

(No Model.)

G. A. LOWRY.

AUTOMATIC FEEDER FOR TWINE MAKING MACHINES.

No. 524,423.

Patented Aug. 14, 1894.

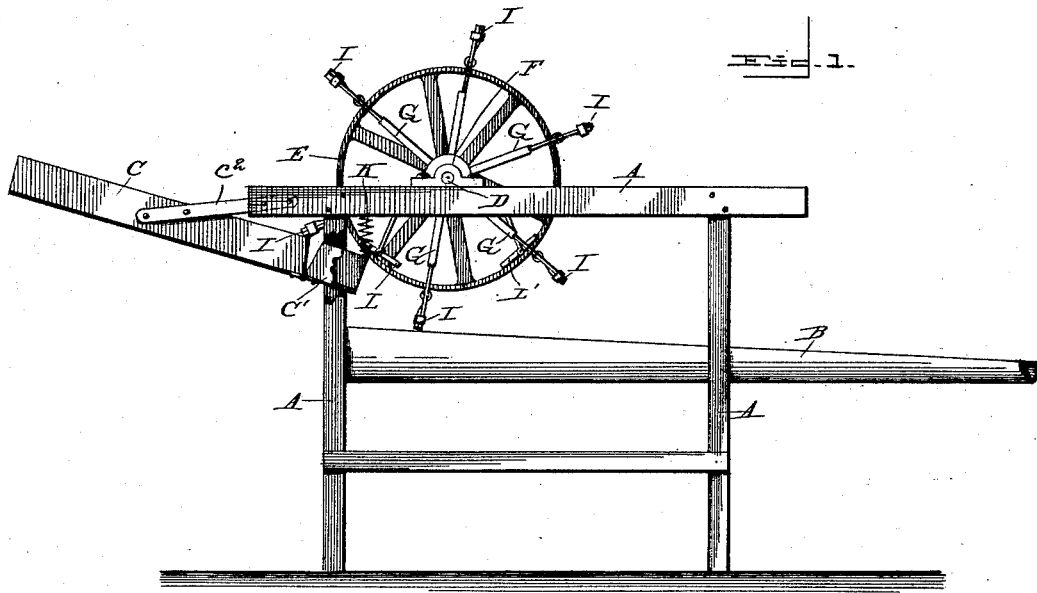


Fig. 1.

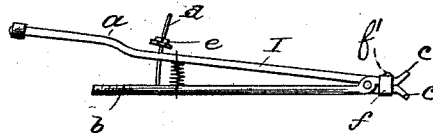
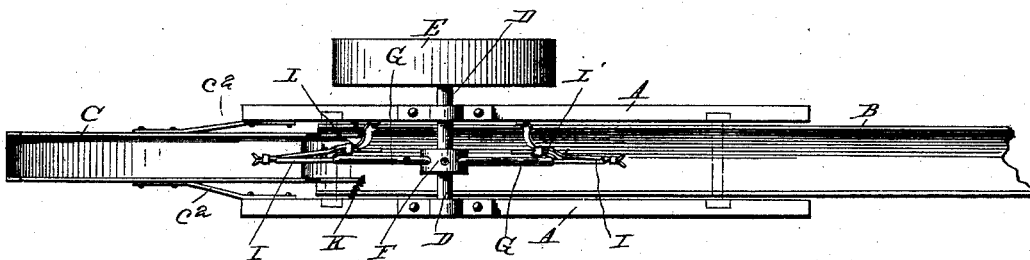


Fig. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE A. LOWRY, OF DES MOINES, IOWA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WARDER, BUSHNELL & GLESSNER COMPANY, OF SPRINGFIELD, OHIO, AND THE WALTER A. WOOD MOWING AND REAPING MACHINE COMPANY, OF HOOSICK FALLS, NEW YORK.

## AUTOMATIC FEEDER FOR TWINE-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 524,423, dated August 14, 1894.

Application filed July 29, 1890. Renewed January 13, 1894. Serial No. 496,812. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. LOWRY, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Automatic Feeders for Twine-Making Machines, &c.; 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.

My invention relates to an automatic feeder adapted to be used in connection with machines for making twine, such as is shown in my Patent No. 436,908, dated September 23, 1890, and in connection with various other machines too numerous to herein mention.

The invention consists in the construction and combination of parts hereinafter described and claimed.

Like reference letters refer to the same parts in the several figures of the drawings, in which—

Figure 1, is a side elevation partly broken away, of my improved automatic feeder, and of a portion of the spout of the twine-making machine. Fig. 2, is a plan view of the same parts being broken away; and, Fig. 3, is a detail view of a nipper which may be used in connection with my present invention.

In inventions of this general class it is customary to locate the feeder in proximity to the spout or trough of a twine making machine, and, accordingly, I have in this instance followed such custom.

In any suitable frame, A, I find it advantageous to mount a feeding trough or spout, B, whose inner end extends beyonds this frame and into a twine making machine. In this frame, A, I journal a shaft, D, upon the outer end of which is a pulley or other suitable gear, E, and upon which is also mounted, about centrally between the sides of the frame, a hub F carrying a series of radiating spokes, G, which latter have secured to their outer ends nippers, I, such as are shown more clearly in Fig. 3. The nipper that I prefer to employ is shown in said Fig. 3; and is composed of two rods, a, b, which are crossed

and pivoted near one pair of their ends, and these latter are flattened into a pair of jaws, c, c, which are flared outwardly so as to produce a wide mouth. To regulate the width which the flaring jaws may be spread apart, I may secure to one of the rods a bolt, d, and cause the same to pass through an aperture in the opposite rod and provide the outer end of such bolt with suitable nuts, e, which can be adjusted thereon so as to limit the movement of one rod with respect to the other.

A collar f, with a main portion and two wings is secured to the upper side of the flattened portion of one rod and its wings are extended so as to embrace the sides of both rods. This collar has an elongated slot; and by means of a set screw f' passing through such slot is made adjustable to and from the front end of the flaring jaws; and such collar is used to regulate the depth of the recess between the jaws when they are opened.

The nipper is not claimed in this application, but forms the subject matter of the claims in my application, Serial No. 358,684, filed July 14, 1890. It is manifest that in place of these nippers other devices for gripping and releasing the grass or straw might readily be employed.

The spout, C, is secured by brackets C<sup>2</sup>, or in any other convenient manner, to the frame, A, before mentioned; and I prefer to arrange this spout forward of the hub, F, and at a lower level. I also find it advantageous to construct the spout, C, with a hinged front section, C'; and to connect the forward end of the latter with the frame A by a spiral or othersuitable spring K. At proper distances in front of, and to the rear of, the shaft, D, I arrange cams, L, L', located so as to be in the path of the movable arms a of the nippers.

The operation of my invention is as follows: Grass, straw, or other suitable material is placed in the spout, or trough, C; and the hub F carrying the radiating arms G and nippers I is caused to revolve, and dips such nippers into the hay or straw. The cam, L, strikes the movable arm of the nipper at this point and throws the jaws open; thereby permitting them to receive a proper number of strands

of the hay or straw. Almost immediately the nipper arm is caused to pass from under the control of the cam, L, and its spring causes the nipper jaws to close upon the material within them; and they carry it, as the arms continue to revolve, over to the spout or feeding trough, B, connected with the machine for making twine. Inasmuch as the section, C', of the trough, C, is hinged and supported by a spring, the material therein is elastically held up against the nipper jaws while the same are passing through the trough or spout, C. When the nippers have carried the material with which they are laden over the feeding spout, B, the movable arm of each nipper comes in turn into contact with the cam L'; and such arm is pressed outward, and thereby caused to throw its attached jaw outward and thus release the grass or straw, and permit the same to fall into the feeding trough, from which it is drawn into the twine making machine.

What I claim, and desire to protect by Letters Patent, is—

1. In a machine of the class described the combination, with the feed box or hopper, of a revolving wheel or disk, provided at its periphery with jaws adapted to grasp a portion of the contents of the hopper, substantially as and for the purpose set forth.

2. In a machine of the class described, the combination of the feed box or hopper, the revoluble feed wheel having jaws adapted to grasp a portion of the contents of the hopper and a receiving trough to receive the material carried from the box or hopper by the jaws of the feed wheel, substantially as set forth.

3. The combination of the hopper, the revoluble feed wheel having the stationary and the pivoted jaws, mechanism for operating the latter the receiving trough, and twisting mechanism arranged at the discharge end of the latter, substantially as and for the purpose set forth.

4. An automatic feeder comprising a trough for containing the material, a rotatable shaft having a plurality of radiating nippers connected therewith and arranged to successively extend into the trough and pick material therefrom, and means for operating such nip-

pers, substantially as and for the purpose set forth.

5. An automatic feeder comprising a rotatable shaft, having radially arranged nippers, and a yielding support to hold the material up to such nippers, and mechanism for operating the latter substantially as and for the purpose set forth.

6. An automatic feeder comprising a revoluble series of nippers, a yielding support for holding the material against the action of such nippers, and cams for opening and closing the jaws of such nippers, substantially as and for the purpose set forth.

7. An automatic feeder comprising revoluble nippers, and a trough having a hinged section elastically supported in relation to such nippers, and mechanism for opening and closing the nippers substantially as and for the purpose set forth.

8. An automatic feeder comprising a rotatable shaft, a series of spokes radiating therefrom, a nipper carried on each spoke, a suitable trough or spout for containing the material to be gripped by the nippers, and means for operating such nippers substantially as and for the purpose set forth.

9. In an automatic feeder, the combination of a suitable frame, a trough or spout supported thereby, a revoluble series of nippers arranged in said frame above the trough or spout just mentioned, a yielding support for holding the material up to the nippers and arranged in front of their axis of movement, and mechanism for opening and closing the jaws of the nippers while they are adjacent to the said yielding support and for effecting the same movement when they are carried over to the trough or spout; whereby the strands of material are selected from the mass and carried in proper quantities and delivered to the trough or spout, substantially as and for the purpose set forth.

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

GEORGE A. LOWRY.

Witnesses:

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HINS DILL PARSONS.