

(No Model.)

C. PAUL.
GRAIN BINDER'S NEEDLE.

No. 508,745.

Patented Nov. 14, 1893.

Fig. 1.

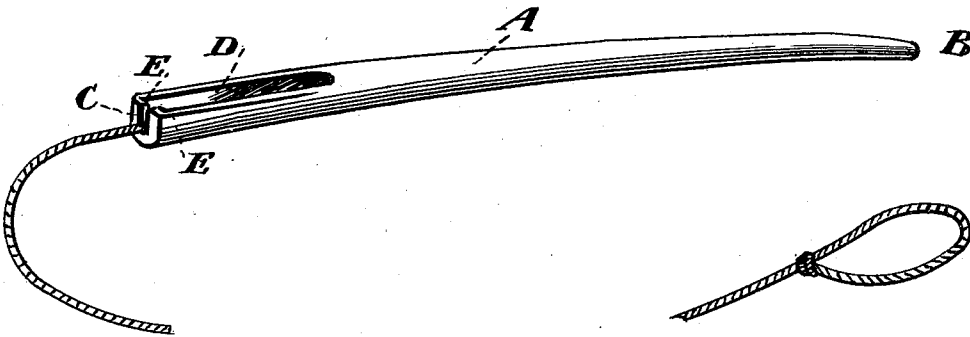
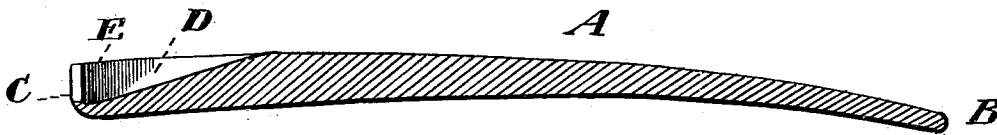


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES PAUL, OF SIDNEY, OHIO.

GRAIN-BINDER'S NEEDLE.

SPECIFICATION forming part of Letters Patent No. 508,745, dated November 14, 1893.

Application filed August 3, 1893. Serial No. 482,272. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PAUL, a citizen of the United States, residing at Sidney, in the county of Shelby and State of Ohio, have
5 invented certain new and useful Improvements in Grain-Binders' Needles; and I do 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 ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and
15 useful improvements in devices for use in binding grain, and it has for its object to provide a simple and inexpensive needle so constructed as to securely retain the knotted end of the cord which is used in binding, during
20 the time that the shock is being bound, permitting the end of the cord to be readily passed through the looped end of the cord, and permitting the cord to be easily released from the needle when the operation of binding
25 has been completed.

To this end and to such others as the invention may pertain, the same consists in the novel construction of the needle, all as more fully hereinafter described, shown in the ac-
30 companying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the let-
35 ters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a binding-needle embodying my invention, and Fig. 2, is a longitudinal section of the same.

Reference now being had to the details of
40 the drawings by letter, A designates the needle, which is made of any suitable metal, preferably of steel, and of such length as may be found to be best adapted for the particular use to which the needle is put.

45 The needle may, if preferred, be straight, but I have found that the best results follow the use of a slightly curved form, such as shown in the drawings. The needle is made tapering from end to end, terminating at the
50 point in a rounded end B, while the opposite end of the needle which is of considerably

greater diameter, is provided with a slit C which communicates with a depression formed in the side of the needle. This depression D is conical in form, extending in the direction
55 of the length of the needle, with the apex in the direction of the point of the needle, and the base at a point adjacent to the opposite end, thus forming the shoulder E, to receive and retain the knotted end of the binding-
60 cord.

The use and advantages of the invention will from the foregoing description be readily understood.

The cords which are to be used in binding,
65 are cut into lengths, and are each provided at one end with a suitable loop, and at the opposite end with a knot. The operator drops the knotted end of the cord into the depression of the needle, and passing the cord around
70 the bundle he then passes the needle through the loop, after which the cord is drawn up and secured; the knotted end of the cord being readily released from the needle by a simple
75 side movement, as will be at once understood. It will be seen that by this construction the time and trouble that would be required in using a needle having an eye, will be obviated, and as the extreme end of the cord is attached
80 to the needle, a great saving of cord will be also effected.

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

As an improved article of manufacture a
85 binding needle tapered from end to end and at its larger end formed with a depression extending in the direction of the length of the needle and made conical with the apex near-
90 est the point of the needle and its base at the other end forming a shoulder to retain the knotted end of a binding cord and said end formed with a slot at right angles to the length of the depression, all substantially as shown and described.

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

CHARLES PAUL.

Witnesses:

M. F. HUSSEY,
JOSEPH F. McCASHEY.