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(No Model.)

A. LEVEDAHL.
FINGER FOR COTTON HARVESTERS.

No. 517,578.

Patented Apr. 3, 1894.

Fig. 1.

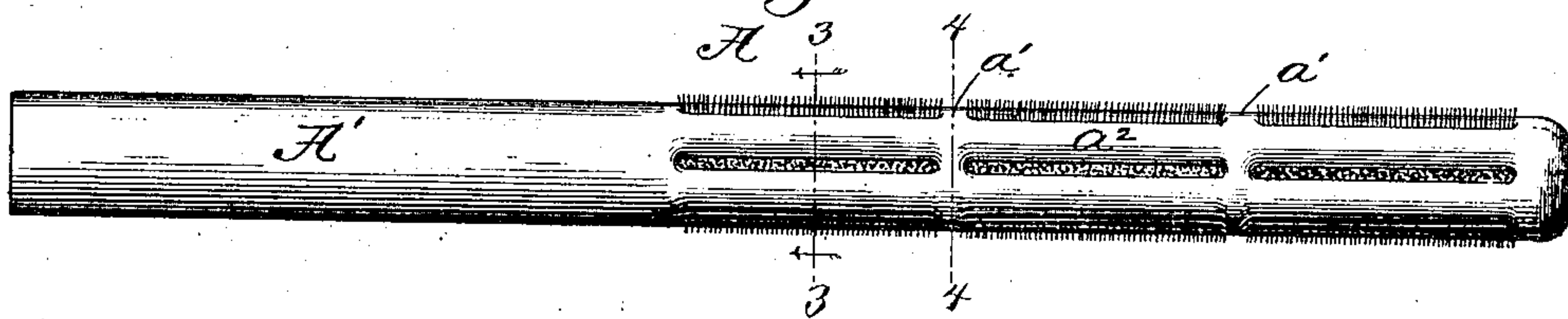


Fig. 2.

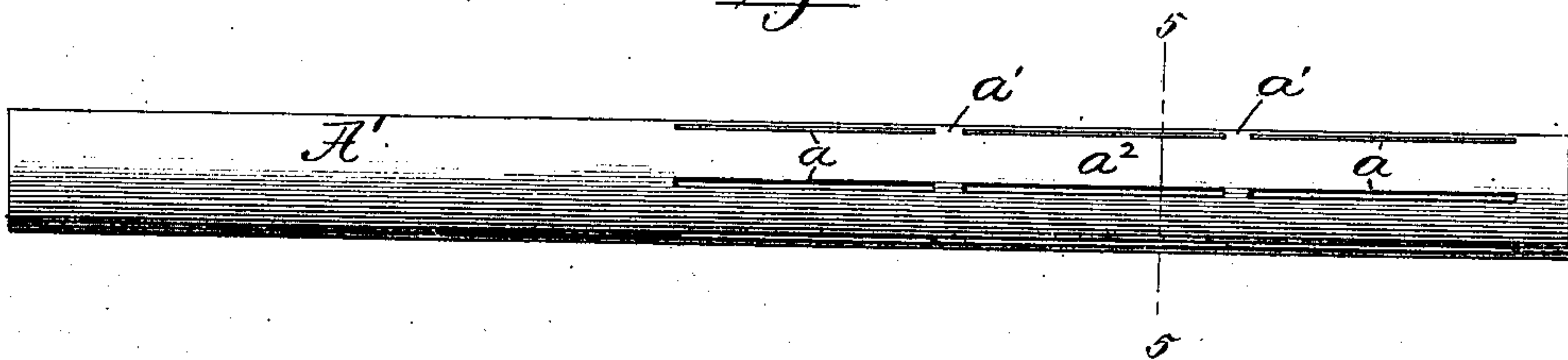


Fig. 3.

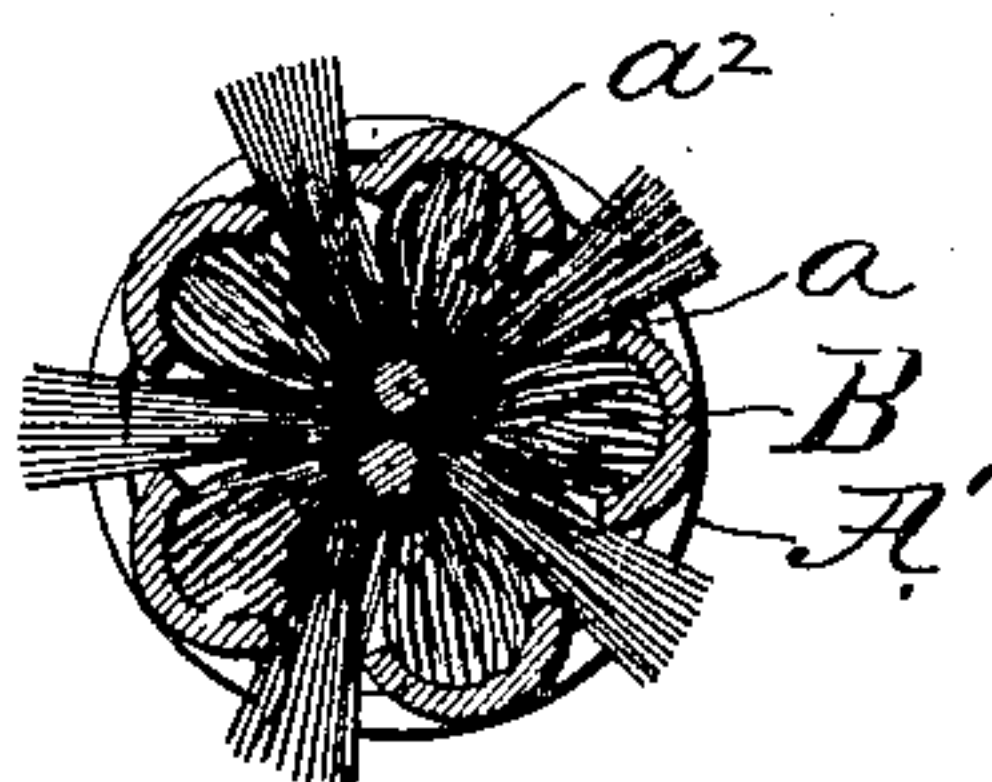


Fig. 5.

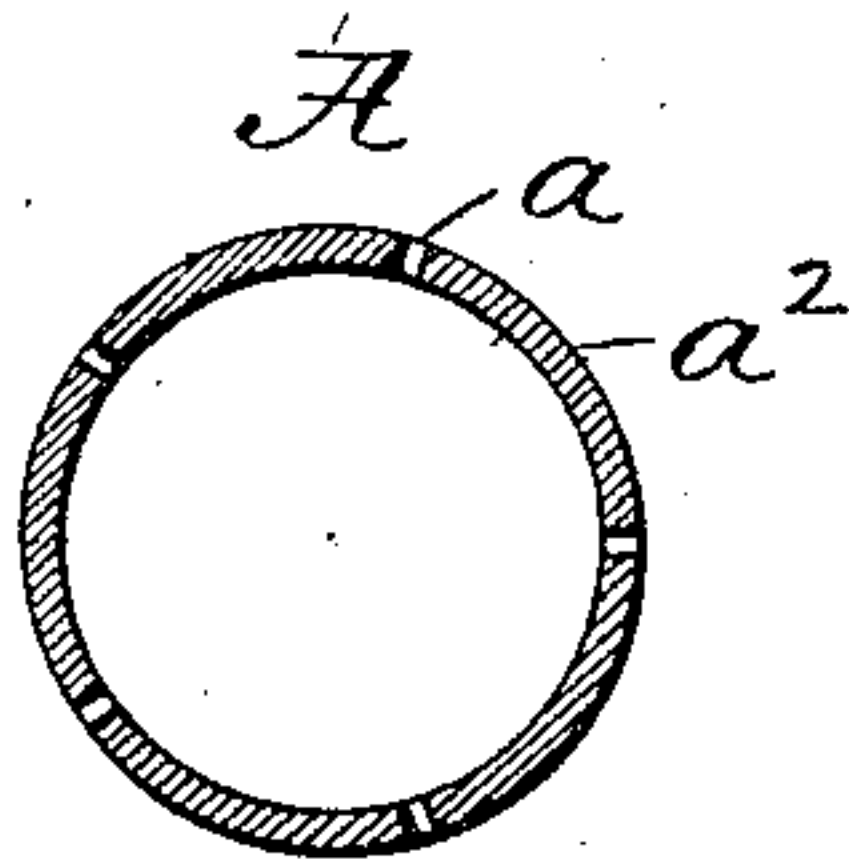
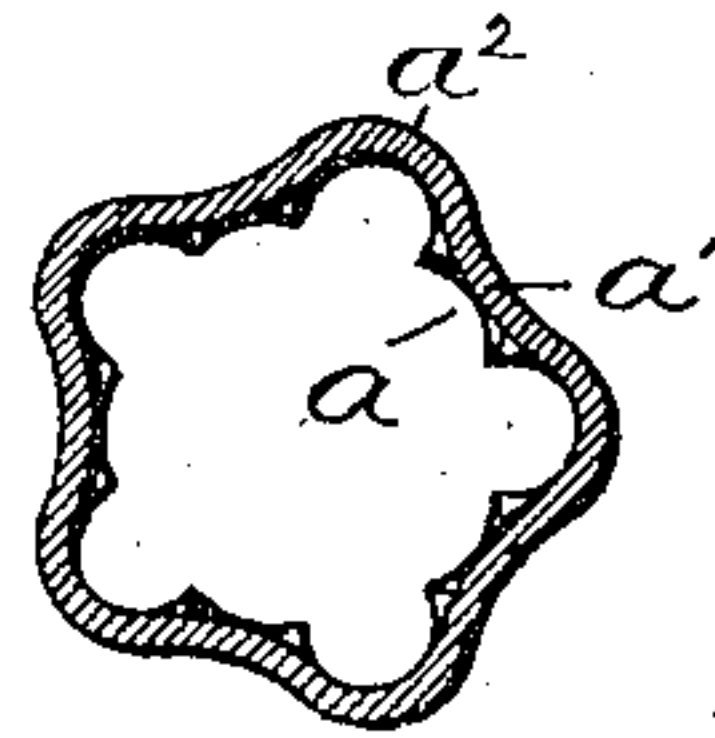


Fig. 4.



Witnesses:-

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UNITED STATES PATENT OFFICE.

AXEL LEVEDAHL, OF AURORA, ILLINOIS, ASSIGNOR TO THE GARDNER SEWING MACHINE COMPANY, OF SAME PLACE.

FINGER FOR COTTON-HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 517,578, dated April 3, 1894.

Application filed May 14, 1892. Serial No. 432,990. (No model.)

To all whom it may concern:

Be it known that I, AXEL LEVEDAHL, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Fingers for Cotton-Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has for its object to provide an improved tubular brush support in a finger or stem for cotton harvesting machines and to this end it consists in the metal part of such a finger constructed substantially as hereinafter set forth and pointed out in the claims. The number of picker fingers employed in a cotton harvester is so great (often reaching six hundred in a single machine) that cheapness and lightness are considerations of primary importance. Strength in the fingers is also essential inasmuch as the breaking or bending of one or only a few of the entire number of fingers present in a machine may render it wholly useless. It is to be understood at the outset that a metal body of a tubular finger having lengthwise slots and having bristles projecting through the slots from an interior bristle or brush holder is not new.

The exact nature of my invention will be understood from the accompanying drawings which illustrate the same and in which—

Figure 1 is a side elevation of my improved finger, complete. Fig. 2 represents the metal tube from which the body of the finger is made, after being slotted and preparatory to being further formed. Fig. 3 is a transverse section of the complete finger in the line 3—3 of Fig. 1. Fig. 4 is a transverse section in the line 4—4 of Fig. 1, omitting the brushes, and Fig. 5 is a transverse section of the tube after being slotted, in the line 5—5 of Fig. 2.

A represents a metal tube, usually of hard brass, cut to the length required for a cotton picker finger, including the journal on which the finger is to rotate in the machine. In this tube are cut a number of lengthwise slots a arranged in series end to end and those of each series or longitudinal row of slots be-

ing separated by short necks a' left uncut in the cylinder. Having reference to the usual length of the working or projecting portion of the finger or to the length of brush which it is to support, I prefer to make each series of slots a to consist of three, as shown, and to provide five such series, though these numbers may be varied. The outermost slots of the several series of slots terminate a short distance from the free end of the finger and between the proximate ends of the slots the necks a' form a continuous circumferential ring of uncut metal of the cylinder, left of full strength and serving to brace and tie together the lengthwise strips of metal a^2 between the slots. The slots a are made by means of a saw or saws, in a familiar manner, their width as left by the saws being considerably less than they are required to be ultimately. For the purpose of enlarging these slots to the desired width the strips a^2 of metal between them are bent or swaged inward at their edges, as indicated in Figs. 1, 3 and 4, thus not only widening the slots but also bending the intervening strips of metal a^2 into smaller parti-cylindric form, or approximately so, as indicated in Fig. 3. By this method several desirable results are attained. First, less metal is cut away in forming the slots, which of course results in leaving more of the metal remaining in the finger, and for this reason alone giving to the finger greater strength and rigidity. Secondly, the rigidity of the finger is still further increased by the partially folded form or sectionally more sharply curved shape thus given the metal strips a^2 . The necks a' uniting these adjacent strips of metal have the effect of holding them in proper relative position and of distributing the strain from one to another and thus still further increasing the rigidity of the finger. For the reason that these features of construction contribute in the manner described to the rigidity and strength of the finger, the tube from which the latter is formed may be proportionately lighter than would otherwise be required, with the result of materially lessening the cost of the machine and of making it correspondingly less weighty. Another advantage of the sharp sectional curve of the strips a^2 is that they present very narrow sur-

faces along their median lines for contact with the plant and they therefore accumulate but little of the gum which exudes from the plant and which, when spread upon broader
5 surfaces, so holds the cotton fiber as to seriously interfere with its removal by the cleaners employed for that purpose. The tube is left in its original cylindric form at its inner end A' to serve as the journal upon which it
10 is to rotate in the suitable bearing or bearings formed in or attached to the finger support or drum, and to the cylindric portion of the finger is applied the driving pinion by which it is rotated. This pinion is not shown
15 because it forms no part of the present invention, said invention having reference exclusively to the metal body of the finger. The bristles of the brush are shown in Figs. 1 and 3, protruding through the various slots *a* and
20 projecting from a bristle holder B consisting of twisted wire. This bristle or brush holder may be of any approved construction as it is not directly a part of this invention.

I claim as my invention—

25 1. A tubular cotton harvester finger body consisting of a single piece of cylindric tub-

ing having a plurality of lengthwise slots arranged side by side in its projecting portion, the metal strips between said slots having their edges directed inwardly and the inner
30 end portion of the tube having its original cylindric shape to form the journal on which the finger rotates.

2. A tubular cotton harvester finger body consisting of a single piece of cylindric tub- 35 ing having a plurality of lengthwise series of slots arranged side by side, the necks of metal separating the slots of each series being integral with the metal between the series of slots and the edges of the slots being de- 40 flected inwardly, leaving narrow, externally rounded surfaces exposed to contact with the cotton plant between the brushes which protrude through the slots.

In testimony that I claim the foregoing as 45 my invention I affix my signature in presence of two witnesses.

AXEL LEVEDAHL.

Witnesses:

A. V. BROWN.

F. OLSON.