

UNITED STATES PATENT OFFICE.

WILLIAM RUSSELL, OF HAMILTON, CANADA, ASSIGNOR TO THE RUSSELL
GRAIN SHOCKER COMPANY, LIMITED, OF SAME PLACE.

MACHINE FOR SHOCKING GRAIN.

SPECIFICATION forming part of Letters Patent No. 671,033, dated April 2, 1901.

Application filed January 13, 1900. Serial No. 1,346. (No model.)

To all whom it may concern.

Be it known that I, WILLIAM RUSSELL, of the city of Hamilton, in the county of Wentworth and Province of Ontario, Canada, have
5 invented certain Improvements in Machines for Shocking Grain, of which the following is a specification.

My invention relates to certain improvements in a machine for shocking grain, described and claimed in my former United States Patent No. 611,283, dated September 27, 1898. In that patent the shock-receptacle described was provided with two stationary sides, one of which carried the knotter and
15 the other the needle. Any compression the shock received was given by the needle, which was necessarily made heavy and strong. While experimenting in the harvest-field in Colorado I found that it was desirable in many
20 kinds of grain to relieve the needle of much of the strain of compression by placing at the needle side of the shocker one or more special compressors, which made it possible for a very much lighter needle to work effectively
25 than was before possible. If such compressors be used, it is possible to dispense with the stationary outer side of the shock-receptacle, as the compressors are in most cases sufficient to retain the shock in shape.

My invention consists, essentially, therefore, in the use, in a shock-receptacle in which sheaves are bound on their sides to form a shock, of compressors which take the strain of compression and may also take the place
35 of a stationary side to retain the shock in shape while the sheaves are being collected, the whole being constructed in detail substantially as hereinafter more specifically described and then definitely claimed.

Figure 1 is a perspective view showing my improvements. Fig. 2 is a similar view showing a modification thereof.

In the drawings like letters of reference indicate corresponding parts in both figures.

Referring to Fig. 1, A is the shock-receptacle, upon or in proximity to the side B of which is located the knotter C, of which the breast-plate alone is visible; but as my present invention has nothing to do with the knotter
50 further illustration is unnecessary.

D is the tiltable bottom, journaled, as in the patent referred to, at or near the open end of the receptacle.

E is a shaft journaled in suitable bearings on the frame of the receptacle at or near the outer edge of the tiltable bottom. Upon this shaft is secured one or more compressors F, which may be quite independent of one another or connected by a sheet of thin metal, as indicated at *a*. The end of this shaft is
55 provided with a crank-arm, which may be operated in any suitable manner. 60

G is the needle-shaft, suitably journaled in bearings formed upon the frame of the receptacle. In Fig. 1 the needle-shaft is shown
65 journaled on short uprights extending up from the bottom of the receptacle. In Fig. 2 it is shown journaled in a tubular metal frame H, carried around from the stationary side B of the receptacle. Upon the needle-shaft is
70 secured the needle I, which, as the compressors F are expected to do most of the work of compressing the shock, may be made much lighter than in the machine described in the patent hereinbefore referred to. 75

By using compressors such as described I am enabled to dispense with the stationary side formerly used at the needle side of the shock-receptacle, though, if desired, it may still be carried up behind the compressors. 80

In Fig. 2 I show a single compressor F², which is sufficiently extended by sheet metal or in any other suitable manner to give sufficient support to the outer side of the shock while it is being formed. A crank-arm K, secured to the needle-shaft, engages a slot L in the back of the compressor and serves to operate the compressor simultaneously with the needle. The compressor is journaled on the shaft E. The tiltable bottom D is fast
85 on the shaft M, journaled on the frame of the shocker. On the end of the shaft is fast the crank-arm N, by means of which the tiltable bottom may be operated, as described in the patent referred to. (See Fig. 1.) 95

In Fig. 1 the tiltable bottom is of the old construction, but in Fig. 2 it is shown of skeleton form D', most of the weight of the shock being taken by a stationary bottom, while the tiltable bottom is only called upon 100

to tip out the shock. As both forms operate in substantially the same way, I may use them as substantial equivalents for one another.

From the above description it will be seen 5 that compressors arranged as described form practically a movable outer side for the shock-receptacle, which when the sheaf is to be bound may be swung inward to compress it sufficiently to enable a cord to be tightly 10 bound about it. Such compression is made also to relieve the needle of strain during binding, though as little or as much compression may be left for the needle as circumstances seem to make desirable. Similar com- 15 pressors might also be arranged at the knotter side of the receptacle; but as these would be practically identical in construction with the compressors F it is unnecessary to describe or illustrate them.

20 I do not claim any special construction of compressor, as many different forms might be used other than those illustrated.

What I claim as my invention is—

1. In a machine of the class described, a 25 receptacle for sheaves adapted to hold a sufficient number to form a shock, and provided with a tiltable bottom, an open end and suitable sides one of which is formed of one or more laterally-movable compressors jour-

naled at or near the bottom of the receptacle 30 in combination with a suitably-supported knotter located at the side of the receptacle opposite the compressors; and a needle jour- 35 naled on the receptacle above the point of swing of the compressors and adapted to co-operate with the said knotter, substantially as and for the purpose specified.

2. In a machine of the class described, a receptacle for sheaves adapted to hold a suf- 40 ficient number to form a shock, and provided with a tiltable bottom, an open end and suitable sides, in combination with one or more movable compressors swinging from a point at or near the bottom of the receptacle at one 45 side so that the inward movement of the compressors is least at the bottom of the receptacle and greatest at the top; a suitably-supported knotter located at the side of the re- 50 ceptacle opposite the compressors; and a needle journaled on the receptacle above the point of swing of the compressors and adapted to cooperate with the said knotter, substan- tially as and for the purpose specified.

Toronto, Canada, January 8, 1900.

WILLIAM RUSSELL.

In presence of—

J. EDW. MAYBEE,
A. J. COLBOURNE.