

(No Model.)

T. KERSHAW & H. E. CUNNINGHAM.

TOOTH FOR CLEANING ROLLERS OF CARDING MACHINES.

No. 253,065.

Patented Jan. 31, 1882.

FIG. 1.

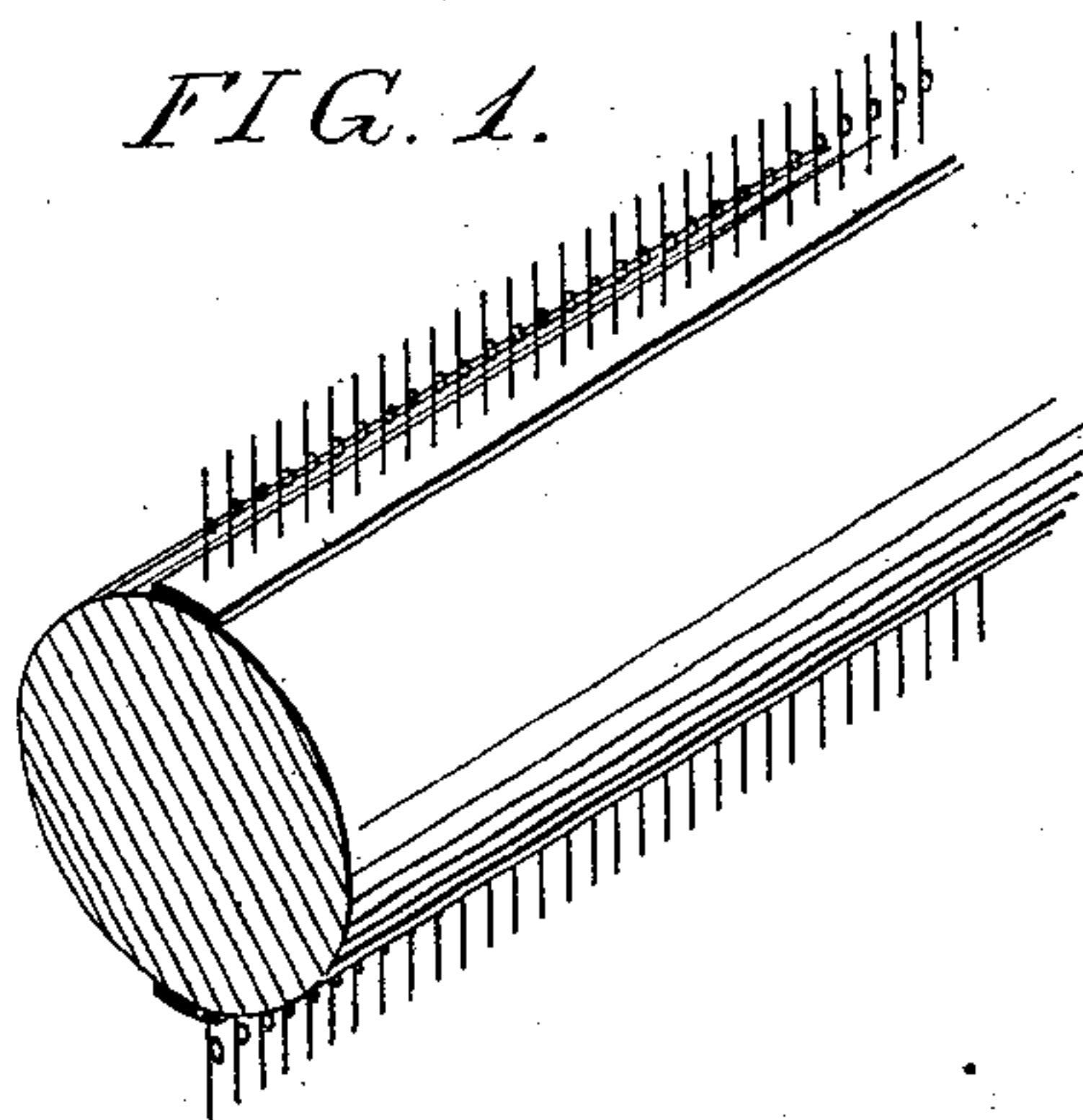


FIG. 2.

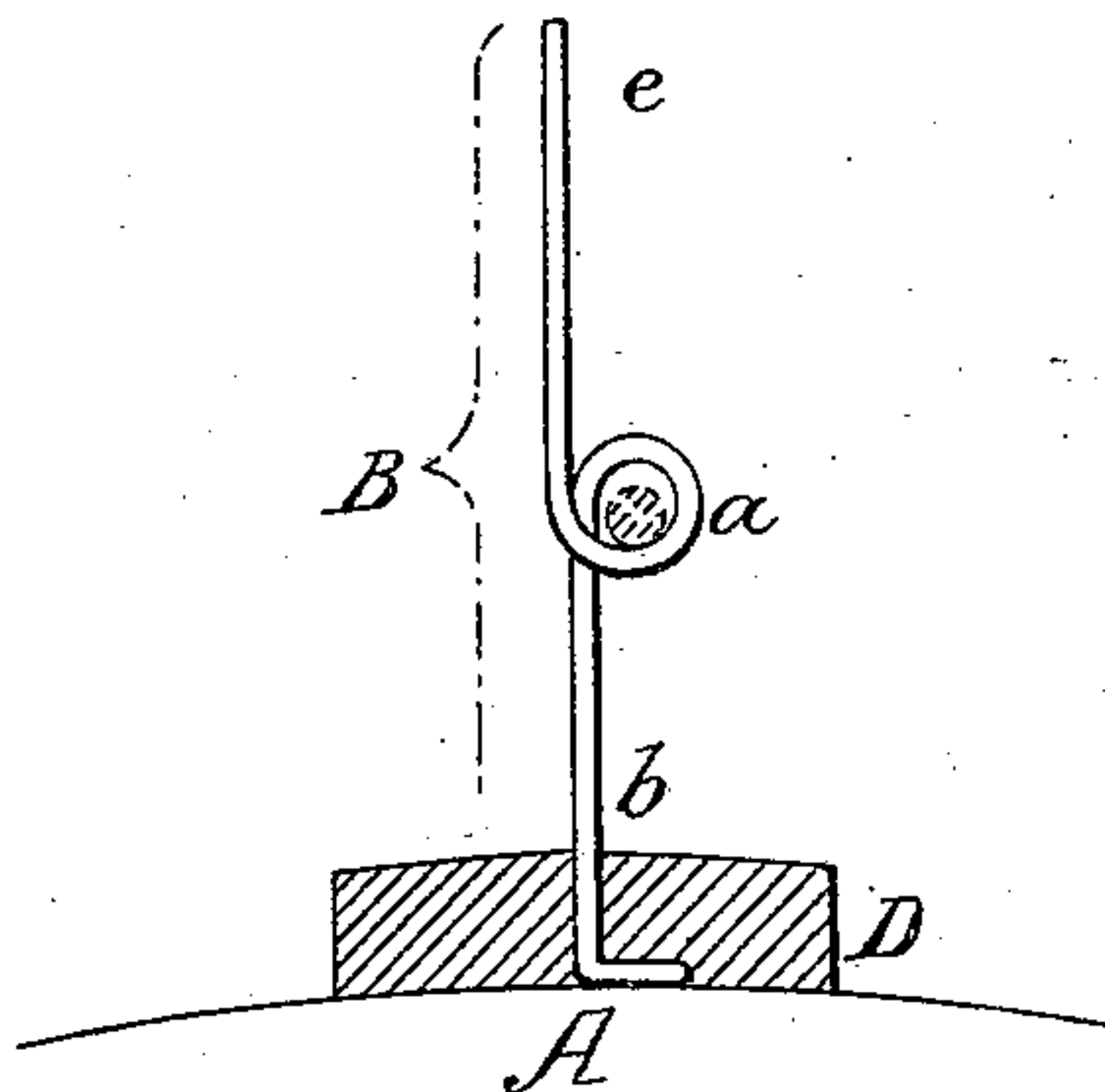


FIG. 3.

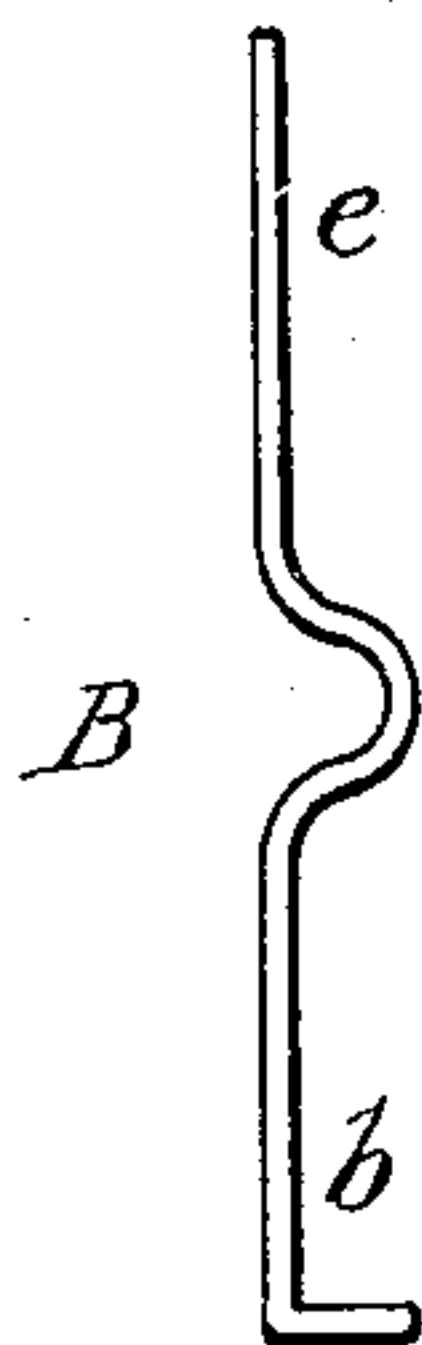


FIG. 4.

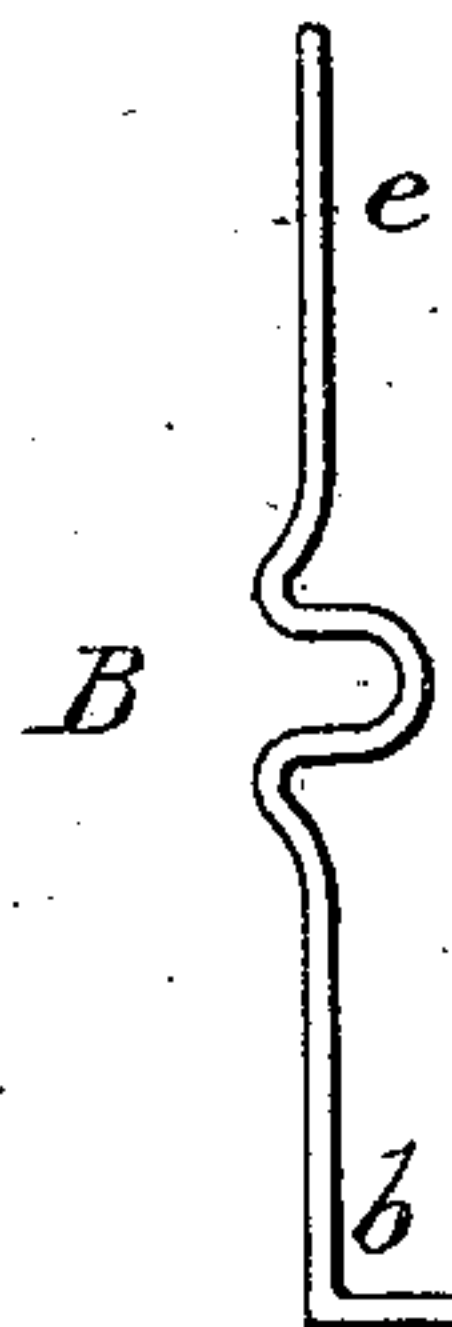


FIG. 5.

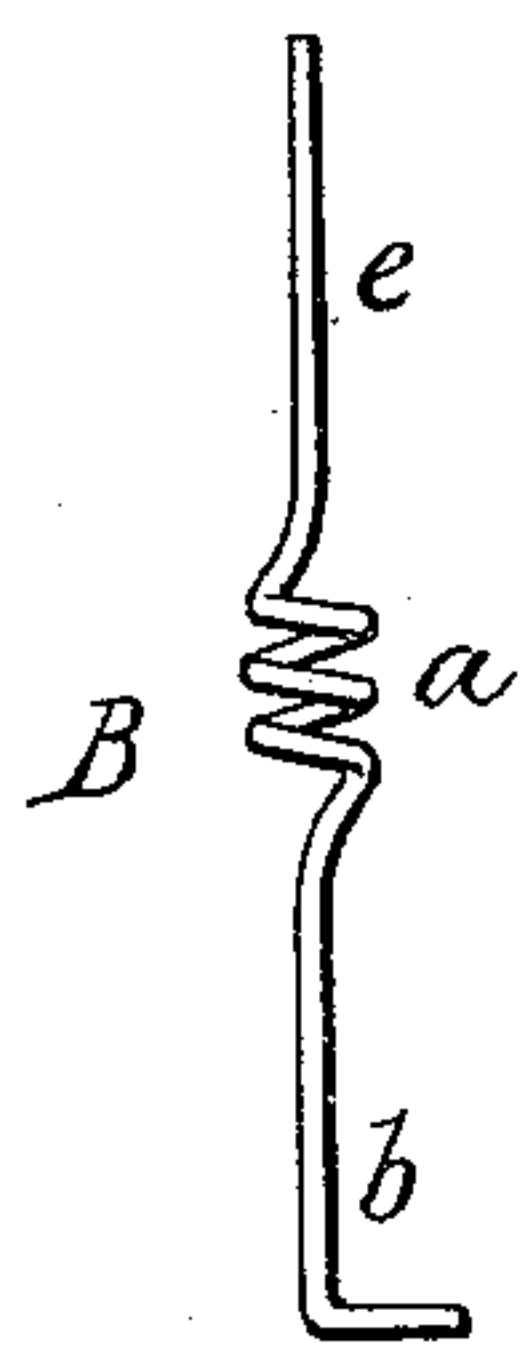


FIG. 6.

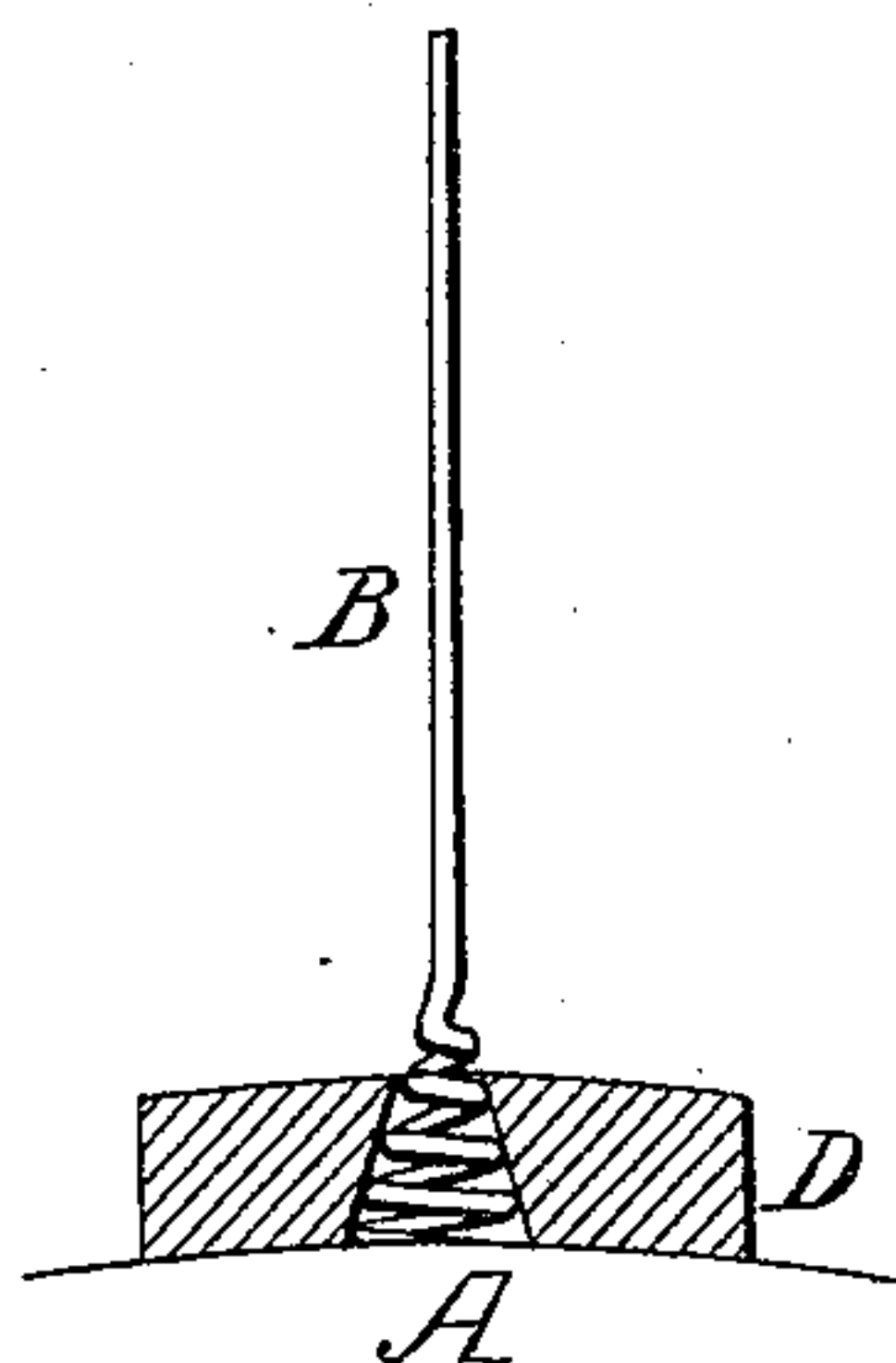
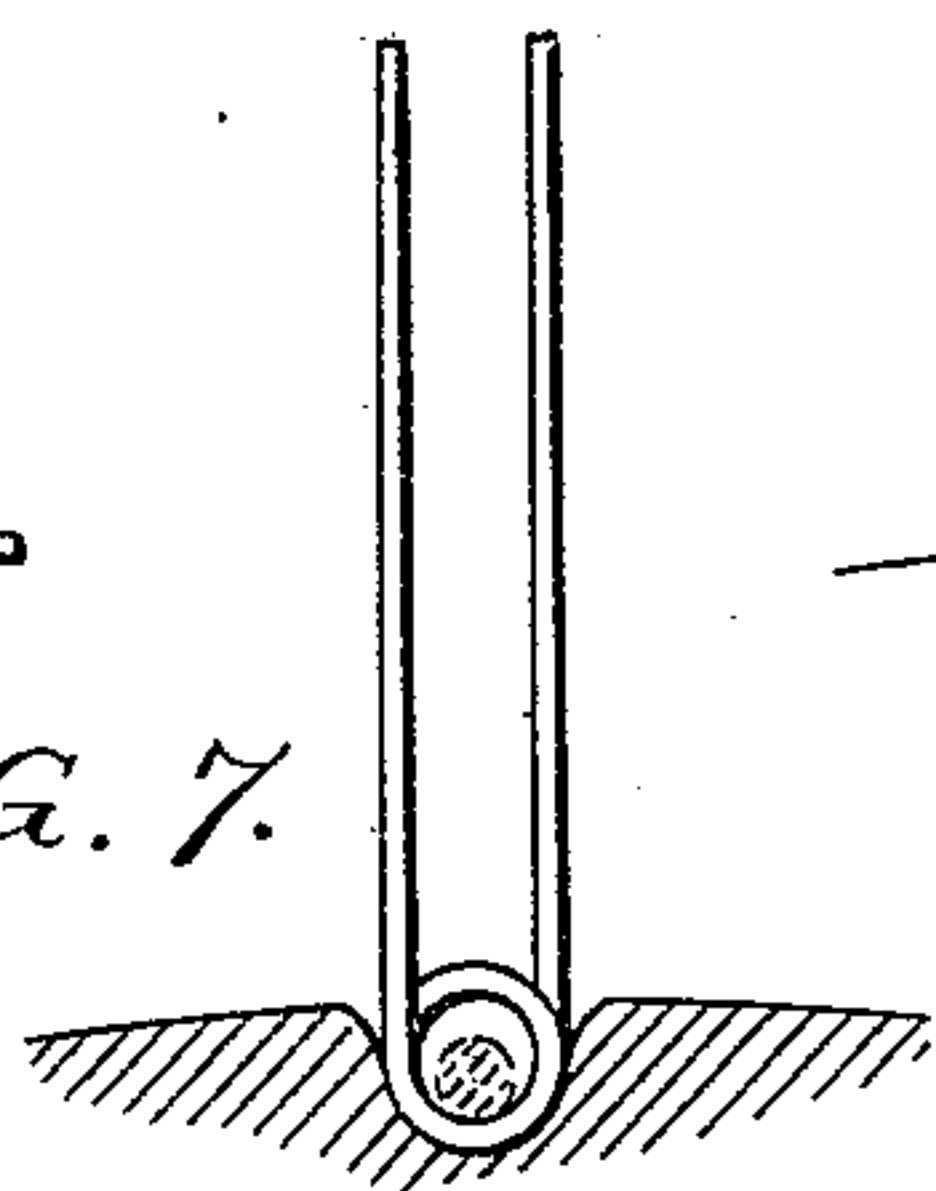


FIG. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS KERSHAW AND HERMON E. CUNNINGHAM, OF PHILADELPHIA,
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TOOTH FOR CLEANING ROLLERS OF CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 253,065, dated January 31, 1882.

Application filed June 23, 1881. (No model.)

To all whom it may concern:

Be it known that we, THOMAS KERSHAW and HERMON E. CUNNINGHAM, citizens of the United States, residing in Philadelphia, Pennsylvania, have invented an Improvement in Teeth for Cleaning Rollers of Carding-Machines, of which the following is a specification.

Our invention relates to an improvement in the toothed roller employed for cleaning the main cylinder of a carding-engine, as described in Letters Patent No. 220,905, October 21, 1879, the object of our present invention being to impart increased elasticity to the teeth and enable them to withstand the strains to which they are necessarily subjected.

In the accompanying drawings, Figure 1 is a perspective view of part of the cleaning-roller with our invention attached thereto; Fig. 2, a view of our improved tooth, showing a mode of securing it to the rolls; Figs. 3, 4, 5, and 6, modifications of the tooth; and Fig. 7, a view showing another modification and another mode of securing the tooth to the roller.

In Fig. 2, A is part of the cleaning cylinder or roller of a carding-engine, and B one of the teeth, which is made of steel wire, bent at *a*, and secured to the cylinder. A single straight row of these teeth may be arranged on the cylinder, or two rows, as shown in the perspective view, Fig. 1; or there may be one or more spiral rows of teeth on the cylinder.

We do not restrict ourselves to any specific mode of securing the teeth to the cylinder, as different plans of effecting this purpose may be adopted. In Fig. 2 the teeth are secured to the cylinder through the medium of a longitudinal strip, D, of metal or hard wood, the shank *b* of each tooth being first passed through the strip, then bent beneath the same, and the strip being subsequently secured to the cylinder by screws or otherwise. It is essential to our invention that the tooth should be bent at

some point between its outer end and the base, where it is secured to the cylinder, so that the tooth may have increased elasticity, and may yield more freely before breaking than a straight tooth. The bend, for instance, may be at *a*, Fig. 2, and may consist of a single convolution of the wire; or there may be two convolutions; or the bend may be as shown in Figs. 3 and 4; or it may be made by coiling the wire spirally, as in Fig. 5.

Another plan of carrying our invention into effect is shown in Fig. 6, in which a tooth with a conical base is formed by coiling the wire, this base being adapted to a conical orifice in the strip D, which is secured to the cylinder, enough of the coiled portion of the wire being free from the strip to impart the desired elasticity to the tooth.

A simple coil in the wire may be substituted for the conical base, as shown in Fig. 7, which represents a double tooth, and lateral stiffness may be imparted to the rows of teeth by adapting to the coils of the teeth, Figs. 2 and 7, a rod—such, for instance, as shown by dotted lines—this rod being secured to the cylinder at the ends, and at such intermediate points as may be necessary, and being of such a diameter as not to interfere with the elasticity of the coils.

We claim as our invention—

The combination of the roller A with a series of teeth, each of which is coiled or otherwise bent at or above the base, whereby its elasticity is increased, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOMAS KERSHAW.

HERMON E. CUNNINGHAM.

Witnesses:

JAMES F. TOBIN,
HARRY SMITH.