

(No Model.)

E. L. BUCKINGHAM.
SHAFT SUPPORT FOR VEHICLES.

No. 560,967.

Patented May 26, 1896.

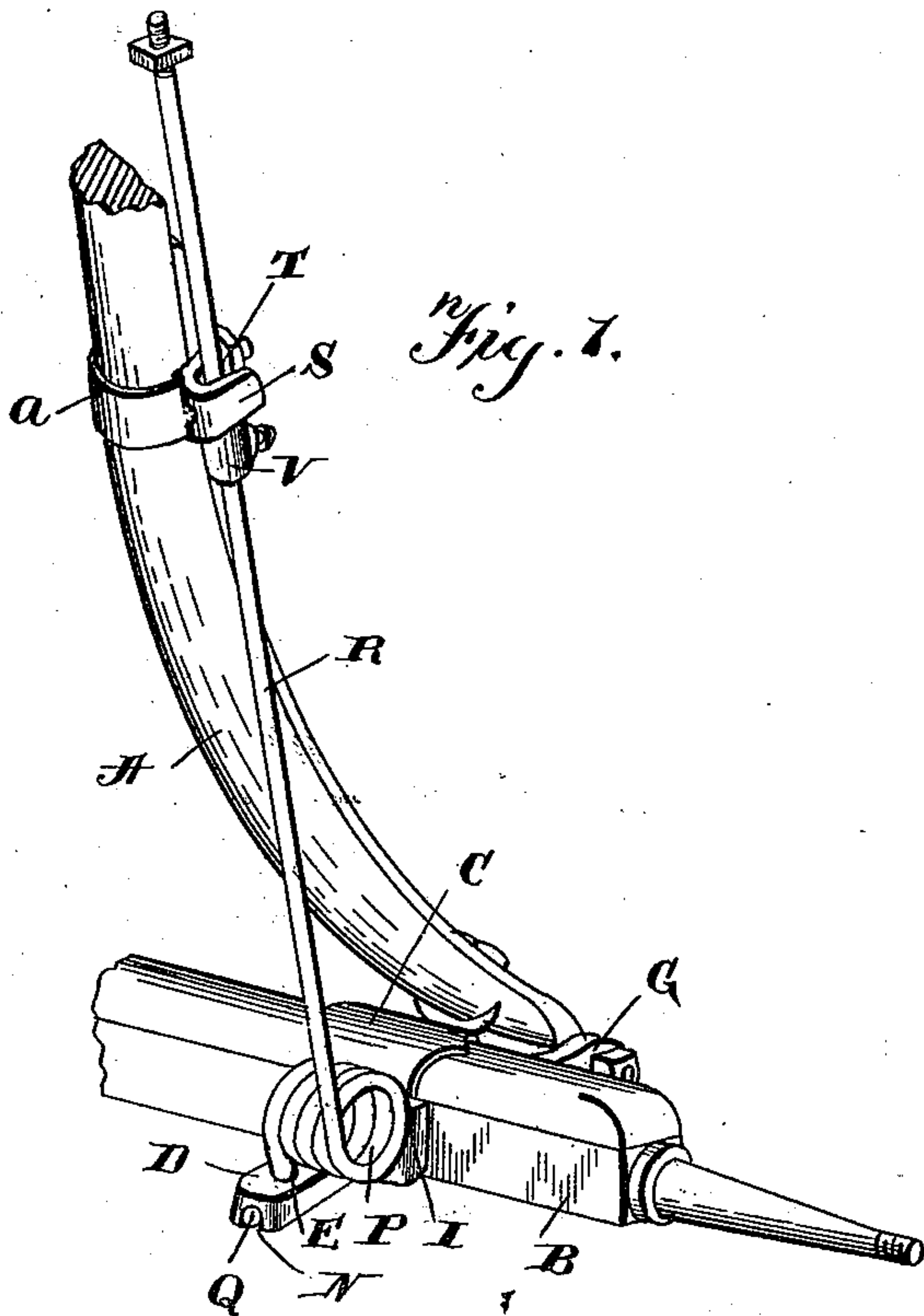


Fig. 1.

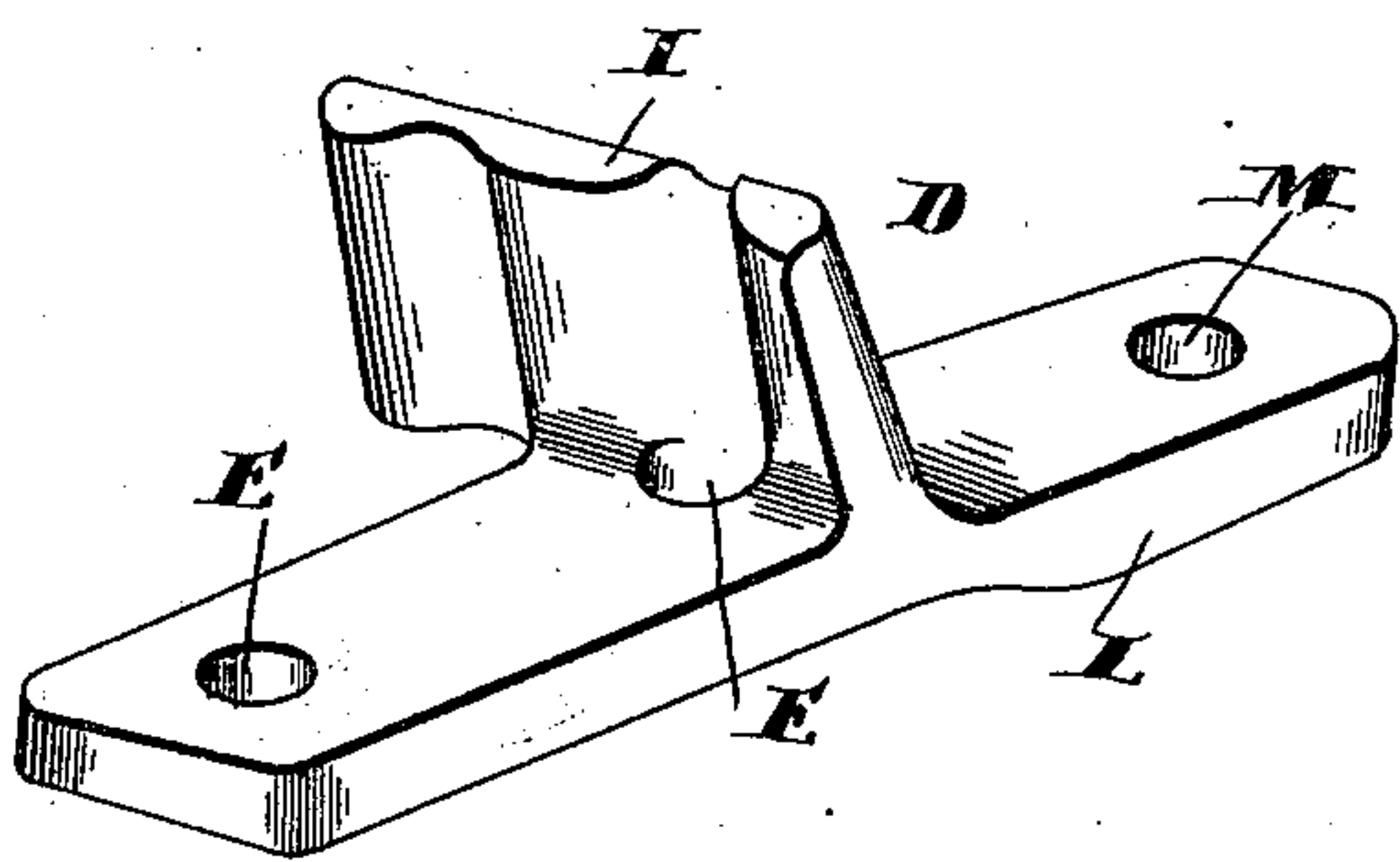


Fig. 2.

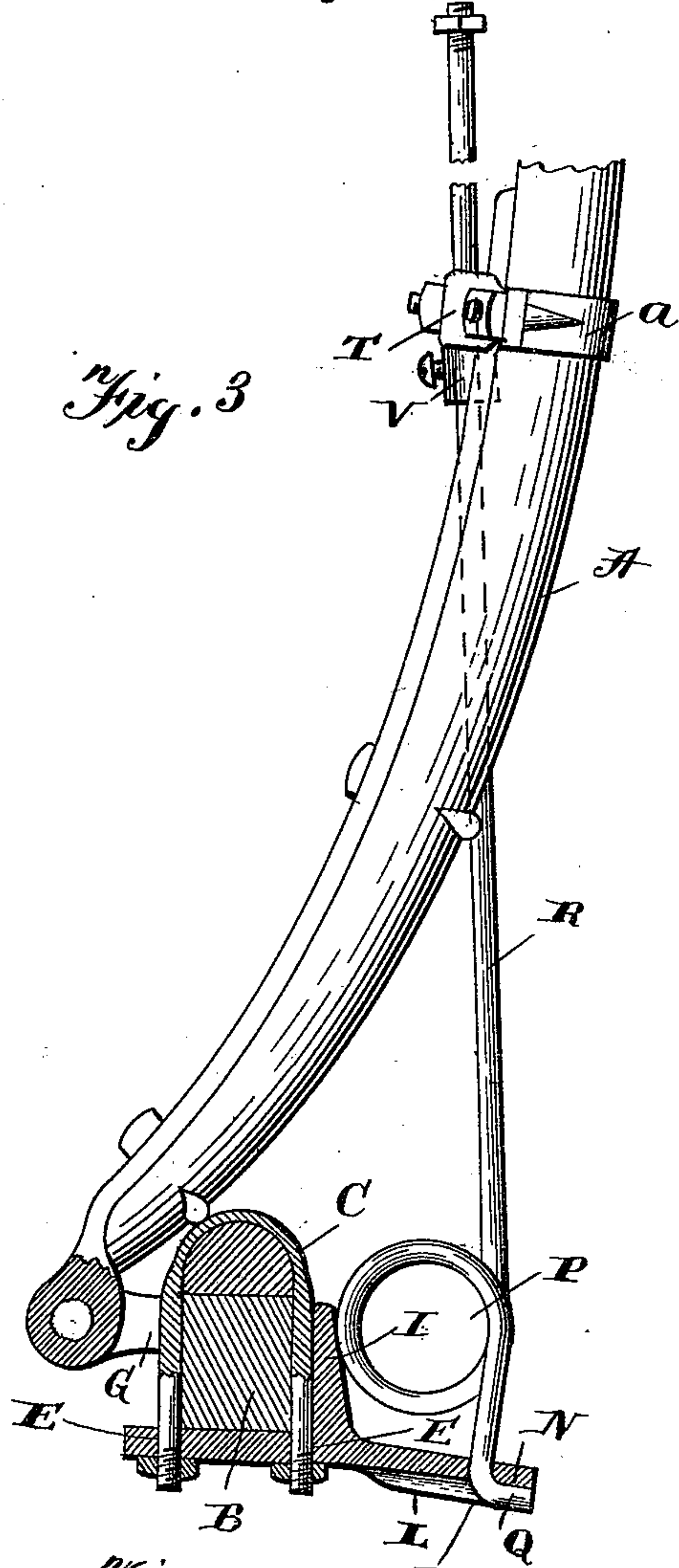


Fig. 3.

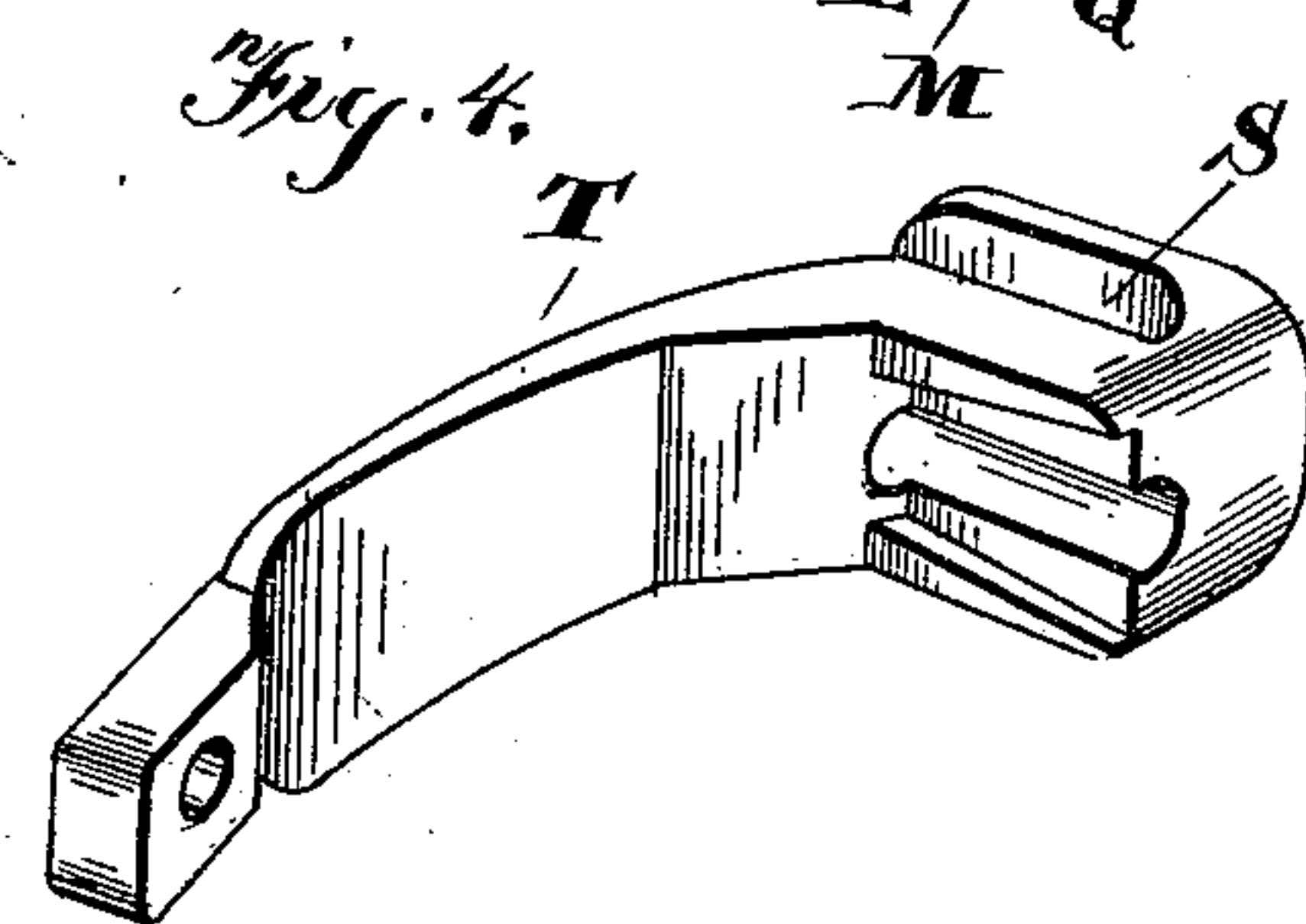


Fig. 4.

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SHAFT-SUPPORT FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 560,967, dated May 26, 1896.

Application filed January 30, 1896. Serial No. 577,448. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. BUCKINGHAM, of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Shaft-Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in shaft-supports; and it consists in certain novel features of construction, which will be fully described hereinafter, and particularly referred to in the claims.

The object of my invention is to provide a shaft-support in which the construction is an improvement upon Patent No. 430,510, granted to me the 17th day of June, 1890, whereby the parts are simplified and cheapened, as will appear hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of my invention, showing it applied to a shaft. Fig. 2 is a detached perspective view of the under clip-plate which forms the support for my shaft-supporting spring. Fig. 3 is a detached vertical section taken through the center of the under clip-plate. Fig. 4 is a detached view of the clip or hook that is secured to the underside of the shaft to receive the outer end of the spring.

A indicates a shaft or pole to which it is desired to attach my invention for the purpose of supporting the shaft, and B the axle, to which the U-shaped clip C is connected by means of a bottom plate or clip D. This bottom plate D is provided with two transverse openings E, through which the ends of the ordinary U-shaped clip C pass and are secured by means of nuts. Extending from the front side of this U-shaped clip are the ears G, between which the thill H of the shaft is pivoted by means of a bolt in the ordinary manner, or in any other way that may be desired.

The under plate D is provided with an upwardly-projecting flange I, which is provided with a transverse groove in its inner side to receive the rear prong or end of clip C, and this groove communicates or leads to the rear

perforation made in said plate D for the ends of the clip. This plate may aptly be termed the "yoke" for connecting the lower ends of the clip, and for the sake of uniformity I will hereinafter refer to this plate D as the yoke. Projecting rearward from this yoke is an extension L, which is provided with a vertical opening M, and in the rear side of the extension L is a longitudinal groove N, into which the opening extends.

The spring which supports the shaft consists of a coil P, which rests upon the upwardly-extending flange I of the yoke D, and has its rear end provided with an outwardly-extending hook Q, which passes through the opening M in the yoke extension L, and the upturned portion of said hook rests in the said groove N, which prevents the spring from having any turning or twisting movement when under tension. This spring has its other end projecting forward into a long arm R, of a suitable length, and this arm R rests in a groove S, which produces holding-shoulders formed in the under side of the plate T, that is secured to the shaft by means of a clip α , which forms substantially a hook for the said arm to catch under and raise the shafts, as will be readily understood. For the purpose of limiting the downward movement of the shafts to prevent them from being carried to the ground the outer end of the arm R is screw-threaded and provided with a nut U, which can be adjusted upon said rod nearer to or farther from the plate T, thus regulating how far the shafts shall move downward. The upward movement of the shafts by the tension of the springs attached thereto is regulated by means of a collar V, having a clamping-screw. This collar is upon the arm, and is clamped in any desired position thereon, and which will thus allow the shafts to be raised to any desired height, and by thus limiting the upward movement of the shafts they are prevented from coming in contact with the dash or from coming in contact with anything overhead in the house containing the wagon or buggy. By means of this construction should the bolts which hold the thills to the clip become lost or broken, owing to the hook on the rear end of the spring and the nut upon the front end, the shaft will be supported and pre-

vented from falling, and also prevented from being pulled from the carriage, as will be readily understood, thus avoiding runaways by preventing the shafts from dropping upon the heels of the horse. Also by this construction my support can be readily attached to a clip by removing the ordinary yoke and putting in its place the yoke here shown and described, and attaching to the shaft the clip *a* and the plate *T*, and putting the spring in position. So, also, by this construction the spring can be easily and quickly removed by unhooking the arm *R* from under the plate *T* and then turning the spring upward and unhooking its rear end from the yoke. This will be found very convenient when it is desired to detach the spring from a shaft and attach it to a pole, or to place a pole upon the carriage instead of a shaft, thus requiring only that the thills of the shafts be removed and the pole-thills inserted and the springs placed in position thereon. The flange *I* forms a rest for the spring, and prevents it from wearing or cutting the axle, as it would do if it rested directly thereupon.

By means of a shaft-clip, as here shown, carrying a hook the clip can be adjusted in and out upon the shaft, according to the bend of the shaft, to insure the working of the spring to the best advantage.

As shown in Figs. 1 and 4, the plate *T* at the hook end is provided with the shoulders 5, which embrace the adjacent ends of the U-shaped strip *a*, which afford a very rigid connection, preventing any lateral turn whatever of the plate, as will be readily understood.

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

1. A shaft-support comprising a clip-yoke having an extension provided with a trans-

verse perforation and a groove in its under side communicating with the said perforation, a spring having a coil and a hooked end which passes through the said perforation and rests in said groove, and a projection or hook upon the shaft which the said spring-arm engages, substantially as specified.

2. A shaft-support comprising a clip-yoke having an extension, a spring having a coil with its inner end engaging the said extension, a hook upon the shaft, the coil having a forwardly-extending arm with a stop upon both sides of the said hook, whereby the upward and downward movement of the shafts is regulated, substantially as described.

3. A shaft-support comprising a clip-yoke having perforations for the ends of the clip, a rearward extension having a transverse perforation, a spring having a coil at its inner end, the inner end of the coil having a hook passing through said extension-perforation, a shoulder upon the extension for the end of the hook to prevent it from turning in the perforation, an arm extending from the coil, and a support upon the shaft which engages the said arm, substantially as specified.

4. A shaft-hook for the purpose described consisting of a thin central plate having openings and a hook at one end thereof, a U-shaped clip passing over the shaft and its ends passed through the clip-openings, the hooked end of the plate having shoulders embracing the U-shaped clip substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD L. BUCKINGHAM.

Witnesses:

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