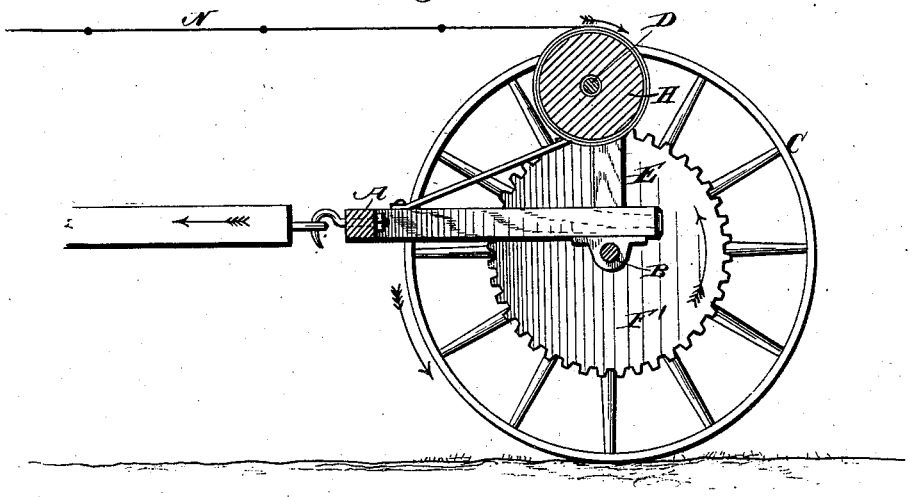


Fig. 2.



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J. A. Rutherford

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By James L. Norris.
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

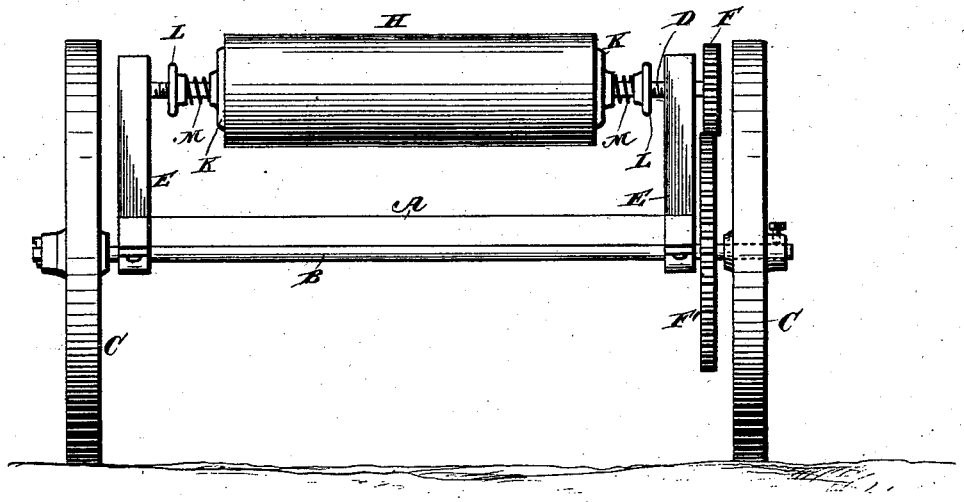


Fig. 4.

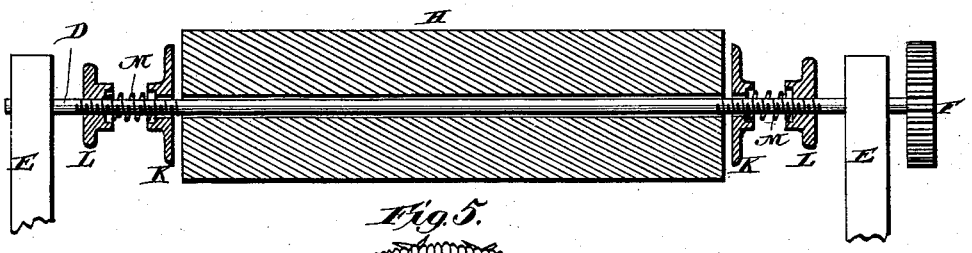


Fig. 5.

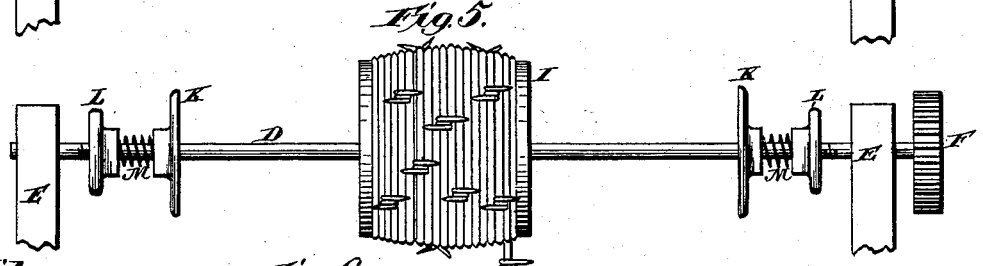
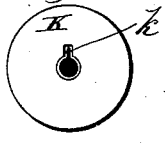


Fig. 6.



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UNITED STATES PATENT OFFICE.

NATHAN C. BOLIN, OF RED OAK, IOWA.

APPARATUS FOR SETTING OUT OR TAKING UP BARB FENCE-WIRE, CHECK-ROW WIRE FOR CORN-PLANTERS, &c.

SPECIFICATION forming part of Letters Patent No. 261,658, dated July 25, 1882.

Application filed April 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, NATHAN COFMAN BOLIN, a citizen of the United States, residing at Red Oak, in the county of Montgomery and State of Iowa, have invented new and useful Improvements in Apparatus for Setting Out or Taking Up Barb Fence-Wire, Check-Row Wire for Corn-Planters, &c., of which the following is a specification.

This invention relates to a machine which is adapted both for setting out barb fence-wire in putting up fences and check-row wires or cords, and also for taking up the same.

The object of my invention is to devise a machine which can be readily drawn over the field, the wire payed out with the required tension exerted thereon to take up the slack, and, when desired, the wire taken up and rewound automatically by the machine as the latter travels over the field, the taking up and rewinding being effected in such manner that the wire will be compactly wound upon the spool, kept clean, and be in good condition for further use. These objects I attain by means of the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my machine in the act of setting out a check-row cord or wire for corn-planting. Fig. 2 is a like view of my machine in the act of taking up the check-row cord or wire. Fig. 3 shows a rear elevation of the machine. Fig. 4 represents a longitudinal section, on an enlarged scale, through a spool which is adapted for laying out or taking up check-row cord or wire, said view also illustrating the tension devices employed for controlling the action of the spool so as to allow the paying off or to effect the taking up of the cord or wire. Fig. 5 represents the tension devices with a spool holding barbed fence-wire and mounted upon the rotary shaft in place of the spool illustrated in the figures just referred to. Fig. 6 is a transverse section through the shaft, taken alongside of one of the tension-disks, and illustrates one way of keying said disk upon the shaft.

The main frame A of this machine essentially comprises a pair of parallel side bars, a front cross-bar, and suitable bearings for the main axle B of the machine, which axle is supported upon a pair of wheels, C, either or both of which will be rigid with the axle in order to transmit motion through the same to the devices employed for winding up the cord or wire when such operation on the part of the machine is required. The construction herein shown of the main frame of my machine can of course be considerably varied without departing from the spirit of my invention, that set forth being, however, light and simple.

D indicates the rotary shaft, upon which the spool or spools for check-row cords or wires or for barbed fence-wire are to be mounted. This spool-shaft has its bearings in standards E, which rise from the main frame of the machine, and it is rendered removable from its bearings in any suitable way, so as to allow the spools to be placed upon or taken off from the shaft, as occasion may require. A convenient mode of rendering this shaft thus detachable will be to detachably secure either or both of the cap-plates *d* over the bearings provided in the standards for the spool shaft.

The means which I have shown for actuating the spool-shaft consists of a pair of gear-wheels, F and F′, the first and smaller one of which is fixed upon the spool-shaft, while the latter and larger one of said wheels is secured upon the main axle of the machine.

In the first four figures of the drawings I have shown upon the spool-shaft a long spool, H, such as is usually adopted for check-row wires, while in Fig. 5 I have shown a shorter spool, I, filled with barbed fence-wire, these two spools being such as are usually supplied to the trade for the above purposes. The spool H for check-row wire—such, for example, as shown in Fig. 1, where the wire is provided at proper intervals with knots, loops, or buttons—is loosely mounted upon its shaft, and upon this shaft, at the ends of the spool, are arranged tension devices adapted to exert a slight pressure against the spool, so as to act simply as a brake, and also not to check the independent rotation of the spool upon the spool-shaft. Again, these brakes or tension devices are adapted to be set so as to lock the spool upon its shaft, and thereby cause it to move

simultaneously with the shaft when the latter is rotated by the train of gearing. These tension devices each consist of a pair of disks, K and L, both adapted to move longitudinally upon the spool-shaft. The disk which is next to the spool is keyed upon the shaft by means a feather, *k*, that is received in a recess in the disk, whereby while the disk can be moved longitudinally upon the shaft, it cannot be turned independently of the same. The disk L turns independently on a screw-threaded portion of the shaft, while a spring, M, is arranged upon the shaft between these two disks, so that by turning up the outer disk the inner one can be brought up against the spool with greater or less pressure. While in Fig. 5 the disks are not shown in position to act upon the spool, owing to the shortness of the latter, and the consequent increased space between the spool-disks, yet this deficiency is readily supplied by either placing a couple of these spools I upon the shaft or by placing sleeves or slide-blocks or the like with their shoulders fitting the spool upon the shaft between the spools and the disks.

To stretch the wire N across the field in position for operation on a corn-planter, the apparatus can be hooked onto a cultivator or seed-planter and one end of the wire attached to a post or other suitable anchor. The apparatus can then be drawn across the field by the planter or by any other means, and the spool allowed to turn on the shaft by the tension on the cord or wire so as to unwind the latter, as indicated in Fig. 1. In order, however, to prevent the too free rotation of the spool, and consequently too great slack in the cord or wire, either one or both of the tension devices can be brought to act upon the spool to such extent as will cause the same to act as a brake upon the spool, and thus, while allowing it to pay off the cord or wire, to so control its speed as to maintain the cord or wire thus payed off sufficiently taut and in an elevated position for operating the corn-planter when the latter is brought into use. After the check-row cord or wire has been stretched across the field the apparatus can be turned around and hooked or otherwise connected to the corn-planter, if this has not been previously effected, so as to again draw the apparatus across the field. The tension device or devices or other analogous means employed are then adjusted so as to lock the spool upon the spool-shaft. As the apparatus is now returned to its starting-point, the spool will be caused to rotate with a positive movement through the medium of the spool-shaft and the train of gearing or like mechanism employed, which is in turn driven by the axle with which one or both of the supporting-wheels is or are rigidly connected. During this movement on the part of the apparatus the spool K will be rotated in a direction reversely to its former rotation, and thereby wind up the cord or wire in a neat, compact manner.

The apparatus, in taking up the wire, can be hooked onto the corn-planter, so that as the check-row wire is taken up the planter, which is in advance, will be acted upon by the wire which is being taken up; but, if preferred, the wires can all be first stretched across the field, and the corn-planter be then brought into operation, and the wires be then taken up by operating the apparatus herein shown irrespective of the planter.

In putting up a barbed-wire fence two or more spools, I, filled with the wire P as they come from the factory, can be placed upon the spool-shaft, the spool for check-row cord or wire having of course been previously removed therefrom. The machine can then be dragged over the ground either by hand or by any other convenient means, and otherwise operated as before, the spool or spools being allowed to turn independently of the shaft in paying out the wire, which will be fastened to a post and then carried to the next, so as to form a lower or upper rail. The wire can then be carried up or down and through or around the post, and then carried back to form the next rail or hurdle.

Should it become desirable at any time to take up the fence, the wire can be attached to a spool, and the latter located and locked upon the spool-shaft, after which the machine can be drawn along, so as to reel up the wire on its spool. In either instance the wire can be wound compactly upon the spool and the work accomplished by one man.

Heretofore a corn-planter has been provided with a shaft supporting the frame of the machine and carrying a rigidly-attached reel for the check cord or wire, said shaft being provided with devices to operate the seed-dropping mechanism, and adapted to rotate in its bearings in paying out the wire, but locked to the ground-wheels by gearings, so as to rotate therewith in rewinding the wire. A corn-planter has also been provided with a reel, and with devices for operating the reel and the seed- dropping mechanism of the planter, so that the check-cord will be paid out from the reel when the machine moves across the field in one direction and be taken up by the reel when the machine moves in the opposite direction. Such corn-planters, however, do not constitute my invention.

What I claim is—

1. In a machine for setting out and taking up check cords or wires, the combination of a vehicle or conveyance, a rotary shaft, a spool loosely mounted on said shaft and adapted to revolve independent of the same, and adjustable devices for braking or regulating the free rotation of the spool on its supporting-shaft in setting out the wire or cord and for locking the spool to the shaft in rewinding the wire or cord, substantially as described.

2. In a machine for setting out and taking up check cords or wires, the combination of a wheeled frame, a rotary shaft driven by gearing from the wheel-axle, a spool loosely mounted on said shaft and adapted to revolve inde-

pendent of the same, and tension devices acting on the spool for retarding its rotation on the shaft in setting out the cord or wire and for locking the spool to its shaft for rewinding the cord or wire, substantially as described.

3. In an apparatus for setting out and taking up check cords or wires, the combination of the rotary shaft, the spool loosely mounted thereon and adapted to rotate independent of the same, means for driving the shaft, and the tension device composed of the disks K and L and an interposed spring, one of said disks being capable of adjustment to compress the spring and cause the other disk to engage the spool to retard the free rotation thereof on its carrying-shaft, substantially as described.

4. In an apparatus for setting out check cords or wires, the combination of the main frame supported on wheels, the independent rotary shaft driven by one or both of the wheels and detachably supported in bearings on the main frame, a spool loosely mounted on said detachable shaft and adapted to rotate independent thereof, and tension devices for regulating the rotation of the spool on its carrying-shaft in setting out the cord or wire or for locking the spool to its shaft in rewinding the cord or wire, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

N. C. BOLIN.

Witnesses:
JAMES L. NORRIS,
J. A. RUTHERFORD.