

(No Model.)

W. G. SEARS.
COTTON PICKER STEM.

No. 353,167.

Patented Nov. 23, 1886.

Fig. 1.

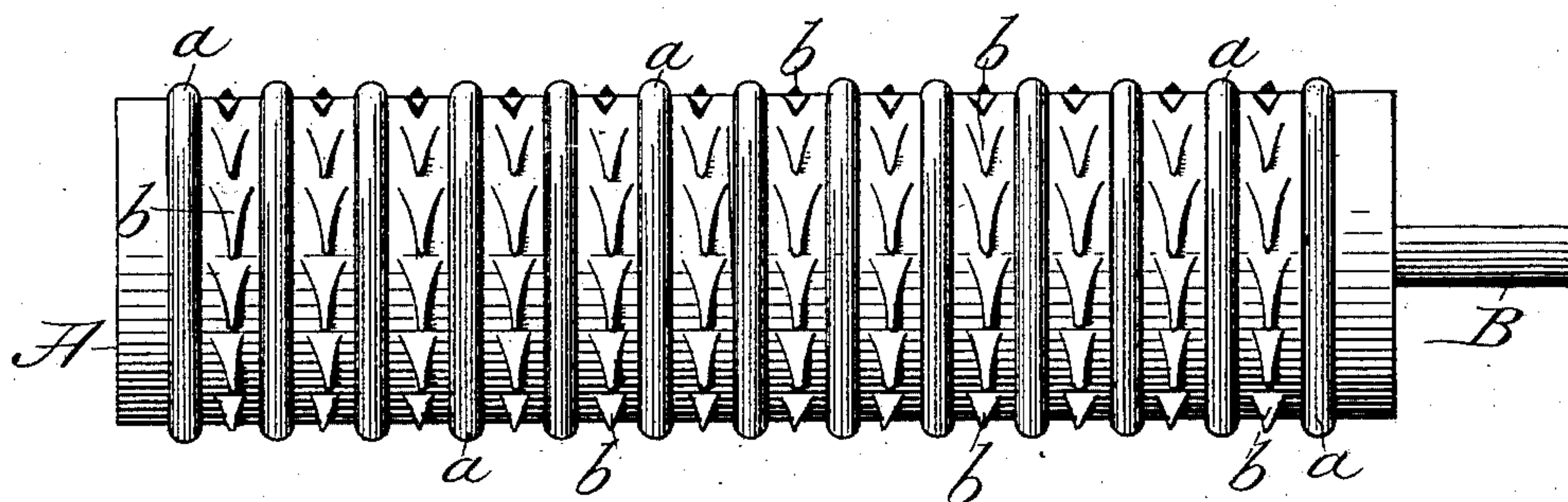


Fig. 2.

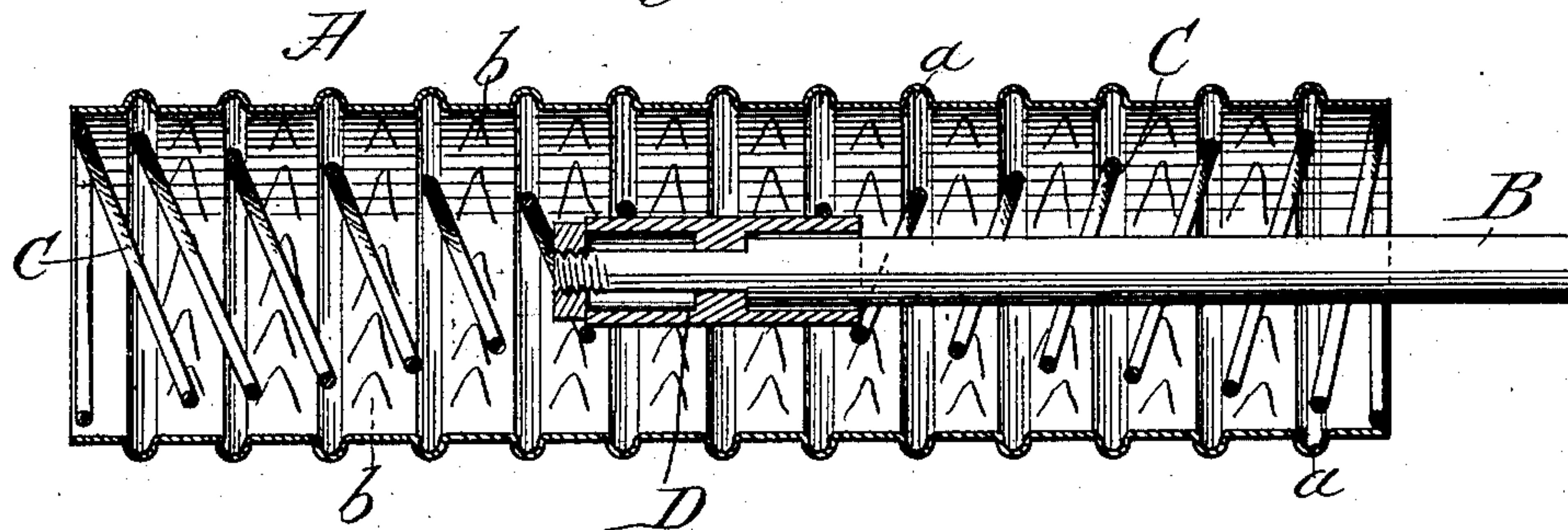


Fig. 3.

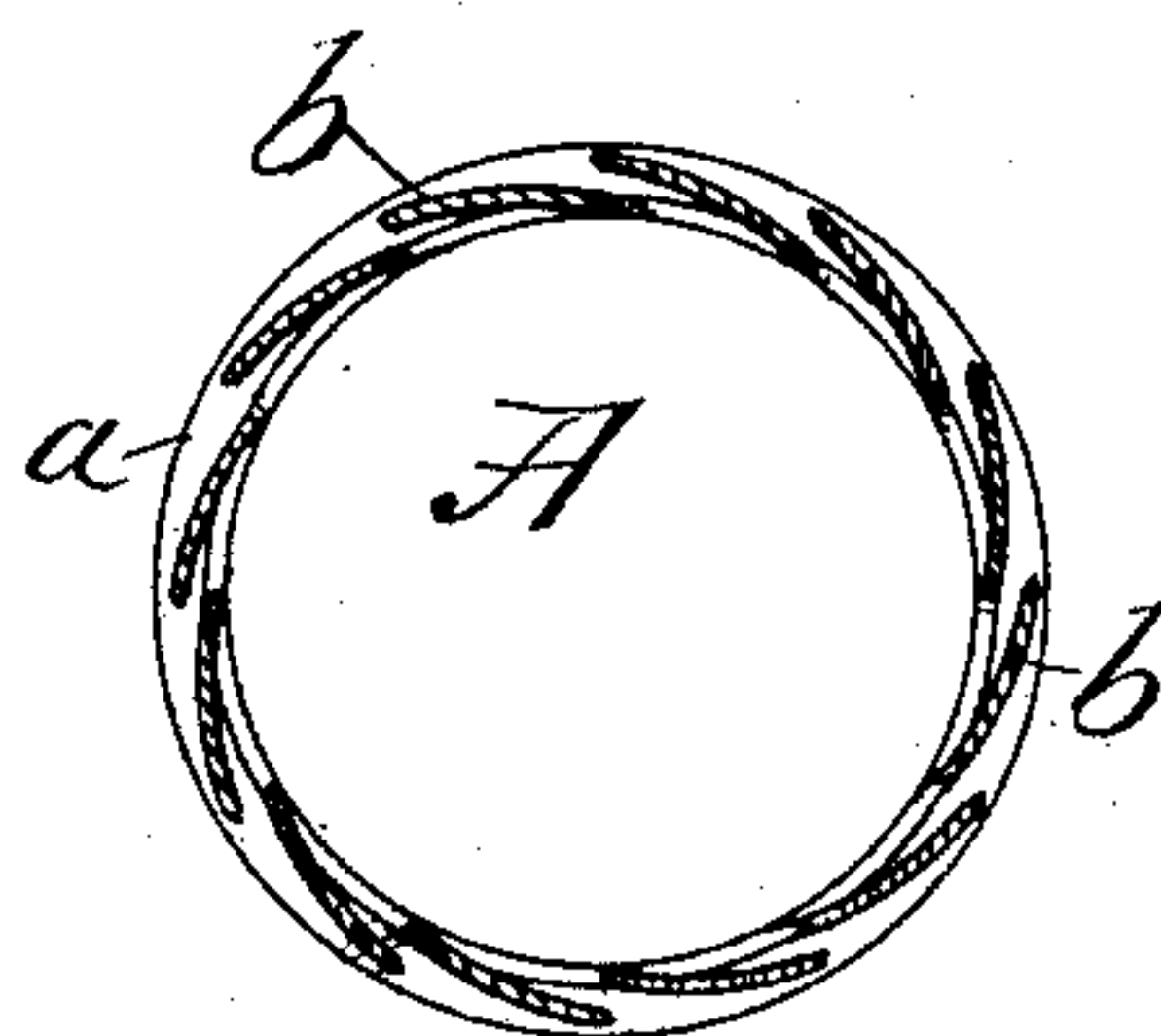
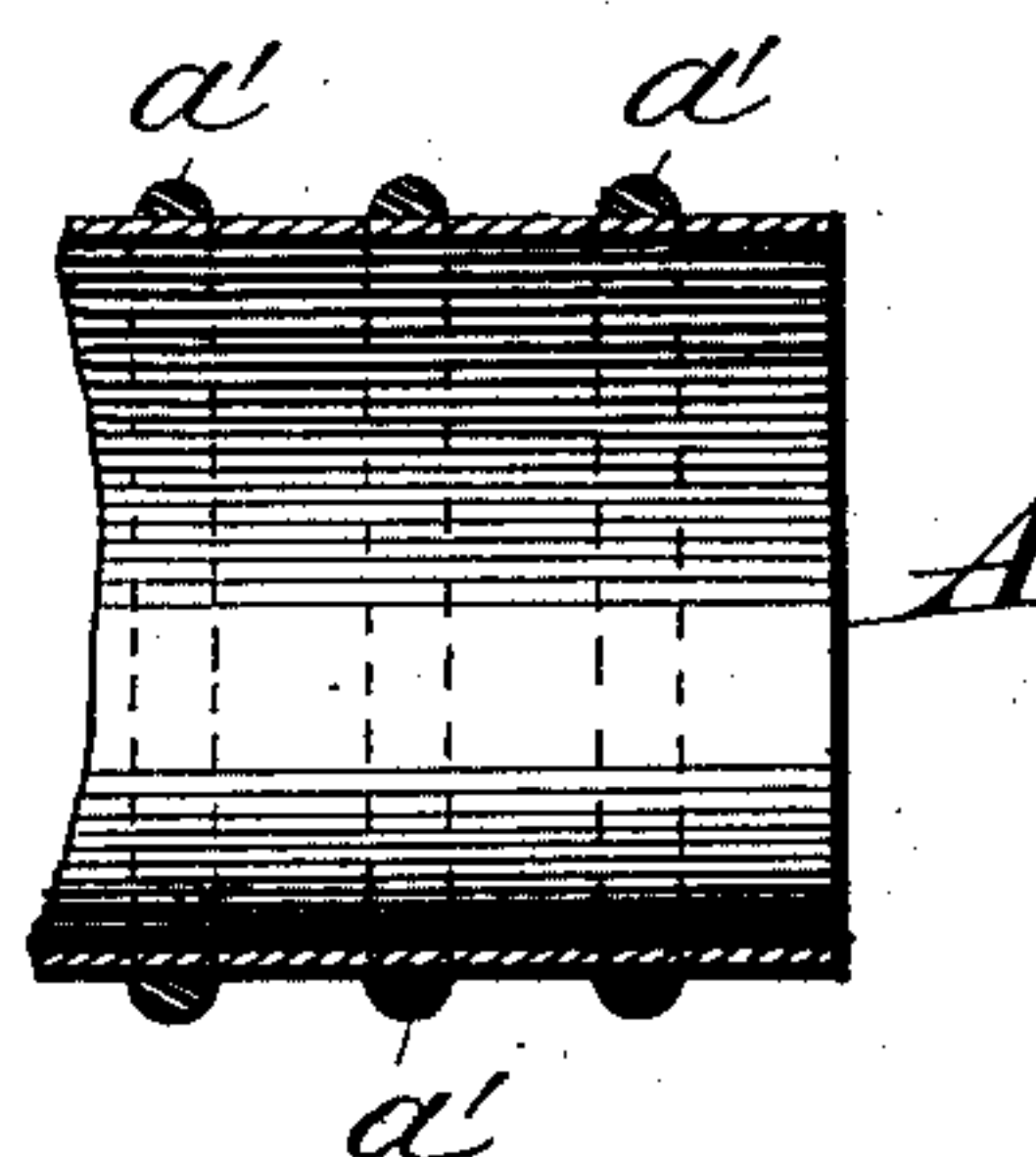


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

WILLIAM GOFF SEARS, OF CHATTANOOGA, TENNESSEE, ASSIGNOR OF ONE
HALF TO HIRAM SANBORN CHAMBERLAIN, OF SAME PLACE.

COTTON-PICKER STEM.

SPECIFICATION forming part of Letters Patent No. 353,167, dated November 23, 1886.

Application filed June 19, 1885. Serial No. 169,205. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GOFF SEARS, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Cotton-Picker Stems; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in cotton-picker stems; and it consists in such an improved arrangement and construction of the teeth and ribs upon the cylinder as will facilitate the rapid and easy picking of the cotton. It will be noticed that in the drawings annexed to this specification I have illustrated the cylindrical stem as containing coiled springs and supported by a central rod, in like manner as has already once been fully described in my application for Letters Patent filed February 27, 1885, Serial No. 157,213. This, therefore, I shall not proceed to again claim, broadly, but shall confine this application to the improved construction of the cylinder itself and to its combination with the internal springs.

In the annexed drawings, illustrating the invention, Figure 1 is a side elevation of the stem. Fig. 2 is a vertical section lengthwise of the stem; Fig. 3, a vertical section crosswise of the same; and Fig. 4 is a partial view of a stem having the ribs attached as separate strips.

Like letters of reference designate like parts in the several views.

A represents a sheet-metal cylinder, constructed of copper, brass, or any other suitable metal of proper thickness, and made in one or more parts soldered or riveted together. At intervals along the length of the cylinder ribs or ridges *a a* are struck up from the sheet metal and encircle the cylinder parallel with each other; or, instead of striking these up from the cylindrical surface, they may be made as separate strips and attached in any proper manner, as *a'*. Between these ribs and parallel therewith are circumferential rows of teeth *b b*, formed in the metal itself of the cylinder

by stamping out rows of triangularly shaped apertures, and leaving the parts *b b* thus stamped out to serve as the teeth. The triangular shape is not essential, as it is only necessary to cut the aperture into a shape which will allow the tooth to have a point. These points are slightly elevated or projected outward, so as to readily engage the cotton to be picked and tear it from the bolls. These teeth are made close to each other by stamping them out in such manner that the point of the one will almost be cut from the metal composing the body of the tooth next forward. Thus nearly all the available surface of the cylinder is made into teeth, which, being close together and following each other in quick succession as the stem revolves, will be more effectual in picking cotton than were the teeth alternated between longitudinal ribs, as has been the case heretofore. The ribs serve to support and strengthen the cylinder and counteract any weakening which might be occasioned therein by the multiplicity of the teeth.

The transversely-ribbed cylinder having rows of closely-set teeth between the ribs possesses many advantages over the other forms now in use, since the ribs, being more numerous, will strengthen the cylinder more than a few longitudinal ridges; also, the teeth can be set more closely together and the cotton will be much more completely picked from the plant than in pickers where a rib is made to intervene between two successive teeth, for in the rotation of the stem it is found that more or less cotton will be passed over when the ribs are longitudinal, as the rib takes up the space which should be occupied by a tooth, and the cotton which this tooth might gather is left ungathered. By my improved construction herein described this difficulty is remedied, as the teeth are set as close together as is possible. The same objection, further, as has just been urged against longitudinal ribs cannot with equal justice be stated against my circumferential ridges, since it is absolutely necessary to have a certain amount of the cylindrical surface unpunched with apertures, and it is evident that no more of this surface is taken to fashion the ribs than must necessarily be left to strengthen the cylinder, as the teeth are

punched out close to the ribs and no surplus surface is left.

It is often found convenient, when the metal of which the cylinder is composed is sufficiently thick, to sharpen the teeth after they have been stamped out, so as to make the point and edges keener and more ready to grasp the cotton.

B represents the central shaft or supporting-rod by means of which the stem is attached to the cotton-picking machine. Its inner end is inclosed by a band or ferrule, D, and the rod and ferrule are preferably fastened together by parallel faces projecting from the inside of the ferrule and fitted to the spindle or shaft. This ferrule D is suspended and held in position in the central line of the cylinder by coiled springs C, arranged as shown in Fig. 2; but this construction and arrangement of the central springs I do not here specifically claim, as the same has already been made the subject of a separate application for Letters Patent above referred to.

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

1. In a cotton-picker stem, an outer envelope or cylinder yieldingly supported upon a central stem, and provided with parallel circumferential rows of teeth which are struck from the metal itself of the cylinder, and circumferential continuous ribs alternating with the rows of teeth, substantially as described.

2. A cotton-picker stem consisting of the cylinder A, having circumferential rows of teeth *b b* and ribs *a a*, parallel therewith, the rod B, and coiled springs C, substantially as shown and described.

3. The combination, with the supporting-rod of a cotton-picker stem, of an outer envelope or cylinder provided with parallel circumferential rows of teeth and parallel circumferential continuous ribs alternating with the rows of teeth, both said ribs and teeth being formed from the metal of the cylinder, substantially as specified and shown.

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

WILLIAM GOFF SEARS.

Witnesses:

D. J. DUFFY,
LEONARD BOICE.