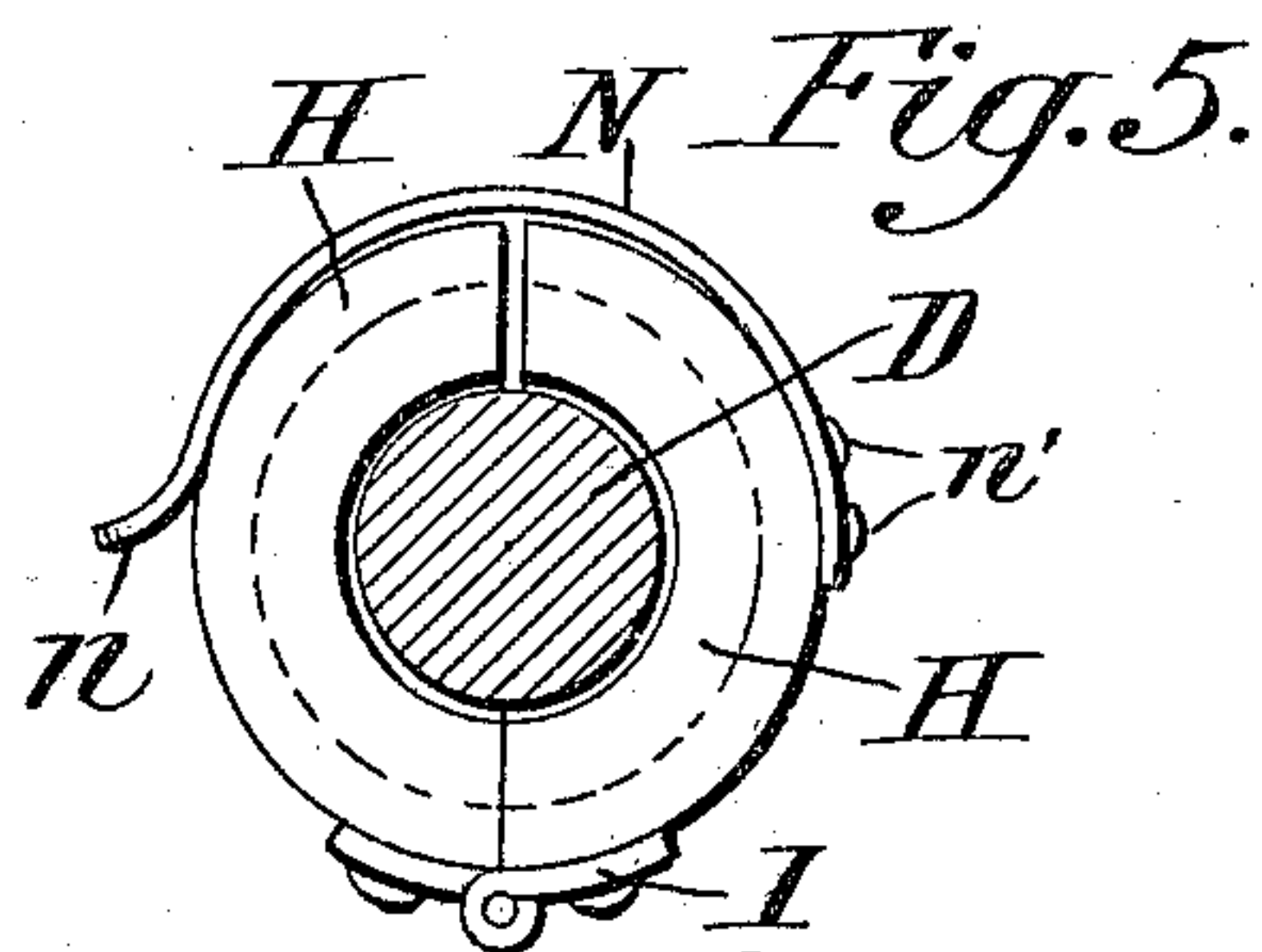
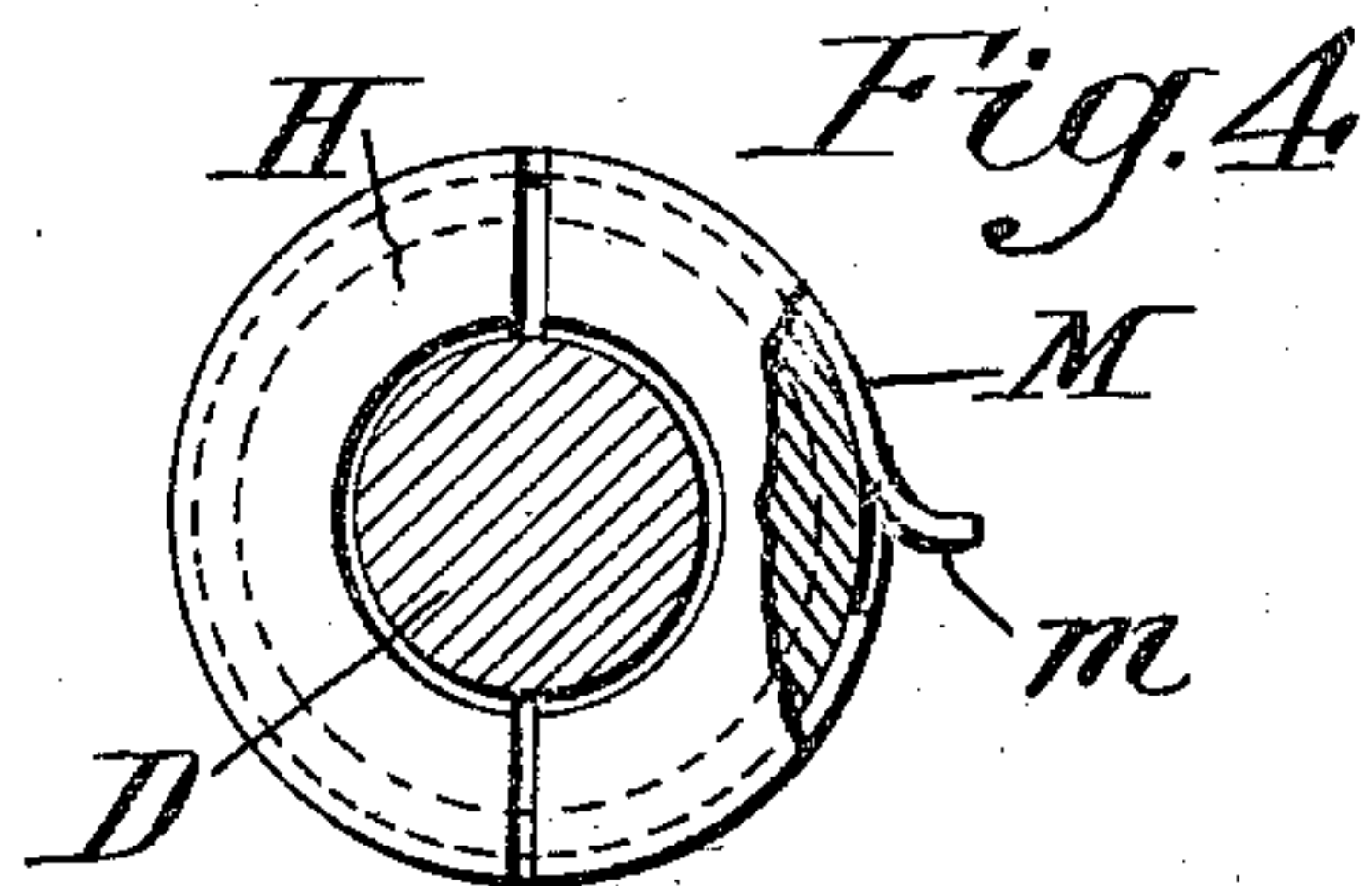
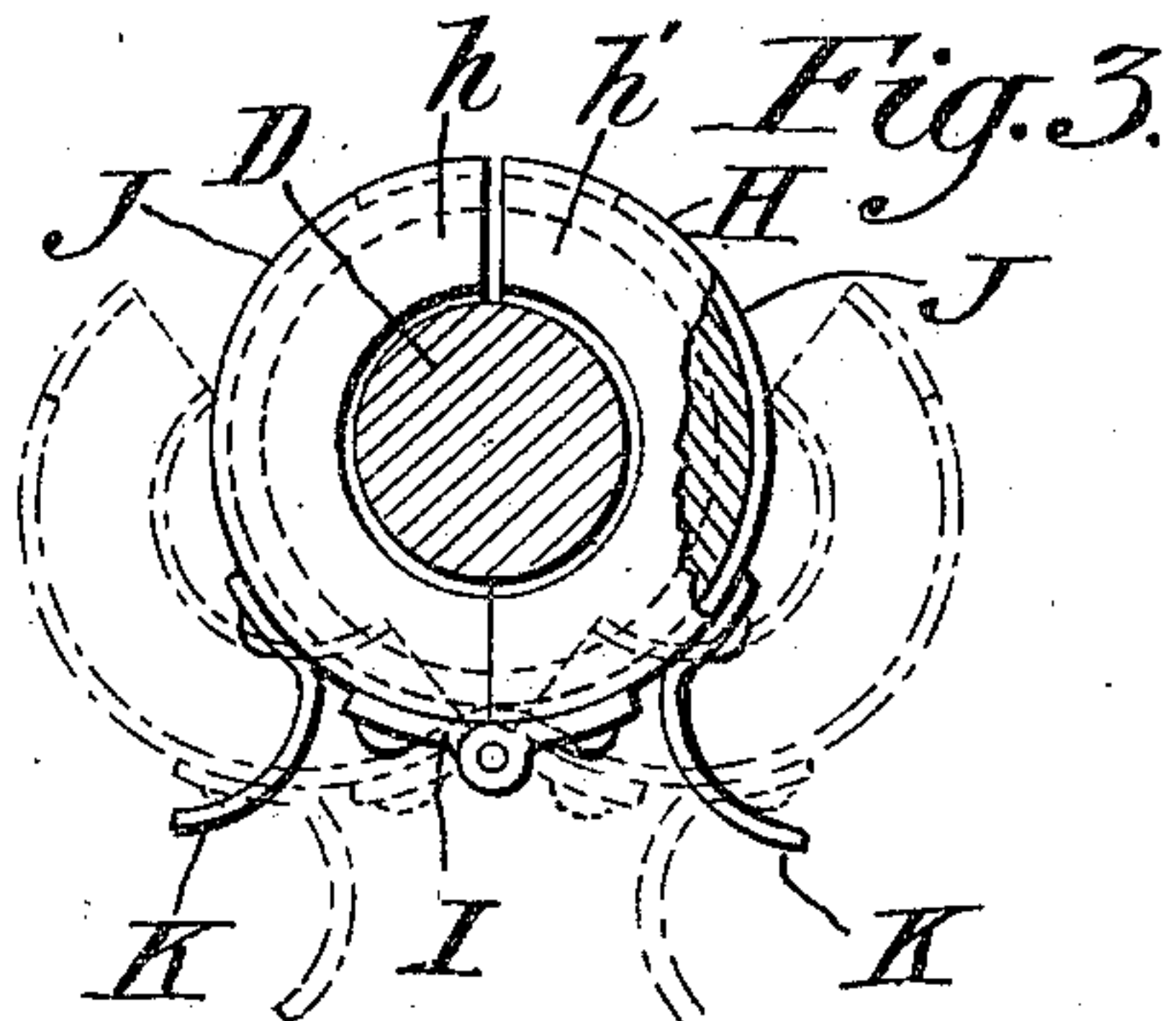
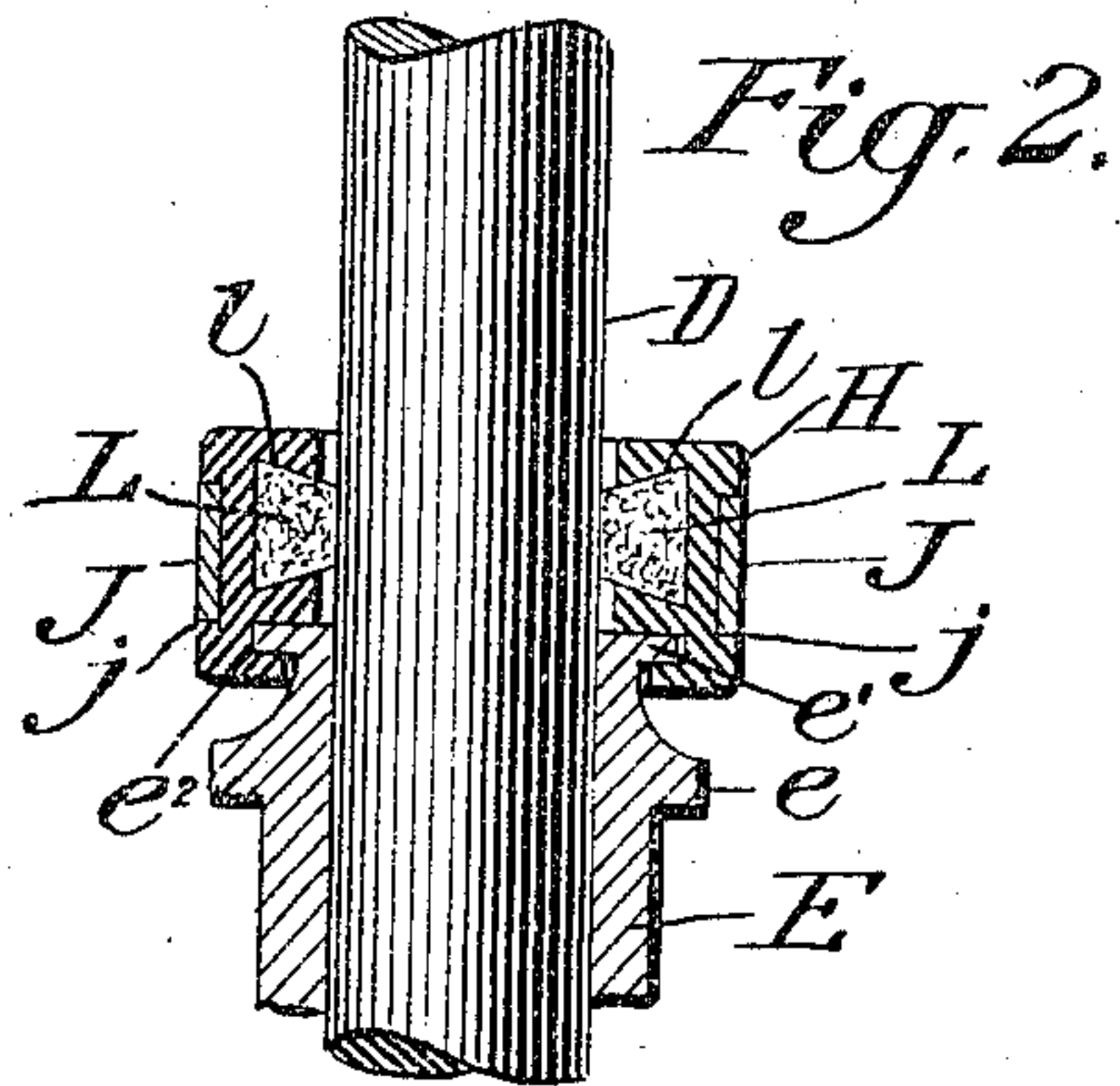
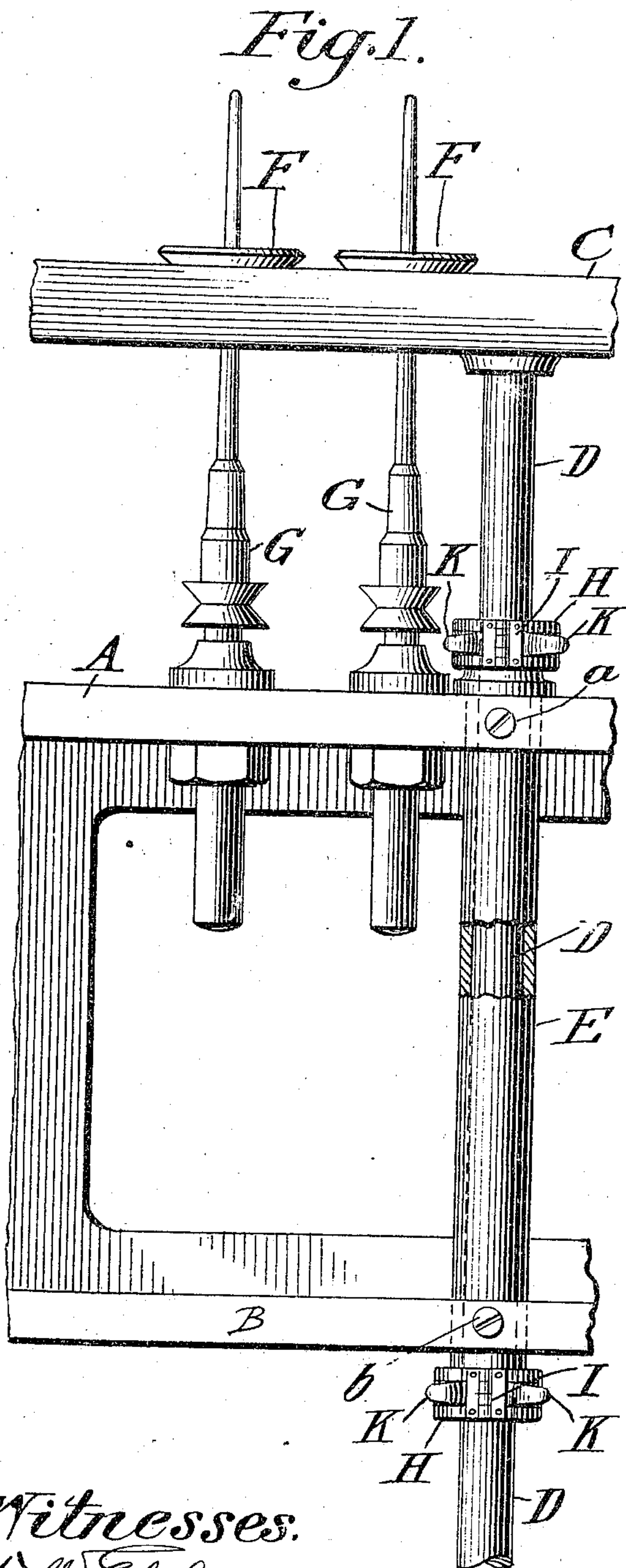


W. G. RAGSDALE.
CLEANING DEVICE FOR LIFTING RODS OF SPINNING MACHINES.
APPLICATION FILED OCT. 6, 1910.

989,641.

Patented Apr. 18, 1911.



Witnesses.
N. W. Edlin,
M. E. Burrell

Inventor.
W. G. Ragsdale
By his Attys.
Baldwin Wright
204 2nd St. N. W.

UNITED STATES PATENT OFFICE.

WILLIAM G. RAGSDALE, OF JAMESTOWN, NORTH CAROLINA.

CLEANING DEVICE FOR LIFTING-RODS OF SPINNING-MACHINES.

989,641.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed October 6, 1910. Serial No. 585,551.

To all whom it may concern:

Be it known that I, WILLIAM G. RAGSDALE, a citizen of the United States, residing in Jamestown, in the county of Guilford and State of North Carolina, have invented certain new and useful Improvements in Cleaning Devices for the Lifting-Rods of Spinning-Machines, &c., of which the following is a specification.

My present invention relates to the means employed for lifting the frames of spinning machines, twistors, spoolers and the like. In such machines the ring frame is commonly lifted by a rod which passes vertically through, and is guided by, bushings in the spindle rail and the bottom front rail of the frame, and this rod is commonly kept properly lubricated. In the up-and-down movement of the rod, lint usually collects on it and is often carried into the bushings or guides, thereby impeding the proper movement of the rod and often so tightening the rod in its bearings as to stop the movement of the ring frame and thus cause bad and tangled yarn to be wound on the bobbins.

According to my invention, I provide improved means for preventing lint from entering the guide bushings and for keeping the lifting rod properly oiled.

In carrying out my invention, I provide a guide sleeve which preferably extends through the front rails of the machine; i. e., through the spindle rail and the bottom front rail of the frame and I cause the lifting rod to reciprocate through this sleeve. To each end of the sleeve I attach a rod-cleaning device which wipes lint from the rod at opposite ends of the sleeve and thus prevents the guide of the rod from becoming choked or clogged. These devices are made detachable so that they may be easily cleaned and repaired. Preferably each device is made in two sections and is applied laterally to the rod and sleeve and can therefore be attached or detached without stopping the machine. The two sections of the device are held together by a spring or by springs, and one section may be hinged to the other, though this is not essential.

In the accompanying drawings: Figure 1 is a front elevation of so much of a spinning machine with my improvements applied as is necessary to illustrate my invention. Fig. 2 is a detail sectional view, on an enlarged scale, showing one of my improved cleaning devices applied to a lifting rod and its guide

sleeve. Fig. 3 is a plan view of the device with the lifting rod in section. Fig. 4 is a similar view of a modified form of the device. Fig. 5 illustrates a further modification.

The cleaning device may be applied to spinning frames, twistors or spoolers. In Fig. 1, I have shown a part of a spinning frame in which A indicates the spindle rail, B the lower front rail of the frame, and C the ring rail. G indicates the spindles, and F the rings. The lifting rod, D extends vertically through a guide sleeve, E, and is connected at its upper end to the ring rail. The sleeve, E, extends through the spindle rail and through the bottom front rail, B, and is attached thereto at a, b. The upper and lower ends of the sleeve are formed with annular flanges, e, resting against the rails, A and B, and with outer annular flanges, e', adapted to receive the rod-cleaning devices.

Each cleaning device, H, is formed with an annular internal groove, l, to receive a packing, L, of felt or similar material which bears against the rod and keeps it clean. The cleaner is made in two sections, h, h', and the packing is likewise made in sections. The cleaner as a whole is annular, its opening being somewhat larger in diameter than the lifting rod, while the packing fits the lifting rod closely, as shown in Fig. 2. Preferably the groove, l, is dove-tailed in order that the packing may be held in place without being glued. In Figs. 1, 2 and 3, the sections h, h', are shown as being connected by a hinge I, and a spring J, arranged in recesses, j, of the sections extends across the joint between the hinge and the sections and serves to normally hold said sections in a closed condition, as shown by full lines in Fig. 3. But the sections may be opened out, as shown by dotted lines in Fig. 3, and when in this condition may be readily applied to, or withdrawn from, the sleeve and rod. Handles, K, may be attached to the device for this purpose. The cleaner sections are formed with an annular groove, e², adapted to receive the flange, e', on the end of the sleeve and when the flange enters the groove, e², the cleaner will be firmly locked to the sleeve and cannot be separated therefrom by the endwise movement of the lifting rod or accidentally in any other way. The spring not only serves to hold the sections in their closed condition but also exerts a yielding pressure on the

packing which holds it closely against the rod and thus causes the packing to engage all parts of the rod.

In Fig. 4, I have shown a modification. In this case the hinge is dispensed with and a spring, M, is provided which enters the groove, *j*, extends across the joint and is provided with a finger piece, *m*, by means of which it may be separated from the device to permit the separation of the sections and their removal from the rod and sleeve.

In Fig. 5 the sections are connected by a hinge, I, and a spring, N, is attached at *n'*, to one section, passes across the joint opposite the spring and is provided with a finger piece, *n*. In each case the cleaner is made in sections, is laterally removable from the rod and is provided with some means for holding the sections together when applied to the rod.

I claim as my invention:—

1. The combination of the spinning frame, a vertically reciprocating lifting rod therein, its guide sleeve attached to the frame, and a cleaning device detachably connected with one end of the guide sleeve outside the frame comprising two laterally separable sections and devices for normally holding said sections in place on the lifting rod but which allow the sections to be removed laterally from the rod without stopping the reciprocation thereof.

2. The combination of the spinning frame, a vertically reciprocating lifting rod therein, its guide sleeve, and a cleaning device for

the rod detachably connected with the guide sleeve outside the frame comprising two laterally separable sections which may be withdrawn from the rod sidewise without stopping the reciprocation thereof, and a spring carried by said sections for holding them in place.

3. The combination of the spinning frame, a vertically reciprocating lifting rod therein, its guide sleeve connected with the frame and a cleaning device for the rod comprising two laterally separable sections which may be withdrawn sidewise from the rod without stopping the reciprocation thereof, packings carried by the sections and a spring connecting the sections for holding them together and for pressing the packing against the rod.

4. The combination of the spinning frame, a vertically reciprocating lifting rod therein, its guide sleeve attached to the frame, and a cleaning device for the rod, comprising two laterally separable sections hinged together and adapted to be withdrawn sidewise from the rod without stopping the reciprocation thereof and devices for detachably connecting the joint of the sections opposite the hinge.

In testimony whereof, I have hereunto subscribed my name.

WILLIAM G. RAGSDALE.

Witnesses:

GEO. L. HODGIN,
O. M. BUNDY.