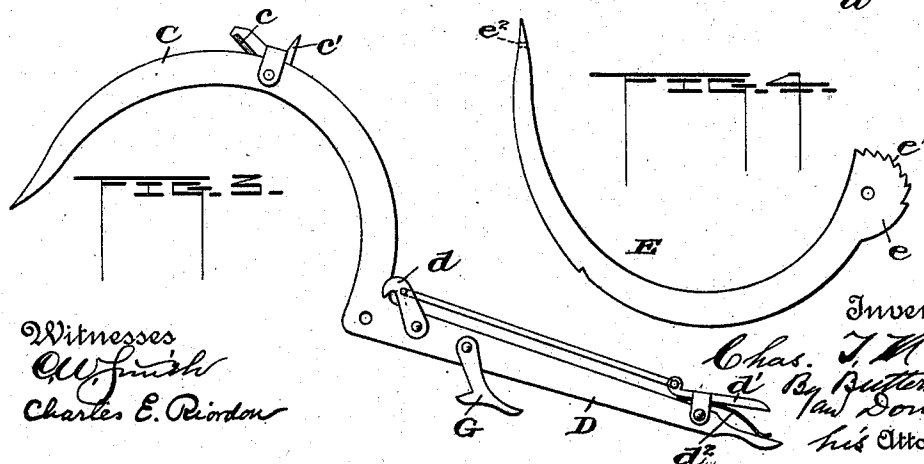
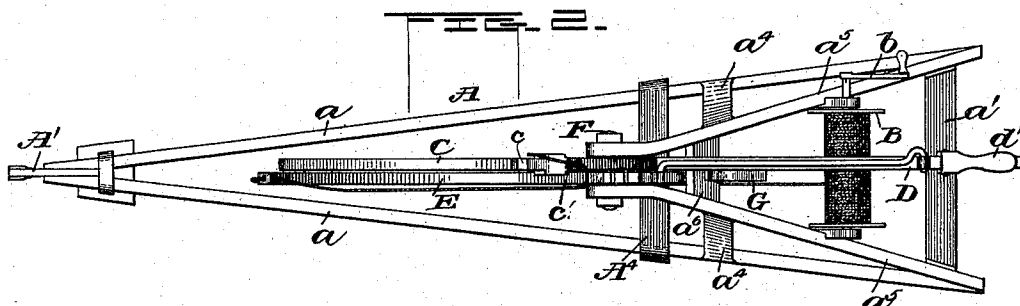
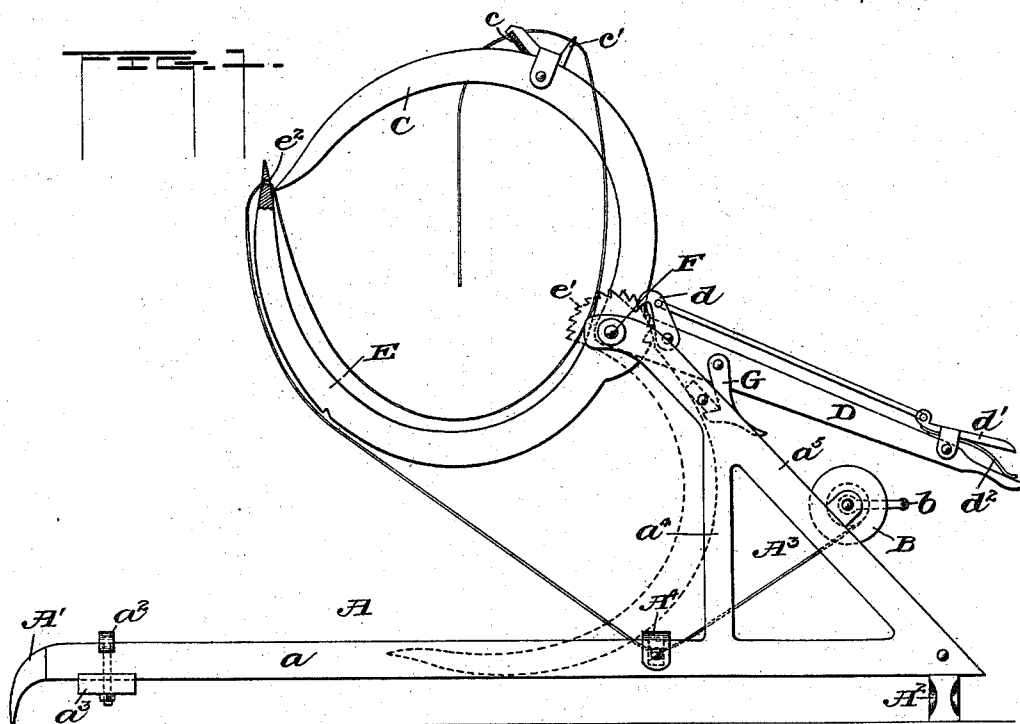


(No Model.)

C. T. McCANE.
FODDER PACKER AND BINDER.

No. 571,385.

Patented Nov. 17, 1896.



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UNITED STATES PATENT OFFICE.

CHARLES T. MCCANE, OF ROCKSPRING, KENTUCKY.

FODDER PACKER AND BINDER.

SPECIFICATION forming part of Letters Patent No. 571,385, dated November 17, 1896.

Application filed May 4, 1896. Serial No. 590,066. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. MCCANE, a citizen of the United States, residing at Rockspring, in the county of Bracken and State of Kentucky, have invented certain new and useful Improvements in Fodder Packers and Binders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fodder packers and binders, but more particularly to hand-operated machines of the character referred to especially designed for use in the field for the purpose of packing and binding fodder in suitable bundles to be stacked or stored in the ordinary manner of stacking or storing fodder, hay, or straw, so as to preserve it for subsequent use.

The objects of the invention are to provide a simple, efficient, and inexpensive hand-operated packing and binding machine of light weight adapted to be easily carried to the field and moved from shock to shock for the purpose of packing the fodder into bundles that can be easily handled, after the corn has been taken off, and holding it compactly pressed at the point to be encircled by the binder-cord until it can be tied by hand with one or more strands of binding-twine.

The invention will first be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and then pointed out in the claims at the end of the description.

Referring to the drawings, in which similar letters of reference are used to designate similar parts in each of the several views, Figure 1 represents a side elevation of a hand-operated fodder packer and binder embodying my invention. Fig. 2 is a plan of the same; and Figs. 3 and 4 are detail views showing, respectively, the upper binder-arm or hook with integral operating-lever and the lower binder-arm or hook detached from the supporting-frame.

The main frame A of the machine is preferably triangular in form, as shown, the divergent bars *a a* thereof being formed or provided at their forward ends with a downwardly-turned hook or tooth A' for anchor-

ing the machine in position for use in the field, while their rear divergent ends are connected by a cross-bar *a'*, which latter may be formed or provided with a base-piece A², forming a rest or support for the rear end of the frame. The hook A', in the construction shown, is placed between the front ends of the frame-bars *a a*, and the three parts are clamped in the desired position and secured together by means of a T-bolt *a²* and clip *a³*, connecting with said bolt on the under side of the frame-bars; but it is obvious that the frame-bars *a a* and hook or anchor A' might be formed or cast in a single piece, or the hook might form a continuation of one of the bars. At their rear ends the frame-bars *a a* are each formed or provided with an upright or standard A³, which latter preferably consists of two members, comprising an upright *a⁴* and an inclined portion *a⁵*, the latter extending on an incline from the rear end of the frame past its junction with the upright *a⁴* and having its forward end perforated or provided with other suitable bearings for the journal or pivot-pin of the adjustable binder-arms and operating-lever supported thereon. In suitable bearings carried by the inclined standards *a⁵* or other part of the frame is journaled a reel or spool B for carrying the binding cord, twine, or wire for tying the bundles of fodder or other material to be bound together. The shaft of the reel B may be provided with a suitable crank-handle *b* for turning the same so as to wind the binding cord or twine thereon, said crank being preferably detachable, so that it need not be carried with the machine if not desired.

C denotes a binder-arm or hook which may be secured to, but is preferably formed integral with, the hand-lever D, which is pivotally supported on the standards A³, and E denotes a second binder-arm or hook having its shank also pivoted upon the standards A³, preferably coincident with the pivot of the hook C and operating-lever, both of said arms being preferably struck upon the arc of a circle, which will adapt them to form, approximately, a true circle when the points thereof are in contact and their shanks secured together with their concavities opposed to each other, as shown in full lines in Fig. 1.

The arm or hook C and hand-lever D may be pivotally supported upon the standards a^5 by means of a pivot-pin F, which passes through suitable apertures in the upper ends of the standards a^5 and through an aperture in the shank of the hook C at its junction with said lever, and also through an aperture in the shank e of the hook E, said pivot-pin or bolt being provided at one end with a detachable nut by which the bolt may be readily removed to permit the parts to be detached for renewal or repairs. The shank e of the hook E is formed or provided with ratchet-teeth, as at e' , or equivalent perforations, adapted to be engaged by a dog or pawl d , which is pivoted to the lever D and connected by means of a suitable rod or link with a thumb-lever d' , which is pivoted to the outer end of the hand-lever, and a spring d^2 is interposed between said hand and thumb levers, so as to tend normally to hold the dog d in engagement with the teeth of the ratchet e' . By this means the binder-arms may be closed and locked in a fixed position relatively to each other, and when raised to the position shown in full lines in Fig. 1 may be secured in such position by a finger-catch or dog G or other suitable contrivance, said dog G being pivoted to the lever D and adapted to catch under a cross-bar a^6 or other part of the supporting-frame to prevent the arms from being lowered together until said dog is released; but when the parts are in the last-mentioned position pressure upon the thumb-lever d' will disengage the dog d and release the lower arm E, whereupon the latter will drop down into the position shown in dotted lines in Fig. 1, opening the binder arms or jaws to receive the fodder or other material to be packed and tied.

The free end of the binder-arm E is provided with an aperture or eye e^2 , adapted to receive the binder cord or twine, which may pass from the reel E, through an eye or guide secured to a cross-bar a^4 of the frame, immediately in front of the uprights a^4 , while the upper arm C is formed or provided with a knife c and an open-slotted or notched projection c' , adapted to receive and hold the free end of the binding-cord in position to be grasped by the operator for tying the bundle.

The operation of the invention will be readily understood from the foregoing description, when taken in connection with the accompanying drawings, and may be briefly explained as follows: Assuming that the device is to be used in the field, so as to be carried from shock to shock in packing and binding fodder, it is placed beside a shock of corn and the hook A' is pressed into the ground, so as to anchor the frame and prevent the device from slipping as the fodder is drawn or forced back between the open jaws and against the binding-cord. The thumb-lever d' being depressed, the dog d will release the jaw E and permit it to drop down into the position shown in dotted lines in Fig. 1. The

operator then takes out of the shock the desired amount of fodder for a bundle and throws the same across the front of the frame, and as the ears of corn are removed from the stalks the fodder is drawn or moved rearwardly against the twine, which is held between the eye of the lower arm or jaw and the crotch c' on the upper arm or jaw until the desired amount for a bundle is received between the arms, whereupon the lever D is raised, thus lowering the arm C and compressing the fodder between the two arms. This movement will also cause the dog d to engage with the teeth of the ratchet e' and thereupon a reverse movement of the lever D will raise the locked arms, holding the bundle between them, and by the engagement of the finger-catch G with the bar a^6 or other part of the device the arms will be held in a raised position, so as to hold the bundle in such position until the binding-cord can be adjusted and tied. The bundle being thus raised and held, the operator then pulls the end of the twine out of the slotted projection or crotch c' with one hand, while with the other hand he draws the twine through the eye e^2 of the arm E until enough has been drawn out to permit the knot to be tied, whereupon the cord is drawn under the knife c , so as sever a sufficient length for tying, and the bundle is then tied. Thereupon the thumb-lever d' is depressed, thus releasing the hook E and permitting the latter to drop down, thereby releasing the bundle, which is then removed, whereupon the operation may be repeated until the work is done.

It will be understood that the word "fodder" as employed in the foregoing specification refers to the cornstalks having the blades thereon after the corn is taken off, and not merely to the blades themselves, which when removed are called "fodder."

Although the several parts are preferably constructed of metal, it is obvious that wood might be used, and while I have shown the bars a as being constructed integrally with the standards A^3 it is obvious that the standards may be made separate and secured to the bars, and that various changes may be made in the shape of the frame and other parts and the general arrangement of parts modified without departing from the spirit of my invention, and hence I do not desire to be limited to the exact construction and arrangement described and shown. Some parts might also be dispensed with or others substituted therefor without impairing its usefulness.

While the machine is peculiarly adapted for use in the field and independently of a harvesting-machine, it is obvious that it might be attached to a corn-harvester, and it may also be employed elsewhere than in the field and for the purpose of binding straw, hay, or other grain, as well as fodder, and I do not desire to be limited in the application of the

device to packing and tying fodder in the field, as it is capable of being applied to other uses.

Many farmers do not wish to have the fodder tied while it is green or before the corn has been taken off, for the reason that it takes the fodder longer to cure when it has been tied while green, and it also takes the corn longer to dry out while standing in the shock, and furthermore makes it inconvenient to get the corn off of the fodder when it has been tied while green.

Various contrivances have heretofore been proposed for this purpose, but such machines as have come to my knowledge have either been heavy and expensive and more or less complex and liable to get out of order or unsatisfactory in use. Hence it has been my purpose to produce a very light, inexpensive, and yet efficient machine which will meet the requirements of the uses to which it is to be put and be within reach of the poorest farmer in matter of cost, and which shall consist of but few parts, so that it shall not be liable to get out of order in use.

My machine is very light, its weight not exceeding eighteen pounds, so that it may be easily carried to the field and moved from shock to shock, being so light that it may be handled and carried from shock to shock with one hand. Furthermore, after the fodder has been taken from the shock it does not have to be lifted off the ground or the frame until it is picked up by the binder-arms with the aid of the operating-lever, and when raised it is in position to be easily tied and the binding-cord may be adjusted and the tying rapidly and easily done. Moreover, the machine is so simple and composed of such few parts that it may be constructed at a comparatively trifling cost, and in case of any part becoming broken it may be easily repaired or replaced, the several parts being detachably connected by suitable bolts to permit this to be done.

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

1. A fodder packer and binder comprising a suitable frame, a pair of curved binder-arms or hooks pivotally supported at their shanks upon said frame with their curved portions opposed to each other; one of said arms being provided with an operating-lever for moving the same on its pivot so as to cause it to approach or recede from the opposing arm, and the other arm having its pivoted end or shank provided with ratchet-teeth adapted to be engaged by a pawl or dog carried by said operating-lever and means for operating said dog so as to adapt the binder-arms to be locked in a closed position or permit one of said arms to drop down in position to open the arms to receive the material to be bound, a reel supported upon said frame and binding cord or twine wound on said reel and passing therefrom through an eye in one of said arms to

a securing device on the opposite arm for holding the free end of the cord, substantially as described.

2. In combination with the supporting-frame having the standards rising therefrom, the hand-lever pivotally supported upon said standards and provided with a curved binder-arm or hook extending therefrom; said hand-lever being also provided with a pivoted pawl and thumb-lever for operating said pawl, and a binder-arm or hook pivoted at one end adjacent to the pivot of said lever and provided at said end with ratchet-teeth adapted to be engaged by said pawl, so that said hooks may be closed upon each other and locked, substantially as described.

3. In a hand-operated packer and binder, the combination with a suitable supporting-frame, of a pair of binder-arms comprising an upper arm or hook pivotally supported on said frame, and a lower arm pivoted at one end adjacent to the pivot of the upper arm so that it may drop down and open the arms to receive between them the material to be bound, a lever for closing said arms and compressing the material so as to form a compact bundle; said lever being adapted for raising the arm and the bundle clasped thereby, and means for locking the arms so that the bundle may be raised by said lever without changing the position of the arms relatively to each other and to the lever, substantially as described.

4. In combination with the supporting-frame, the hand-operated lever pivotally mounted thereon and provided with a projecting hook or binder-arm and with a pivoted pawl and operating-lever therefor, and the oppositely-arranged binder-arm or hook having its shank pivoted coincident with the pivot of the lever and provided with ratchet-teeth thereon adapted to be engaged by said pawl, together with the pendent catch or hook pivoted to said lever and adapted to catch under a fixed part of the supporting-frame and hold said lever with the binder-arms in an elevated position, substantially as described.

5. In a hand-operated packer and binder, the combination with the supporting-frame, of the binder-arms pivotally mounted on said frame, the operating-lever for closing, raising and lowering said arms, means for securing the arms in a fixed position relatively to each other adapted to retain them in such position when said lever is operated to raise or lower the arms, and a catch pivoted to the lever and adapted to take under a fixed part of the supporting-frame so as to sustain the lever in a fixed position when the binder-arms and the bundle clasped thereby are raised, substantially as described.

6. In a hand-operated fodder packer and binder, the combination with a pair of pivotally-supported binder-arms one having an eye at its free end and the other provided with a notched projection or crotch, and means for opening and closing said arms so as to adapt them to receive between them and

compress the material in compact form at the point to be encircled by the binding-cord, of means for locking said arms with the bundle compressed between them, and means for raising and sustaining said arms in an elevated position, a reel journaled upon the frame and having the binding-cord wound thereon and passed therefrom through the eye in one of said pivoted arms, and having its free end secured in the crotch carried by the opposite arm, substantially as described.

7. In a hand-operated packer and binder, the combination with a pair of pivotally-supported binder-arms and means for operating the same so as to compress between them and raise the material to be bound, of a supporting-frame on which said arms are mounted having converging bars provided with a hook at the point where said bars meet adapted to take into the earth so as to anchor and hold the frame in position for use in the field; one of said arms being adapted to drop down between said converging bars to receive the material placed thereon between the same and the upper arm, substantially as described.

8. In a hand-operated fodder packer and binder, the combination with a suitable supporting-frame, of a pair of binder-arms comprising an upper arm or hook provided with a notched projection thereon for securing the free end of the binder-twine, and a lower arm having its shank pivoted coincident with the pivot of the upper arm and provided with an eye at its free end through which the binder-twine may pass, means for locking said arms in a fixed position relatively to each other to

adapt the bundle to be compressed between the same and to be raised, and also to permit the lower arm to drop down so as to open the arms for receiving the material to be bound, and a lever for closing said arms and raising the bundle grasped thereby, substantially as described.

9. A hand-operated fodder packer and binder, comprising a suitable frame having a hook at one end for anchoring the frame in the field, and standards rising therefrom, a lever pivotally supported upon said standards and having a curved hook or binder-arm projecting therefrom; said lever being also provided with a pawl, and a pawl-operating dog pivotally secured thereto, a binder-arm or jaw pivoted at one end coincident with the pivot of the lever, and provided with ratchet-teeth thereon adapted to be engaged and locked by said pawl; the latter arm being also provided at its free end with an eye to receive the binder-twine, a reel journaled in suitable bearings mounted upon said standards, binding cord or twine wound upon said reel and passing therefrom through an eye at the base of the frame and thence through the eye of the pivoted binder-arm and from thence to a securing means provided therefor on the opposite binder-arm, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES T. McCANE.

Witnesses:

H. M. HARGETT,
M. HARGETT.