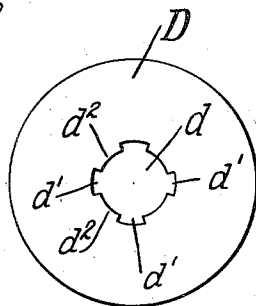
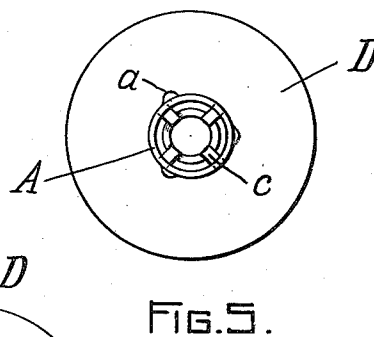
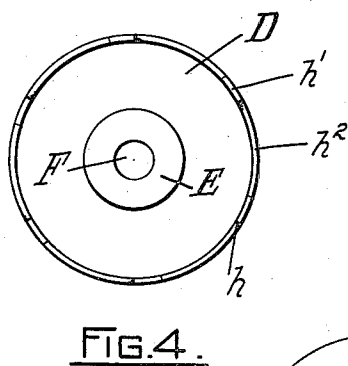
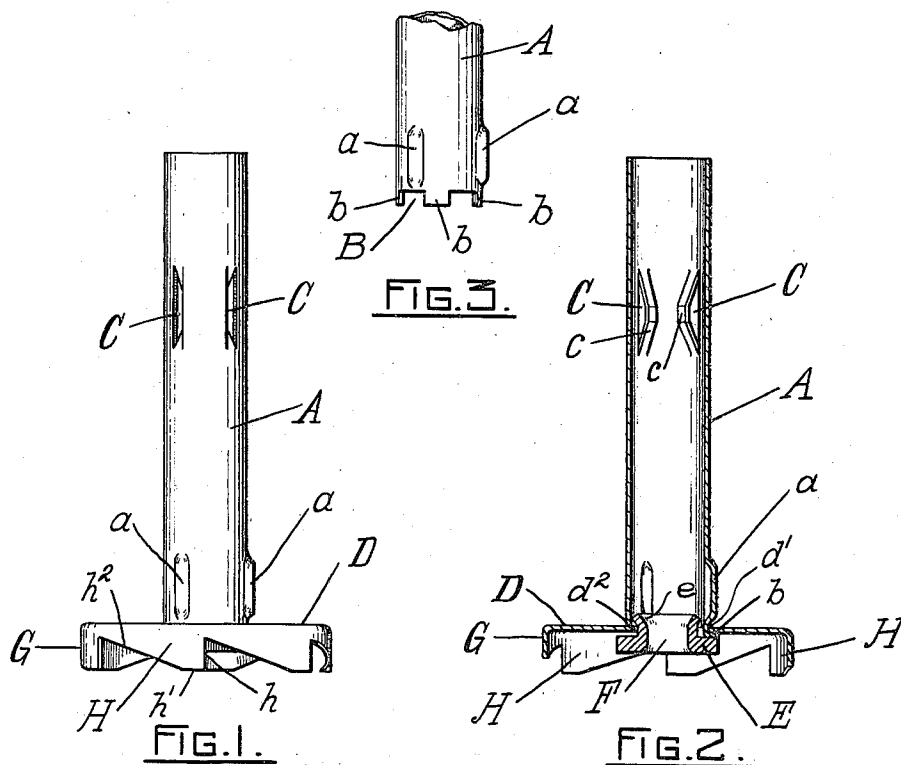


F. MOSSBERG.
BRAIDER SPOOL.
APPLICATION FILED JULY 7, 1909.

995,801.

Patented June 20, 1911.

2 SHEETS—SHEET 1.



WITNESSES.

Albert E. Reymondowski.
George H. McLaughlin.

INVENTOR.

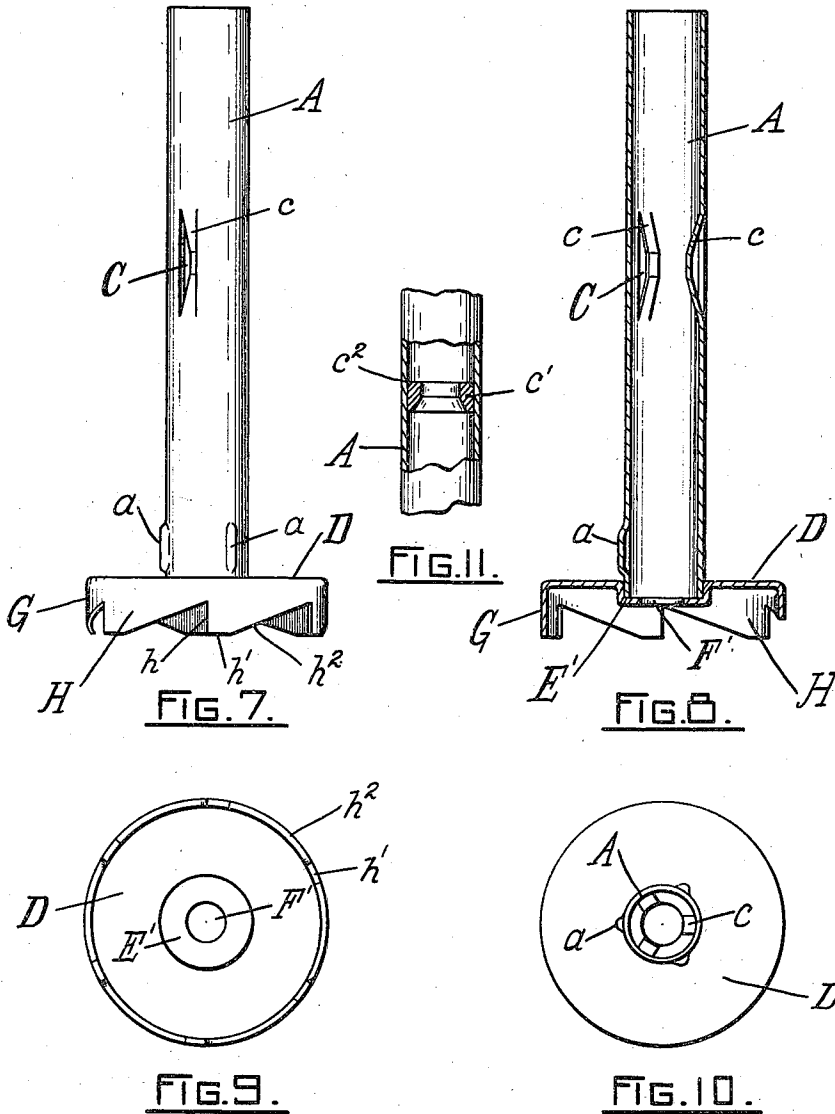
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2 SHEETS—SHEET 2.



WITNESSES.

Albert G. Piesonthowski.
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UNITED STATES PATENT OFFICE.

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

BRAIDER-SPOOL.

995,801.

Specification of Letters Patent. Patented June 20, 1911.

Application filed July 7, 1909. Serial No. 506,296.

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 the avoidance of splitting and wear incident to wooden spools, also to attain in such a structure lightness, strength, durability and inexpensiveness.

To these ends primarily my invention consists in forming the spool of steel or metal, in providing a member which shall serve both as a bearing and clenching means, in affording an auxiliary bearing for the spindle, in providing means for preventing the rotation of the paper tube to be mounted on the spool, in affording an annular space within the teeth, and in the novel construction and combination of the constituent parts of the entire structure.

Other novel features will be hereinafter pointed out and claimed.

In the accompanying drawings which constitute a part of this specification, and in which like characters of reference indicate like parts throughout the views, Figure 1, is a side elevation of a braider spool embodying my invention, Fig. 2, a vertical central section of the same, Fig. 3, an elevation of the lower end of the tube before bending, Figs. 4 and 5, bottom and top plan views respectively of the spool, Fig. 6, a plan of the disk before engagement with the tube, Figs. 7, 8, 9, and 10, side, central sectional, bottom plan, and top plan views respectively of a modified form of spool, and Fig. 11, sectional view of a ring shaped bearing in the tube.

In detail the novel spool comprises a vertical tube A of steel or other thin metal, provided near its lower end with a plurality of longitudinal lugs, *a*, annularly disposed and outwardly drawn from the material of the tube. The lower extremity of the tube has rectangular incisions B forming a series of rectangular interspaced lugs *b* extending in the plane of the tube wall. Longitudinal slits, C, are cut in an intermediate portion of the tube wall and the material or strips *c* between the incisions are inwardly pressed

to form internal bearing members or shoulders for the spindle.

The head or base of the spool comprises a thin steel or metallic circular disk or body D provided with a central circular opening *d* from which extend a series of marginal recesses *d'* forming marginal lugs *d*². The lugs *b* of the tube are inserted through the recesses *d'* and are outwardly or radially bent against the lower face of the disk D to connect the tube therewith. The inner margins of the lugs extend slightly within the wall of the tube A. In order to tightly hold and retain the interlocking lugs *b* and *d*² in their described position and thus insure the rigid union of the tube and disk, an annular metallic bearing block or ring E is provided whose upper face rests against the bent lugs *b* and which has a central upwardly flanged portion *e* bent outwardly to engage the lugs *d*². The opening F of the bearing admits the spindle. The body of the head D is provided with a downwardly directed peripheral flange G having upon its lower margin a series of angular teeth H, each comprising a vertical, a horizontal, and an upwardly inclined edge *h*, *h'*, and *h*² respectively. The member E not only forms a solid and substantial bearing for the spindle at the point of maximum wear but in this instance serves as a means for clamping the tube and disk together and covering the interengaging lugs. The member E while concentric with the flange G is interspaced therefrom rendering the head of the spool practically hollow.

While I prefer for the sake of economy to construct the auxiliary spindle bearing *e*, *e*, as shown, a modified form may be used as shown in Fig. 11 consisting of a ring *c'* provided with a chamfered margin to receive solder *c*² by which the ring is fixed to the tube wall.

In Figs. 7 to 10 inclusive is shown another method of uniting the tube and head. This consists in forming a central circular depression E' in the disk D provided with an opening F' to receive the spindle. The lower end of the tube A is forced into the depression D and is retained therein by brazing, soldering or electric welding.

What I claim is,—

1. A braider spool comprising a metallic tube, a metallic disk upon one end there-

of, a downwardly extending supporting flange bent from the periphery of said disk and provided with teeth, and a bearing ring within the flange engaging the end of said tube.

5 2. A braider spool comprising a tube, a disk upon the end thereof, said disk having a flange provided with teeth, and a bearing ring of separate formation disposed within the flange of the latter and spaced there-
10 from.

3. In a spool of the type set forth, the combination of a tube provided with lugs upon its ends, an apertured disk adapted to
15 receive the lugs against its outer face and provided with recesses through which the lugs pass, a bearing ring resting against the

lugs and provided with a portion flanged over the margin of the aperture, and a flange upon the disk.

4. A braider spool comprising a tube provided with projections upon its lower portion, a disk upon one end of said tube adjacent said projections, said disk having a flange provided with teeth, and a bearing
25 ring upon the disk of separate formation within said flange.

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

FRANK MOSSBERG.

Witnesses:

HORATIO E. BELLOWES,
GEORGE H. McLAUGHLIN.