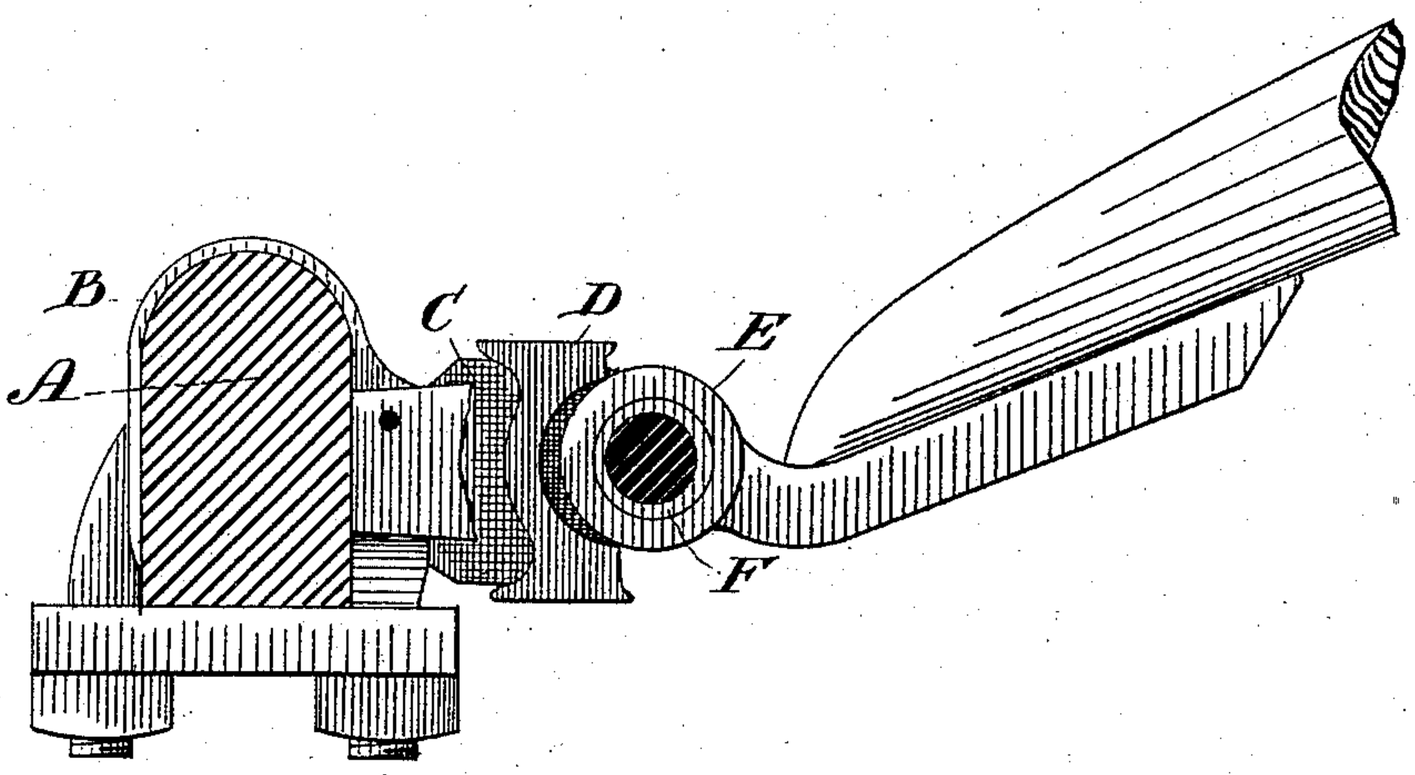
(No Model.)

B. McGOVERN.

THILL COUPLING.

No. 290,782. Patented Dec. 25, 1883.



Witnesses
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UNITED STATES PATENT OFFICE.

BERNARD McGOVERN, OF BRIDGEPORT, ASSIGNOR OF ONE-HALF TO EDWARD S. SMITH, OF WATERBURY, CONNECTICUT.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 290,782, dated December 25, 1883.

Application filed October 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, BERNARD MCGOVERN, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Thill-Couplings; 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 appertains to make and use the same.

My invention relates to certain novel and useful improvements in thill-couplings, and has for its object to provide such a device in which the shaft-eye and metal housing for the rubber cushion shall be so constructed and arranged that there shall be no rattling, while at the same time the durability of the device shall be such that its use is exceedingly economical; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter fully and in detail explained, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may more fully understand its construction and operation, I will proceed to describe the same in detail, referring by letters to the accompanying drawing, forming a part of this specification, in which is shown a side elevation of my improvement in operative position, with one of the lugs of the clip broken away.

A is the axle, and B the clip. The construction of the clip is the same as in any ordinary coupling, there being the regular clip-lugs projecting forward.

C is the rubber cushion, and D the metal housing for said cushion.

E is the shaft-eye, which I construct as follows: The external contour of this eye I make different from the contour of the curve of the housing, so that the two curves are not adapted to each other, as will be readily seen from the drawing. The contact, therefore, between the housing and said eye is at the points only, and not throughout the entire curve, as has heretofore been the case in thill-couplings. Through the shaft-eye I drive a hardened or steel bushing, F, the metal or stock of the thill itself being softer, for the purpose presently explained.

The several parts of my improvement being in their proper and operative position, as shown in the drawing, the effect of the operation of the shaft and axle is as follows: All the wear on the housing is at the top and bottom, owing, of course, to the contact at these points with the shaft-eye. As said wear continues, the elasticity of the rubber cushion forces the housing forward, thereby compensating for said wear. This continues until the friction between the eye and housing has worn them so that their curved contours correspond or are adapted to each other, and when this happens any further wear will, of course, cause rattling. The difference between the contours of the eye and housing may be made so as to leave a considerable space between the central portion of said housing and the eye; but this is not necessary, as my improvement constructed with a very small space at this point will outlast in its utility the ordinary run of vehicles.

In thill-couplings as at present made it is well known that the combination of the rubber cushion, metal housing, and the shaft-eye is not a practical success, owing to the fact that the initial wear is at the top and bottom of the housing, and is caused, chiefly, by the many hundred blows per minute on the axle. A source of great annoyance is the rattling of the bolt which passes through the eye to secure the shaft to the clip. Since there is considerable friction and wear at this point, I overcome this difficulty by driving in a hardened or steel bushing, F, as hereinbefore set forth. If the bushing wears away, it can be readily knocked out and a new one substituted therefor, which is a great advantage, since at present the shaft-eye itself has to be replaced by an entirely new one, thereby entailing considerable expense and trouble.

I do not wish to be understood as claiming the combination, in a thill-coupling, of a rubber cushion and metal housing, as I am aware that such combination is old; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. In a thill-coupling, the combination, with a rubber or other elastic cushion, of a metal housing and shaft-eye constructed with curved contours of a different nature, whereby two

points of contact are had, substantially as shown and described.

2. In a thill-coupling, the metal housing and shaft-eye constructed and arranged with their adjacent surfaces of different curves or contours, whereby their points of contact shall be at the top and bottom of said housing, in combination with a rubber or other elastic cushion, and means for securing the eye to the clip, substantially as specified.

3. In a thill-coupling, the eye having interiorly arranged therein a hardened or steel bushing, in combination with means for securing the eye to the clip, substantially as shown, and for the purpose specified.

4. In a thill-coupling, the combination, with the rubber or other elastic cushion and a metal housing, of a thill-eye having a steel or hardened bushing arranged interiorly therein, and with its external curvature different from that of said housing, and means for securing said eye to the clip, substantially as described.

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

BERNARD McGOVERN.

Witnesses:
S. S. WILLIAMSON,
F. W. SMITH, Jr.