

No. 756,542.

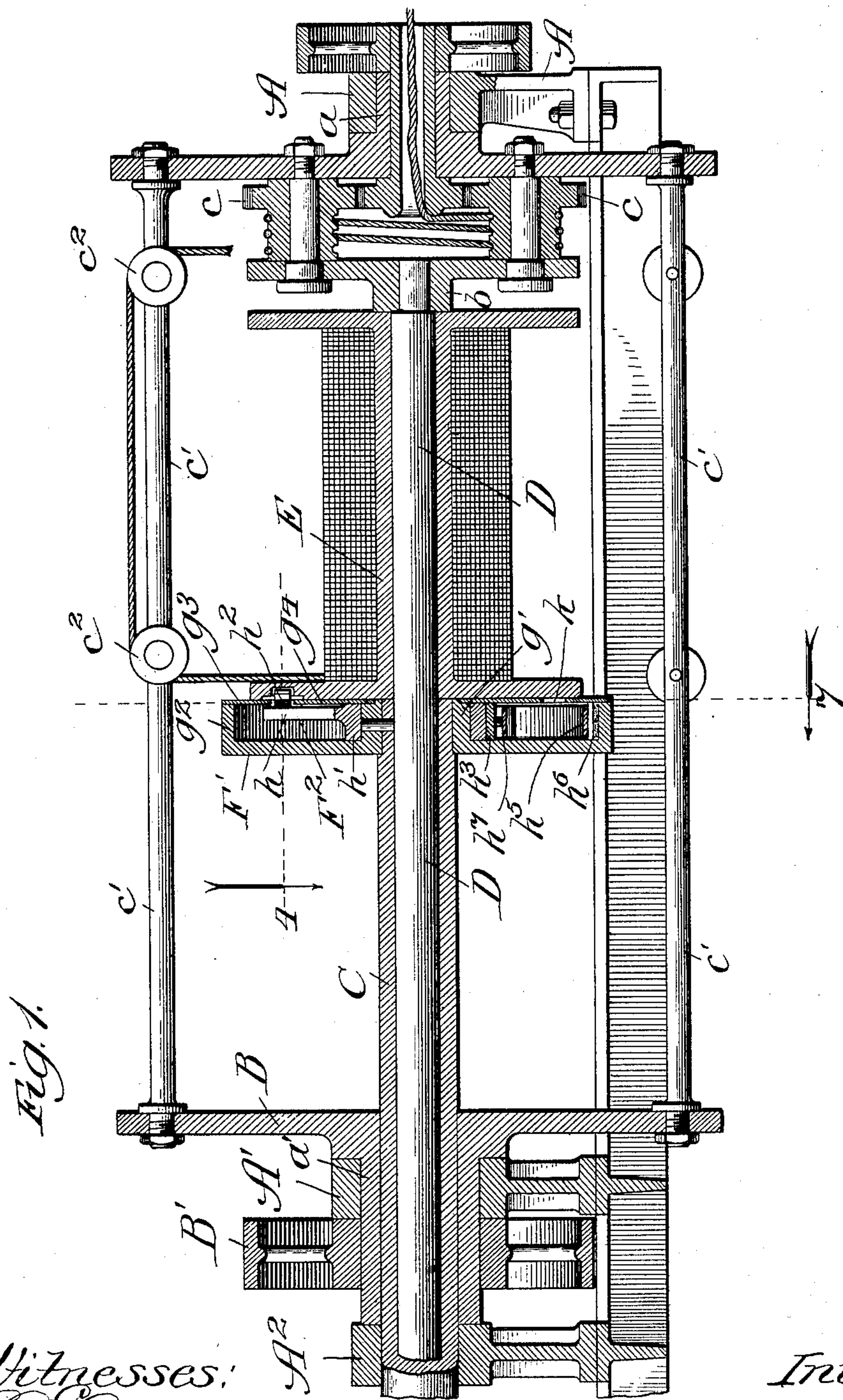
PATENTED APR. 5, 1904.

H. F. STIMPS.
SPINNER.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:
Ed. Gaylord,
Geo. C. Harrison

Inventor:
Henry F. Stimps,
By Dyrenforth, Dyrenforth & Lee
Attys.

No. 756,542.

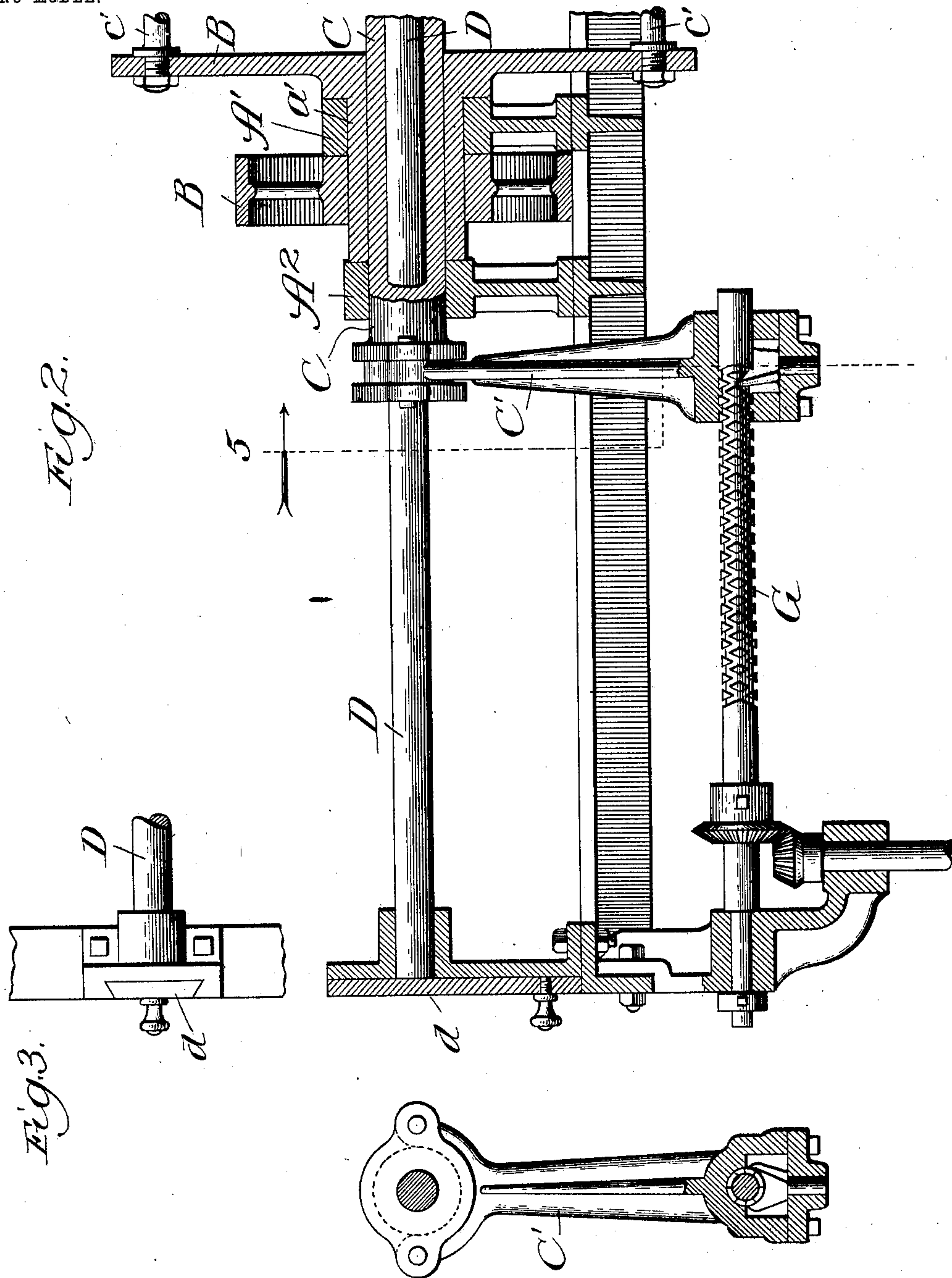
PATENTED APR. 5, 1904.

H. F. STIMPS.
SPINNER.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

3 SHEETS—SHEET 2.



Witnesses:
Ed. Gaylord,
Geo. C. Harlow.

Fig. 5.

Inventor:
Henry F. Stimps,
By Dyrenforth, Dyrenforth & Lee,
Attys.

No. 756,542.

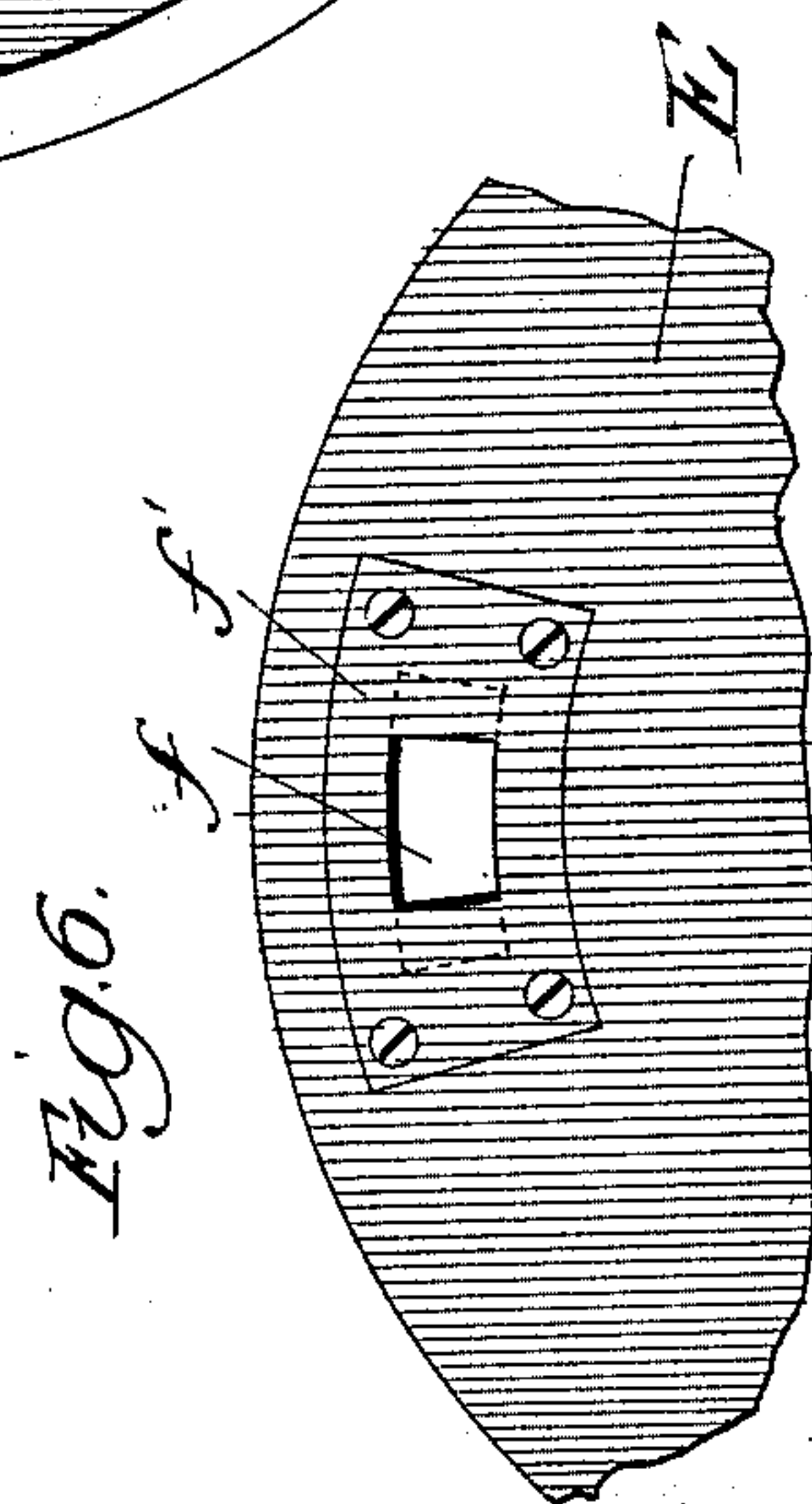
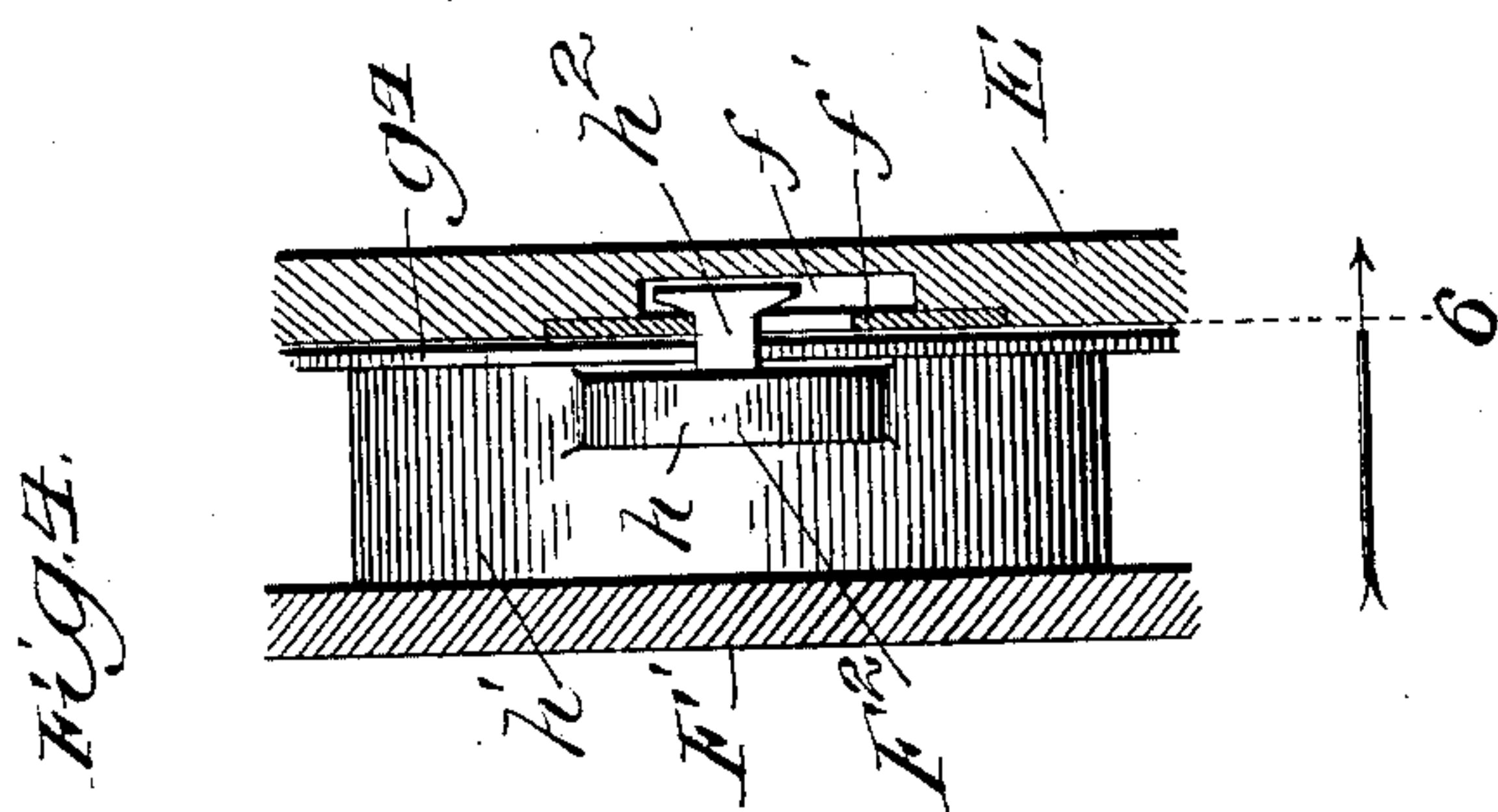
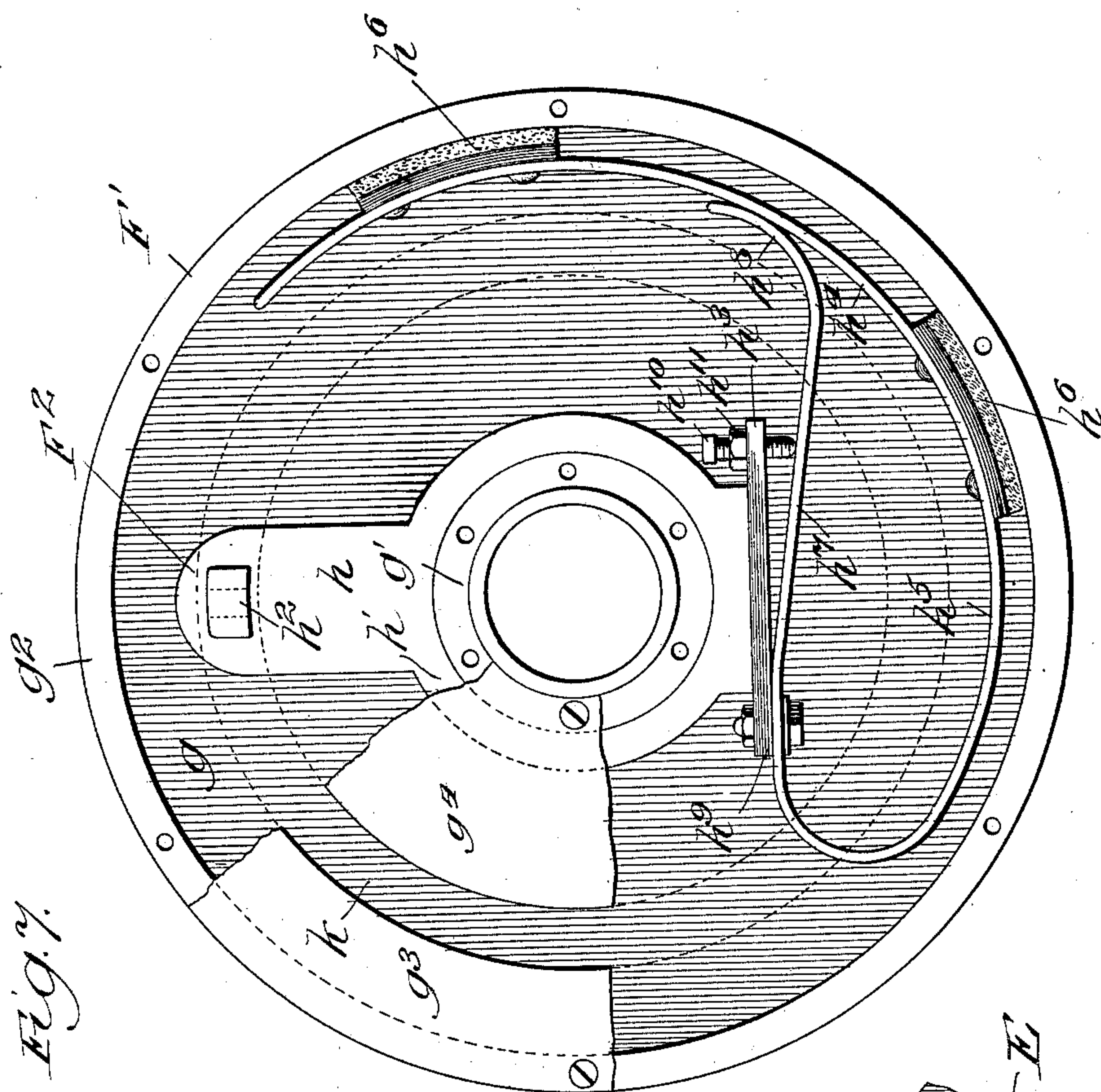
PATENTED APR. 5, 1904.

H. F. STIMPS.
SPINNER.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses:
 Edw. Gaylord.
 Geo. Dawson.

Inventor.
Henry F. Stimps.
By Dyrenforth, Dyrenforth & Lee,
Attys.

UNITED STATES PATENT OFFICE.

HENRY F. STIMPS, OF CHICAGO, ILLINOIS.

SPINNER.

SPECIFICATION forming part of Letters Patent No. 756,542, dated April 5, 1904.

Application filed April 13, 1903. Serial No. 152,378. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. STIMPS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Spinners, of which the following is a specification.

My invention relates particularly to horizontal-spindle spinning-machines; and my primary object is to provide an improved brake device for the bobbin, enabling the belt connection between the bobbin sleeve or spindle and the driving-shaft, with its many disadvantages, to be dispensed with.

The invention pertains to the bobbin, bobbin-spindle, and the interposed brake device, and only so much of a spinning-machine is illustrated as is required for a clear understanding of the invention.

In the drawings, Figure 1 represents a broken longitudinal sectional view of the right-hand portion of the twisting mechanism of a spinning-machine embodying my invention; Fig. 2, a similar view of the left-hand portion of said mechanism; Fig. 3, a broken plan view showing the usual means for permitting the supporting shaft or bearing of the bobbin to be withdrawn when it is desired to remove the bobbin; Fig. 4, a broken sectional view showing the connection between one end of the bobbin and the arm of the brake by which the bobbin is retarded in its rotation and reciprocated longitudinally to permit the yarn to wind uniformly upon the bobbin; Fig. 5, a broken sectional view taken, as indicated, at line 5 of Fig. 2 and showing the connection between the sleeve which serves to reciprocate the bobbin and its brake and the arm for reciprocating said sleeve; Fig. 6, a broken elevational view of one end of the bobbin, showing the socket disclosed by the section of Fig. 4; and Fig. 7, a view of the brake with the plates which lie adjacent to the bobbin removed.

A description of the preferred construction follows.

A A' A² A³ represent bearings at the upper portion of a spinning-machine of well-known construction; B, a flier equipped at one end with a hollow stub *a*, journaled in the bearing

A, and at the opposite end with a sleeve *a'*, journaled in the bearing A'; B', a pulley through the medium of which the flier is actuated and which receives motion from a suitable driving-shaft, (not shown;) C, a non-rotating sleeve or spindle slidable longitudinally in the bearing A² and having a reciprocating motion imparted to it through the medium of an arm C'; D, a non-rotating bobbin support or shaft supported at the bearing A³ and extending through the sleeve C and through the bobbin and finding a support at its front end in a bearing *b* at the twisting-head of the flier; E, a bobbin supported on the front end of the shaft D; F, a brake having a member F' rigidly connected with the sleeve C and a member F² detachably connected with the bobbin, and G a portion of the usual mechanism for shifting the arm C' forward and backward longitudinally of the shaft D.

The frame of the machine may be constructed in the usual manner. The flier is constructed in the usual manner, being provided at the twisting-head with spirally-grooved rollers *c* and at one of the longitudinal connecting-rods *c'* with rollers *c''*, over which the yarn is delivered to the bobbin. The hollow spindle C and the arm C' are of the usual construction, except that the yoke of the arm C' is rigidly secured to the rear end of the hollow shaft, fixing the same against rotation. The shaft D is of the usual construction, and its removal is permitted in the usual way by means of a withdrawable slide *d*, against which the rear end of said shaft abuts. The bobbin E is of the usual construction, being provided at its rear end with a socket *f*, having a button-engaging plate *f'*.

The non-rotating member F' of the brake comprises a disk *g*, having a central hub *g'* fixed to the adjacent end of the sleeve C and equipped at its outer periphery with a forwardly-projecting cylindrical flange *g''*, an annular flange *g'''*, secured to the front edge of the flange *g''*, and an annular plate *g''''*, secured to the front end of the hub *g'*. The member F² comprises an arm *h*, equipped at its inner end with a ring or bearing *h'*, journaled on the hub *g'*, a forwardly-projecting button *h''*, which connects with the socket *f* of the bob-

bin, a transverse plate h^3 , rigidly connected with the ring h' , and a spring brake-shoe h^4 , adjustably connected with the member h^3 . The member h^4 comprises a half-circular portion of spring metal h^5 , equipped with blocks of frictional material, such as felt, h^6 , and a recurved spring portion h^7 , having an extremity h^8 bearing against the portion h^5 between the blocks h^6 . The spring is connected with a plate h^3 at one point by a bolt h^9 , and the tension is adjusted by a set-screw h^{10} , extending through the other end of the plate h^3 and equipped with a jam-nut h^{11} . Between the plates $g^3 g^4$ of the member F' is afforded an annular channel h , through which the button h^2 projects. The construction permits the member F^2 to turn within the member F' , as is evident. In Fig. 7 the dotted lines indicate the positions which the plates $g^3 g^4$ would occupy if present.

Those skilled in the art will understand the operation and advantages of the improved construction without detailed explanation. Motion is communicated to the flier through the medium of the pulley B' in the usual manner, and as the yarn is produced it is delivered over the roller c^2 at the longitudinal center of the flier. The arm C' reciprocates forwardly and backwardly, receiving its motion from well-known mechanism, and in this movement reciprocates the bobbin, the button h^2 having flange connection with the socket f , as shown. As the bobbin reciprocates the yarn is wrapped upon it, and at the same time the bobbin is drawn along with the yarn or twine, being permitted in practice to make many revolutions per minute, the number of revolutions varying with the variation in the circumference at the spool as the yarn is wrapped upon it. Oil is supplied to the interior of the member F' to prevent undue friction. The tension upon the yarn may be adjusted to a nicety by means of the set-screw h^{10} . When the bobbin is filled, its removal is permitted by the withdrawal of the shaft B in the usual manner.

Heretofore it has been usual to permit the hollow shaft C to rotate and control its rotation from a parallel shaft having belted connection with it. Many objections to this construction may be noted, such as the unnecessary expense of supplying and keeping in repair the belt and its connections and the danger of accident liable to occur from the belt being thrown from its pulleys.

It will be evident that changes in details of construction within the spirit of my invention may be made. Hence no undue limitation should be understood from the foregoing detailed description.

What I regard as new, and desire to secure by Letters Patent, is—

1. The combination with the flier and the bobbin of a spinning-machine, of a longitudinally-reciprocating non-rotating shaft, a bearing in which said shaft is slidable, and a brake comprising a member fixed to said shaft, and a member connected directly with said bobbin.

2. The combination with the flier and the bobbin of a spinning-machine, of a longitudinally-reciprocating non-rotating shaft, a fixed bearing in which said shaft is slidable, and a brake comprising an outer member located between said outer member and the bobbin and fixed to said shaft, and an inner member provided with a projecting button detachably connected directly with said bobbin.

3. The combination with the flier and the bobbin of a spinning-machine, of a longitudinally-reciprocating non-rotating shaft, a fixed bearing in which said shaft is slidable, and a brake comprising a casing fixed to said shaft and provided at one side with an annular channel, an inner member, and a connection between said inner member and the bobbin moving in said annular channel.

4. The combination with the flier and the bobbin of a spinning-machine, of a longitudinally-reciprocating non-rotating shaft, and a brake comprising a casing fixed to said shaft and provided at one side with an annular channel, and an inner member connected with said bobbin and having an adjustable shoe bearing on the inner surface of said casing.

5. The combination with the flier and the bobbin of a spinning-machine, of a longitudinally-reciprocating non-rotating shaft, and a brake comprising a casing fixed to said shaft, and an inner member comprising a journal-arm having connection with said bobbin, and an adjustable spring-held brake-shoe contacting with the inner surface of said casing.

6. The combination of a flier having at one end a hollow stub-shaft, a stationary bearing for said stub-shaft, a non-rotating reciprocable hollow shaft extending through said stub-shaft, reciprocating means connected with the rear end of said second-named shaft, a shaft extending through said second-named shaft, a bobbin journaled on the front portion of said third-named shaft, a friction member fixed to the front end of said second-named shaft, and a coacting friction member detachably connected with said bobbin, for the purpose set forth.

HENRY F. STIMPS.

In presence of—

WALTER N. WINBERG,
W. B. DAVIES.