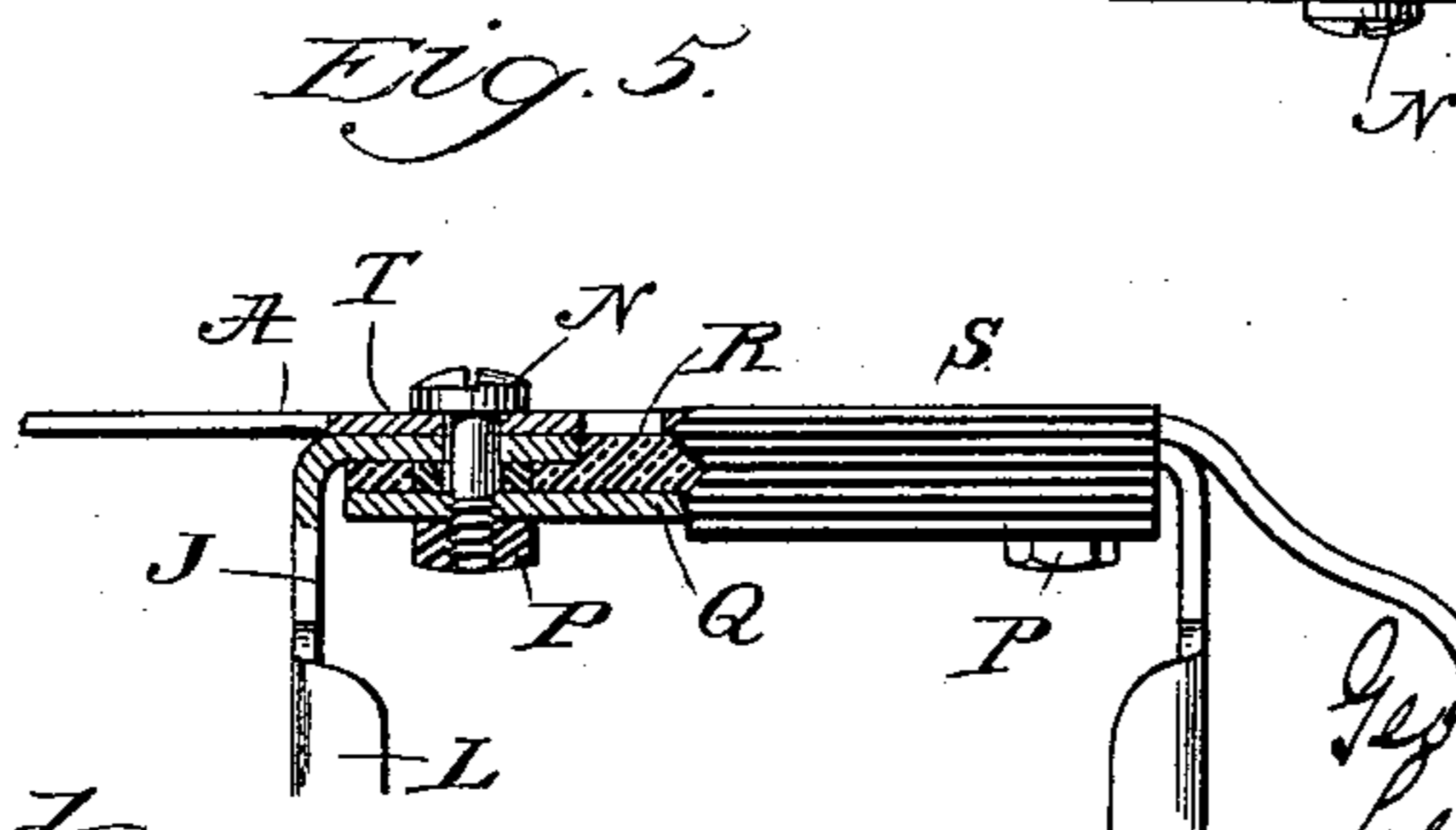
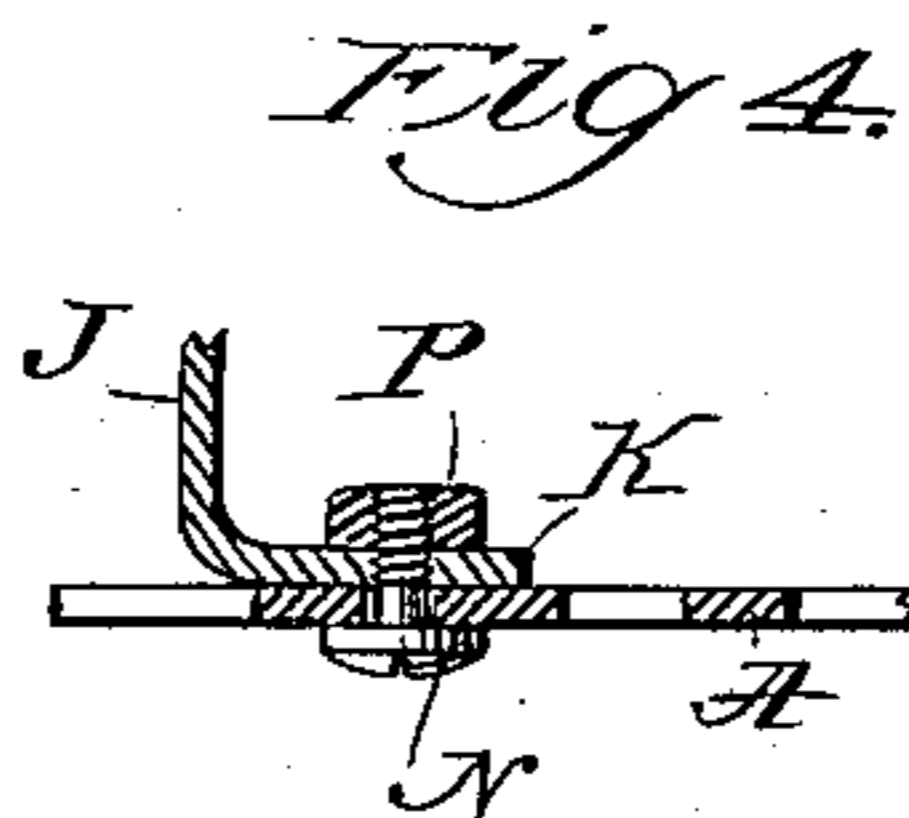
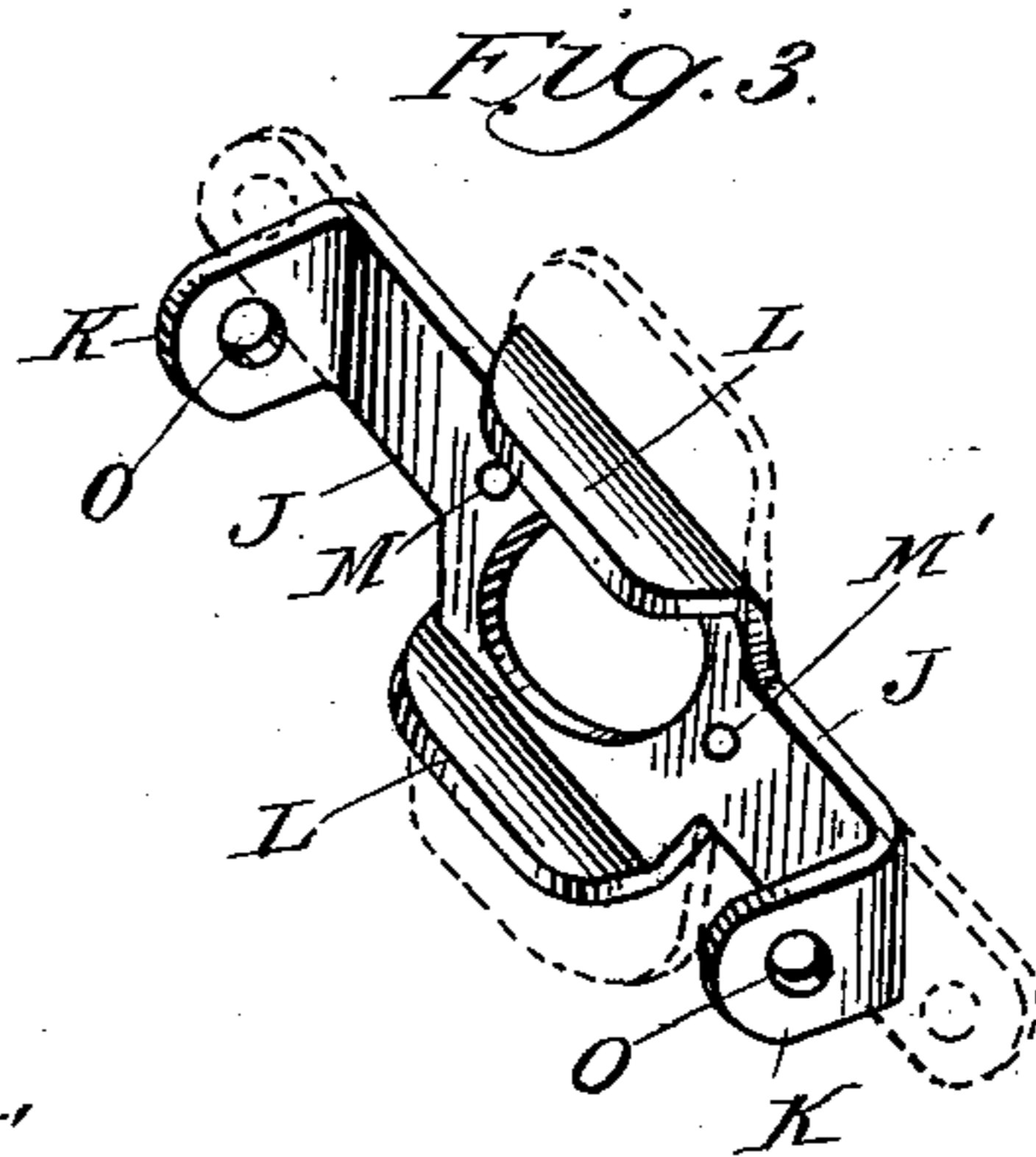
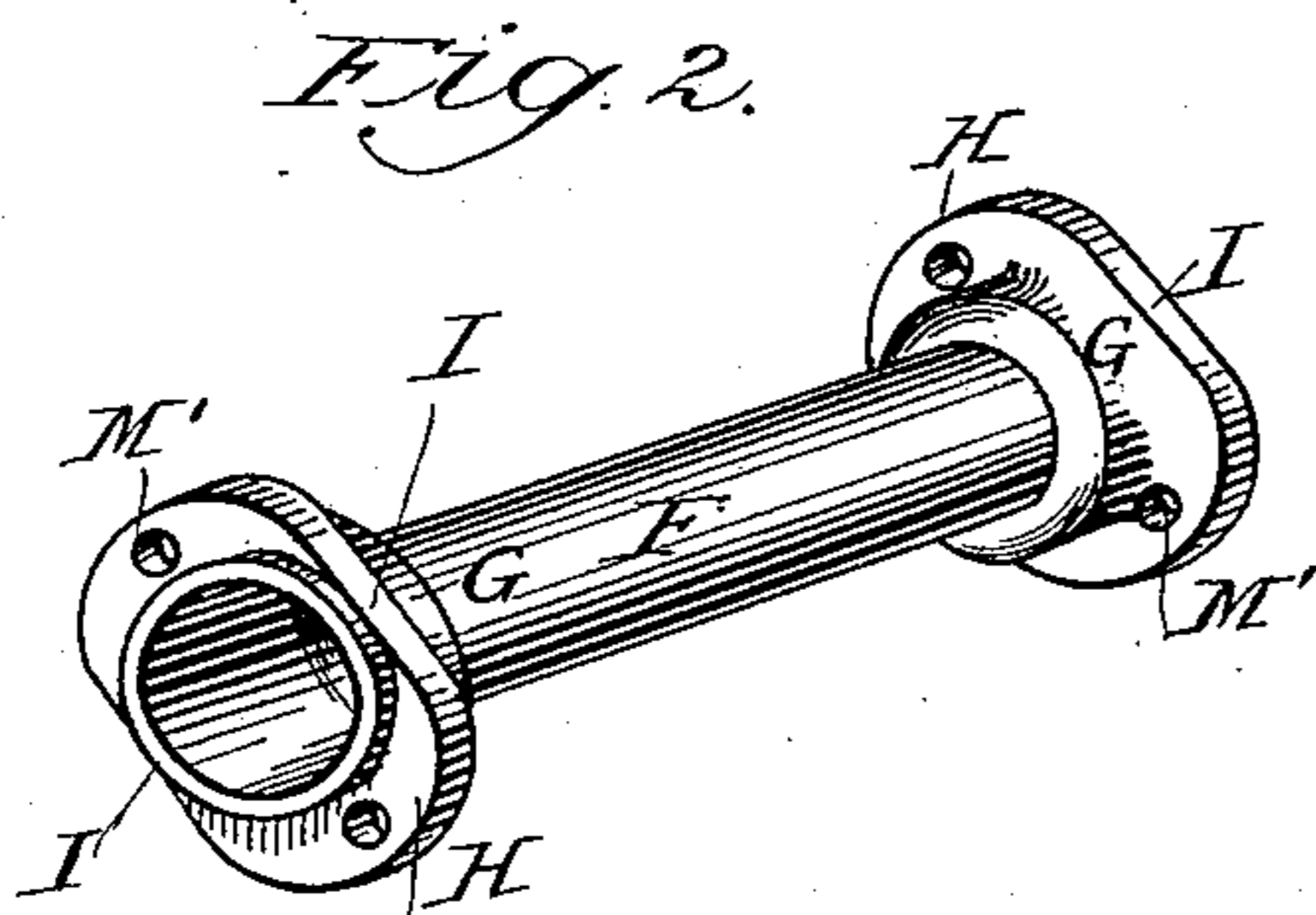
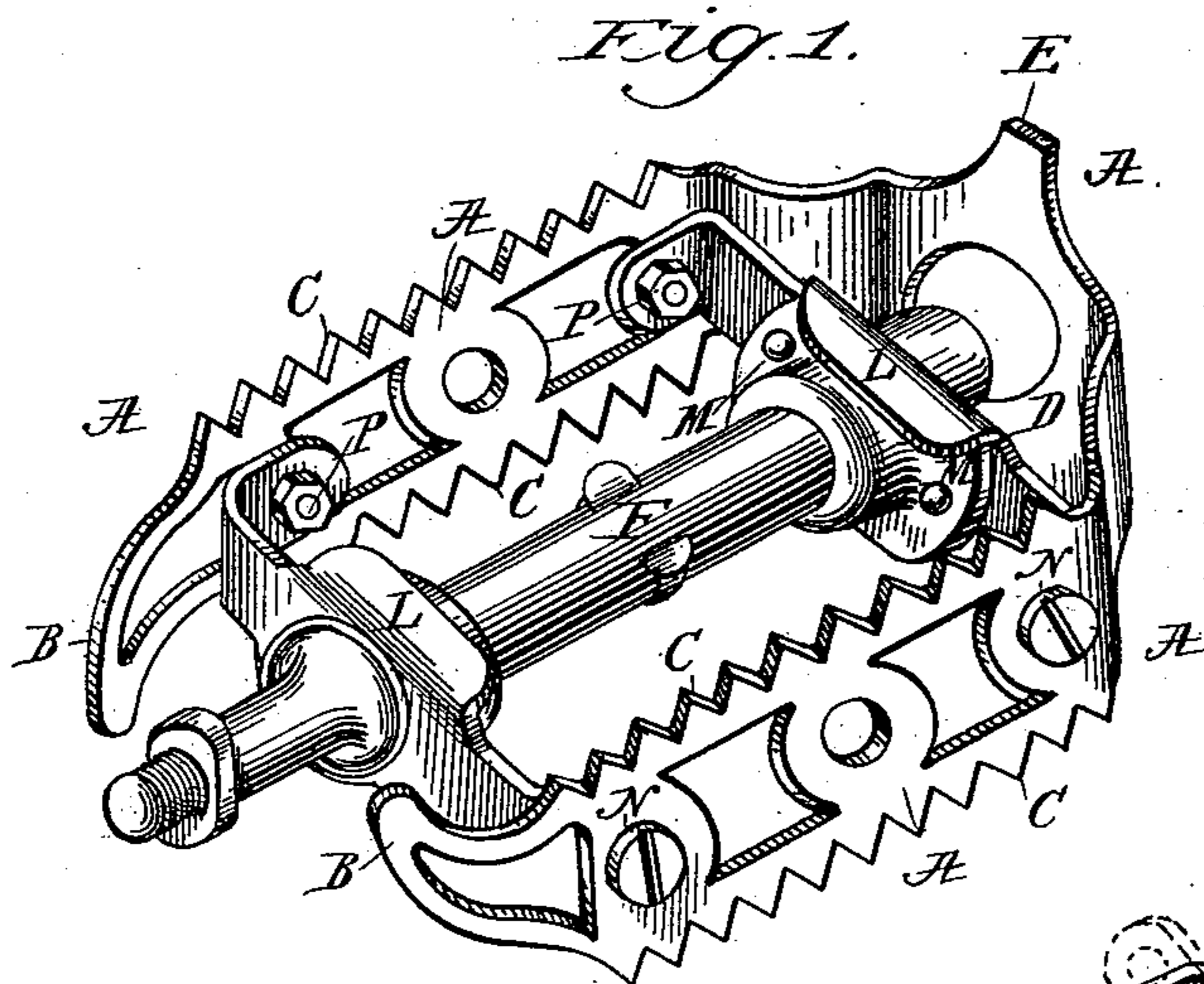


(No Model.)

G. I. BLACK & L. B. GAYLOR.  
BICYCLE PEDAL.

No. 564,301.

Patented July 21, 1896.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE I. BLACK AND LEONARD B. GAYLOR, OF ERIE, PENNSYLVANIA.

## BICYCLE-PEDAL.

SPECIFICATION forming part of Letters Patent No. 564,301, dated July 21, 1896.

Application filed January 3, 1896. Serial No. 574,222. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE I. BLACK and LEONARD B. GAYLOR, citizens of the United States, and residents of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Bicycle-Pedals, of which the following is a specification.

Our invention relates to the details of construction of the pedals adapted for use upon bicycles, tricycles, and the like; and it consists in the peculiar form, construction, and coactive relationship of the parts, as hereinafter set forth, whereby we secure unusual firmness and rigidity in the pedals and mutual support between the several parts composing them.

In the drawings hereof, Figure 1 is a perspective of our pedal complete. Fig. 2 is a perspective view of the hub. Fig. 3 is a perspective view of one of the cross-stays, showing in dotted lines its shape when in flat condition. Fig. 4 is a sectional detail showing the method of connecting the cross-stays with the side frames. Fig. 5 is a detail, partly in section, showing the construction of the parts and the method of assembling them, when rubber foot-pads are employed.

A is a continuous piece of metal provided at its extremities with two horns B B, which project in opposite directions, and are provided with antislipping teeth C C. The metal extends around the outer end of the pedal, as at D, and is provided with horns E E (the upper one only being shown in the drawings). These horns E and one of the horns B, depending upon which side of the pedal is uppermost, serve as means to retain the foot and prevent it from slipping laterally off from the pedal.

F is the hub of the pedal. It is provided with ball-bearing enlargements G G and lateral flanges H H. These flanges are cut off on horizontal lines, as at I I, &c., so that the cross-braces rest firmly upon them, as hereinafter explained.

J are the cross-pieces. They, in the first instance, are punched out from sheet-steel in flat condition, as shown in dotted lines in Fig. 3. Then the ends K K are bent over at right

angles, as shown, and also the lateral projections L L are bent over at right angles, thus producing ledges which rest upon and firmly clamp the squared portions I I of the flanges H on the hub.

In assembling the parts, the hub is held rigidly to the cross-pieces by means of pivots, screws, or bolts M M, passing through holes M', made in the hub-flanges and in the cross-pieces, and the ends of the cross-pieces K K are held rigidly to the side sections of the continuous metallic piece A by means of threaded bolts or screws N, which pass through threaded holes O in the cross-bars and corresponding holes in the side pieces. It will be particularly noticed, as shown in Fig. 4, that the screws N are threaded in the rectangular ends K of the cross-pieces, and also that they have threaded nuts P on their ends, which act as locking-nuts for these bolts or screws.

Fig. 5 shows the construction when the rubber foot-pads are employed. It is substantially the same as above described, excepting that an inner plate Q is employed, between which and the parts already described a downwardly-extending lip or portion R of the rubber pads S is clamped, and metallic washers T of the requisite thickness are placed within recesses made in the rubber, so that the squeeze of the screws shall be arrested after a sufficient grip has been given to the rubber; and in this construction, also, the screws or bolts M are threaded into the plates Q as well as into the nuts P, for reasons already stated.

It will be obvious to those who are familiar with this art that changes may be made in the special details of constructions shown without materially departing from our invention. We therefore do not limit ourselves to such special details.

We claim—

1. In a pedal, the combination of a hub having flanges at its ends, said flanges being squared on opposite sides, a continuous metallic strip extending along the sides and around the ends of the pedal, and cross-bars having rectangular flanges which engage with the squared portions of the hub-flanges,

said cross-bars being fastened to said flanges and to said continuous strip, for the purposes set forth.

2. In a pedal, the combination of a flanged  
5 hub, said flanges being squared on opposite sides, a continuous metallic strip extending along the sides and around the end of the pedal, cross-bars having parallel flanges, which engage with the squared portions of  
10 the hub-flanges and which are fastened to said hub-flanges, and to said continuous strip

by bolts or screws which thread into the cross-bars, and threaded nuts upon the ends of said bolts or screws, for the purposes set forth.

Signed at Erie, in the county of Erie and 15  
State of Pennsylvania, this 28th day of December, A. D. 1895.

GEORGE I. BLACK.

LEONARD B. GAYLOR.

Witnesses:

GEORGE E. GIBSON,  
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