Jan. 30, 1923. 1,443,854

A. L. STEWART.
WHEAT HEADER LOADING ATTACHMENT.
FILED APR. 20, 1920.

FIG. 1.

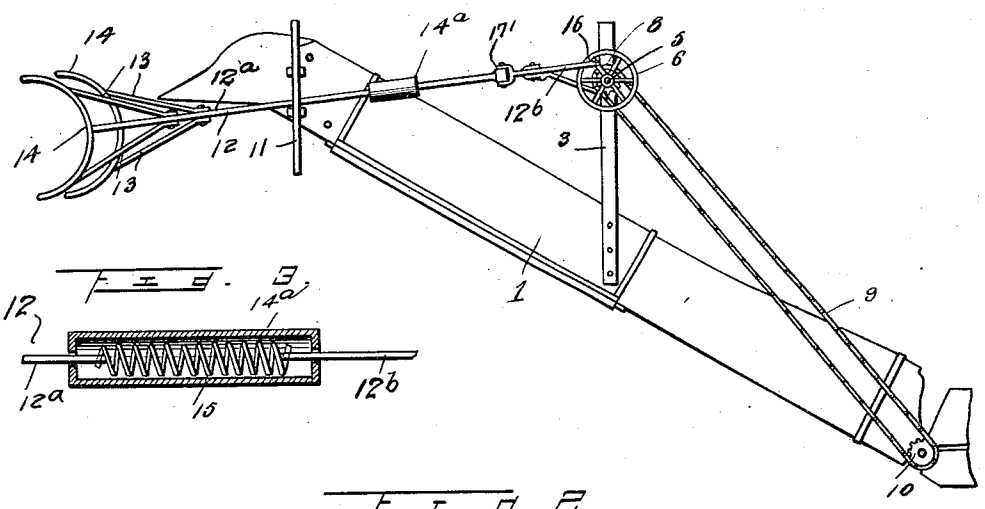
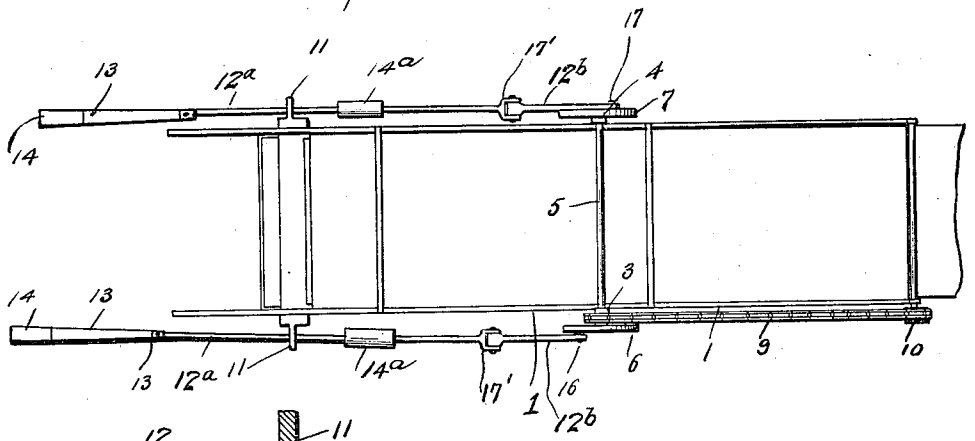


FIG. 3.

FIG. 2.



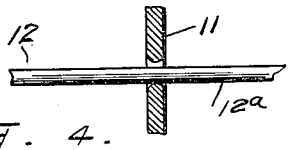


FIG. 4.

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UNITED STATES PATENT OFFICE.

ALBERT L. STEWART, OF WICHITA, KANSAS, ASSIGNOR OF ONE-HALF TO HENRY A. DAMERON, OF PRESCOTT, ARIZONA.

WHEAT-HEADER LOADING ATTACHMENT.

Application filed April 20, 1920. Serial No. 375,317.

To all whom it may concern:

Be it known that I, ALBERT L. STEWART, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Wheat-Header Loading Attachments; 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 improvements in wheat headers, and has for its principal object the provision of a device which may be readily attached to any standard form of wheat header and which will operate to mechanically perform the usual manual labor involved in distributing and packing grain in the schooners such as are usually employed in large wheat fields to receive the grain from the header.

A further object of this invention resides in the provision of the device of the character above described, which may be readily attached to and driven by the apron pinion of an ordinary wheat header.

A still further object of this invention aims to construct the loader attachment of schooners with such regard to proportion, number and arrangement of parts that the device may be cheaply manufactured, will be durable and efficient in its operation, and may be readily attached to any standard form of wheat header without necessitating a change or alteration in the structure of the machine.

The above and additional objects are accomplished by such means as are illustrated in the accompanying drawing, described in the following specification and then more particularly pointed out in the claims which are appended hereto and form part of this application.

With reference to the drawing, wherein I have illustrated the preferred embodiment of my invention as it is reduced to practice, and throughout the several views of which similar reference numerals designate corresponding parts.

Figure 1 is a side elevation of the conveyor or elevator of the wheat header, illustrating the loading attachment of this invention in an assembled position,

Figure 2 is a top plan view of the device,

Figure 3 is a detail view showing in longitudinal section the assembled relation of the various parts of the yielding joint utilized in the loader arms,

Figure 4 is a detail sectional view of the guide members for the loader arms and showing these latter members in their assembled position therewith.

Proceeding now to the description of the drawings, the numerals 1 and 2 designate the side walls of a conveyor such as is customarily provided on a header. To the members 1 and 2 are bolted or otherwise secured a pair of laterally alined supporting standards 3 and 4, the upper ends of which are secured to suitable bearing boxes wherein is loosely journaled a counter shaft 5, the free ends of which carry a pair of drive wheels 6 and 7 of any suitable type, the wheel 6 being equipped with a sprocket wheel 8 disposed to be driven by a drive chain or belt 9 operatively connected, to an apron pinion 10 such as is ordinarily provided for operating the conveyor apron of a wheat elevator or conveyor. Adjacent the upper terminals of each side wall of the conveyor is arranged a guide bracket 11 through which is slidably mounted loader arms 12. The loader arms 12 are formed in two sections 12^a and 12^b. Sections 12^a are outer or working sections being preferably iron or steel rods. To the free end of each arm is secured by suitable strap iron braces 13, a substantially semi-circular jamming jaw 14 adapted to effect the distribution and packing of the grain in the schooner in a manner to be hereinafter disclosed. The inner ends of the sections 12^a are secured to the sections 12^b by means of a resilient connection illustrated in detail in Figure 3. This device consists essentially in a cylindrical casing 14^a, the opposite ends of which are suitably perforated to permit the sliding movement of the two sections of the loader arms. Within the casing 14^a is arranged a spiral compression spring 15, the terminals of which are connected in any desired manner to the adjacent ends of the two sections of the loader arm for the performance of a function to be hereinafter described. The sections 12^b are eccentrically pivoted as at 16 and 17 to diametrically opposite points on the drive wheels 6 and 7, thus providing for reciprocation of the loader arms. The sections 12^b of the loader arms each comprises a plurality of bars as shown connected

by universal joints 17' whereby the arms are rendered flexible to follow rotation of the drive wheels without causing a corresponding movement of the jaws.

The actual structure of the device being thus disclosed, it now remains to describe the operation of the loader. Briefly, it is as follows: The header being set in motion, the pinion 10 is of course revolved, communicating its motion by means of the members 9, 8, 5, and 6 and 7, to the loader arms 12, with a resultant reciprocation of these parts. It will be readily observed that if the receiving schooner for the grain issuing from the upper end of the header conveyor is arranged in the customary manner, that the jamming jaws 14 will work within the schooner body and will effectually carry all incoming grain toward the back of the schooner, forcibly packing it into the schooner. The function of the yieldable connection between the two sections of the loader arm is now apparent, for it will be readily seen that as the schooner is filled with grain, it is necessary to have a shorter stroke of the loader arms without detrimentally affecting the packing force. This function is adequately performed by the introduction of the compression spring 15 between the connected terminals of the two sections of the loader arms.

In reduction to practice, I have found that the form of my invention, illustrated in the drawings and referred to in the above description, as the preferred embodiment, is the most efficient and practical; yet realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to when required, without sacrificing any of the advantages of my invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In combination, means driven in successive strokes of similar length to jam material, and means permitting the driving stroke of said means to automatically shorten through resistance offered by material in its path of movement.

2. In combination with a conveyor, a loader arm having a first section and a second section, means to drive said first section in successive strokes of similar length, and a compressible connection between said sections to permit the driving stroke of said second section to automatically shorten by resisting contact with material discharged from said conveyor.

3. In combination with a conveyor, a loader arm having a first and a second section, means to drive said first section in successive strokes of similar length, the second section having a jaw to directly engage material discharged from said conveyor, a guide means on said conveyor for said second section, and a compression spring between said sections to permit the driving stroke of said second section to automatically shorten by resisting contact of said jaw with said material.

In testimony whereof I affix my signature.

ALBERT L. STEWART.