

UNITED STATES PATENT OFFICE.

CALVIN HUSTON WESTON, OF TYRONE, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO CHARLES C. DUNKEL, OF SAME PLACE.

ROTARY COMPRESSOR FOR REAPING AND BINDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 648,819, dated May 1, 1900.

Application filed August 18, 1899. Serial No. 727,685. (No model.)

To all whom it may concern:

Be it known that I, CALVIN HUSTON WESTON, a citizen of the United States, residing at Tyrone, county of Blair, and State of Pennsylvania, have invented a new and useful Improvement in Rotary Compressors for Reaping and Binding Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

The objects of my invention are, first, to provide means to prevent fine grass, straw, and similar material from accumulating at the inner end of the cutter-bar when the grain binder and reaper is in operation, and, secondly, to prevent the grain from lodging against the seat-board and from slipping on the canvas of the elevator, and hence to increase the efficiency of the grain binder and reaper, to make the sheaves of grain more uniform in size, and to relieve the driver of the laborious effort now required to prevent the grain from being unevenly delivered to the binding apparatus.

To these ends my invention consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a reaper and binder provided with my improvements. Figs. 2 and 3 are sectional views of the same, taken on the lines *xx* and *yy* of Fig. 1, respectively. Fig. 4 is a detail view of the compressor and its connections, showing the reverse side from that shown in Fig. 1.

A represents the seat-board of the machine-frame.

B represents the endless carrier, which operates in rear of the cutter-bar, and C represents the endless elevator, which receives the cut grain from the carrier and delivers it to the usual binding mechanism, which is not here shown, as it constitutes no part of my present improvements.

D represents my improved compressor, which is of the form shown and is preferably made of iron or steel and of suitable weight. Near the rear upper corner of the compressor is an inclined guide-slot E of suitable form,

in which operates a stud-bolt F, and from the front of the compressor, near the upper side thereof, projects a bracket or arm G, which is attached to a crank-shaft H, that is journaled on the machine-frame at a suitable point and to which rotary motion is imparted by suitable connections with the binding mechanism. The front end of the compressor being supported by this rotating crank-shaft and the rear portion of the compressor being supported by the stud-bolt which operates in the guide-slot, it follows that when the machine is in operation an eccentric vertical and transverse motion will be communicated to the compressor, which will be caused to move back and forth transversely over the inner portion of the carrier B and also in a vertical direction.

The stud-bolt F is provided with an anti-friction-roller I, which operates in the guide-slot, and said stud-bolt is supported by a bracket K, which is bolted to the under side of the seat-board A of the reaper and binder by a pair of bolts M.

N represents a clevis-shaped bracket which has the vertical guide portion O and the pair of bracket-arms P, in which are slots R. These bracket-arms are bolted, respectively, on the upper and lower sides of the seat-board by means of bolts S in said slots R, and on the inner side of the compressor is a traveler-yoke T, which works against the inner side of the vertical guide portion O of the bracket N and has its ends bolted to the compressor, as at U. The function of the guide-bracket and traveler-yoke is to keep the compressor in a vertical position and to brace it against any tendency to incline toward the elevator and to enable it to resist the pressure of the grain at its lower side caused by the motion of the carrier. The brackets K and N being laterally adjustable on the seat-board permit lateral adjustment of the compressor with reference to the elevator, as may be necessary under varying conditions.

From the lower front corner of the compressor depends a rake V, which operates at the inner end of the cutter-bar and the function of which is to clear the cutter-bar at its inner end from accumulations of fine grass, straw, and other material, the said rake being

operated by the compressor and moving therewith, as will be understood.

On the outer side of the compressor are a series of downwardly-inclined frets W, which serve to engage the grain on the downward thrusts of the compressor and to press the grain down upon the carrier and to keep the grain in such forcible contact with the carrier that the latter is prevented from slipping idly under the grain, and hence is caused to deliver the grain evenly to the elevator to the end that the grain is fed continually and in unvarying quantities to the binding mechanism, thereby securing uniformity in the size of the sheaves and causing the machine to operate smoothly and to render it in this particular practically independent of the attention of the driver. Moreover, the compressor serves also a useful purpose in straightening the cut grain as it is carried to the elevator, and hence causes the grain to be delivered to the binding mechanism in the best condition for operation there.

A curved arm Z may be bolted to one of the frets, as at 1, and serves to secure and stiffen a sheet-iron wing 2, (illustrated in dotted lines in Fig. 1,) which forms an extension of the fret to which it is attached and increases the efficiency of the compressor. By means of the arm Z the wing may be attached to any fret desired or as may be necessary, and several of said wings may be employed, if required.

Having thus described my invention, I claim—

1. In a reaper and binder, the compressor D, having the frets W and disposed transversely over the carrier, and movable back and forth and up and down transversely over the carrier, and suitable guiding, supporting and operating mechanism for the said compressor, substantially as described.

2. In a reaper and binder the compressor D, disposed transversely over the carrier and movable back and forth and up and down, transversely over the carrier, suitable guiding, supporting and operating mechanism for the compressor, and the rake V, carried by and movable with said compressor, substantially as described.

3. In a reaper and binder, the combination with the compressor D having the guide-slot E and traveler-yoke T, of the fixed bracket N, by which the said yoke is guided, the fixed supporting-stud in the said guide-slot E, and the operating-crank H, connected to the said compressor, substantially as described.

4. In a reaper and binder, the combination with the compressor D having the rake V, carried thereby and movable therewith, and the guide-slot E, and traveler-yoke T, of the fixed bracket N, by which said yoke is guided, the fixed supporting-stud in the said guide-slot E, and the operating-crank H, connected to the said compressor, substantially as described.

5. In a reaper and binder, the compressor D, having the frets W, in combination with the wing 2, adapted to be secured to and detached from the frets, substantially as described.

6. In a reaper and binder, the compressor D, having the frets W, in combination with the detachable wing 2, having the arm Z adapted to be bolted to and detached from the frets, substantially as described.

In testimony whereof I have set my hand, this 5th day of July, A. D. 1899, in the presence of two attesting witnesses.

CALVIN HUSTON WESTON.

Witnesses:

P. J. GOODALL,
CHARLES CONRAD DUNKEL.