

No. 610,185.

Patented Sept. 6, 1898.

E. G. HOOVER.
THILL COUPLING.

(Application filed May 26, 1897.)

(No Model.)

Fig. 1.

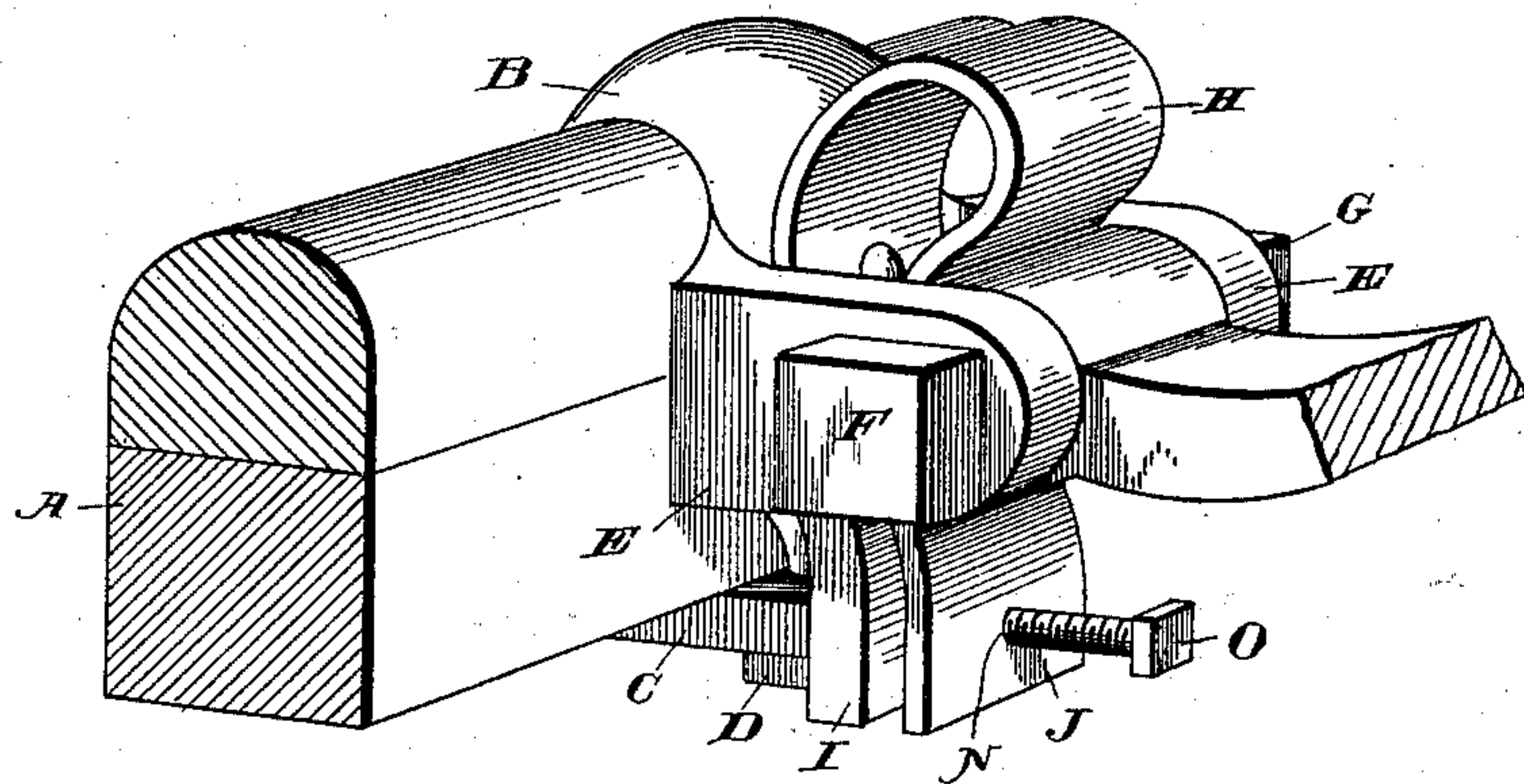


Fig. 2.

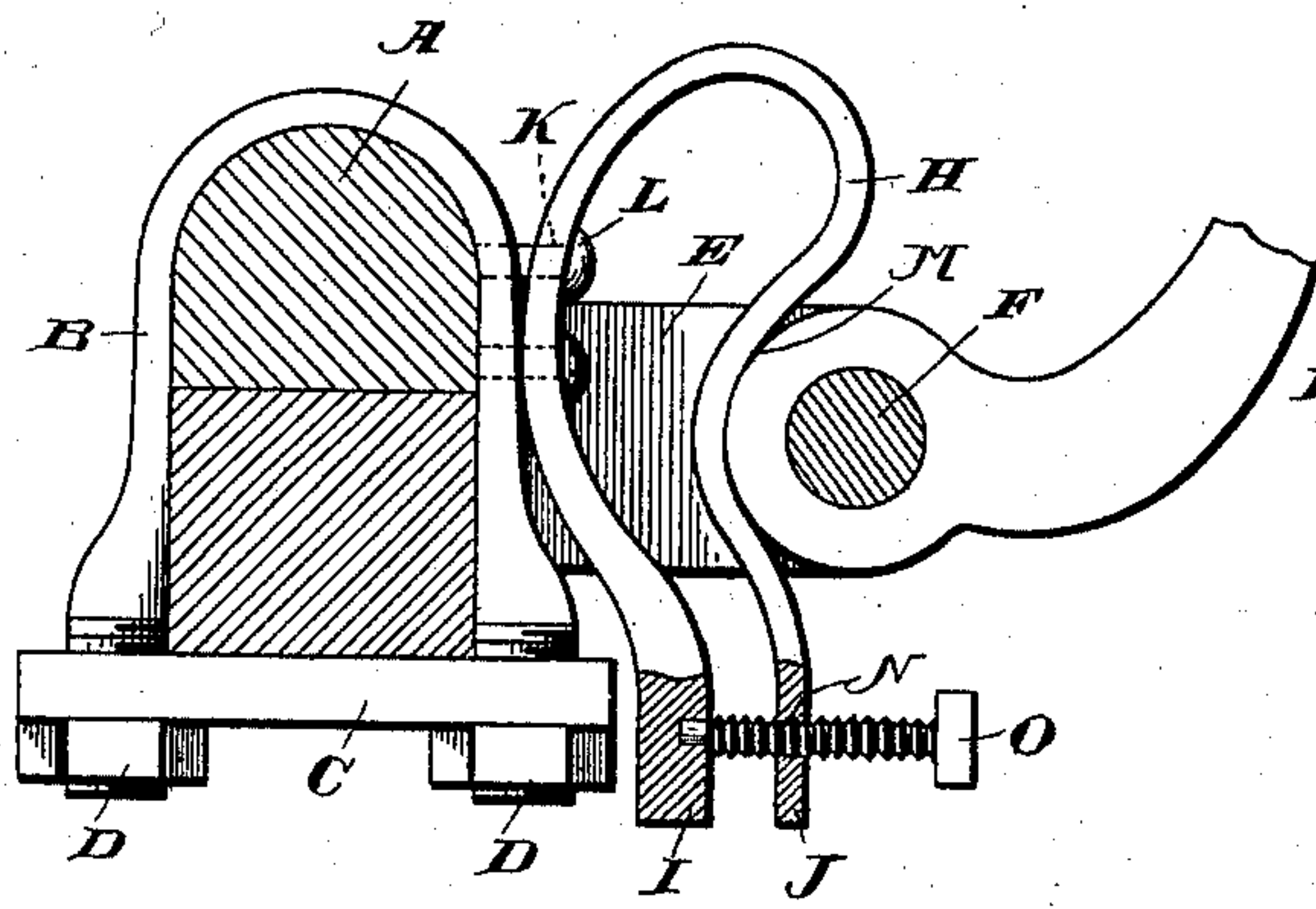
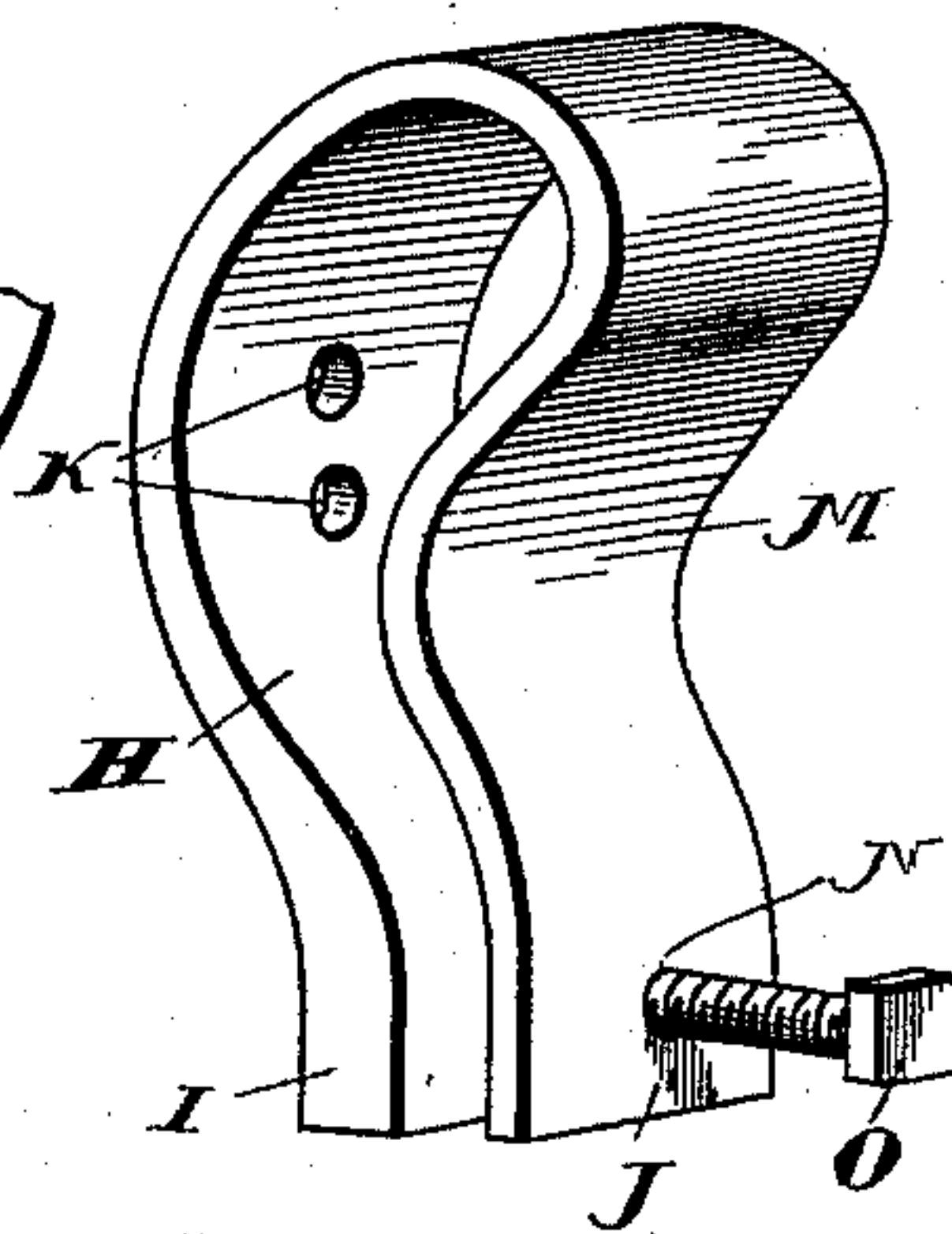


Fig. 3.



Witnesses

Wm. J. Hoyle.
Chas. E. Brock

Inventor

E. G. Hoover,

by *Thurston*
Attorney

UNITED STATES PATENT OFFICE.

EDWIN G. HOOVER, OF POTTSVILLE, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 610,185, dated September 6, 1898.

Application filed May 26, 1897. Serial No. 638,196. (No model.)

To all whom it may concern:

Be it known that I, EDWIN G. HOOVER, residing at Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented
5 a new and useful Thill-Coupling, of which the following is a specification.

This invention has relation to certain improvements in thill-couplings, and more particularly to an improved antirattler.

10 An object of the invention is to provide a thill-coupling so constructed and arranged that a shaft of a vehicle can always be held in the desired position without any possibility of the parts comprising the coupling becoming
15 loose or rattling.

Another object of the invention is to provide an antirattling device for thill-couplings so constructed that means will be provided to hold a shaft in position against any
20 possibility of rattling and at the same time provide means whereby the spring serving the purpose of an antirattler can be adjusted to hold a shaft in the desired position should any of the parts constituting the same become
25 worn.

A further object of the invention is to provide an antirattler for thill-couplings composed of but a few parts and one that is inexpensive in first cost and that can be attached to any of the vehicles now on the
30 market.

With these and other objects in view my invention consists in certain novel features of construction and in combinations and arrangements of parts that will be hereinafter
35 more fully described, and then specifically pointed out in the claims.

In order that my invention may be fully understood, I will proceed to describe the
40 same with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved device in operative position. Fig. 2 is a sectional view, a portion of the curved
45 spring being broken away to show the adjusting-screw; and Fig. 3 is a perspective view of the spring for holding the shaft in the desired position.

The same letters of reference will indicate
50 similar parts wherever they occur throughout the several views.

In the practical embodiment of my inven-

tion I have shown a thill-coupling consisting of an axle A, adapted to be passed through the clip B, said clip B being secured to a base
55 C by means of nuts D, which are adapted to be screwed onto the threaded lower ends of said clip portion. Formed integral with this clip are the forwardly-extending brackets E, through which passes the securing-bolt F,
60 said bolt passing through the central opening formed in the rear portion of the thill-iron, said bolt being held in the desired position by means of the nut G, which is adapted to be screwed onto the threaded end of said bolt,
65 as usual.

H indicates a flat steel spring curved substantially as shown and provided with the open lower ends I J. K represents two or more openings in the rear portion or wall of
70 this flat steel spring, adapted to receive screws L, that are passed through said openings and through the clip embracing the axle, the rear ends of said screws being adapted to enter the body portion of the axle and be secured
75 therein. The front portion or wall of this flat steel spring is curved inwardly, as shown at M, so that the rear or enlarged portion of the thill-iron will bear against or be seated
80 within said curved part, so that the shaft carried by the thill-iron will be held in the desired position against the front portion of said spring, so as to prevent any possible rattling of the several parts. In the lower end
85 of the free wall of the spring is arranged a set-screw O, said screw being adapted to work in the opening N provided at this point, while the end of the screw has a bearing in the lower enlarged part of the wall which is secured to the clips, as clearly shown in Fig. 2.
90

By reason of the peculiar-shaped spring herein set forth and the particular arrangement of the set-screw above mentioned I am enabled at any time to adjust said spring so that the front portion thereof will snugly bear
95 against the rear or enlarged part of the thill-iron. Should any of the parts at any time become loose, the set-screw can be turned so as to force the front part of said spring a greater distance away from the rear wall or
100 stationary portion thereof, so as to permit the same to partially embrace the rear portion of the thill-iron, as already described.

From the foregoing description it will be

seen that I have produced a very simple and effective device for holding a shaft in the desired position and that by its use I am enabled to adjust the spring so that the same
 5 will at all times hold the several parts of the coupling in the desired position against any possible rattling.

While I have shown and described the adjusting-screw as being arranged and adjustable from the lower front portion of the spring,
 10 yet, if desired, the same fastening means could be employed, so as to have the headed end of the set-screw or bolt arranged in the rear of the back part of the enlarged portion
 15 of the same.

Of course it is evident that any material other than spring-steel might be employed in forming the spring for the purpose intended, and although I prefer to use spring-steel, yet
 20 at the same time other material might be found as well suited for the purpose. Hence I do not care to limit myself to the use of any particular kind of material, nor do I care to limit myself to the exact shape of spring
 25 herein set forth, and it is evident that various slight changes might be made in the forms, constructions, and arrangements of the parts described without departing from the spirit and scope of my invention. Hence I do not
 30 care to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as might fall within the spirit and scope of my invention.

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

1. The combination with a thill-coupling, of a spring interposed between the clip and the thill-iron, said spring being composed of
 40 a tapered flat strip bent upon itself having

its thicker wall secured to the clip and provided with a recess, its thinner wall resting against the thill-iron curved to partially embrace it and having a screw-threaded opening opposite the recess in the thick wall, the
 45 central portion forming a large loop above the coupling, and a set-screw threaded to engage the threaded opening and having a cylindrical smooth end to engage in the recess in the thicker wall of the spring, substantially as set forth. 50

2. The combination in a thill-coupling of a spring interposed between the clip and thill-iron, said spring being composed of a strip bent upon itself with its ends downward, and
 55 screws passing through openings in the rear side or leg of the spring to secure it to the axle-clip, substantially as described.

3. The combination with a thill-coupling of a spring interposed between the clip and
 60 thill-iron, said spring consisting of a tapered strip bent upon itself to form two legs with the ends projecting downward, the leg formed of the thicker end of the spring lying adjacent to the axle and provided with perforations and a cylindrical recess in its forward
 65 face, its thinner leg resting against the thill-iron and having a screw-threaded opening opposite the recess in the thick wall, a set-screw engaging the said threaded opening
 70 and having a smooth cylindrical end engaging the recess in the thicker leg, and screws passing through the perforations in the thicker leg and securing the spring to the axle, substantially as described.

EDWIN G. HOOVER.

Witnesses:

H. K. WESTON,
 J. N. EISENHUTH.