

(No Model.)

2 Sheets—Sheet 1.

W. H. HALL.

SULKY RAKE.

No. 328,670.

Patented Oct. 20, 1885.

Fig. 1.

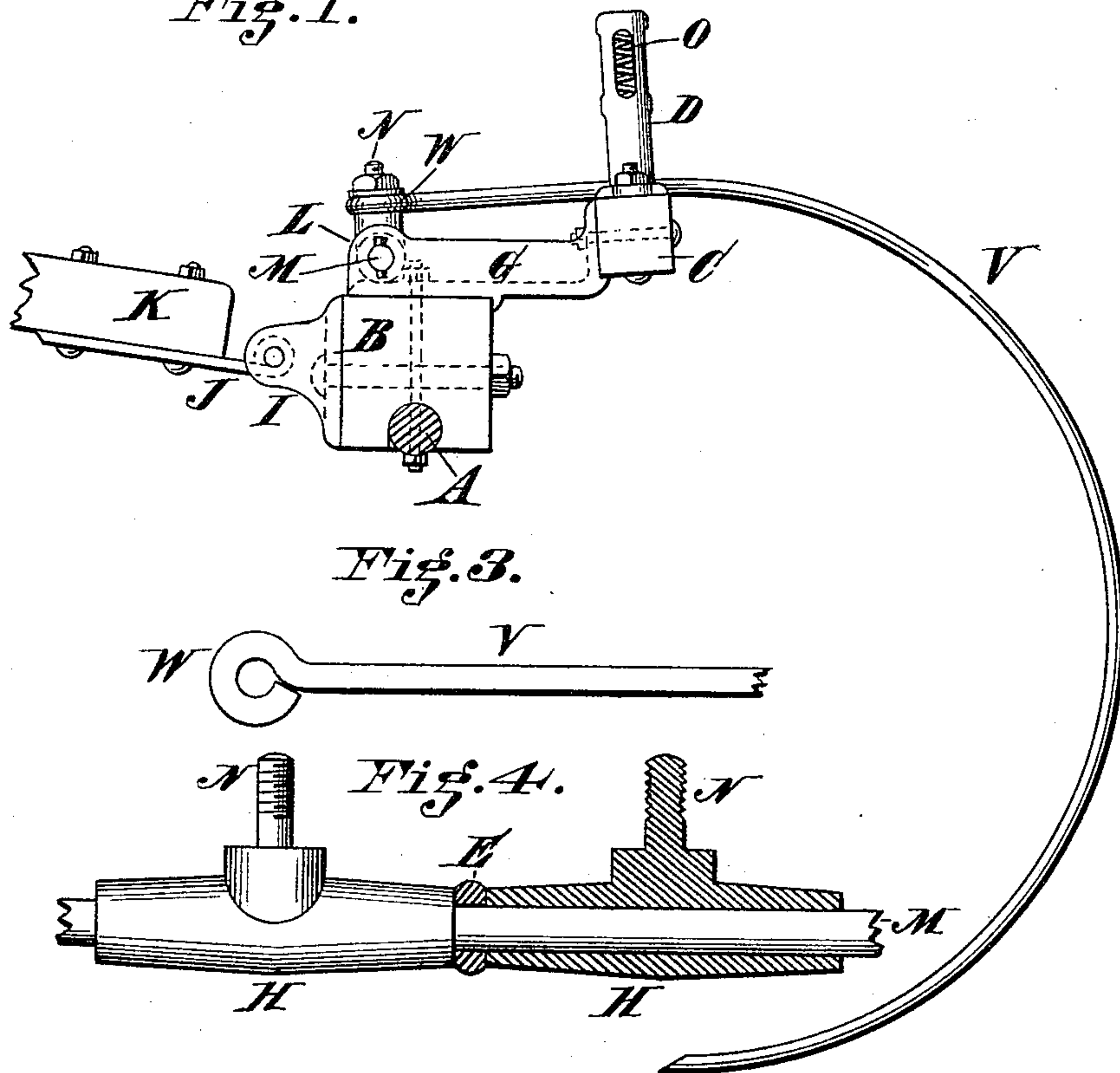


Fig. 3.

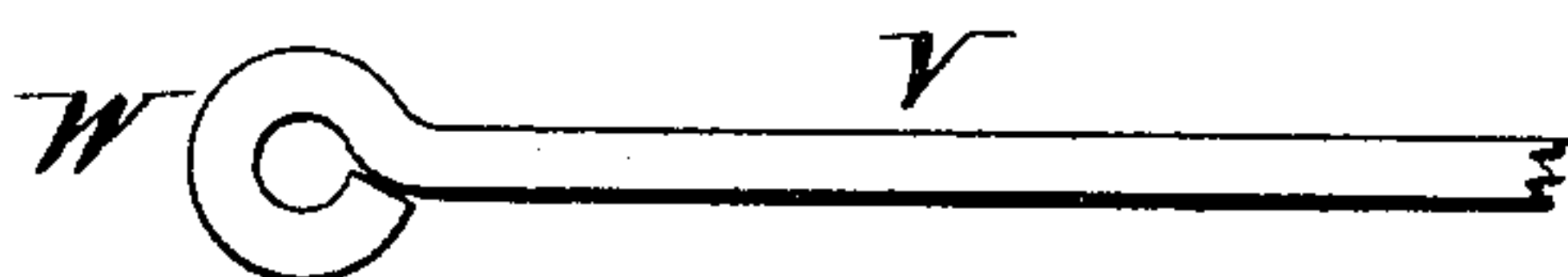


Fig. 4.

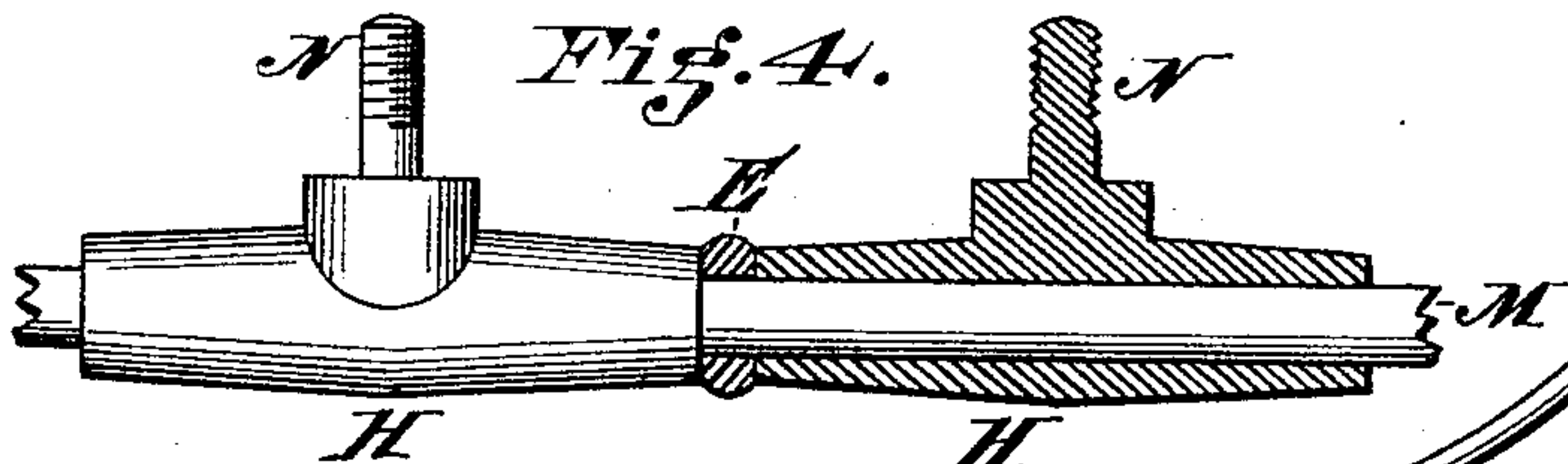
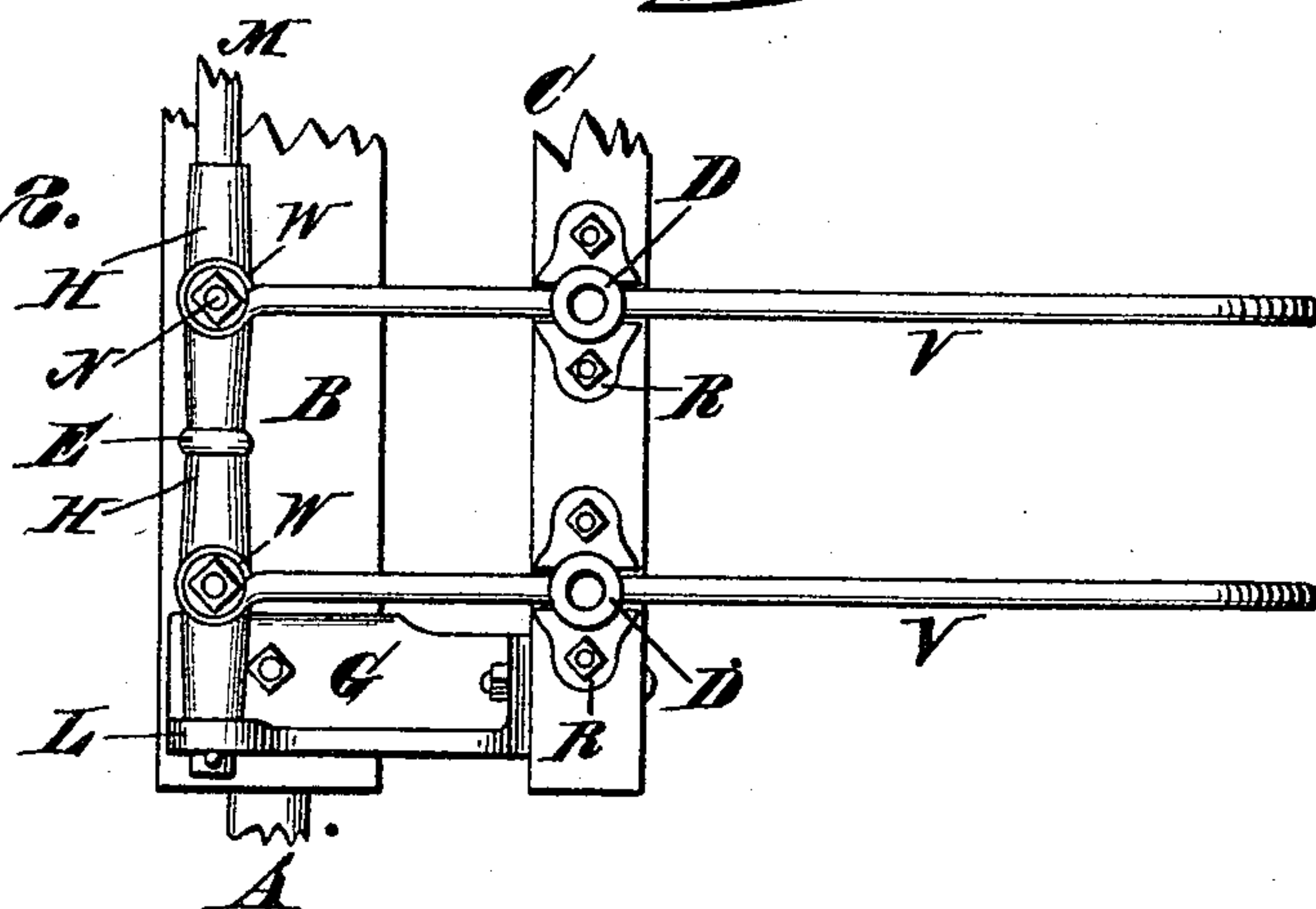


Fig. 5.



ATTEST
Frank W. Purchase.
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INVENTOR:
William H. Hall
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(No Model.)

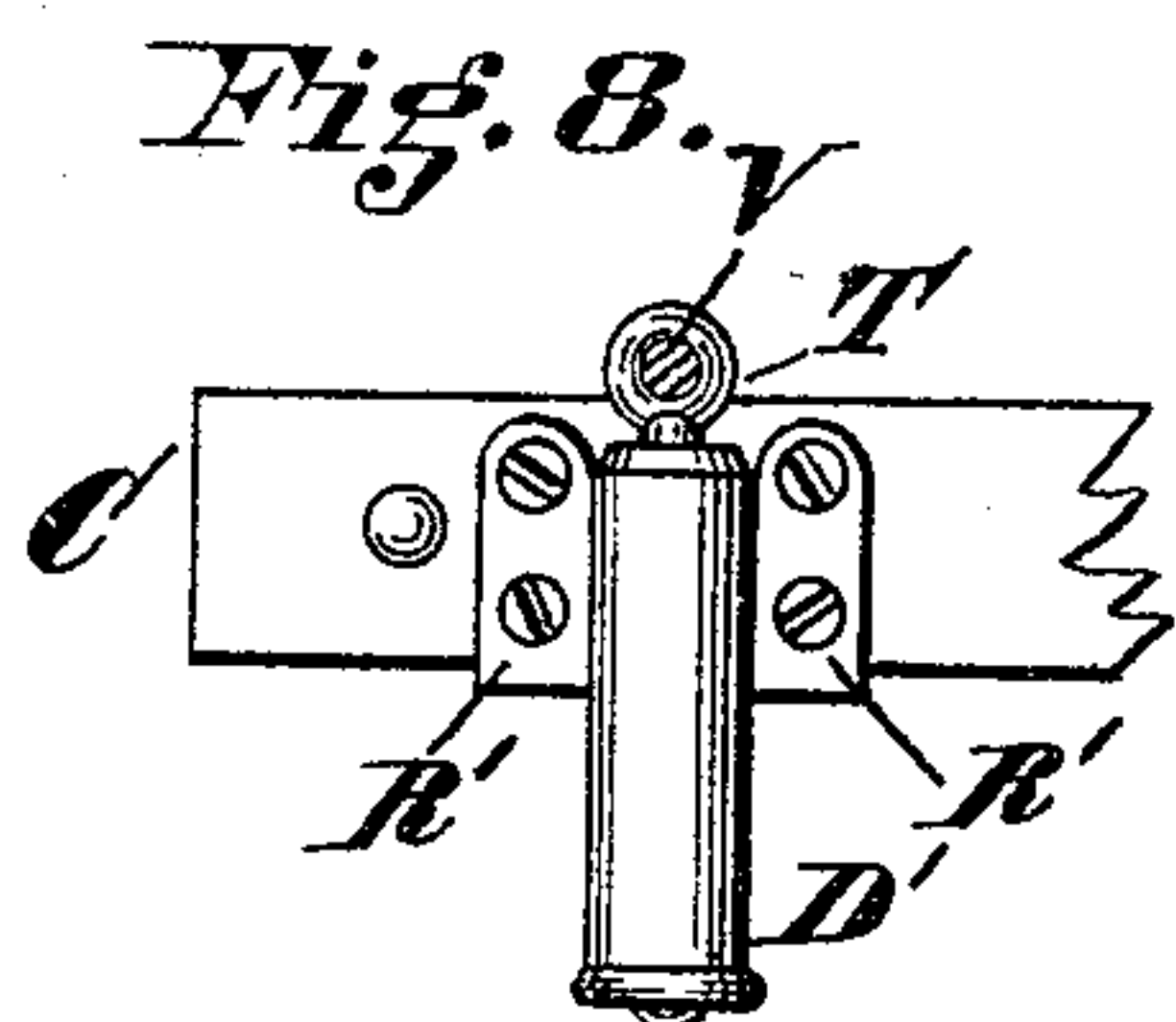
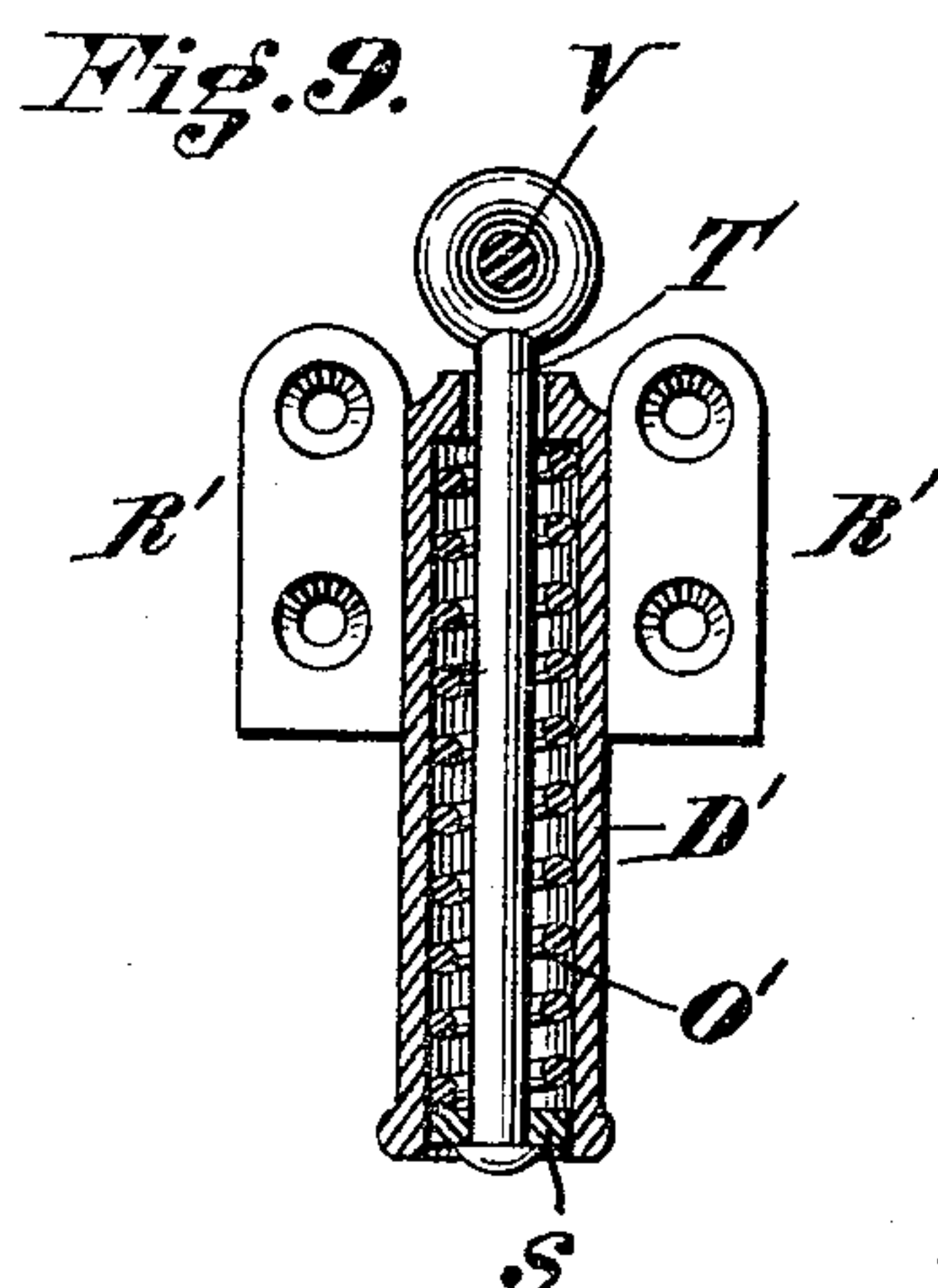
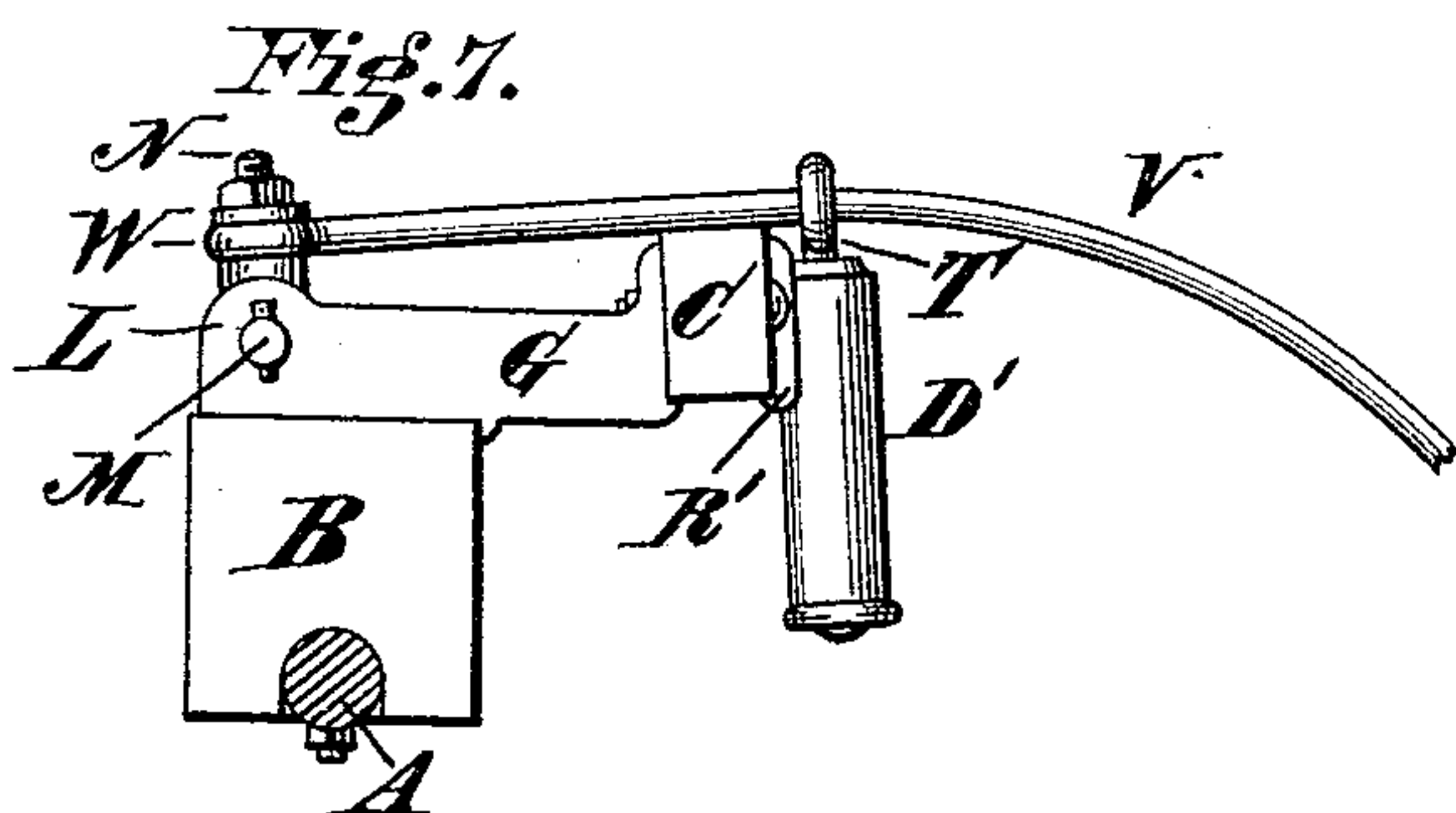
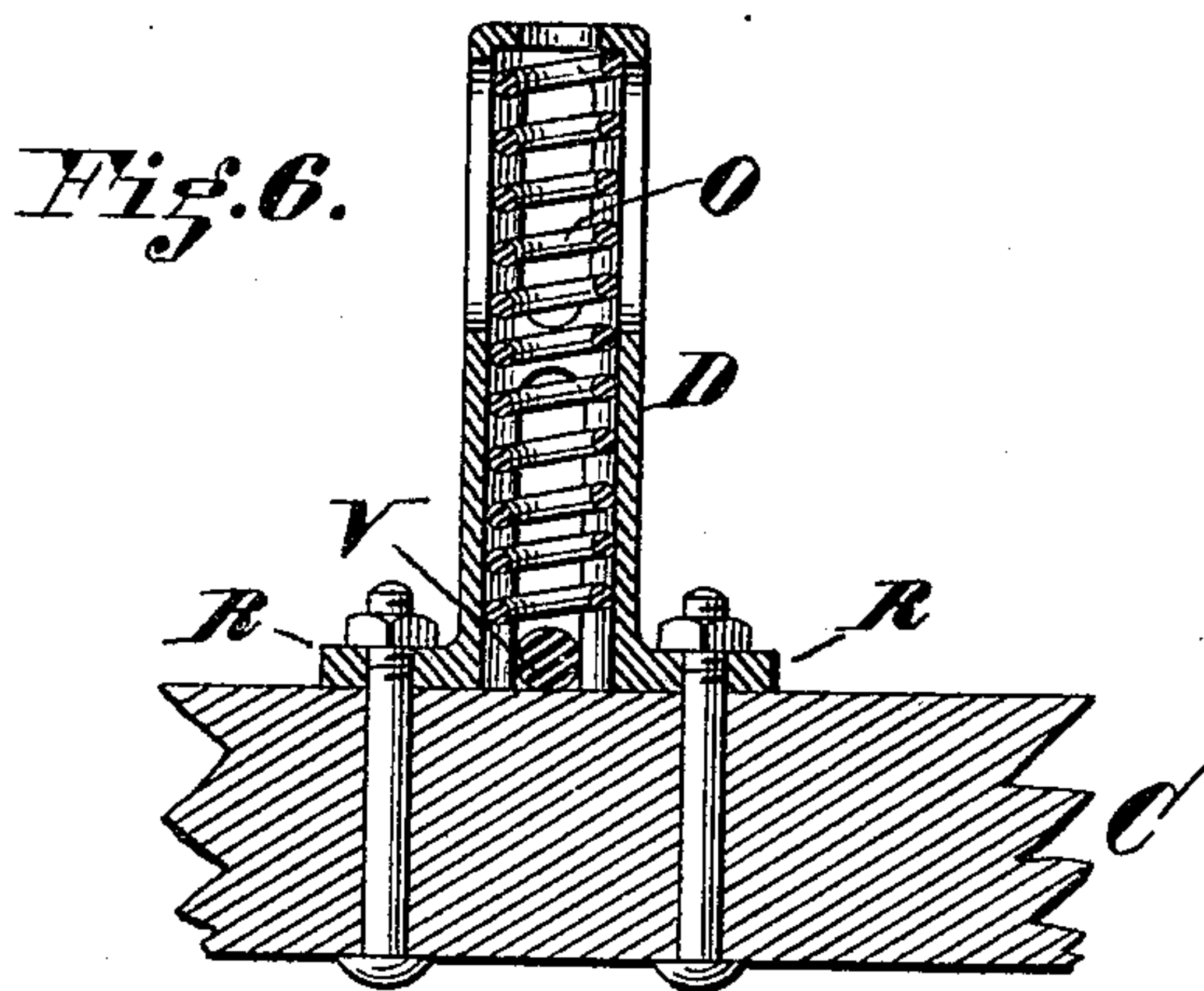
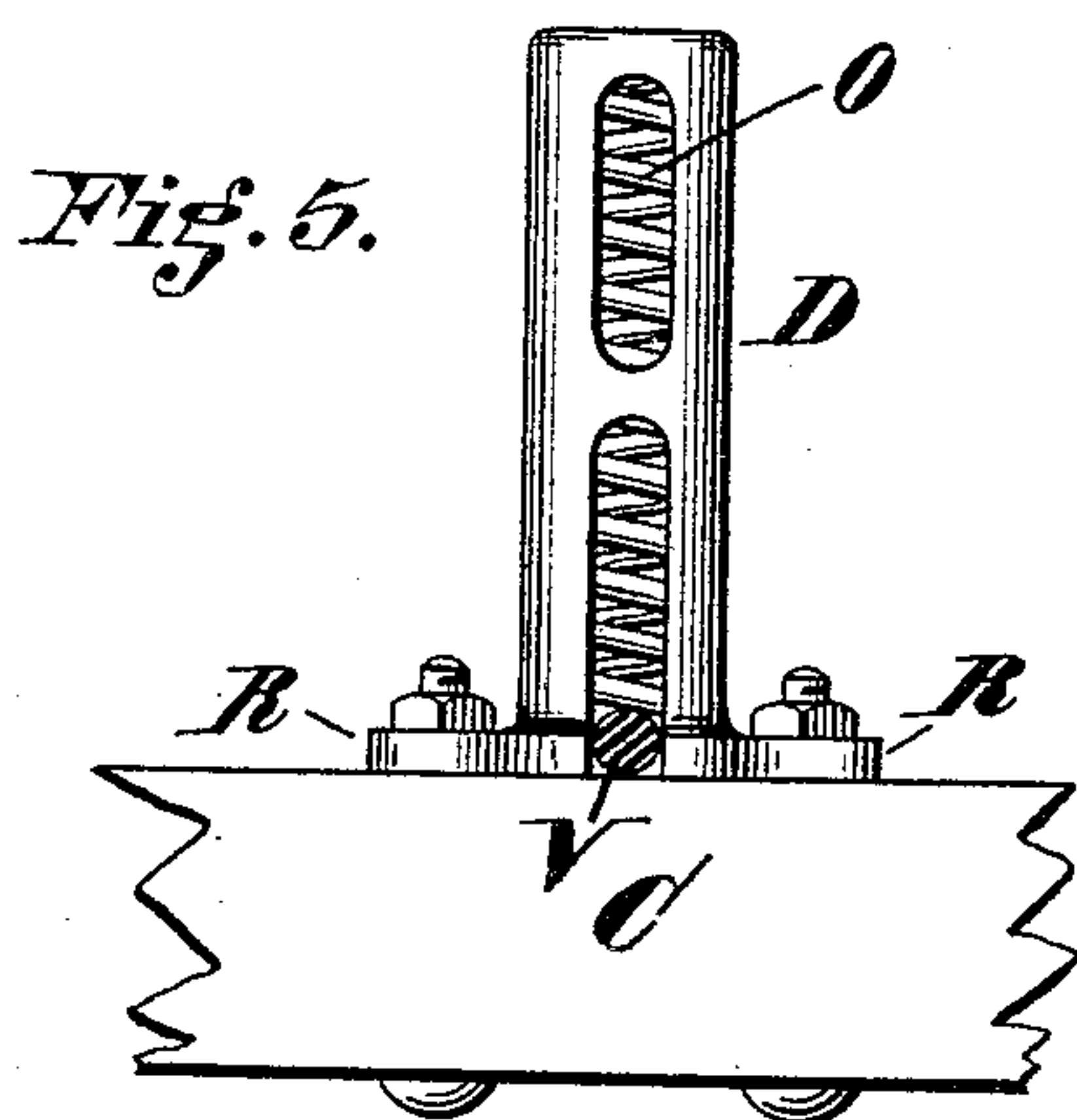
2 Sheets—Sheet 2.

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ATTEST
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UNITED STATES PATENT OFFICE,

WILLIAM H. HALL, OF TIFFIN, OHIO.

SULKY-RAKE.

SPECIFICATION forming part of Letters Patent No. 328,670, dated October 20, 1885.

Application filed June 5, 1884. Serial No. 133,884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HALL, a citizen of the United States, residing at Tiffin, in the county of Seneca and State of Ohio, have invented a new and useful Improvement in Sulky-Rakes, of which the following is a specification.

My invention relates to the class of sulky-rakes that are supplied with independently-articulating teeth afforded elastic vertical play by means of individual springs; and its object is to provide convenient means for mounting the springs and teeth, and for readily detaching and replacing them severally.

In the accompanying drawings, Figure 1 is a cross-section through a rake-head and rear bar having my improvement. Fig. 2 is a top view of a portion of the rake-head and rear bar carrying the spring-sockets. Fig. 3 is a top view of the front end of one of my rake-teeth. Fig. 4 shows two of my spools for supporting the forward end of the teeth, one of them being in elevation and the other in vertical section taken longitudinally through the center. Figs. 5 and 6 show, the first in elevation and the second in vertical section, my socket with the coiled spring inclosed and the rake-tooth in position. Fig. 7 is an end view of a rake-head and rear bar with a modified form of my socket attached thereto. Figs. 8 and 9 show, the first in vertical section and the second in elevation, the modified form of socket.

The same letters represent the same parts in the several figures.

B represents the rake-head, to which are attached in any suitable manner the spindles for the rake-wheels, (shown as A.)

C is the rear bar, on which the teeth rest, which may be supported by brackets G, or mounted in any other suitable manner. Upon this bar C are mounted spring-sockets D, containing coiled springs, as shown, and having vertical slots O, through which the teeth V play, the coiled springs allowing them to yield elastically to any inequality of surface. These sockets are closed, or partly so, at their top, so as to confine the spring without an upper bar or other external support, while at their bottom they are provided with flanges R, by which each is independently attached to the rear bar and held firmly in position.

H represents the spools, to which the front ends of the teeth are attached. These spools have upright bolts N cast on them or otherwise attached to them. The teeth V have at their front end eyes W, to fit on these bolts, and are secured to them by nuts, with or without intervening washers.

The spools are mounted on rod M, which may be made continuous or in sections, and is supported by bearings L in the brackets G, or by eye-pins similarly located. These brackets or eye-pins may be placed at longer or shorter intervals, as desired.

The thills K may be connected to the rake-head by means of plate J, pivoted in bracket I, or by any other convenient means. By mounting the driver's seat on the thills, and the hand-lever for dumping the rake upon the thill-girt, the weight of the driver is utilized in balancing the weight of the rake-head and its load, so that the rake is easily dumped.

D', Figs. 7, 8, and 9, represents a modified form of my spring-sockets provided with flanges R', for securing them to the bar C, and having, in lieu of the slot for reception of the teeth, an eyebolt, T, extending through the top and receiving the teeth through its eye. On the lower end of this eyebolt is a washer or guide-plate, S, made sufficiently smaller in diameter than the interior of the socket to move freely up and down in it, thus guiding the spring in a vertical path. The top of the socket forms a stop for the coil-spring in the same manner as in the socket first above described. This socket is especially adapted to use where it is desired to place it below the level of the rear bar and avoid the upward projections therefrom, which is incident to the use of the first-described form, while it possesses the advantages of that form.

In putting the rake together the coil-springs are readily dropped into their sockets, and the sockets attached to the bar by means of their flanges. The socket confining the spring at the top, and its flanges affording it abundant support, a top bar is dispensed with, while the individual sockets can be removed and replaced or supplied with new springs without disturbing each other or any other part of the rake.

The upright bolt on the forward spool, in combination with the vertical eye in the front

end of the teeth, enables the teeth to be readily attached to or detached from the spools without the use of any special tools for the purpose. The teeth can be withdrawn either by
5 sliding them forward through the slot in the sockets or, if for any reason it is desired to remove them from the rear, they can be drawn back through the vertical slots by turning them so that the ring of the eye at their front
10 end will be upright. This ring will, as it is drawn back to the slot, give sufficient leverage against the spring to force it up far enough to release the head of the tooth. This mode of attachment also affords the tooth a rigid
15 support against torsional strains.

I claim—

1. A spool for supporting the end of a rake-tooth, having an upright threaded bolt pro-

jecting therefrom, substantially as and for the purposes set forth. 20

2. In combination with the spool having an upright bolt projecting therefrom, a rake-tooth provided with an eye in its forward end adapted to receive said upright bolt, substantially as and for the purpose set forth. 25

3. In combination with the vertically-slotted spring-holding socket, the rake-tooth having an eye at its forward end adapted to slide through said socket, and the spool provided with an upright bolt adapted to receive and
30 confine the said tooth, substantially as set forth.

WILLIAM H. HALL.

Witnesses:

D. J. STALTER,
JAMES H. PLATT.