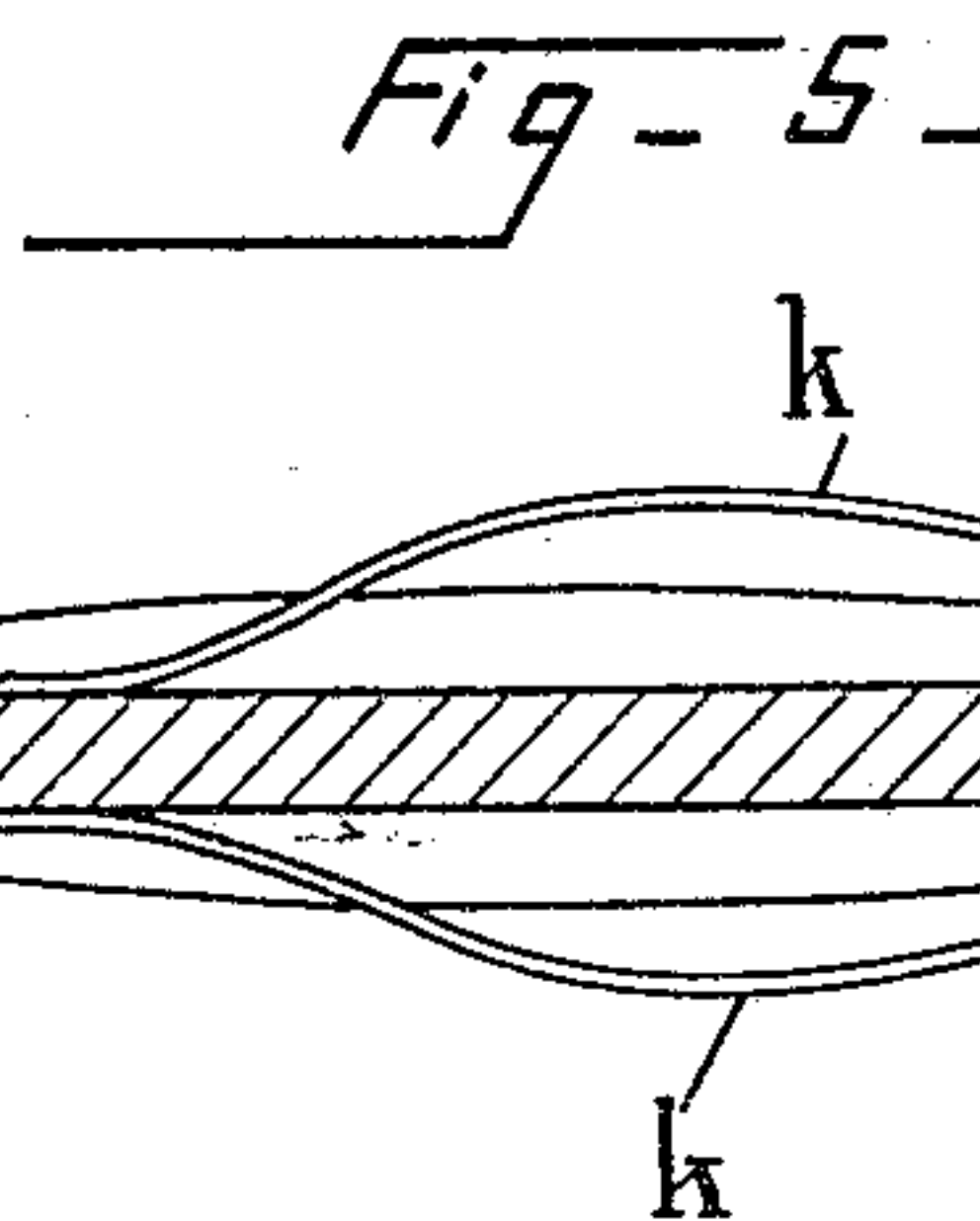
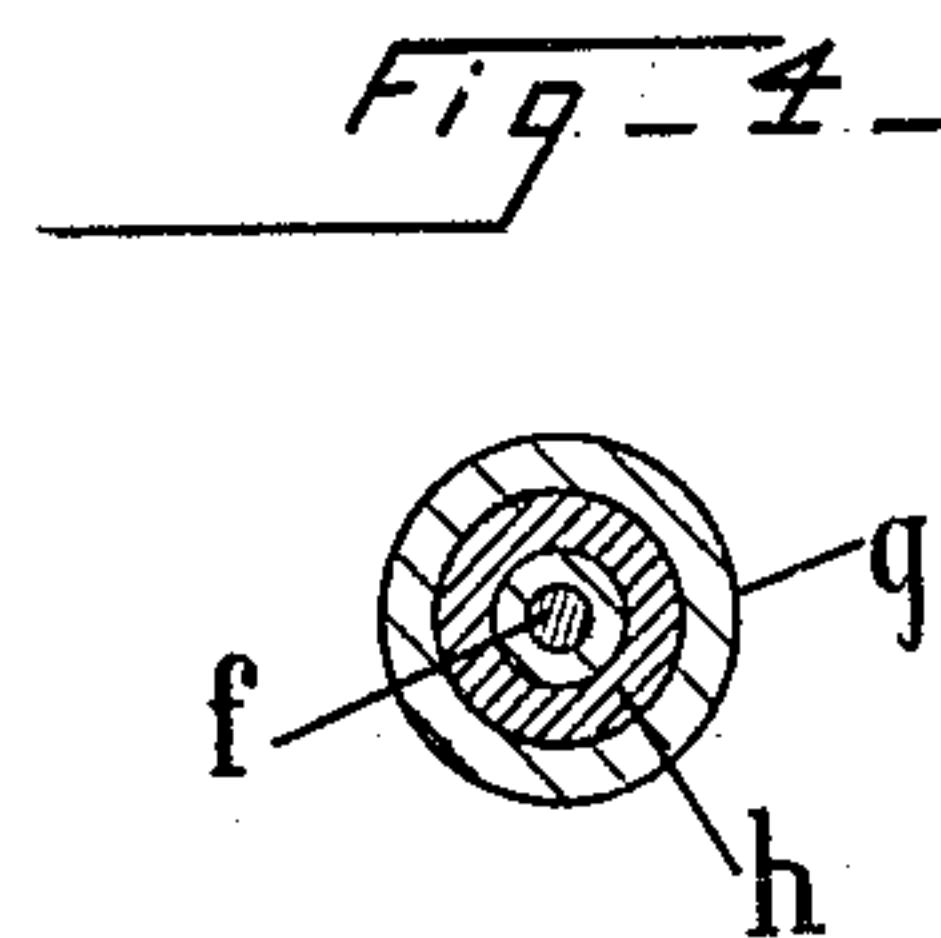
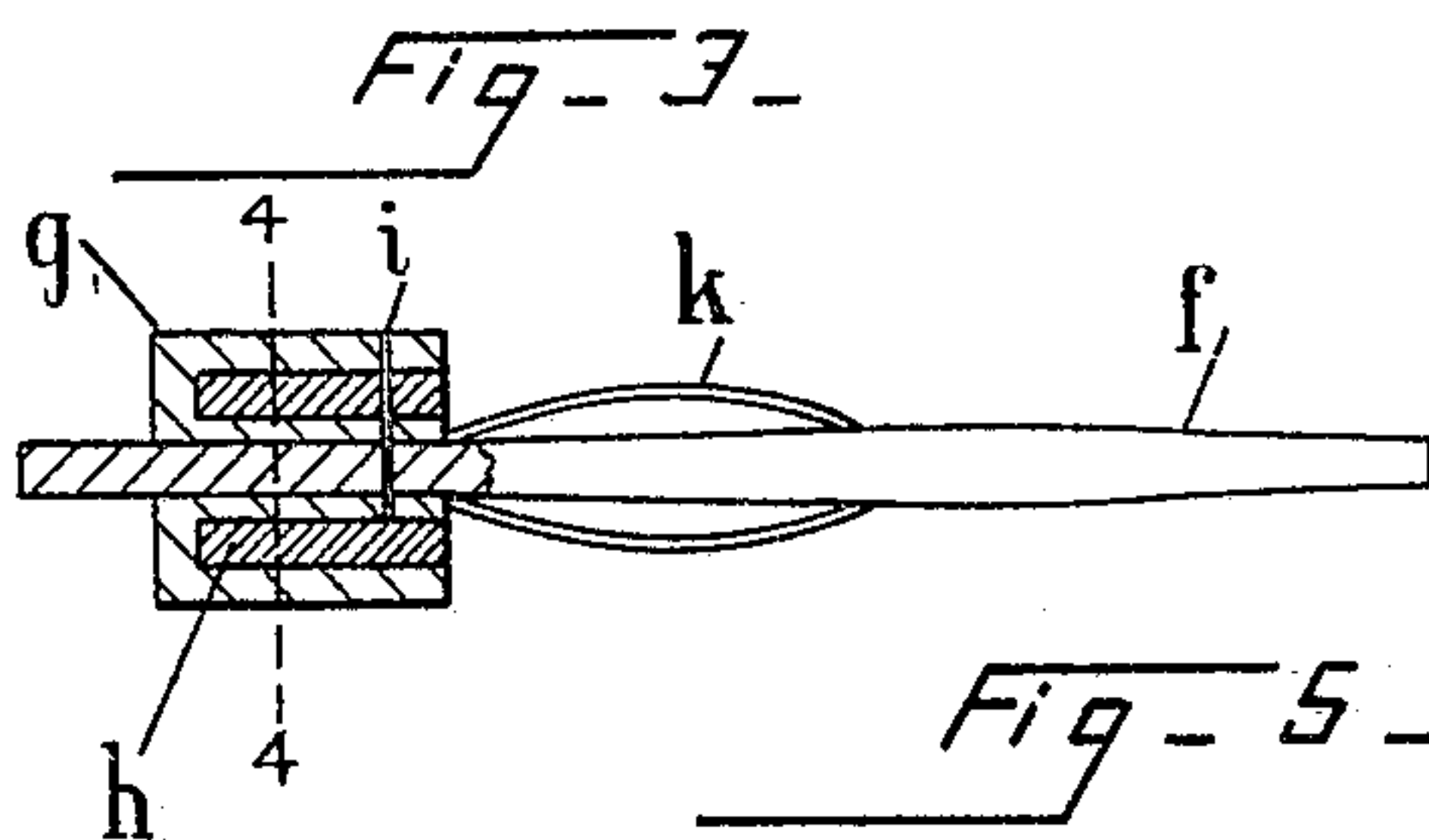
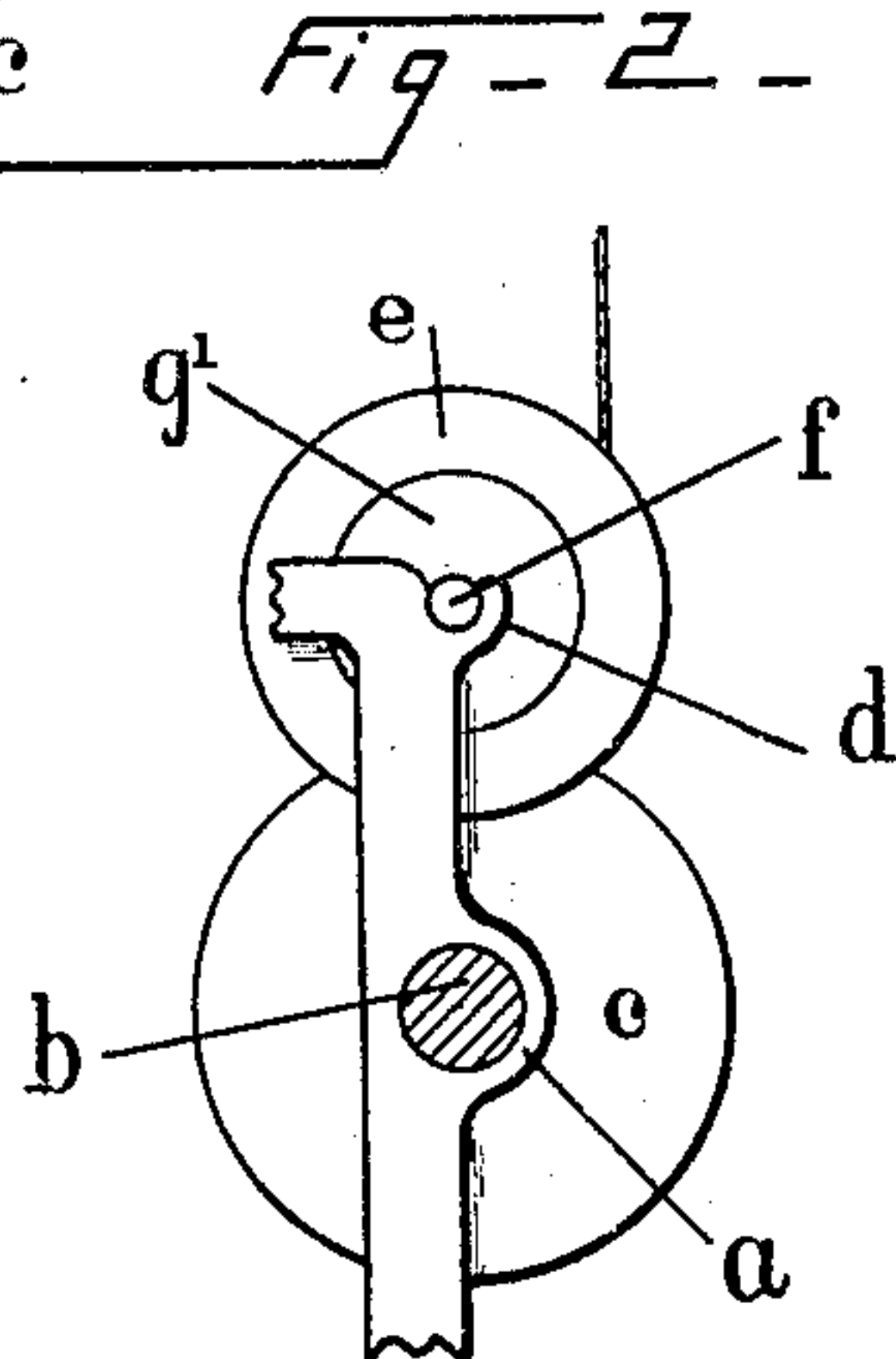
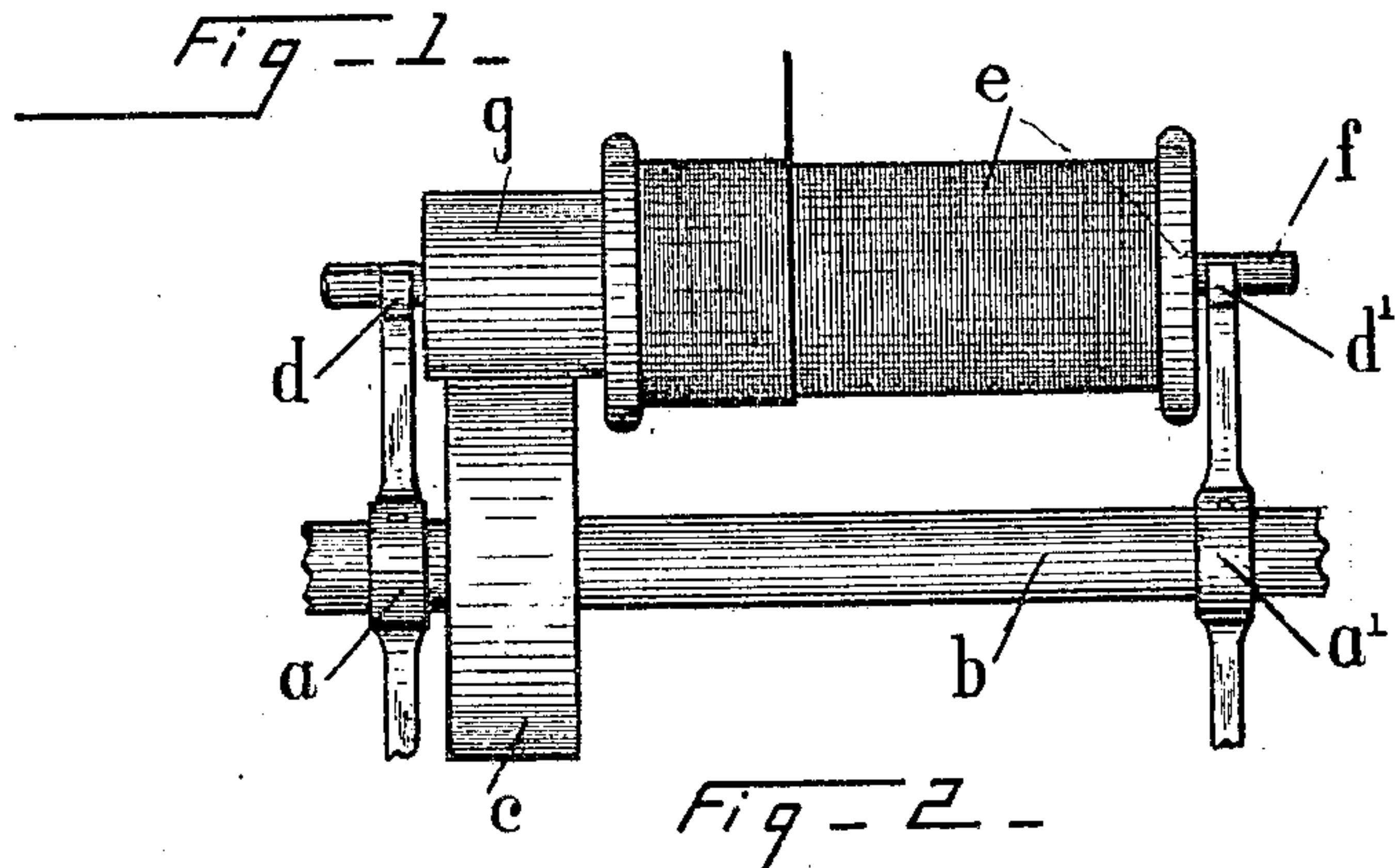


No. 830,806.

PATENTED SEPT. 11, 1906.

H. C. SMITH.
SPINDLE.

APPLICATION FILED MAY 26, 1905.



Witnesses

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UNITED STATES PATENT OFFICE.

HARRY C. SMITH, OF WILLIMANTIC, CONNECTICUT.

SPINDLE.

No. 830,806.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed May 26, 1905. Serial No. 262,440.

To all whom it may concern:

Be it known that I, HARRY C. SMITH, a citizen of the United States, residing at Willimantic, in the county of Windham and State of Connecticut, have invented a new and useful Improvement in Spindles, of which the following is a specification.

This invention relates to bobbin-supports, and is particularly valuable for use in that class of frictionally-driven horizontal bobbin-spindles commonly used in silk rewinding and doubling and twisting machinery.

The object of my present invention is to provide a spindle having a weighted head whose circumferential wall (that engages the driving-pulley) is of wood. I thus provide a driving-pulley of metal and a driven spindle whose engaging surface is of such a nature that it will insure a better frictional contact with the said driving-pulley than a much heavier spindle constructed entirely of metal.

My invention is illustrated in the accompanying drawings, Figure 1 being a front side elevation of a spindle of my improved construction and its driving-pulley, and Fig. 2 is an end elevation of the same parts. Fig. 3 is a side view of a spindle embodying my invention, the head *g* and connected parts being in central longitudinal section. Fig. 4 is a transverse section of the head *g*, taken on line 4 4 of said Fig. 3. Fig. 5 is a relatively enlarged sectional view of the mid-portion of the spindle *f*, showing particularly the manner of supporting the spring *k* by means of which a bobbin is held frictionally on said spindle.

In the drawings the letters *a a'* denote journal-bearings, in which is mounted a shaft *b*, on which is fixed a pulley *c*, of metal.

d d' denote bearings, in which is revolvably mounted a spindle of my improved construction, said spindle having mounted thereon a bobbin *e*.

My improved spindle consists of a spindle proper, *f*, formed, preferably, of wood and having its end portions extended to engage and revolve in the bearings *d d'*. Secured to the spindle *f* is an enlarged head *g*, also of wood, which head is counterbored from one end to receive a ring or bushing *h* of lead or other heavy material. When the described parts are assembled, they are secured together, and thus become practically a single structure, by a pin *i*, that is driven through said parts, as seen in Fig. 3 of the drawings. This construction provides a head of wood for frictional coöperation with the metallic driving-pulley *c*, and the metallic bushing inserted therein provides a degree of weight sufficient to hold the said head in close engagement with said pulley. I thus provide a reasonably light, cheap, and serviceable spindle. The spindle *f* is grooved longitudinally throughout a part of its length on its opposite sides, and in the grooves thus provided are located springs *k* of a well-known form for retaining the bobbin *e* on said spindle.

Having thus described my invention, I claim—

A spindle proper, an enlarged wooden head secured thereto and having an annular recess between its central portion and its outer wall, a bushing of heavier material secured in said recess to add weight to said head, and means passed through said spindle, central portion and bushing and through the outer wall of the head.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY C. SMITH.

Witnesses:

FRANK H. ALLEN,
MAY F. RITCHIE.