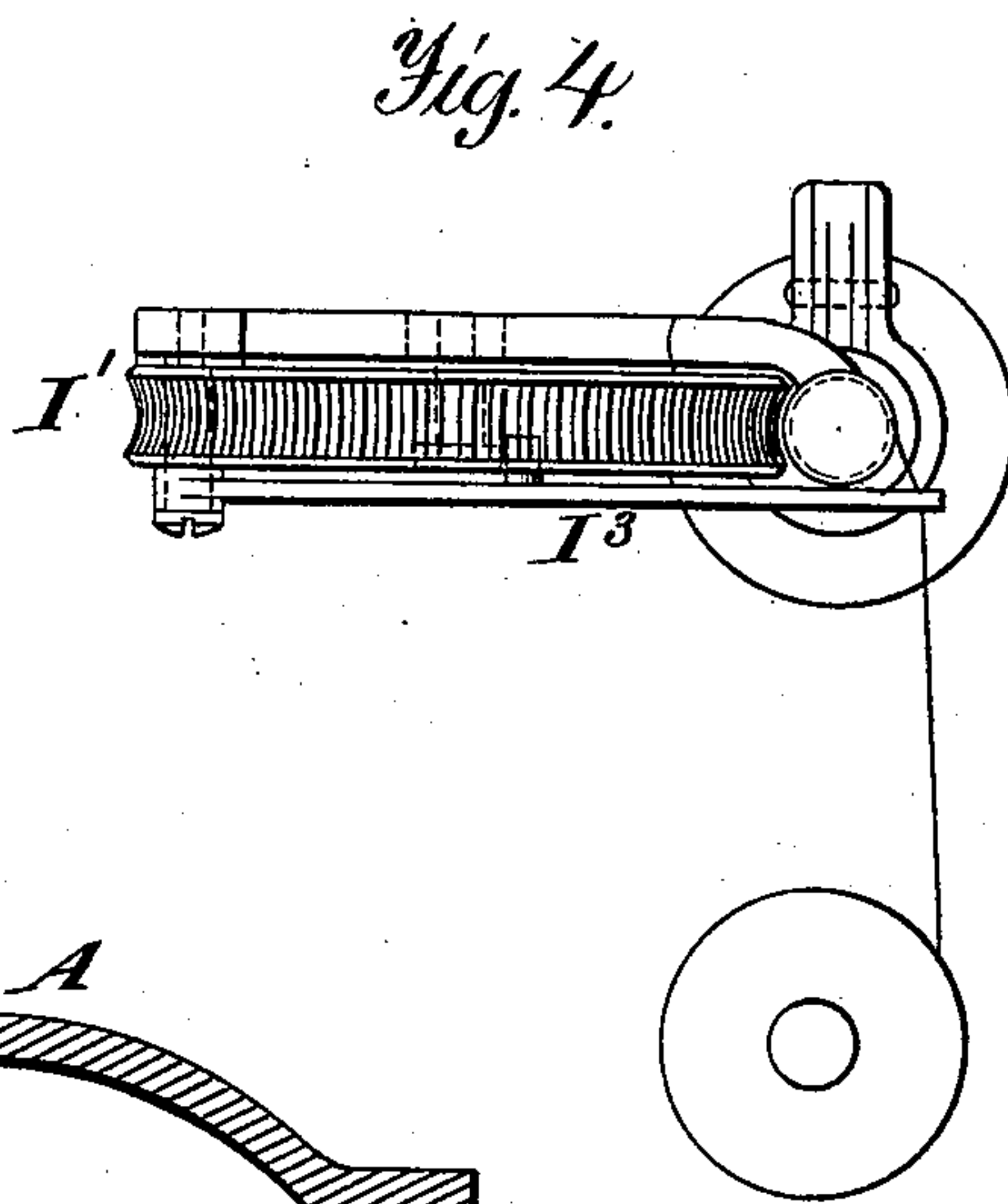
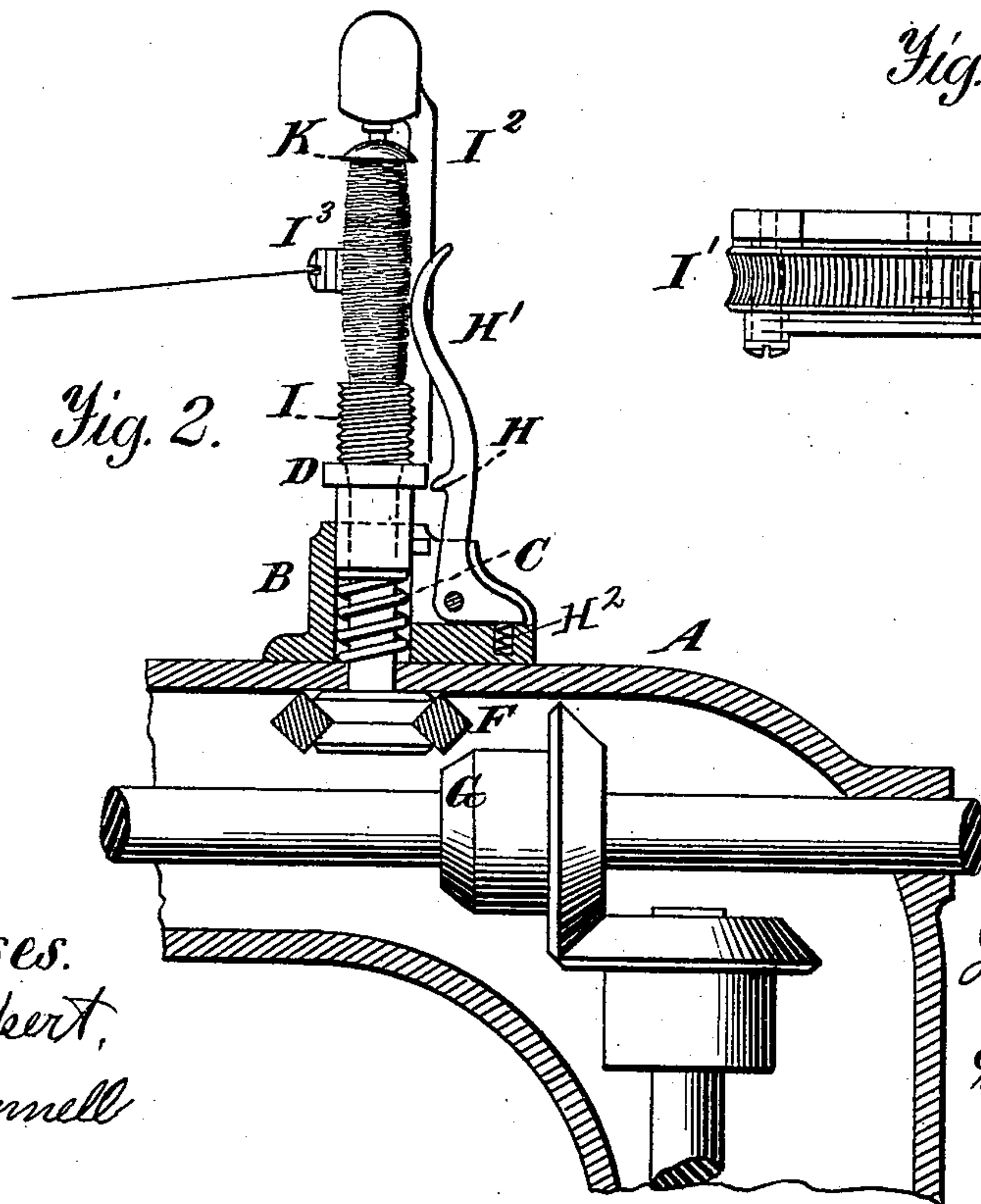
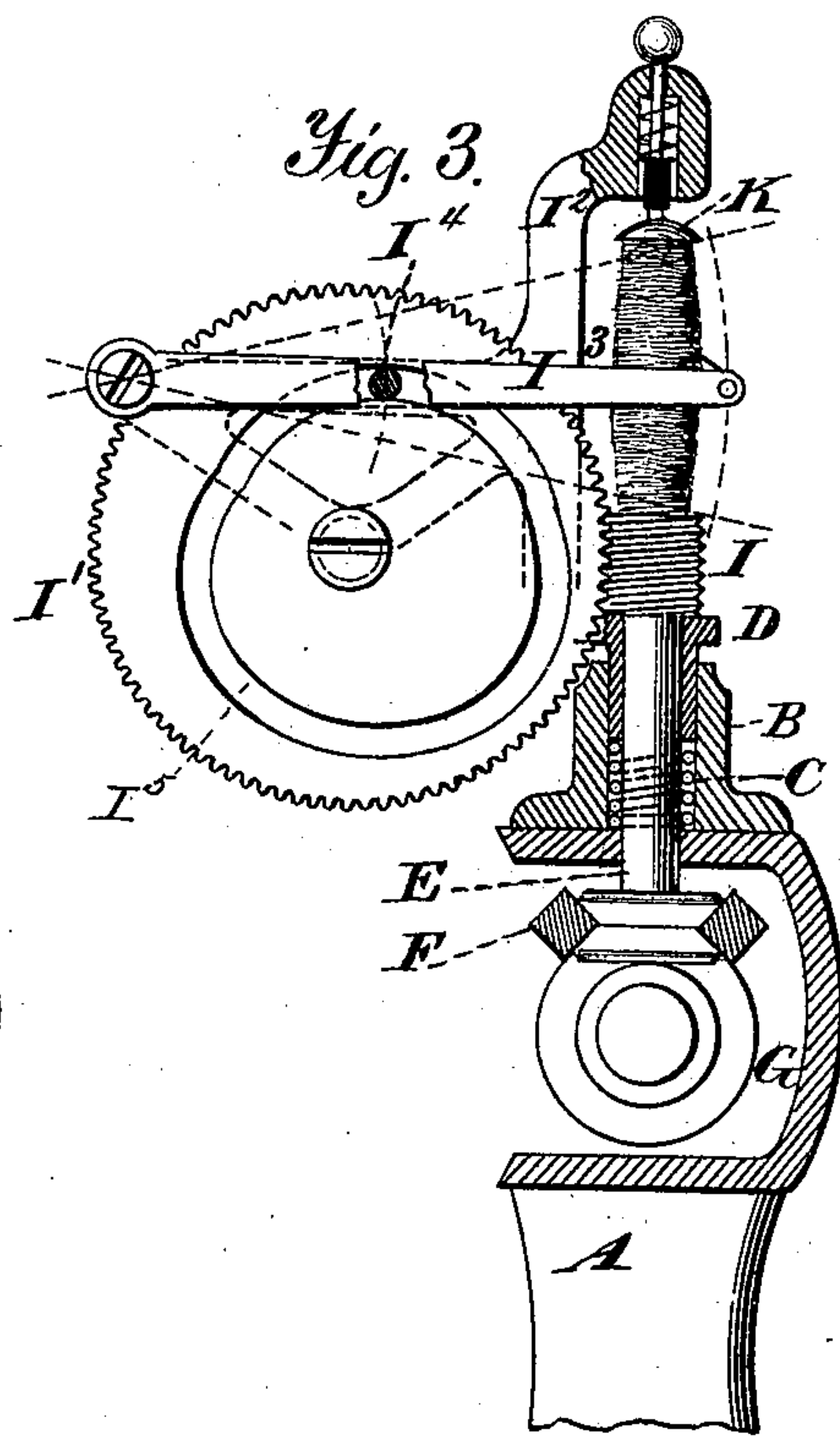
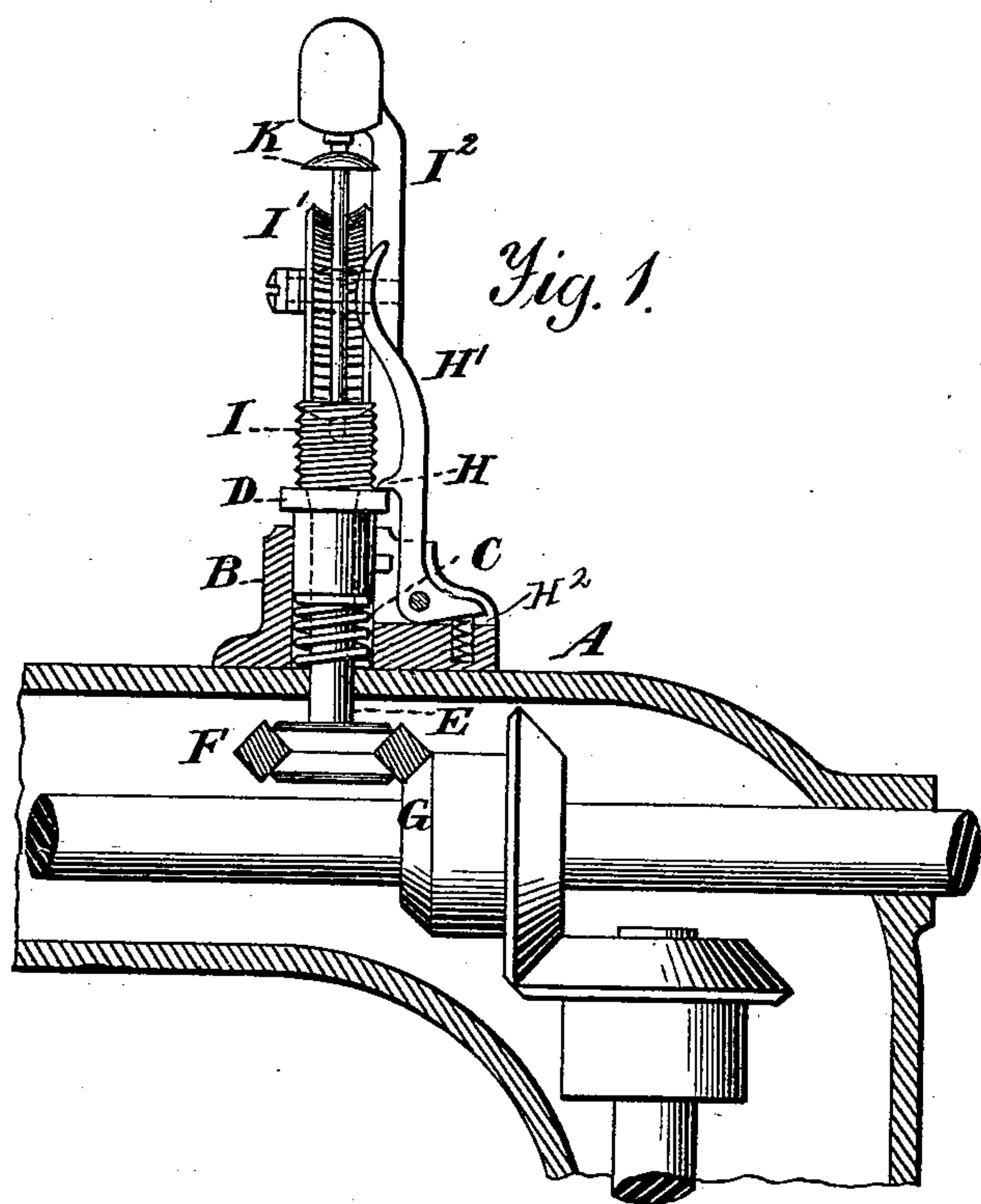


J. KAYSER.
 Bobbin-Winding Attachment for Sewing-Machines.
 No. 226,322. Patented April 6, 1880.



Witnesses.
A. Rupert,
C. M. Connell

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UNITED STATES PATENT OFFICE.

JOHN KAYSER, OF KAISERSLAUTERN, GERMANY.

BOBBIN-WINDING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 226,322, dated April 6, 1880.

Application filed May 13, 1879.

To all whom it may concern:

Be it known that I, JOHN KAYSER, of the city of Kaiserslautern, Kingdom of Prussia, German Empire, have invented a new and useful Bobbin-Winding Attachment for Sewing-Machines, of which the following is a specification.

This invention relates to an apparatus which is designed to be attached to sewing-machines having in them shuttles for containing and placing one of the threads, but which may be used for spooling thread or yarn for other purposes; and it consists in certain combinations for rendering the apparatus effective, as will be more fully explained hereinafter.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a sectional elevation of a portion of a sewing-machine of the Singer class, showing the gear-wheels for driving the shaft which moves the operating parts, the apparatus for spooling the thread or yarn, and its connection with the sewing-machine, the spool for receiving the thread being shown as empty and the parts in position to be driven by the rotation of the shaft of the machine. Fig. 2 is a sectional elevation of a portion of the sewing-machine and a portion of the spooling apparatus, showing the spool as filled with thread and the parts in a position to remain at rest when the shaft of the machine is rotated. Fig. 3 is a transverse sectional elevation, showing a portion of the frame of the sewing-machine, the gearing which drives the spooling apparatus, and a worm and worm-wheel which drive an arm for determining the position of the thread upon the spool; and Fig. 4 is a plan view of the spooling apparatus.

In constructing an apparatus of this character there is placed upon some convenient portion of the frame or stationary part of the sewing-machine A a socket, B, which serves as a receptacle for a spiral spring, C, and a sleeve, D, the latter constituting a bearing for a shaft, E, and the spring a means of throwing the gear-wheel F out of contact with its driving-wheel G when the detent H, formed upon the lever H', is removed from the control of the sleeve D, as shown in Fig. 2 of the drawings. Upon the upper end of the vertical

shaft E of the spooling apparatus there is secured a worm, I, which meshes into and drives a worm-wheel, I', said wheel being mounted upon a stud or shaft fixed in a bracket, I², which forms a part of the sleeve D, or is attached thereto, in order that it may have imparted to it a vertical movement.

Upon a portion of the bracket I² there is pivoted an arm, I³, which has a vibratory movement imparted to it by means of stud or pin I⁴, which is affixed thereto at such a point as to allow it to enter a cam-shaped groove, I⁵, formed in one face of wheel I', by which means the outer end of the arm I³ has an upward and downward movement imparted to it, and is thus made to determine the position of the thread or yarn upon the spool K, the outer end of the arm having formed in it an aperture, through which the thread passes.

In practice the spool K is placed in a vertical position, as shown in Figs. 1, 2, and 3, its lower journal or part entering a recess formed in the upper end of the worm I or the shaft upon which it is carried, while its upper end rests in a socket fixed in the bracket I², which may be controlled by a spiral spring, if desired, by which the spool will be pressed down upon the worm so as to be rotated by it.

The above-named parts, constituting my improved spooling apparatus, being combined with a sewing-machine, are to be arranged with reference to the shaft thereof and operated substantially as follows: Upon the lower end of the vertically-movable shaft E the beveled-gear wheel F is placed, it consisting, by preference, of a ring of india-rubber or some other elastic substance. This shaft E, the wheel F, the socket B, worm I, worm-wheel I', bracket I², arm I³, and spool K are arranged with reference to each other substantially as described, whereby they are made to be operated by bringing the wheel F in contact with the wheel G, as shown in Fig. 1, in which position they are held by moving inward the upper end of lever H', so that the detent H formed thereon shall hold them down in opposition to the action of the spring C, but so that when the requisite amount of thread or yarn has been wound upon the spool it shall press against the bent upper portion of lever H'

and press it outward, in doing which the detent H will be withdrawn from its resting-place on the sleeve D, and all of the parts of the spooling apparatus, as above enumerated, 5 will, by the action of the spring C, be carried up into the position shown in Fig. 2, and thus be allowed to remain at rest while the sewing-machine is being operated.

10 The lever H' and its detent H are held in position for winding the spool, as shown in Fig. 2, by means of a spiral spring, H², arranged under the outer short arm of the lever.

In combining this apparatus with a sewing-machine it is not necessary that it should be 15 placed in the position shown in the drawings, as in fact it could not be thus placed in some machines. The combination, however, will remain substantially the same when it is so placed as to be driven from any revolving shaft 20 of such machine.

The thread to be spooled may be taken from a large spool or reel affixed to the frame of the sewing-machine or from one fixed in any other convenient place.

25 It is apparent that the spooling of thread or yarn may be effected by this apparatus when the sewing portion of the machine is in operation, or it may be used when the machine is not sewing, and that spools may be filled 30 with thread or yarn for any desired use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the frame A and needle-moving shaft of a sewing-machine, the 35 spooling apparatus consisting of the stationary socket B, the spring C, the vertically-movable sleeve D, shaft E, wheel F, worm I, worm-wheel I' having a cam-groove, as shown, bracket I², arm I³, having in it a stud, I⁴, lever 40 H', provided with the detent H, and a driving-wheel, G, all substantially as and for the purpose set forth.

2. In combination with the needle-moving shaft of a sewing-machine, the driving-wheel 45 G, vertically-adjustable wheel F, shaft E, socket B, spring C, vertically-movable sleeve D, and lever H', provided with a detent, H, the parts being arranged to operate substantially as and for the purpose specified. 50

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

JOHN KAYSER.

Witnesses:

A. S. HOGUE,
D. SCHAFER.