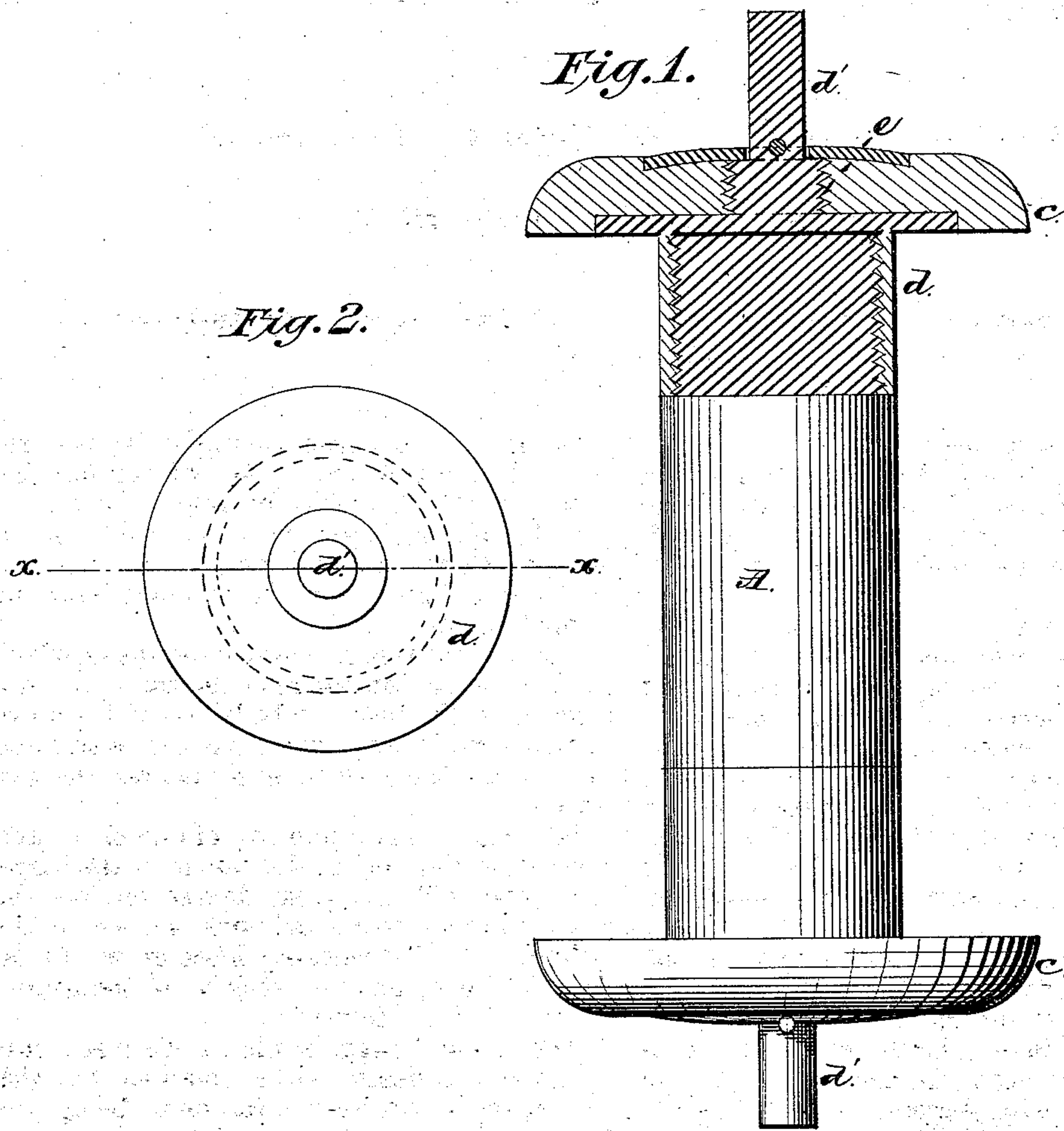


W. INGHAM.
Bobbins.

No. 154,332.

Patented Aug. 25, 1874.



Attest:

Inventor:

Frank H. Arnold, William Ingham
James E. Arnold By Atty Benjamin Arnold

UNITED STATES PATENT OFFICE.

WILLIAM INGHAM, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN BOBBINS.

Specification forming part of Letters Patent No. **154,332**, dated August 25, 1874; application filed April 29, 1874.

To all whom it may concern:

Be it known that I, WILLIAM INGHAM, of the city and county of Providence and State of Rhode Island, have invented an Improved Spool, of which the following is a specification:

The object of my invention is to improve the construction of spools by making the pivot in one piece with the cap that is fastened on the end of the barrel, and providing the pivot with a screw-threaded enlargement by which to attach the spool-head.

In the drawings, Figure 1 is a spool, shown one end in section, that the mode of applying the cap may be seen. Fig. 2 shows the cap with the pivot, separate from the spool, top view.

A is the barrel. *c c* are the heads. *d* is the cap, which consists of the longitudinal flange or ring that goes on the barrel of the spool, and a plate or flange placed across its end in the plane of the head, all made or cast in one piece, together with the pivot *d'* that projects from the center of this plate or flange. This cap and pivot may be made of malleable iron, or any other suitable metal. The pivot, where it joins the cap, is enlarged for a short distance, and has a screw-thread, *e*, made on it, onto which the wooden head of the bobbin is

screwed, and kept from coming off by a washer on the outside, with a pin put through the pivot; or the head may be held on by screws put through the flange from the inside into it. A screw-thread is also made on the inside of the cap, so that it may be screwed onto the bobbin-barrel.

For the purpose of making the inside of the head level, the top flange of the cap is let into a recess in the head. The barrel of the spool is also turned down where the cap is screwed on to make the surface level between the two heads.

Making the pivot and cap of one piece, and increasing the hold of the cap upon the barrel and head, will in a great degree obviate the main troubles connected with the use of the bobbin—viz., the working loose of the pivot, and the loosening and breaking of the head.

I claim as my invention—

The cap and pivot made in one piece, substantially as described, in combination with the barrel A and head *c*, the pivot being provided with a thread, *e*, for retaining the head, for the purpose set forth.

WILLIAM INGHAM.

Witnesses:

JOHN GLEDHILL,
JOHN KIRKWOOD.