

No. 624,190.

Patented May 2, 1899.

S. K. DENNIS.
CORD HOLDER.

(Application filed Mar. 26, 1898.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 2.

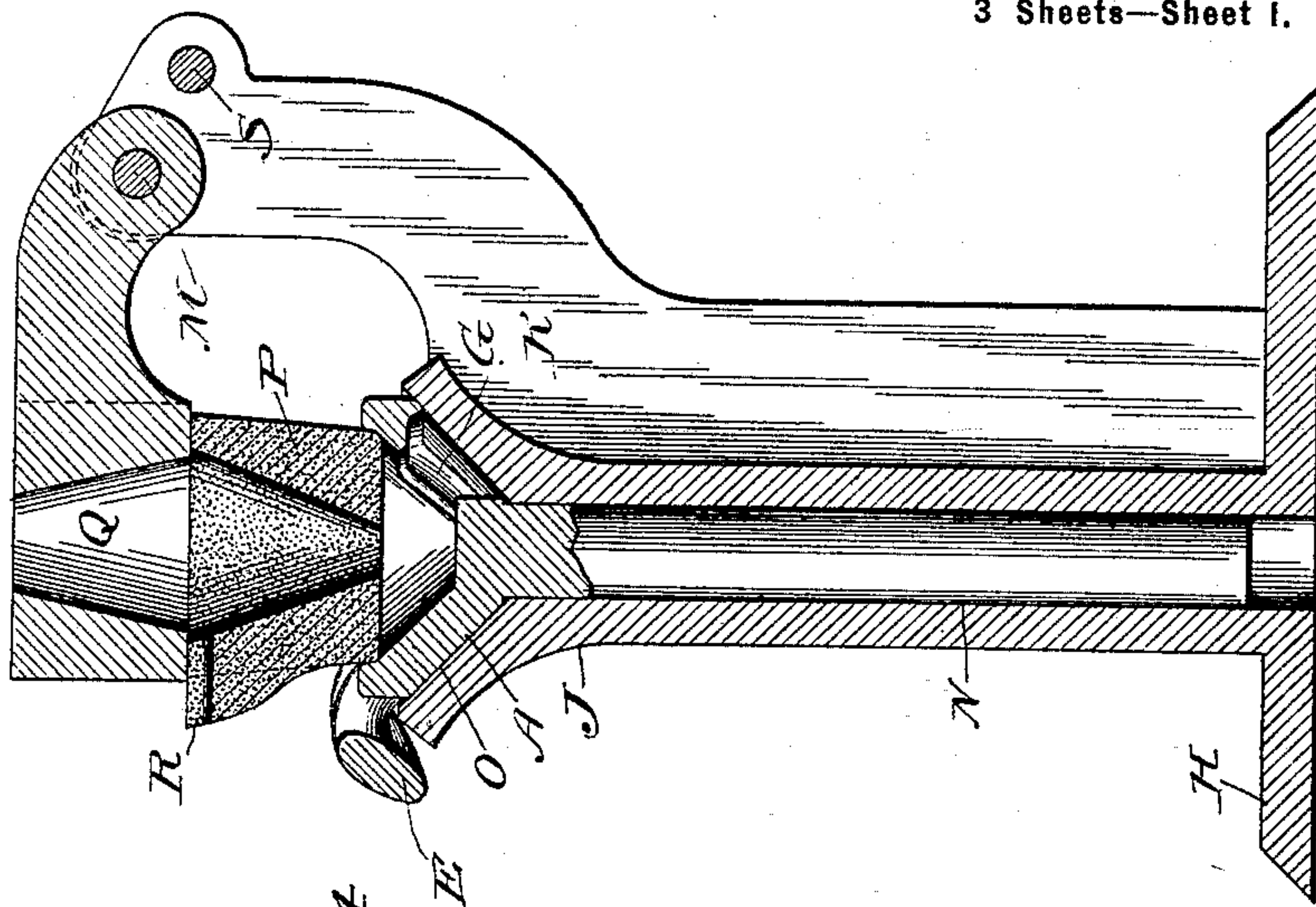
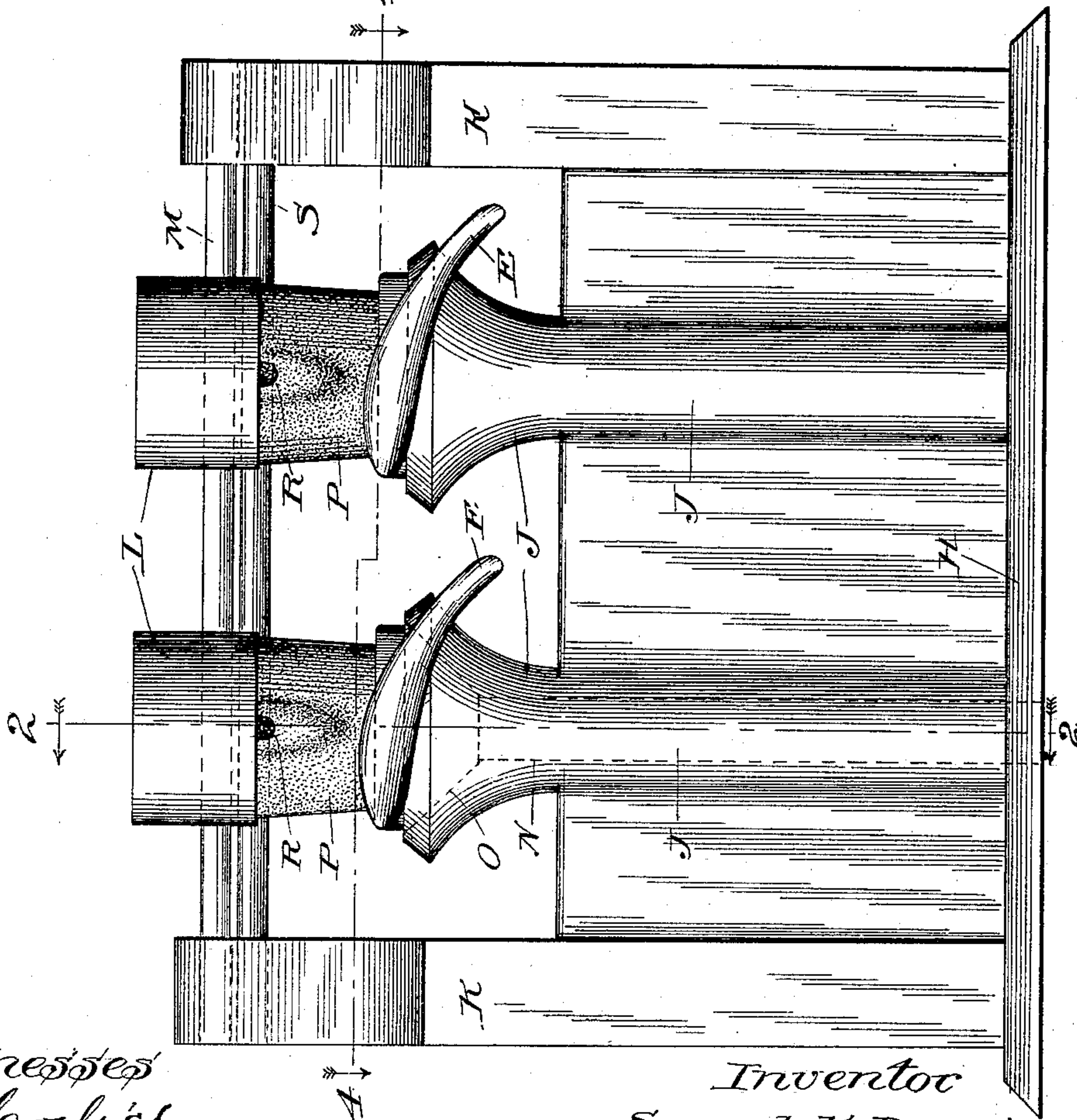


Fig. 1.



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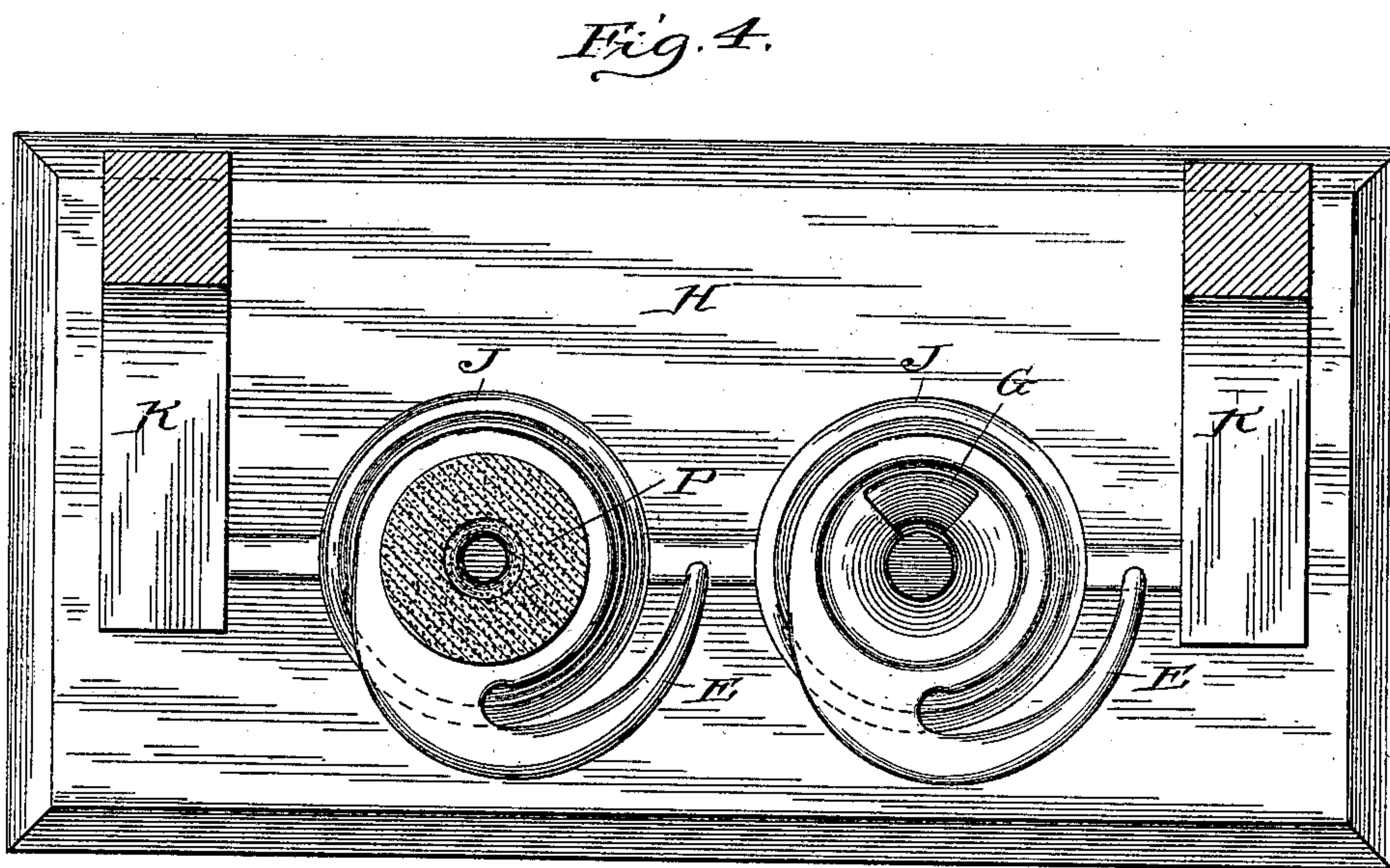
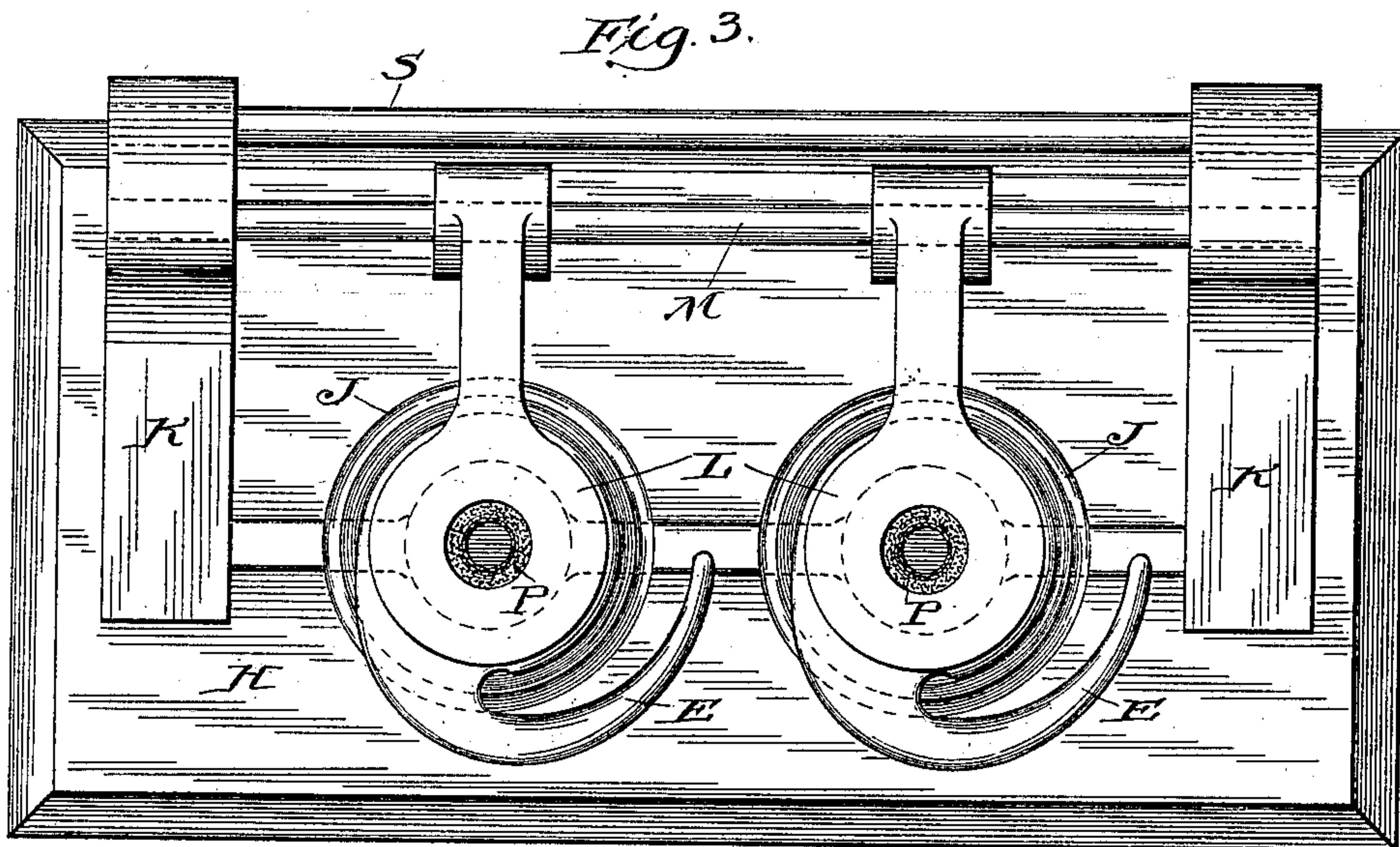
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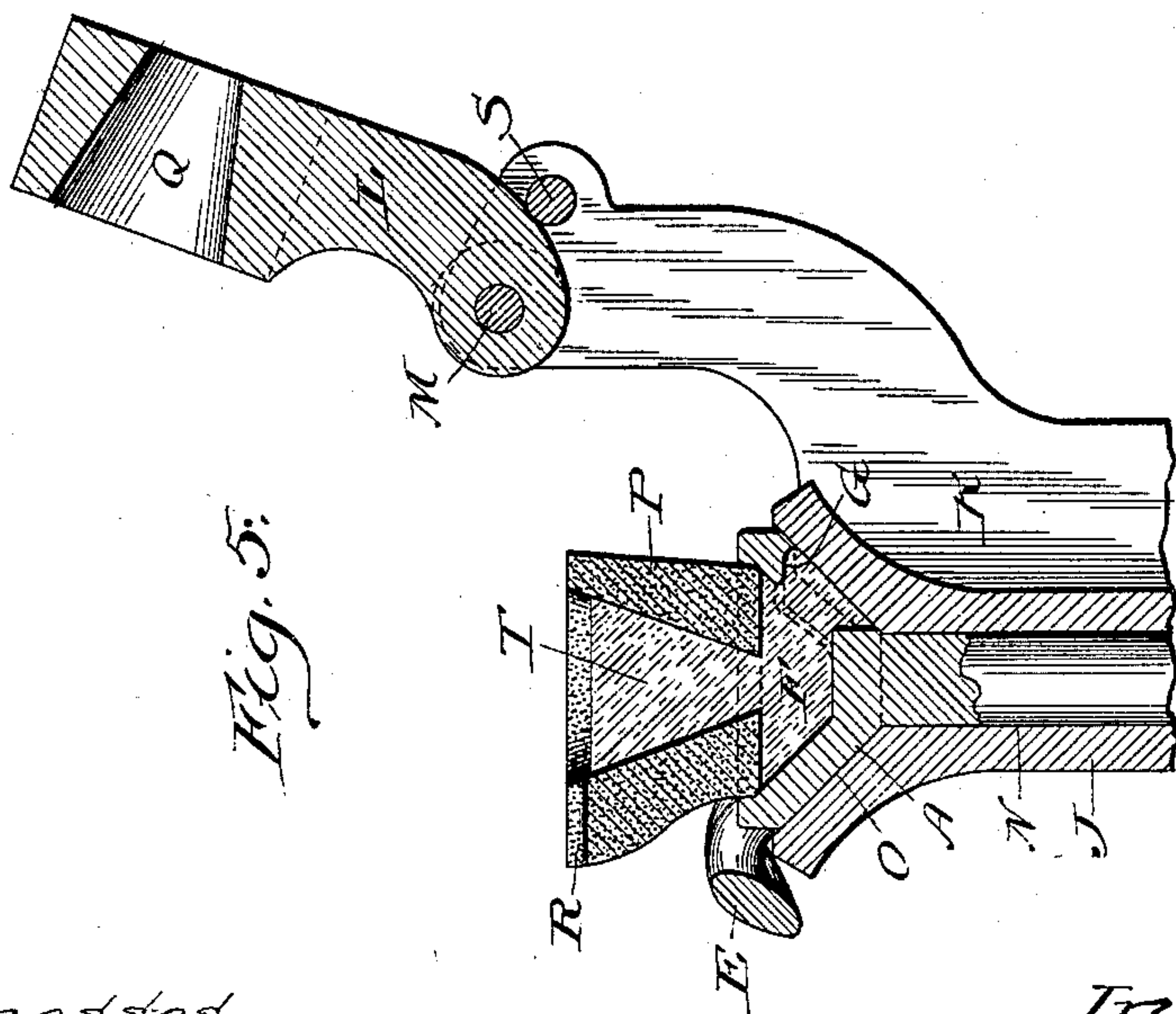
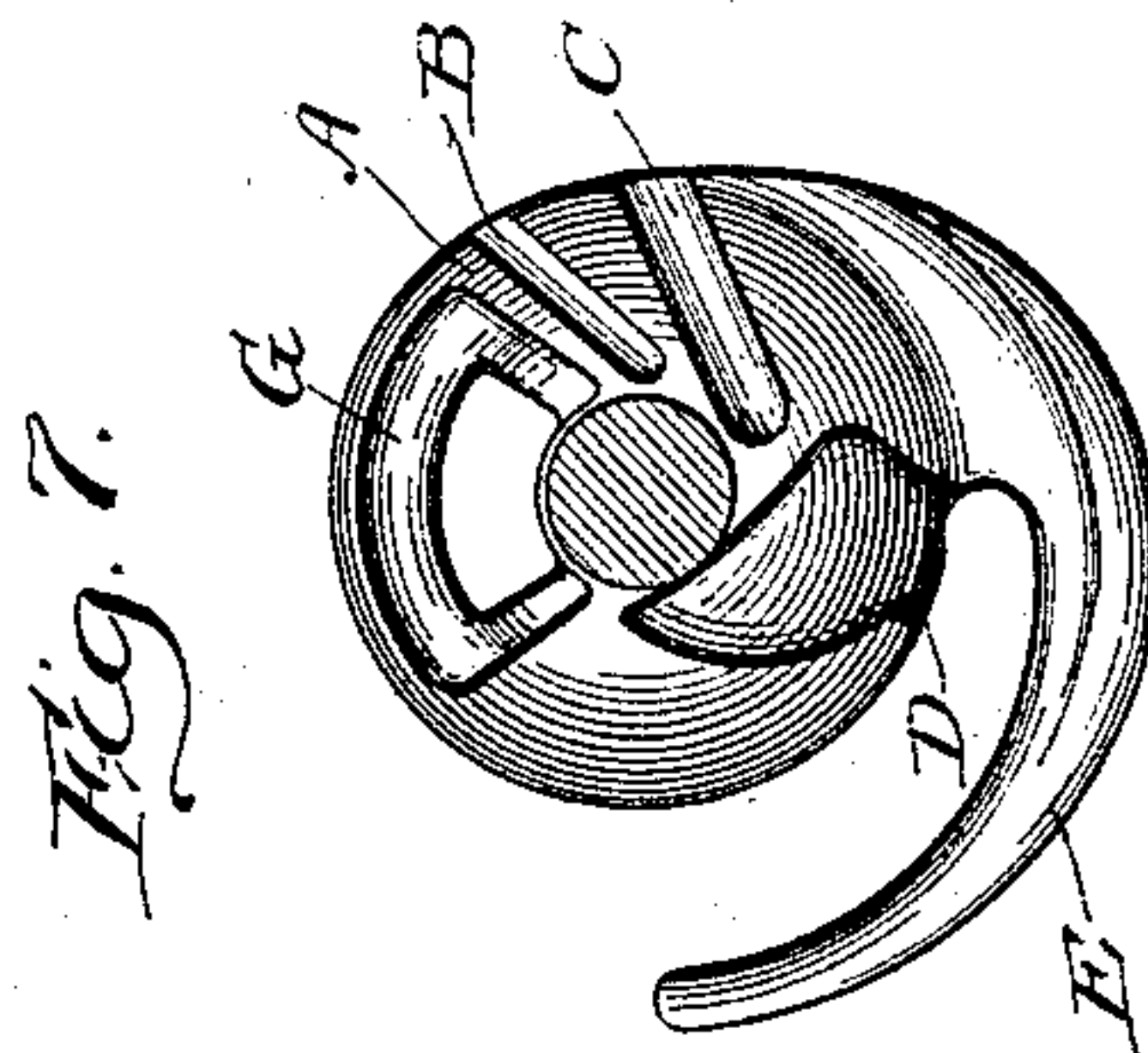
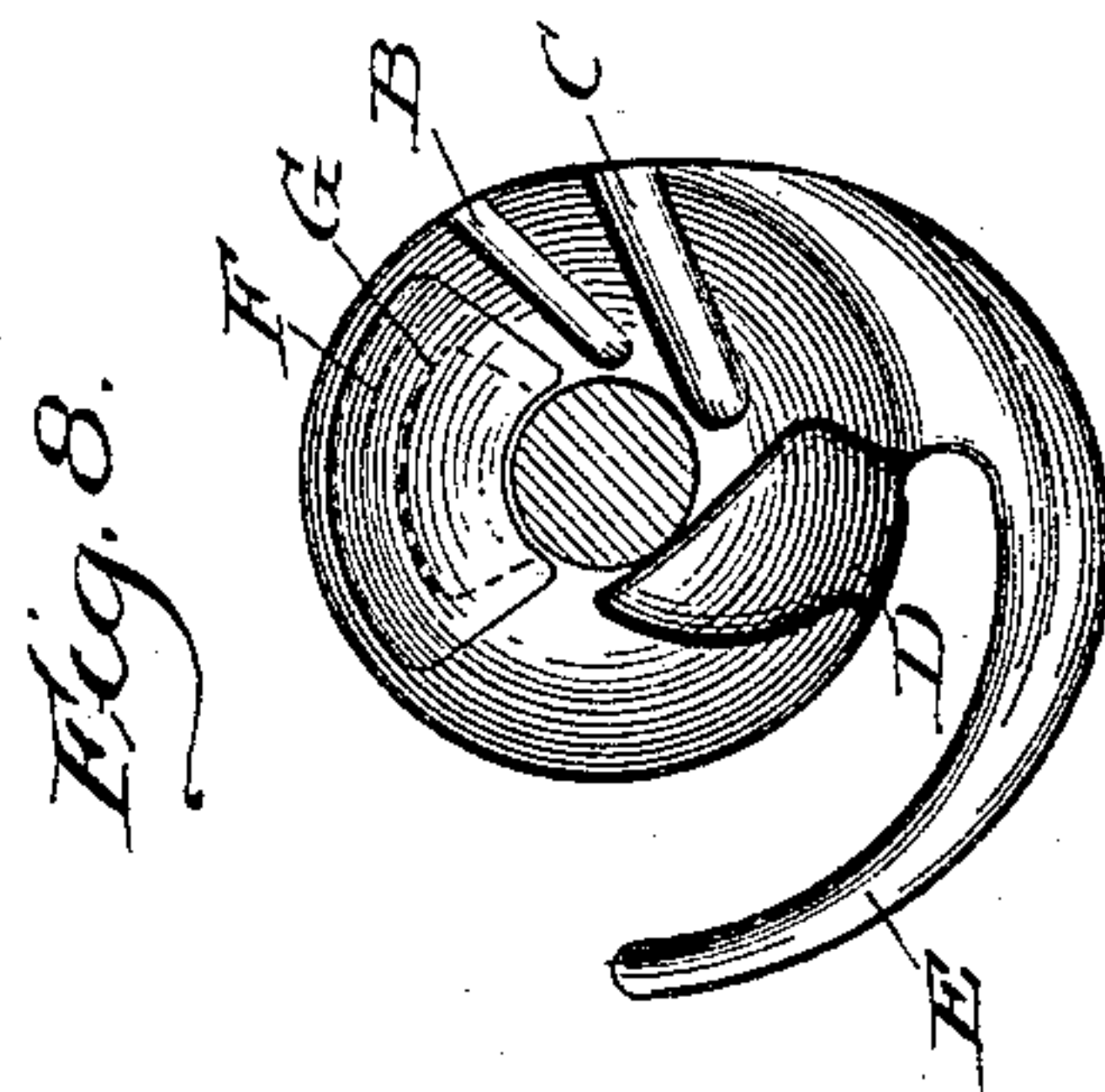
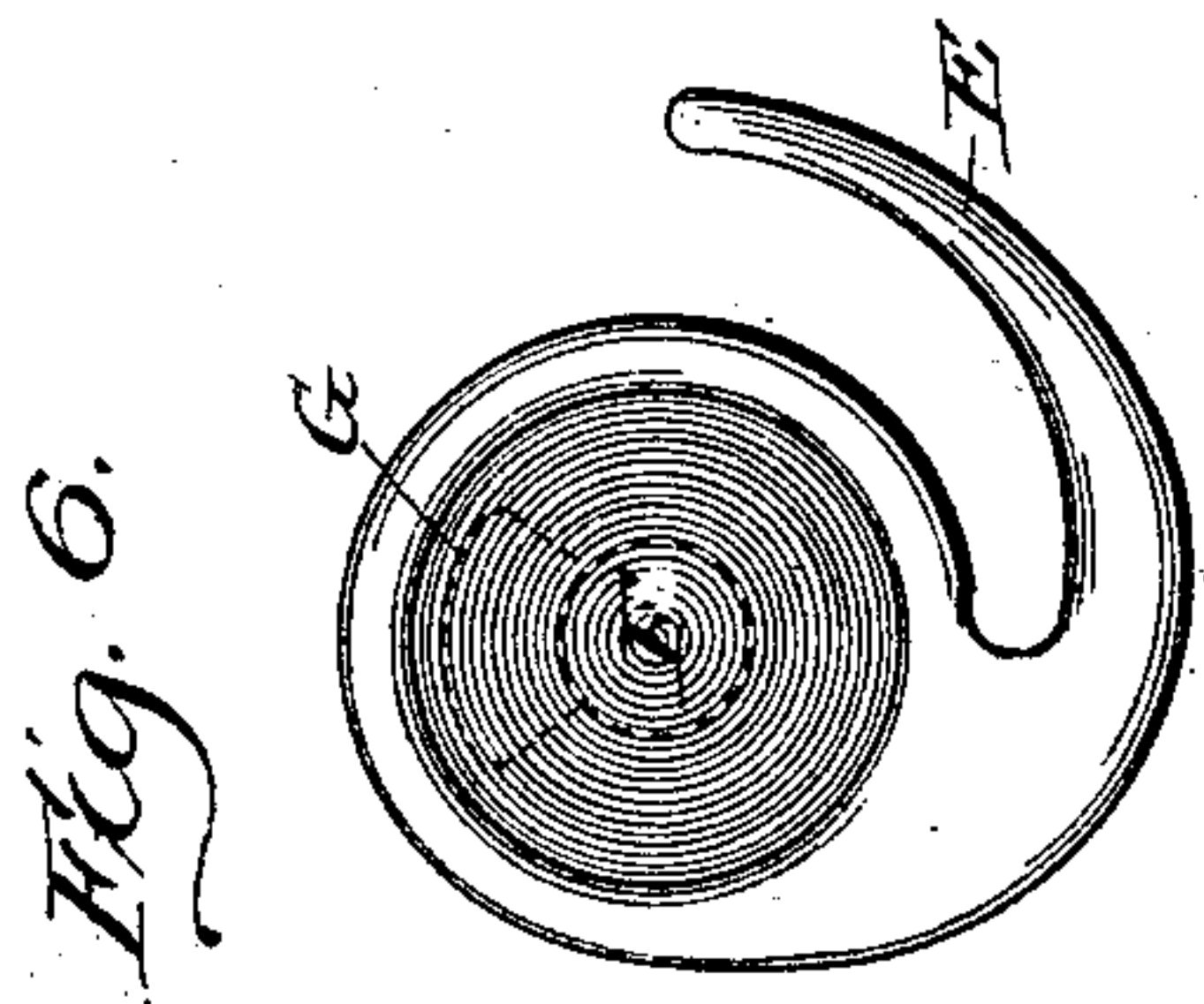
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

SAMUEL K. DENNIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PLANO MANUFACTURING COMPANY, OF SAME PLACE.

CORD-HOLDER.

SPECIFICATION forming part of Letters Patent No. 624,190, dated May 2, 1899.

Application filed March 26, 1898. Serial No. 675,233. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL K. DENNIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cord - Holders Consisting of Malleable or Annealed Iron and Having Chilled Portions, of which the following is a specification.

My invention relates to a new and improved cord-holder for harvesting-machines, the principal portion of which consists of malleable or annealed iron, but which has at one or more points subjected to wear a chilled portion or surface formed therein.

Referring to the drawings which I have employed in illustrating my improved article, in which the same letters of reference are used to designate identical parts in all the sheets, Figure 1 is a front elevation of the apparatus in position for the carrying out of the process. Fig. 2 is a section of the apparatus on the line 2 2 of Fig. 1. Fig. 3 is a plan view of the apparatus shown in Fig. 1. Fig. 4 is a sectional plan view of the same apparatus on the line 4 4 of Fig. 1. Fig. 5 is a section similar to Fig. 2, but taken after the casting has been completed. Fig. 6 is an inverted plan view of a cord-holder for a grain-binding machine constructed in accordance with my invention. Fig. 7 is a plan view of the same article before the chilled portion has been cast into position, and Fig. 8 is a similar view of the article completed.

Referring first to the cord - holder, (best shown in Figs. 2, 6, and 8,) A represents the conical upper surface of the bearing portion of the cord - holder, which has therein the channels B, C, and D, which permit the escape of the ends of the cord. The hook E is formed integral with this portion and has certain functions in the operation of the cord-holder which need not be here considered.

In the operation of the cord-holder that portion of the bearing-surface to which the letter F is applied is subjected to a great deal of wear from the movement of the cord, and in the operation of the device, if this portion is constructed of malleable or annealed iron, as is the body portion of the holder, in order to secure the necessary tensile strength, this por-

tion soon becomes worn away, so much so as to permit the cord to slip, and thus destroy the efficiency of the clamping action of the holder, which action is essential to the successful operation of the machine. In order to secure the necessary hardness for this surface F in the malleable iron, the body of the holder is cast and annealed in the ordinary manner, leaving therein the cavity G, where the chilled surface F is to come, and this cavity G leads through to the under side of the holder, which I preferably make of the hollow conical shape shown in Fig. 2.

After the malleable portion has been formed in the customary manner I place the cord-holders in the apparatus shown in Figs. 1 to 5, which apparatus consists of the base H, the holders J, the standards K, and the caps L, which are pivotally mounted on the rod M, as subsequently more fully described. The holders J will necessarily be shaped so as to conform to the shape of the articles in which the chilled portion is to be placed and in the present instance have the vertical bores N, in which the stem portions of the cord-holders fit, and the flaring cone-shaped portions O, which correspond exactly in shape to the conical bearing portion A of the cord-holder. The case P, which is of the shape clearly shown in Figs. 1 and 2 and which is composed of sand, flour, and molasses in the customary manner, is placed in the position shown in Fig. 2, and the cap L is swung down to hold the case P in position and by means of the orifice Q to serve as a guide in pouring the molten metal in the mold thus formed by the holder, the malleable portion of the article, and the case P. The case P is provided with an overflow-outlet R. The parts now being in position, the molten metal is poured through the aperture Q and flows into and fills the mold formed by the parts before mentioned. The surface F is formed by the conical surface O of the chill-holder, and as it cools very rapidly this surface becomes extremely hard, as in the well-known operation of casting chilled articles. The malleable portion of the cord-holder, comprising the interior of the depression G and the conical hollow end, also serves to chill the hot metal coming in contact therewith, and as a result

the complete casting is extremely hard. After it is completely cooled the cap L is swung back, as shown in Fig. 5, the bar S being conveniently provided between the standards K to hold these caps in position when they are swung back, and the case P is broken away, and the sprue T is cut off flush with the surface of the casting, leaving the completed casting with its under surface, as shown in Fig. 6.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A cord-holder for self-binding harvesters having a rotating member, the main portion of which is composed of malleable or annealed metal, and having a portion F of the clamping-surface A composed of chilled metal cast into an aperture G formed in said surface, which aperture has a contracted opening into

a hollow portion of the rotating member, the said chilled metal being cast into the hollow portion, through the contracted opening, and into the aperture G against a chill, substantially as described.

2. A cord-holder for self-binding harvesters having its rotating member including the shaft and the major portion of the conical bearing-surface A composed of malleable or annealed iron, and having the portion F of said conical bearing-surface A composed of chilled metal cast into an aperture G formed in said surface, which aperture has a contracted opening into the hollow base of the rotating member, substantially as described.

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Witnesses:

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