

(Model.)

V. HENRY.  
GRAIN BINDER.

No. 265,317.

Patented Oct. 3, 1882.

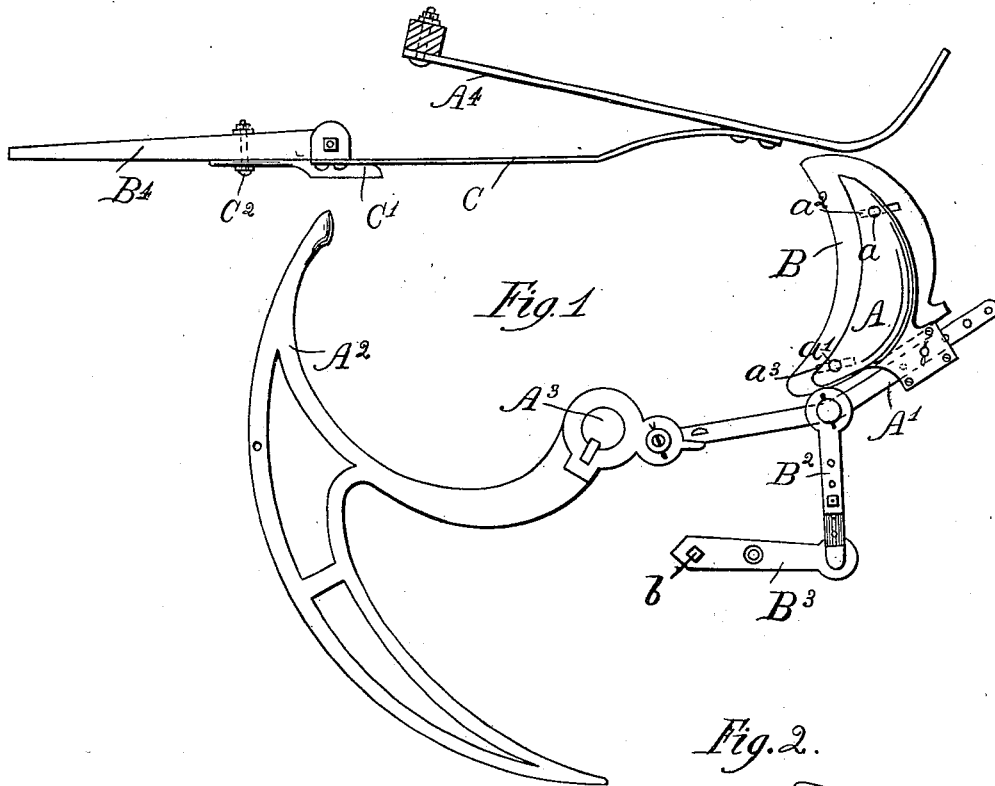


Fig. 5.

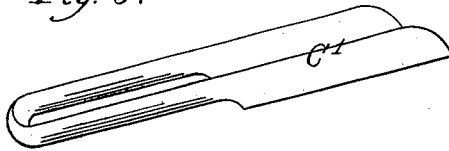


Fig. 2.

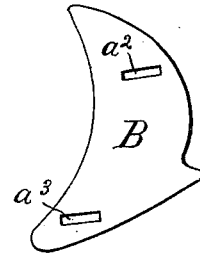


Fig. 3.

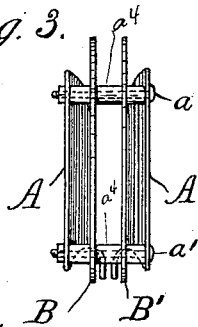
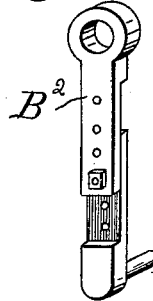


Fig. 4.



WITNESSES—

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# UNITED STATES PATENT OFFICE.

VICTOR HENRY, OF CHICAGO, ILLINOIS.

## GRAIN-BINDER.

SPECIFICATION forming part of Letters Patent No. 265,317, dated October 3, 1882.

Application filed September 1, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, VICTOR HENRY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grain-Binders; and I do hereby declare the following to be a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, forming a part of this specification.

This invention relates to an improvement in grain-binders; and it consists, first, of an adjustable device for compressing and making round bundles of any required size; and, second, of a cutting device and elastic attachment for preventing the needle from becoming choked by tangled grain lodging between it and the breast-plate.

Figure 1 is an elevation of the parts to which my improvement is attached; Fig. 2, a side elevation of the compressing device; Fig. 3, a front view of the same; Fig. 4, a detached detail of construction, and Fig. 5 a perspective of the double cutting-knife.

Referring to the drawings, A represents the trip attachment ordinarily used in connection with the class of binders to which my improvement relates. The grain received in the process of forming the sheaf is packed against the trip by the packers or packing-arms, and when the sheaf or bundle is completed the trip attachment moves down below the receiving-table, drops the bundle, and returns to a normal position. The packers or packing-arms and the mechanism actuating the trip are not shown or described, as these features are not new nor original with me, the description being confined to my improvement.

A' represents the trip bar or lever; A<sup>2</sup>, the needle; A<sup>3</sup>, the needle-shaft, and A<sup>4</sup> the breast-plate, which is slotted for the passage of the needle, and forms a diaphragm between the trip and the knotting attachment, thus preventing the loose grain from reaching the latter.

The compressor is composed of the two semi-circular pieces B B', which are placed about

an inch apart, and are held in this position by the bolts a a', which clamp the same to the trip A. The bolts a a' pass through the rectangular slots a<sup>2</sup> a<sup>3</sup> in the parts B B', which permits of the adjustment of these parts to different angles, and to enlarge or narrow the space between the compressor and the needle, as may be required. On that part of the bolts between the companion pieces B B' are placed the sleeves a<sup>4</sup>, as represented in Fig. 3 of the drawings, which prevents these parts from closing together. The space between these companion pieces provides a passage for the binding-twine, and prevents the same from being packed down with the grain, and greatly eases the strain on the tension device. The compressing device, projecting inward beyond the line of the trip, and being capable of an adjustment to any required angle, will always produce a perfectly round bundle. When it is desirable to make a very small bundle and the compressing device cannot be thrown inward far enough by means of the rectangular slots a<sup>2</sup> a<sup>3</sup>, a closer adjustment can be made in the direction of the needle by lengthening the adjustable connecting-lever B<sup>2</sup>, which has the effect of throwing upward the outer end of the trip-bar A'. The arm B<sup>3</sup>, connecting with the lower end of the rod B<sup>2</sup>, is attached to the compressor-shaft b.

C represents an elastic steel spring, one end of which is attached to the under side of the breast-plate A<sup>4</sup> and the opposite end to the hand-lever B<sup>4</sup>. When tangled grain gets in the path of the needle this spring will yield to the upward pressure and the needle complete its revolution without clogging and bringing the machine to a full stop, which was very often the case when grain lodged in between the needle and the rigid breast-plate.

The double knife C, a perspective of which is shown in Fig. 5 of the drawings, is attached to the under side of the hand-lever B<sup>4</sup> by means of the bolt C<sup>2</sup>, and is capable of a longitudinal adjustment to bring it in proper position relative to the needle A<sup>2</sup>, which passes between the bifurcated knife in its line of revolution. This knife serves the purpose of cutting and clearing out the grain which lodges between

the needle and the breast-plate, and entirely obviates the clogging of the mechanism from this cause.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a grain-binder, an adjustable compressing device, consisting essentially of the parts B B', connected with the trip attachment and adapted to widen or narrow the circle between said trip and needle attachment, substantially as and for the purpose set forth.

2. In a grain-binder, the combination, with the adjustable compressing device B B', provided with the rectangular slots  $a^2 a^3$ , of the bolts  $a a'$  and the trip A, substantially as described.

3. In a grain-binder, the combination, with the adjustable connecting-rod B<sup>2</sup>, of the trip-bar A', the trip A, and the compressing device B B', substantially as described.

4. In a grain-binder, the combination, with the needle A<sup>2</sup>, of the double knife C', substantially as described.

5. In a grain-binder, the combination, with the lever B<sup>4</sup>, of the adjustable knife C' and the attaching-bolt C<sup>2</sup>, substantially as described.

VICTOR HENRY.

Witnesses:

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