

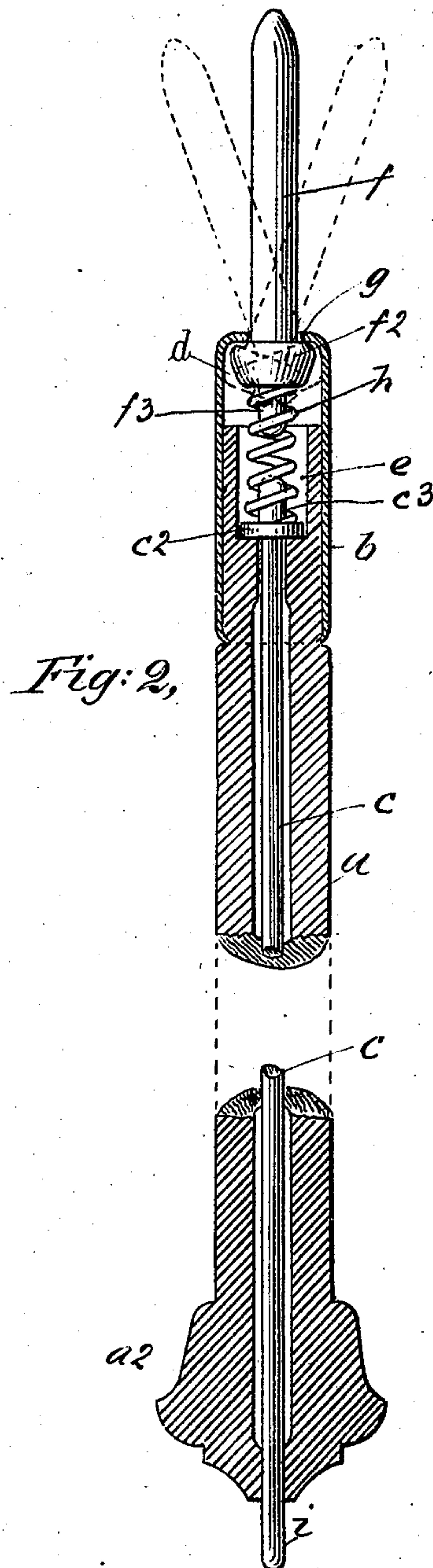
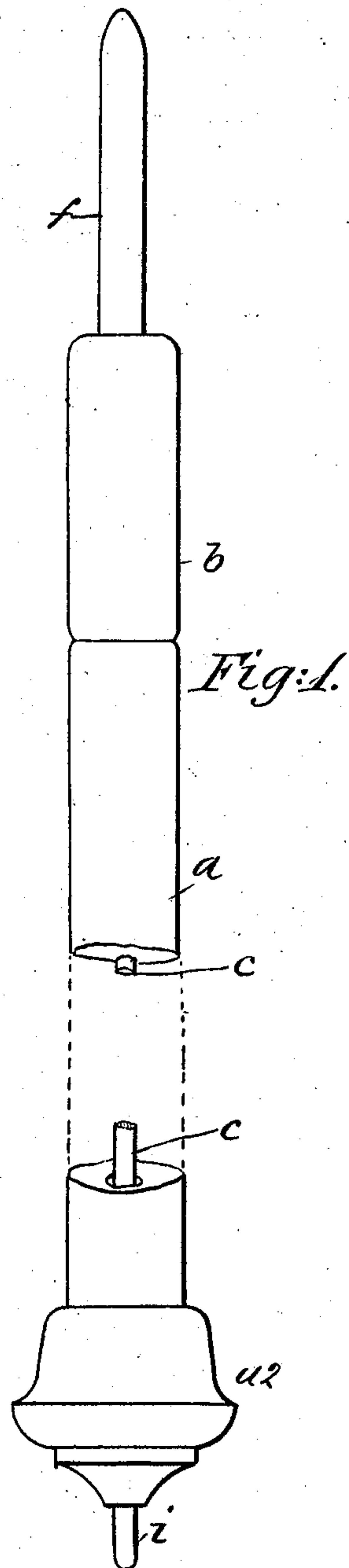
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PATENTED MAR. 19, 1907.

E. H. BOOCOCK & J. SUTCLIFFE.

BOBBIN BROACH OR CREEL PIN.

APPLICATION FILED OCT. 20, 1906.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD HANSON BOOCOCK, OF WEST VALE, NEAR HALIFAX, AND JOSEPH SUTCLIFFE, OF COW GREEN, HALIFAX, ENGLAND.

BOBBIN BROACH OR CREEL-PIN.

No. 847,638.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed October 20, 1906. Serial No. 339,757.

To all whom it may concern:

Be it known that we, EDWARD HANSON BOOCOCK and JOSEPH SUTCLIFFE, subjects of the King of Great Britain, and residing, respectively, at West Vale, near Halifax, and Cow Green, Halifax, in the county of York, England, have invented certain new and useful Improvements in Bobbin Broaches or Creel-Pins, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to bobbin broaches or creel-pins; and the object thereof is to provide an improved device of this class designed to avoid in a great measure the breakage which often occurs with the old kind of broaches or creel-pins by reason of the top and bottom nipples, which are turned solid with the broach or creel-pin, being broken off in taking it out of the creel to remove the empty bobbin, such breakage frequently occurring if for any reason the broach or creel-pin should fall or be dropped on the floor.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a side view of our improved broach or creel-pin, and Fig. 2 a longitudinal section thereof.

In the practice of our invention we provide a broach or creel-pin *a*, one end of which is provided with a head *a*² in the usual manner, and the other end of said broach or creel-pin is provided with a metal cap or sleeve *b*, and passing longitudinally through the broach or creel-pin is a rod *c*. The sleeve or cap *b* forms a chamber *d* in that end of the broach or creel-pin with which said cap is connected, and said cap or sleeve projects beyond the body portion of the broach or creel-pin in order to form said chamber, and the body portion of the broach or creel-pin is provided in said end with a chamber or recess *e*.

The rod *c* is provided at the end thereof within the chamber or recess *e* with a head *c*², and mounted in the end of the broach or creel-pin formed by the sleeve or cap *b* is a flexible nipple *f*. This nipple is made, preferably, of lancewood, or it may be made of

aluminium or of any other suitable material, and the inner end thereof is provided with a bulb or head *f*², which is preferably of the form of a truncated cone, and said nipple passes through a hole *g* in the cap or sleeve *b*, the transverse dimensions of which are greater than the transverse dimensions of the nipple *f*, and the base of the head *f*² bears on the surrounding walls of the hole *g*, and said base is rounded, so as to facilitate the tipping or tilting of the nipple *f*, as shown in dotted lines in Fig. 2.

Between the end of the rod *c* and the head *f*² of the nipple *f* is placed a spiral spring *h*, which presses, respectively, on the head *f*² of the nipple *f* and on the head *c*² of the rod *c*, and said heads *f*² and *c*² are respectively provided with lugs or projections *f*³ and *c*³, which enter the opposite ends of the spring *h*. The rod *c* projects through the opposite end of the broach or creel-pin in order to form the nipple *i*, and the spring *h*, as will be understood, holds both of the nipples *f* and *i* in proper operative position.

The end of the cap or sleeve *b* through which the nipple *f* passes is slightly rounded to allow the broach or creel-pin to pass easily through the bobbin, and with a broach or creel-pin made in this manner if the same should be accidentally dropped at any time and should strike on the nipple *i* the said nipple will yield, as will be understood, being driven inwardly against the operation of the spring *h*, and if the broach or creel-pin should strike on the nipple *f* either directly or laterally the said pin will either yield laterally, as indicated in dotted lines in Fig. 2, or will be driven inwardly against the operation of the spring *h*, and in this way the breaking off of the said nipples, which frequently occurs with the old form of construction, is avoided. It will be observed that the top side of the bulb or head *f*² of the nipple *f* or that part thereof which bears directly on the end of the sleeve or cap *b* is flat, and with this construction the spring *h* always holds said nipple in proper operative position under ordinary circumstances, and if by any reason it is tilted to one side the spring *h* always returns it to its normal operative position, and if an operator should pull the broach too far outward the pin or nipple *f*² will tip over or tilt, as shown in dotted lines in Fig. 2; but

when said broach is released by the operator the spring *h* will at once return the nipple *f* to its normal position.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A broach or creel-pin provided at its opposite ends with movable nipples, and a tensional device for holding said nipples in operative position.

2. A broach or creel-pin provided at its opposite ends with movable spring-supported nipples.

3. A broach or creel-pin provided at its opposite ends with movable nipples and a spring device which normally holds said nipples in operative position.

4. A broach or creel-pin provided at its opposite ends with movable nipples and a spring which normally holds said nipples in operative position, one of said nipples being movable longitudinally of the broach or creel-pin and the other being adapted to tilt

laterally and also movable longitudinally of said broach or creel-pin.

5. A broach or creel-pin provided at one end with a cap or sleeve through which is outwardly passed a nipple provided with a head adapted to bear on the end of said cap or sleeve, a movable rod passed longitudinally through said broach or pin and one end of which projects through the opposite end of the broach or pin to form a nipple, and a spring placed between the head of the first-named nipple and said rod, said rod being provided with means for limiting its outward movement.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 10th day of October, 1906.

EDWARD HANSON BOOCOCK.
JOSEPH SUTCLIFFE.

Witnesses:

RD. B. NICHOLLS,
FRED HAMMOND.