F. MOSSBERG.

BRAIDER SPOOL.

APPLICATION FILED JULY 7, 1909.

962,715.

Patented June 28, 1910.

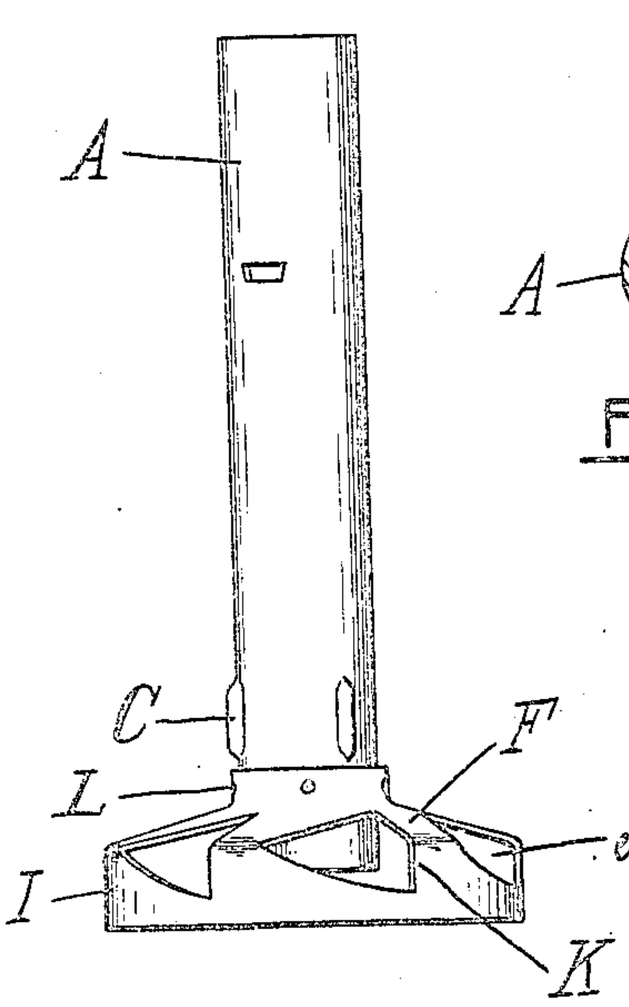

FIG. 1.

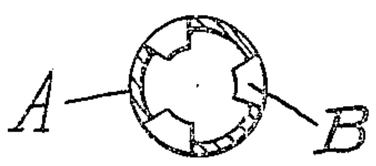

FIG. 3.

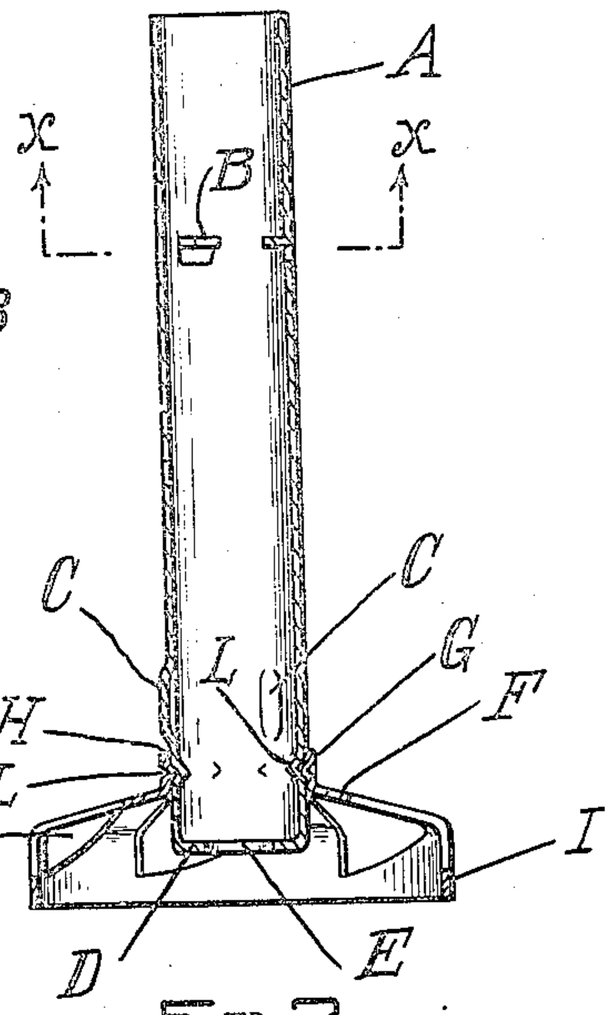

FIG. 2.

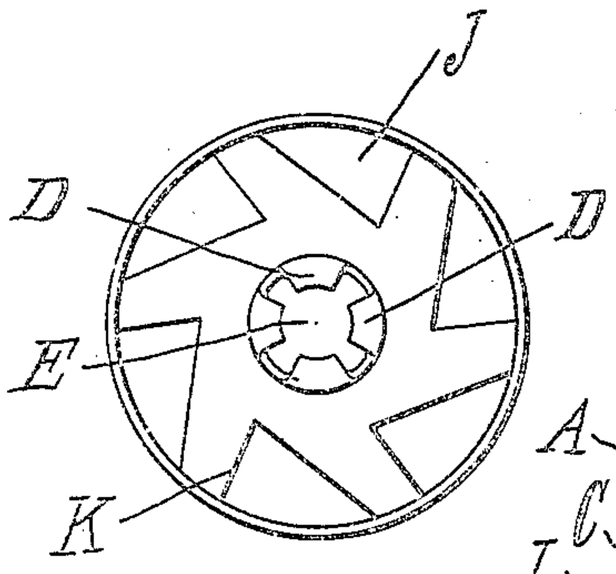

FIG. 4.

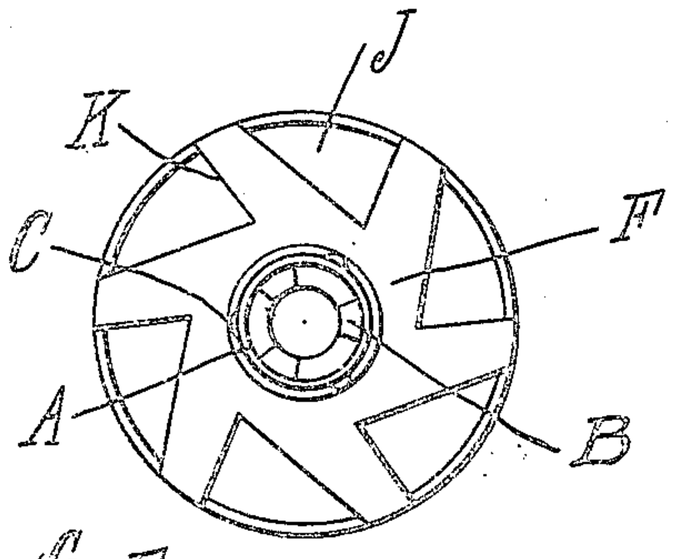

FIG. 5.

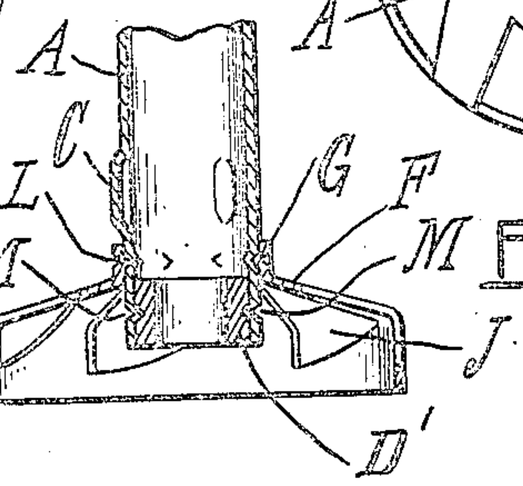

FIG. 6.

WITNESSES.

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FRANK MOSSBERG, OF ATTLEBORO, MASSACHUSETTS, ASSIGNOR TO FRANK MOSSBERG COMPANY, A CORPORATION OF RHODE ISLAND.

BRAIDER-SPOOL.

962,715. Specification of Letters Patent. **Patented June 28, 1910.**

Application filed July 7, 1909. Serial No. 506,297.

To all whom it may concern:

Be it known that I, FRANK MOSSBERG, a citizen of the United States, residing at Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Braider-Spools, of which the following is a specification.

My invention relates to braider spools and has for its essential objects simplicity, strength, lightness, and cheapness.

The invention consists primarily in the novel construction of the head, in the spindle bearing, and in the novel combination of all the constituent parts.

In the accompanying drawings which form a part of this specification, Figure 1, is a side elevation of my novel spool, Fig. 2, a vertical central section of the same, Fig. 3, a section on line $x\ x$ of Fig. 2, Figs. 4 and 5, bottom and top plan views respectively of the spool, and Fig. 6, a central vertical section of the lower portion of a modified form of spool.

Like reference characters indicate like parts throughout the views.

The tube A of the spool is composed of pressed steel or other thin metal, and intermediate its length has inwardly projecting fingers B cut from the material of the tube to form supports for the spindle. Near its lower end oblong longitudinally disposed projections C are pressed outwardly from the tube which serve to assist the retention of the paper tube in position upon the spool tube. Integral fingers D upon the lower extremity of the tube are inwardly bent, leaving a central circular opening E to receive the spindle whose bearing is formed by the inturned portion D D of the tube.

The head of the spool is formed from a single piece of thin metal and comprises a horizontal or conical top F, a collar G around an opening H in the center of the top, and a cylindrical base or side wall I, thus forming a hollow head. Substantially angular openings J are cut in the top and side wall of the head to form a series of angular shoulders or teeth K around the top of the head and remote from the edge of the base, the latter being perfectly even.

The tube A passes through the opening H in the head and projects a distance within the head, and is surrounded by the collar G with which it is engaged in any convenient or desired manner. In the present instance it is retained by prick punch projections L, although they may be engaged by friction merely.

If preferred a bushing D′, as shown in Fig. 6, may be placed in the lower end of the tube A in place of the bearing portion D, D, and be retained in position frictionally or by prick punch projections M.

What I claim, is—

1. In a spool of the type set forth, the combination with a tube, of a head fixed to the tube provided with a smooth base, and teeth upon the head above the base.

2. In a spool of the type set forth, the combination with a tube, of a hollow head fixed to the tube, and teeth upon an intermediate portion of the head.

3. In a spool of the type set forth, the combination with a tube, of a spindle bearing upon the lower portion of the tube, a head upon the tube surrounding the bearing, and teeth upon an intermediate portion of the head.

4. In a spool of the type set forth, the combination with a tube, of a spindle bearing in the lower portion of the tube, a head comprising a top, a side, and a flange engaging the tube, and teeth formed by a series of openings in the top and side.

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

FRANK MOSSBERG.

Witnesses:

HORATIO E. BELLOWS,

GEORGE H. MCLAUGHLIN.