J. B. JOHNSTON.

Thill-Coupling.

No. 167,175. Patented Aug. 31, 1875.

Fig. 1.

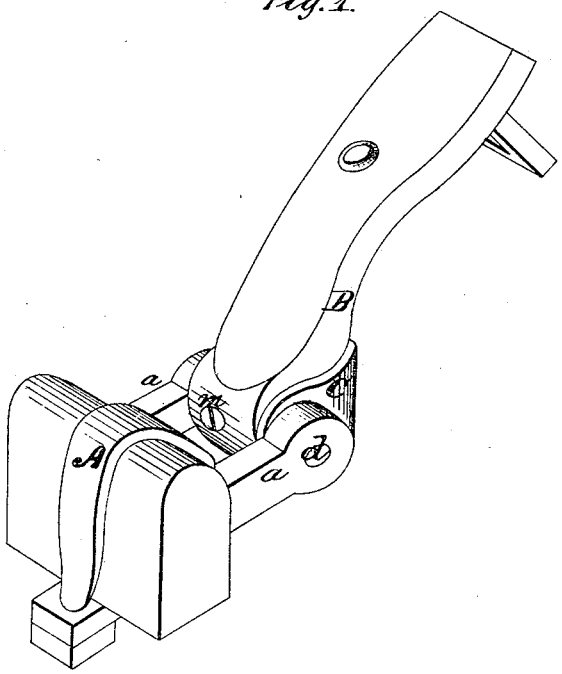
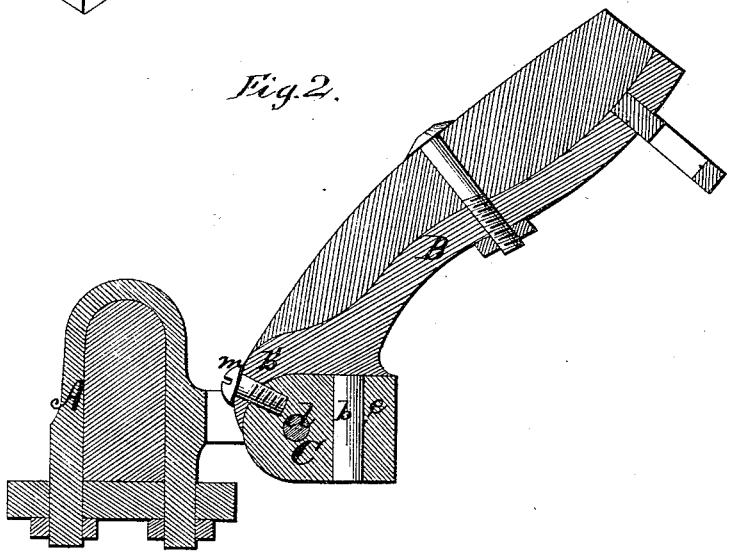


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES B. JOHNSTON, OF NEW YORK, N. Y.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **167,175**, dated August 31, 1875; application filed November 30, 1874.

To all whom it may concern:

Be it known that I, JAMES B. JOHNSTON, of New York city, in the county and State of New York, have invented certain new and useful Improvements in Thill-Coupling; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 is a longitudinal vertical section.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to improve the construction and operation of thill-couplings for vehicles, so as to produce a neater and closer joint than heretofore, and so that the thills can be more readily and easily attached and detached, while at the same time they will be prevented from rattling and from accidentally uncoupling. To this end the invention consists in providing the coupling with a block of vulcanized rubber or other suitable material, to be permanently supported by and pivoted between the lugs of the clip, and there form a permanent joint or socket, to which the thill may be attached; and also in the details of construction of the various parts, as hereinafter more fully set forth.

In the drawings, A is the clip, attached to the axle or other support, and B is the strap or iron fastened to the rear end of the thill for the purpose of connecting the latter to the coupling. C is the block above referred to, consisting of a piece of wood, metal, vulcanized rubber or gutta percha, leather, or other similar material, of suitable form, arranged intermediately between the clip A and the iron B, and constituting the means by which they are connected together. This block is supported between the lugs *a a* of the clip by means of a bolt or rod, *d*, headed on both ends, or otherwise permanently secured to the lugs, so that the block, being once in position, cannot be removed without the use of a tool for the purpose, and it is provided with a vertical opening, *e*, extending into or through it in front of the rod *d*, and is rounded on its rear side, as shown in Fig. 2. The iron B is provided with a stout spur or projection, *b*, adapted to fit closely into the opening *e*, and at its rear end is bent or formed into a curved or hooked shoulder, *b'*, constructed to fit down over the rear side of the block C. A pin, *m*, may be employed to fasten the shoulder *b'* to the block, and may be so arranged that when the thills are raised to attach them to the harness the head of the pin will be thrown back, where the front side of the clip will prevent its working out and becoming lost. Even if the pin be omitted, however, there seems to be no tendency, in practical operation, toward the working up of the iron B out of its socket-connections, but rather, on the other hand, to settle more closely and firmly into place. The pin-hole in the back of the block admits of a little oil or other lubricant being introduced to prevent internal friction or wear.

While the block C, or, as it may be termed, the permanent socket, may be made of wood, iron, &c., I prefer to make it of india-rubber, gutta-percha, or some compound of india-rubber which will not be destroyed by a suitable lubricant. These materials are sufficiently strong, do not rattle, admit of more or less difference as to fit, and retain the other parts in position better than the harder and more inelastic materials.

When the thills are in working position and the pin is in place, they cannot be detached from the coupling, because the position of the pin, as above stated, is such that it cannot be removed. When the pin is not in place the thills can be detached, if desired, but, as before stated, exhibit no tendency to work loose of themselves. The forward end of the thills being depressed, the pin can be readily removed, and the thills detached from the socket.

By omitting the pin *m* a very simple, cheap, and effective arrangement for instantaneously detaching the team, in case of accident or runaway, may be adopted—namely, a cord or wire extending from the rear end of the thill to a suitable lever or handle, by which the thills can be lifted out of the sockets and freed from the carriage. The whole construction is simple, neat in appearance, convenient, and safe, and can be easily understood and operated by the most ignorant driver.

I claim as my invention—

1. The socket C, having orifice *e*, and pivoted between the lugs *a a* of the clip, in com-

bination with the thill-iron B, having the projection *b* and shoulder *b'*, substantially as set forth.

2. The combination of elastic socket C, pin *d*, the lugs *a a* of the clip, and thill-iron B, the socket to operate as a support for the thill, substantially as set forth.

In witness that the above is my invention I have hereunto set my hand this 19th day of November, A. D. 1874.

JAS. B. JOHNSTON.

Witnesses:

L. HILL,

M. CHURCH.