

No. 629,924.

Patented Aug. 1, 1899.

W. D. ROEDER.
ANTIRATTLE THILL COUPLING.

(Application filed Dec. 3, 1898.)

(No Model.)

Fig. 1.

Fig. 2.

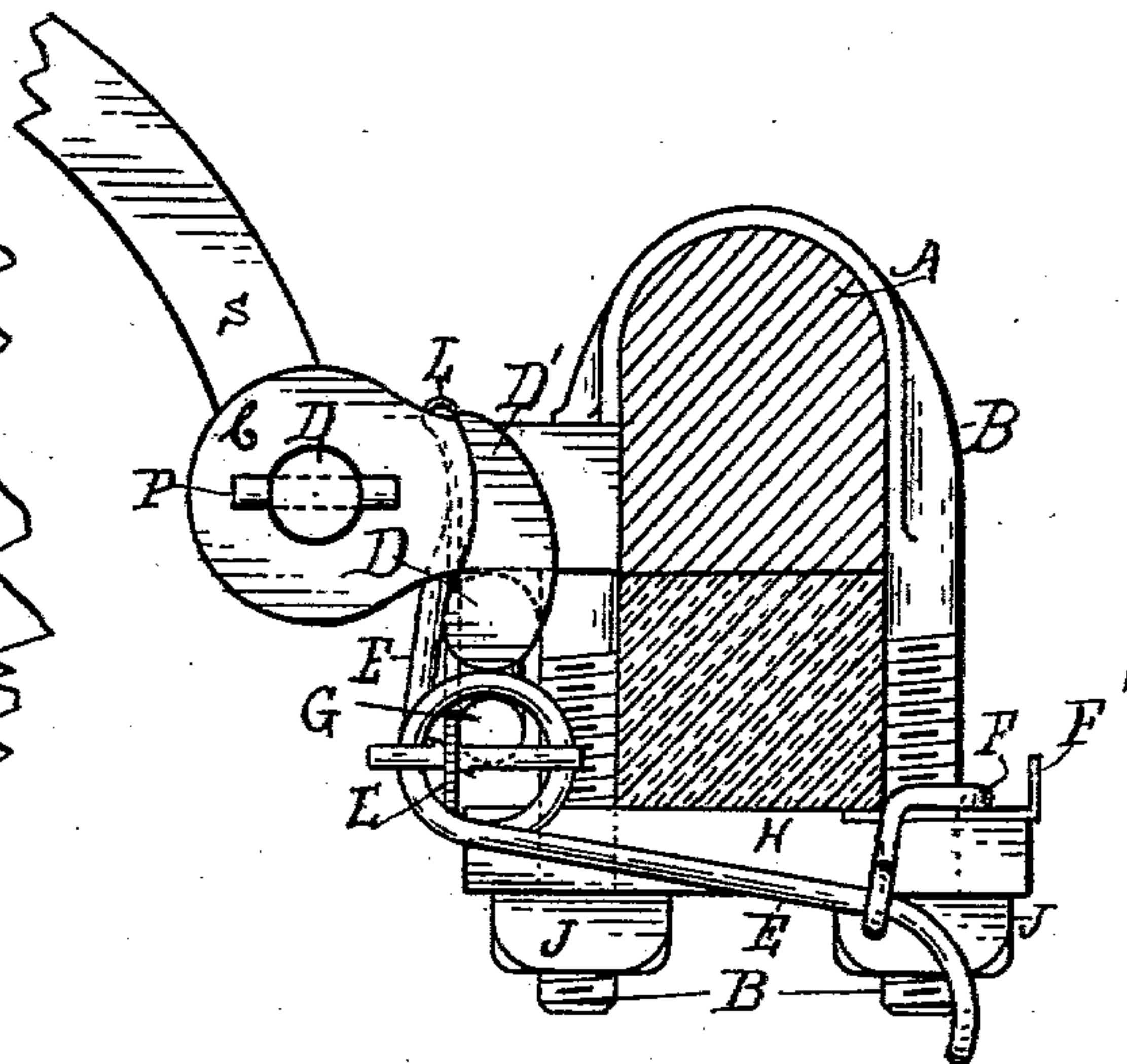
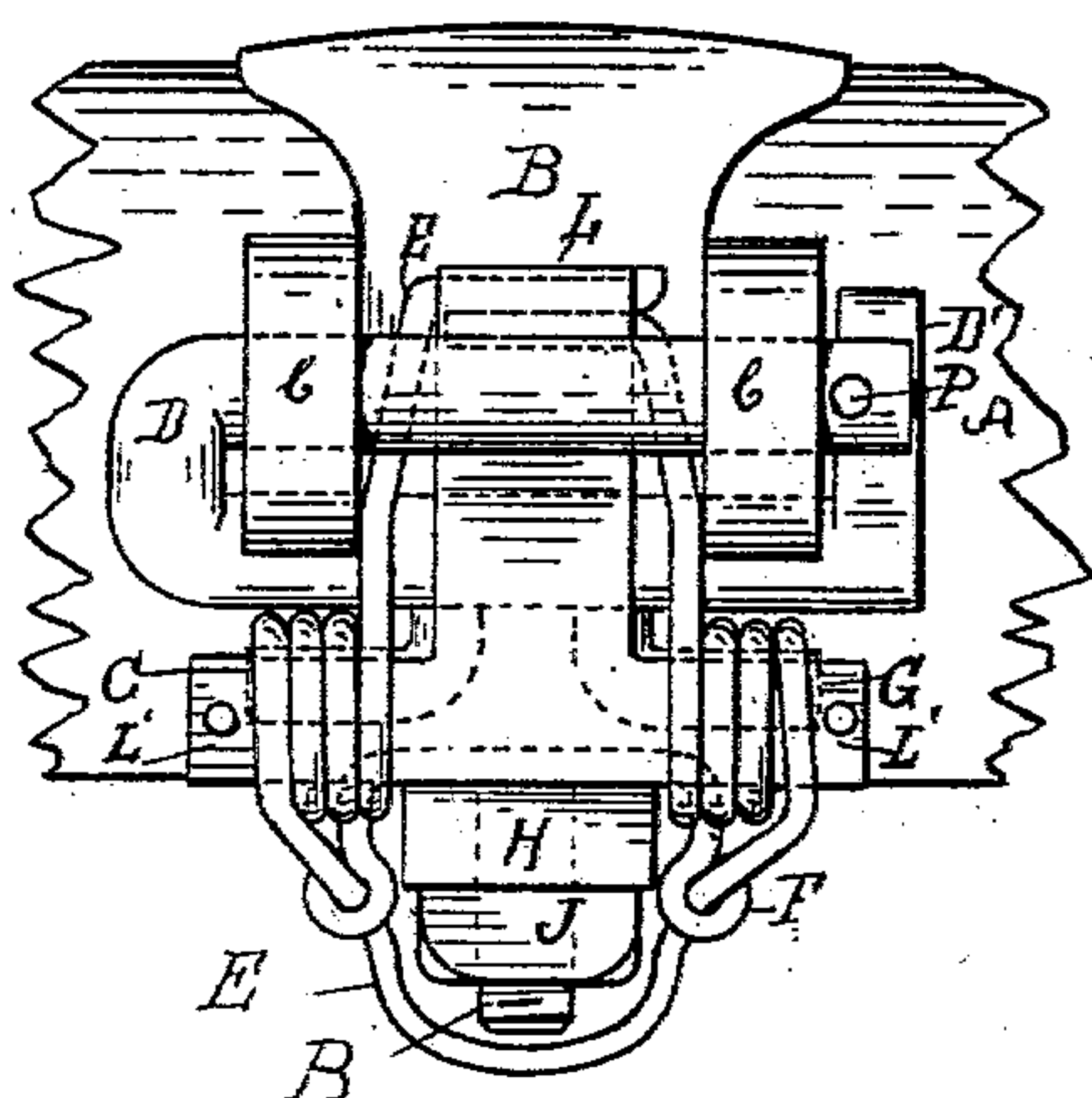


Fig. 3.

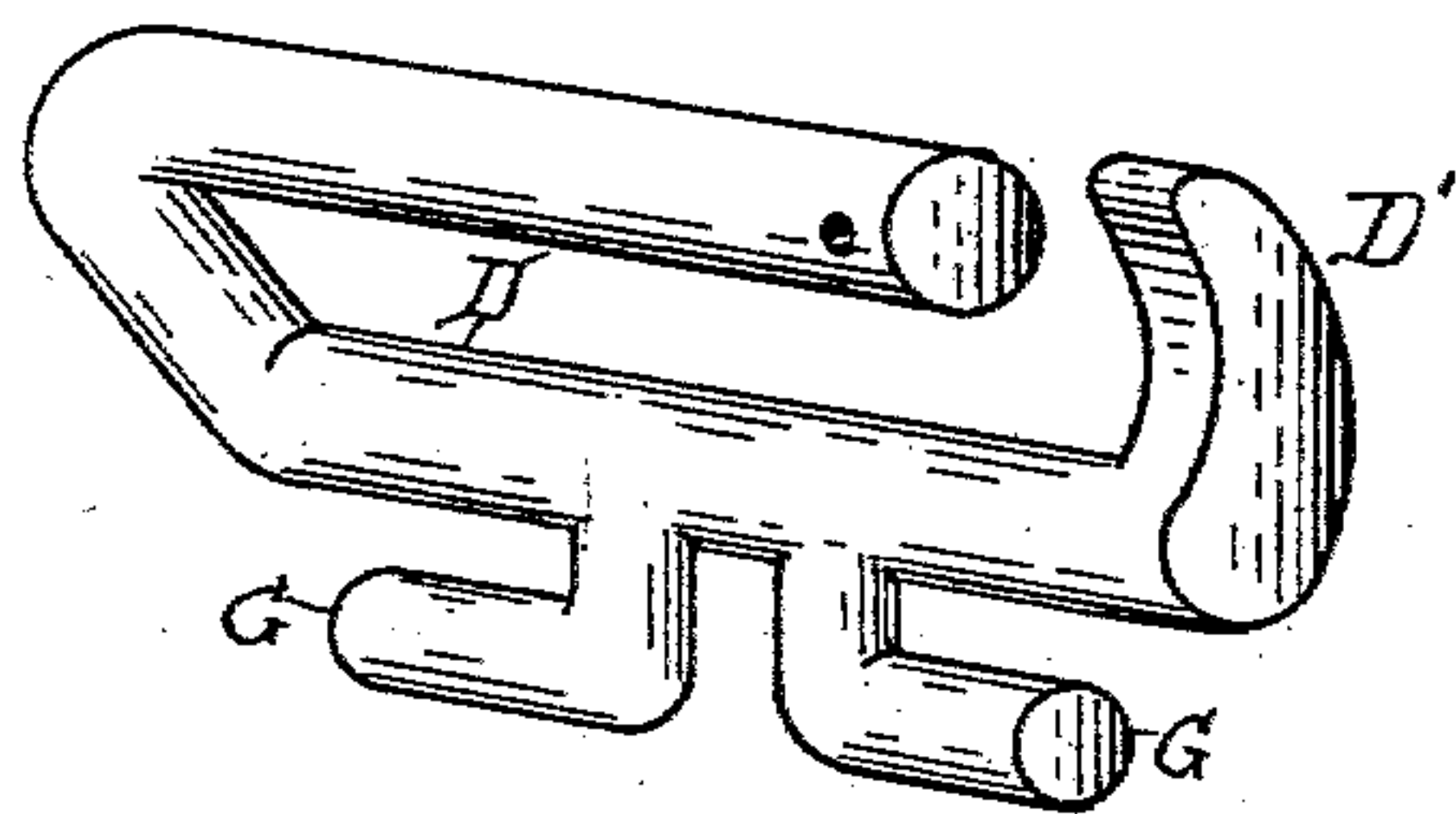


Fig. 4.

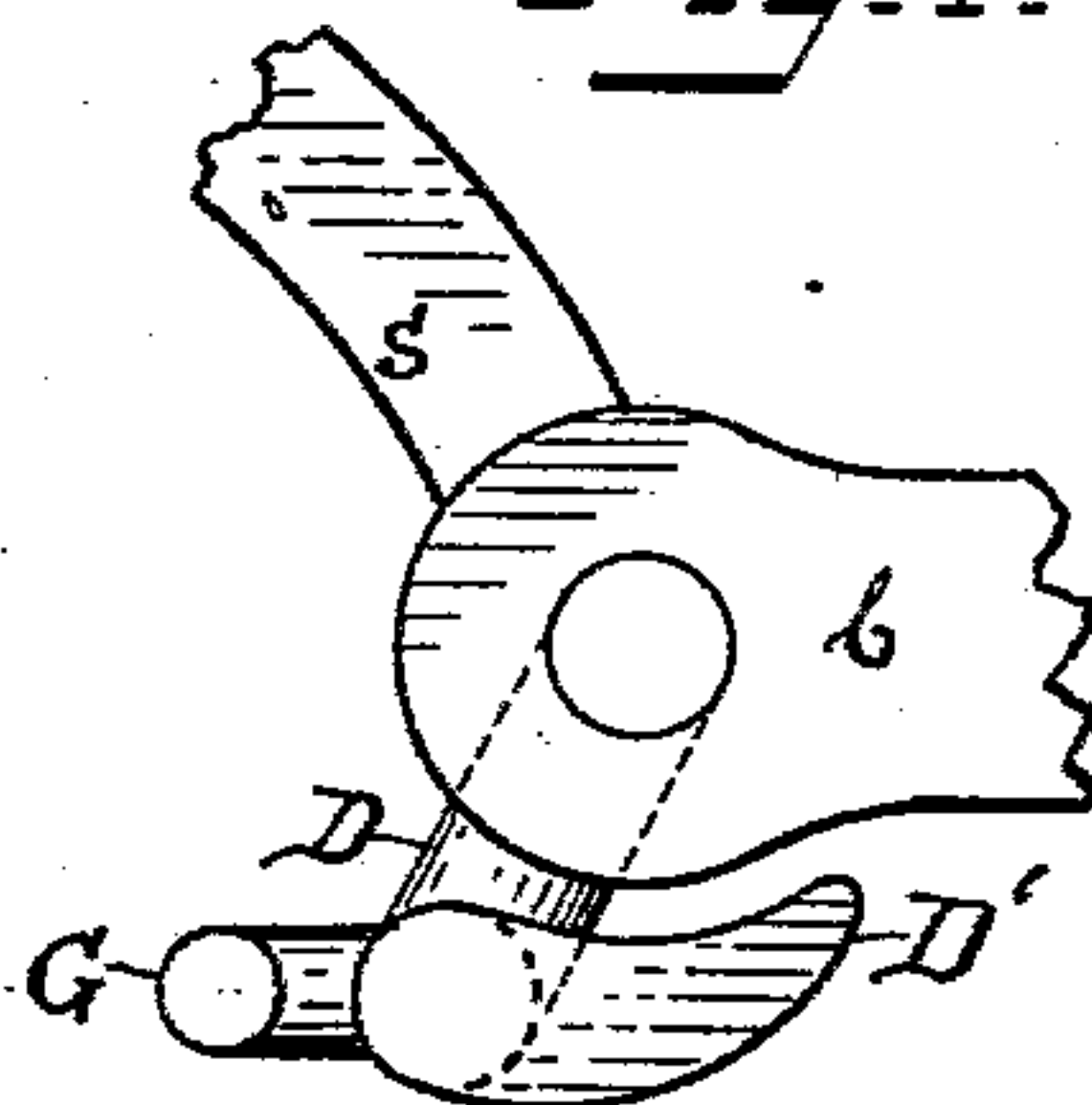
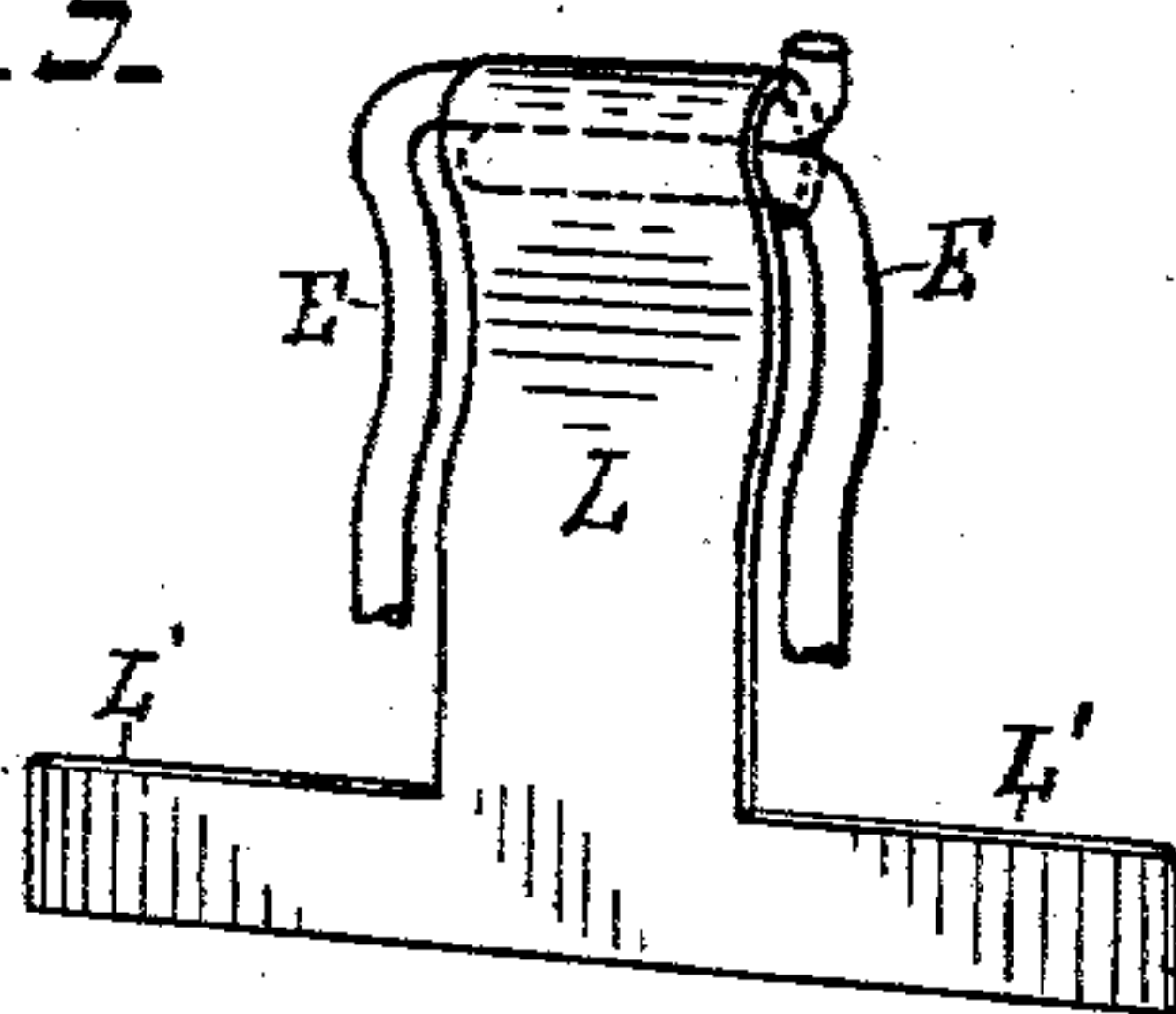


Fig. 5.



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WILLIAM D. ROEDER, OF DWIGHT, ILLINOIS.

ANTIRATTLING THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 629,924, dated August 1, 1899.

Application filed December 3, 1898. Serial No. 698,187. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. ROEDER, a citizen of the United States of America, residing at Dwight, in the county of Livingston and State of Illinois, have invented certain new and useful Improvements in Antirattling Thill-Couplings, of which the following is a specification.

This invention relates to certain improvements in antirattling thill-couplings, which improvements are fully set forth and explained in the following specification and claims, reference being had to the accompanying drawings and the letters of reference thereon, in which—

Figure 1 is a side elevation of the coupling and a cross-section of the axle to which it attaches. Fig. 2 is a front elevation of the coupling, omitting the thill-iron. Fig. 3 is a perspective view of the bolt of the coupling. Fig. 4 is a side elevation of a portion of the coupling, showing only the end of the bolt, and a side view of the forward end of one of the clip-ears and a side view of the lower end of the thill-iron; and Fig. 5 is a perspective view of the wearing-plate and of a portion of the wire spring of the coupling and showing the upper end of said plate formed to clasp the two free ends of said spring to hold them together.

Referring to the drawings, A represents the axle of a carriage.

B represents an ordinary axle-clip having the ordinary ear-lugs, to which the thill-iron attaches.

D is the bolt for pivotally connecting the thill-iron with the clip. The bolt is made U-shaped, as shown particularly in Figs. 2 and 3. One member of the bolt is passed through the ear-lugs C of the clip B and through the thill-iron located between said ear-lugs for pivotally connecting the two together. The other or lower member of the bolt passes underneath the ear-lugs C and the thill-iron S and is provided on its extending end with the cam-shaped integral arm D'. The said member of the bolt D having said arm D' is long enough so that when the bolt is in place in the clip, as shown in Fig. 2, said arm D' will be outside of and adjacent to the ear-lug C for the purpose of preventing the bolt from falling out and for preventing spreading apart of said ear-lugs. Said arm D' is set so

as to leave a space or opening between its extending end and the opposite member of the bolt, as shown particularly in Figs. 3 and 4, so as to permit the bolt to be placed in and removed from the clip, which is done by placing the bolt in the position shown in Fig. 4, so the arm D' will fall below the ear-lug C and pass under it, and when in place the lower member of the bolt is swung backward, which causes the arm D' to turn up and stand near to the side of the lug C of the clip B, as shown in Figs. 1 and 2, which holds the bolt in place and prevents spreading of the ear-lugs C of the clip. The lower member of the bolt D is provided with a pair of trunnions G, arranged parallel with the bolt and extending in opposite directions from each other, as shown particularly in Fig. 3, also shown in broken lines in Fig. 2, and an end view of one of said trunnions is shown in Figs. 1 and 4.

E is a spring made of one piece of wire bent U-shaped, so as to form two members having their extremities meet against the rear side of the thill-iron and having its opposite or rear end provided with a latch F for hooking over the clip-plate H for giving tension to the spring. Each member of the said spring is provided with a coil arranged opposite to each other, and each coil is supported, respectively, on said trunnions, as shown in Figs. 1 and 2, in which figures the spring E is shown as it would appear in use for preventing rattling of the thill-iron C by means of a strong pressure of the spring against the rear of the thill-iron.

L is a wearing-plate having its lower end provided with laterally-extending opposite arms L' L' for passing, respectively, through the coils of the spring E with the trunnions G, as shown in Figs. 1 and 2, while its upper end passes between the thill-iron and the extending end of the spring E and is coiled or clasped upon the inwardly-projecting ends of the two members of the spring for the purpose of connecting them together, as shown particularly in Fig. 5, the said plate also taking the wear of the thill-iron, and thus saving the spring. It is found that it is an improvement to have the ends of the spring members thus connected at the forward end of the spring between the ear-lugs C instead of connecting them at the rear end of the spring, where they are more liable to become separated and

broken and disconnected from the latch F for supporting that end of the spring. For greater safety in case the spring should break and permit rotation of the bolt, so as to allow it to fall out, a pin or leather P is placed in a hole through the outer end of the upper member of the bolt, as shown in Fig. 1 more particularly. Also a pin may be passed through the extending ends of arms L' L', as shown in Fig. 1. By means of this construction no nut is used to hold the bolt in its place. It cannot be removed until the rear end of the spring is released, so the lower member of the bolt can be swung forward so the arm D' will clear the ear-lug C and permit the bolt to be pulled out or placed in, as may be desired. In case the spring should break the gravity of the lower member of the bolt will maintain the arm D' in such position as to prevent the bolt from falling out. The spring may be released and the thills be uncoupled almost instantly by reason of there being no nuts to remove, and the pressure of the spring against the rear of the thill-iron prevents all rattling of the parts.

F' is a guard attached to the rear side of the clip to prevent the latch F from unhooking, as it will sometimes do unless prevented.

The spring may be easily removed by unhooking the latch F and spreading its two members apart to remove them from said trunnions in case it is desired to place a new spring in.

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

1. The antirattling thill-coupling shown and described consisting of the combination of the thill-clip B C, U-shaped bolt D having the arm D' and trunnions G G, wire spring E having its forward end adapted to bear against the rear end of the thill-iron, and having its rear end provided with a latch for detachably connecting it with the rear side of the thill-clip, and having coils between its ends fitting respectively on said trunnions, and plate L having the laterally-extending arms L' for entering said spring-coils, and having its upper end located between said thill-iron and spring and connecting the two free ends of said spring by being coiled or clasped thereon substantially as and for the purpose set forth.

2. In an antirattling thill-coupling shown and described the combination of the thill-clip B C, thill-iron S, bolt or pin D formed substantially U or staple shaped and having one of its members adapted to pass through the clip and thill-iron, and having its other member provided with oppositely-extending trunnions G arranged parallel with the body of said pin, and having its extending end formed with an integral laterally-extending arm D' disposed out of line with the other member of said pin to permit said other member to be inserted through said clip and thill-iron, and prevent displacement of said pin when said coupling is in running position, the spring E formed

of a wire loop having oppositely-arranged coils formed in its members between their ends for respectively fitting on said trunnions G as a support for said spring and to prevent rotation of said pin, one end of said spring being arranged to bear against the rear of said thill-iron, and its opposite end being provided with a latch for connecting it with the rear side of the clip, and the wearing-plate L arranged between said spring and thill-iron, and having its lower end provided with laterally-extending lugs or arms L' for entering respectively the coils of said spring, and formed at its upper end to clasp and connect the free ends of said spring members, all arranged to operate substantially as and for the purpose set forth.

3. In the antirattling thill-coupling shown and described the combination of the thill-clip B C, bolt or pin D formed substantially U or staple shaped, and having one of its members adapted to pass through the clip and thill-iron, and having its other member provided with oppositely-extending depending branches forming trunnions G arranged parallel with the body of said pin or bolt, and having its extending end formed with a laterally-extending arm D' disposed out of line with the other member of said pin to permit said other member to be inserted through said clip and thill-iron, and prevent displacement of said pin when the coupling is in running position, the spring E formed of a wire loop having oppositely-arranged coils formed in its members between their ends for fitting respectively on said trunnions G as a support for said spring and to prevent rotation of said pin, one end of said spring being arranged to bear against the rear of the thill-iron, and its opposite end having a latch F for connecting it with the rear side of the clip, all arranged to operate substantially as and for the purpose set forth.

4. In the antirattling thill-coupling shown and described, the combination of the thill-clip B C, the bolt or pin D formed substantially U or staple shaped and having one of its members adapted to pass through the clip and thill-iron, and having its other member provided on its extending end with the laterally-extending arm D' disposed out of line with the other member of said pin to permit said first-named member to be inserted through said clip and thill and prevent displacement of the pin when the coupling is in running position, the said member of said pin having said arm D' and being also provided with the integral oppositely-extending trunnions G arranged parallel with said pin for carrying means for preventing rotation of said pin substantially as and for the purpose set forth.

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