

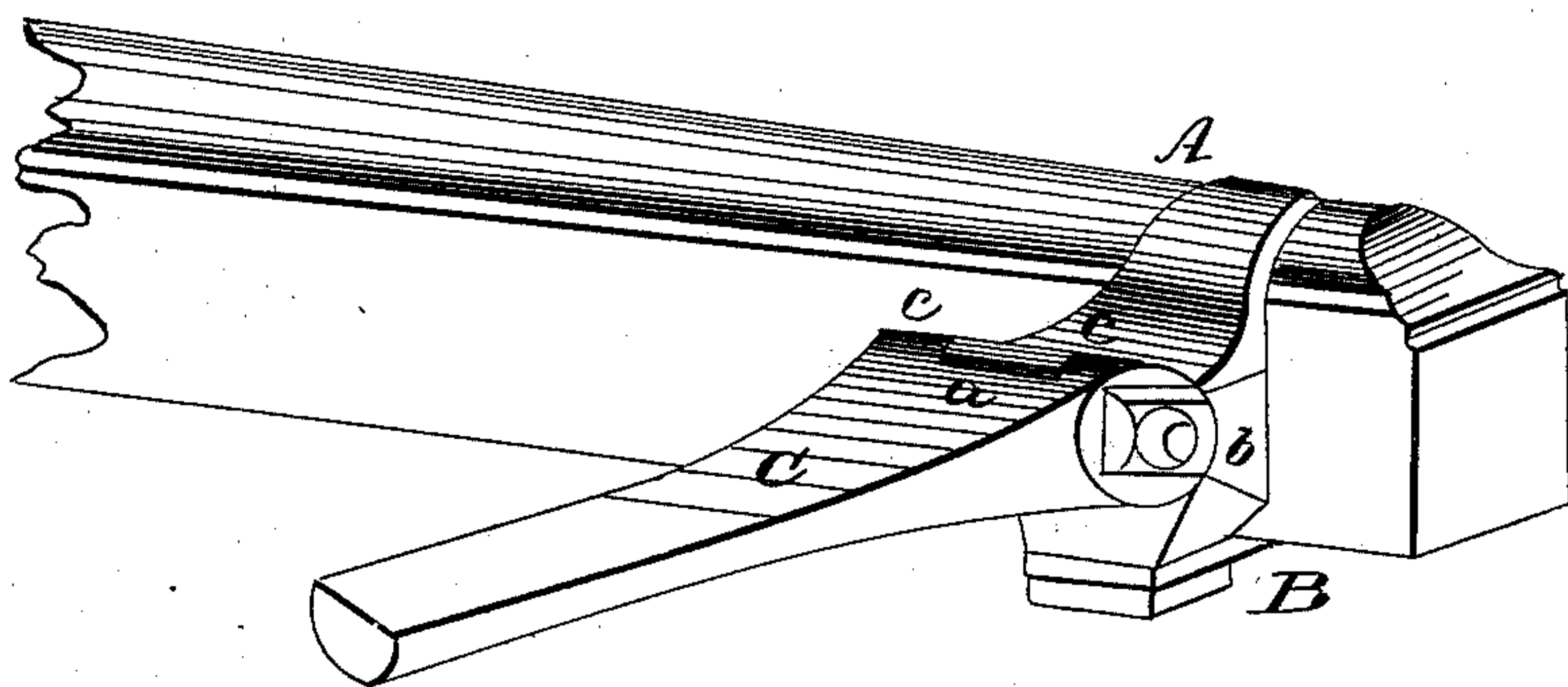
F. B. MORSE.

Thill-Coupling.

No. 41,529.

Patented Feb. 9, 1864.

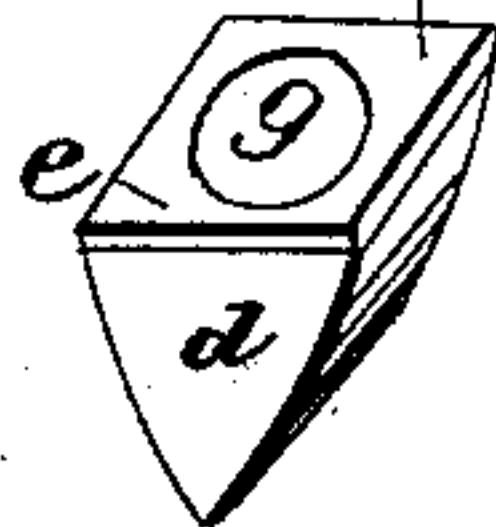
*Fig: 1.*



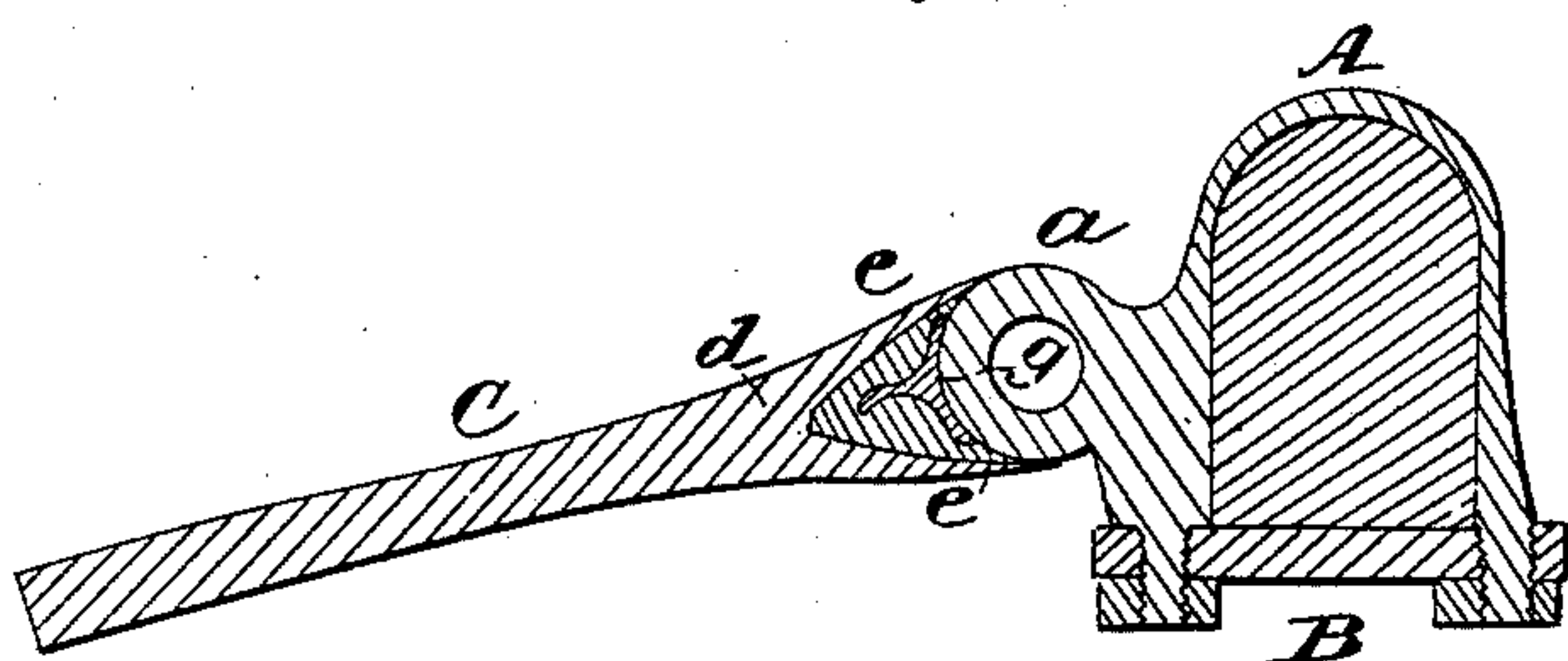
*Fig: 4.*



*Fig: 3.*



*Fig: 2.*



Witnesses

C. R. Shelton  
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# UNITED STATES PATENT OFFICE.

FRANCIS B. MORSE, OF NEW HAVEN, CONNECTICUT.

## IMPROVEMENT IN SHAFT-COUPPLINGS FOR CARRIAGES.

Specification forming part of Letters Patent No. 41,529, dated February 9, 1864.

*To all whom it may concern:*

Be it known that I, FRANCIS B. MORSE, of the city and county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Shaft-Couplings for Carriages; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make part of this specification, in which—

Figure 1 is a perspective view of a single coupling as ready for use. Fig. 2 is a section of the same cut vertically through the clip, joint, &c., showing the position and shape of the cavity which contains the elastic presser, the construction of the presser, &c. Fig. 3 is a perspective view of the elastic presser. Fig. 4 is a section of Fig. 3 cut vertically through the center.

My improvement consists in making the head or movable part of the joint with a cunifform or wedge-shaped cavity, opening toward the jack or stationary part of the joint, into which cavity I insert a piece of elastic india-rubber in such a manner that its elasticity will operate upon the standing part of the joint and prevent rattling or noise, and in capping this piece of india-rubber with a piece of rawhide secured by a copper rivet, or by any other convenient means, and in so constructing the joint that all its parts may work on regularly-curved bearings having equal pressure in all positions, and so that there will be equal pressure on the india-rubber or elastic presser at all times.

I make the clip A and tie B in the usual way, making the standing or stationary part *a* of the joint of the same piece as the clip, (projecting in front from its vertical part,) and I round its front, top, and bottom as a segment of a perfect circle, and mill the shoulders concave on a segment of a circle, as shown at *b*, Fig. 1, to receive the convex surfaces of the movable part of the joint *c* and *c*, Fig. 1, so that the bearings may be equal in all positions.

I make the head or movable part C of the joint with two eyes, as shown at *c* and *c*, Fig. 1, with a cavity in its rear end to receive and inclose the elastic presser, Fig. 3, as shown at *d*, Fig. 2, (in section.)

I make the elastic presser, Fig. 3, of a piece

of india-rubber capped with rawhide, *ee*, which will prevent any wear on the rubber, thereby making its durability more indefinite in length of time than the carriage on which it is used.

I take a suitable piece of elastic india-rubber and cut a slight gash in its upper surface. Then flatten the point of a copper rivet (substantially to an edge) and pass it through a hole made in the piece of rawhide and force it into the rubber. I then place it in a vise, (or other suitable press,) so that one jaw or part will act upon the head of the rivet *g*, and then screw it up till the thin point of the rivet is bent or clinched, as indicated in section in Figs. 4 and 2, and the complete capped presser will appear substantially as represented in Fig. 3; or I secure the cap *ee*, with cement, or by any other means, so as to render the attachment of the rawhide cap to the elastic rubber secure and permanent.

Having made the several parts, as before described, and having fitted the clip onto the axle and the movable part of the joint onto the shaft, I insert the elastic presser, Fig. 3, into the cavity in the head, as represented in section at *d*, Fig. 2, and secure the two parts of the joint together by a bolt in the usual way, when the whole is ready for use. This presser must be made of a sufficient quantity of rubber to afford the necessary pressure; and should it ever be found deficient, from the wearing of the bolt or any other cause, a small piece of leather or any other substance may be placed in the cavity to bring the presser out a little, as all will understand.

This coupler is equally applicable for attaching or coupling poles to carriages.

The advantages of my improvement consist in that the india-rubber will always be entirely inclosed from dust and moisture, and so that it can receive no injury from without from any cause whatever, and in that the cap of rawhide will prevent any wear of the rubber and cause the pressure on the rubber to be equal on all parts, and in that the joint can be made so close to the axle as to materially increase the strength in proportion to the weight of iron, and in that while it can be made at less expense it can be made smaller and far more symmetrical than any anti-rattler heretofore known, as nothing appears to the eye when in use to distinguish its character.



What I claim as my invention, and desire to secure by Letters Patent, is—

1. A coupling for carriage-shafts, in which the movable part of the joint has the eyes forged thereon, and a cavity in its rear end to receive an elastic presser to prevent rattling, substantially as herein described.

2. The combination of the head or movable

part of the joint, as described, with the stationary jack and elastic presser, substantially as herein described.

F. B. MORSE.

Witnesses:

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