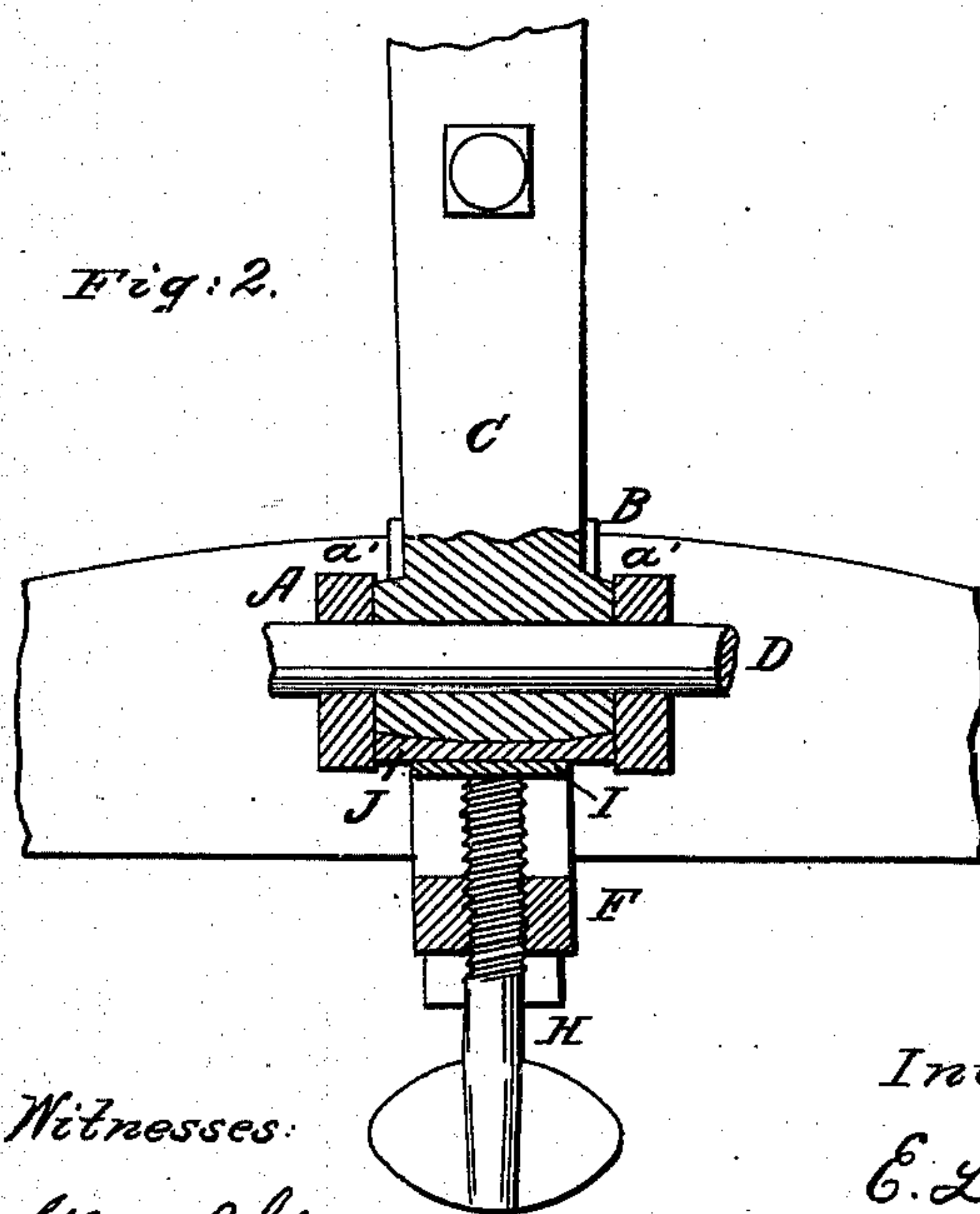
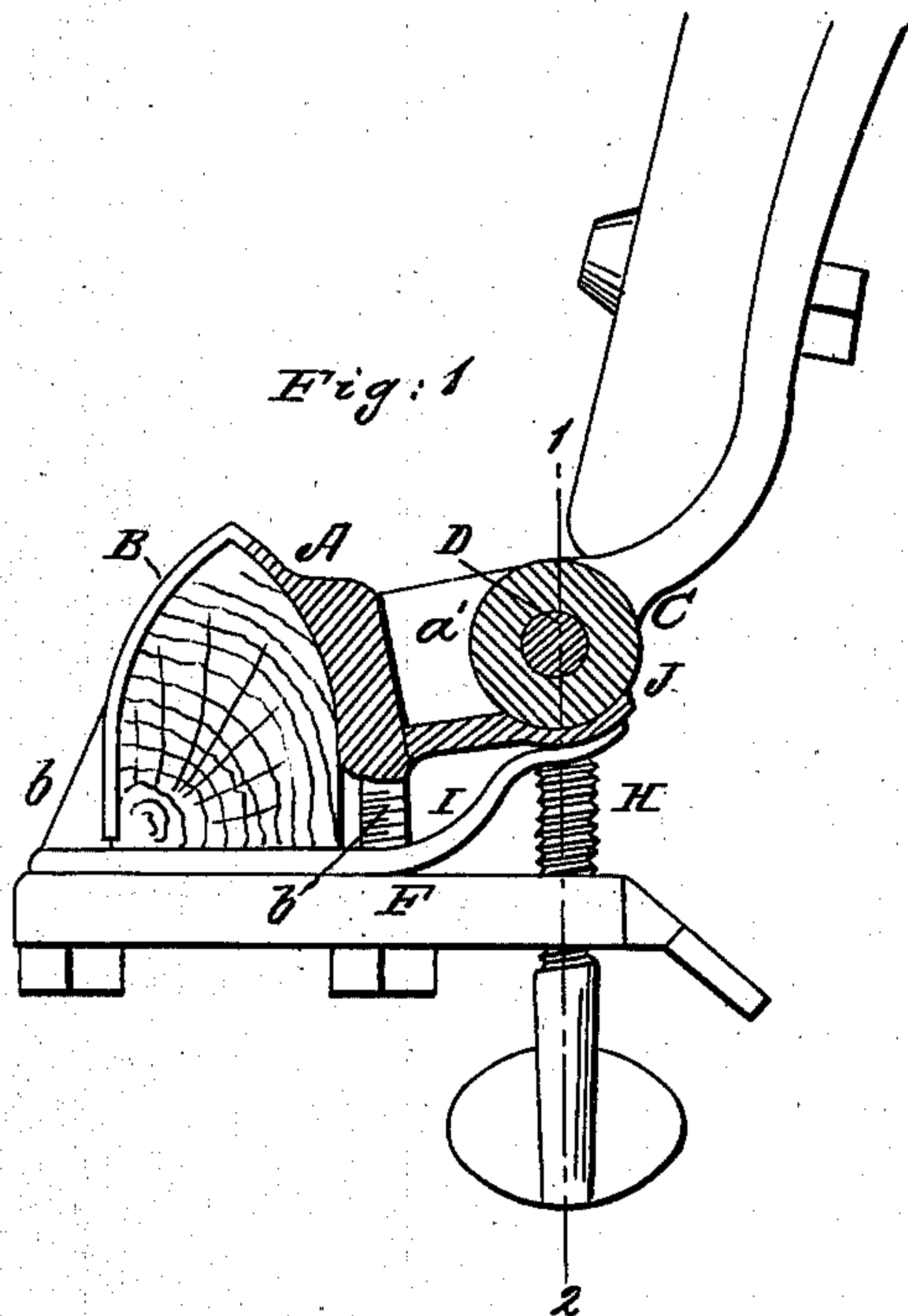


E. LANE.  
Thill Coupling.

No. 87,501.

Patented March 2, 1869.



Witnesses:  
*Wm. Steel.*  
*John Parker.*

Inventor:  
*E. Lane.*  
by his Attorney  
*Henry Howson.*



E. LANE, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 87,501, dated March 2, 1869.

IMPROVED THILL-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, E. LANE, of Philadelphia Pennsylvania, have invented an Improvement in Carriage-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of a device, fully described hereafter, for the purpose of preventing the rattling of the shafts of the carriage, by exerting a pressure against their rear ends, which pressure, however, can be readily withdrawn when it is necessary to connect the said shafts to or disconnect them from the coupling-blocks.

In order to enable others skilled in the art to make and apply my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a longitudinal sectional view of my improved carriage-coupling, and

Figure 2, a transverse section of the same, on the line 1-2, fig. 1.

The coupling-block A, with its arms *a* and *a'*, is similar to those in common use, and is secured to or forms a part of the clip B, which is secured to the axle in the usual manner.

The metal bar C, at the rear end of the shaft, is coupled to the block A by a pin, D, which passes through it, and through openings in the outer ends of the arms *a* and *a'*.

A metal bar, F, which aids in securing the clips B to the axle, projects forward from the latter, and carries a thumb-screw, H, the rounded end of which bears against the under side of a spring-plate, I, the rear end of the latter intervening between the bar F and the axle, and is thus secured in its place.

The plate I has a tendency to spring back from the rounded end of the shaft C, but can be forced toward the same by the thumb-screw H, so as to cause an intervening leather washer, J, to bear against the said shaft.

It will be seen, on referring to fig. 2, that this washer, is effectually prevented from slipping out from its place as it is retained laterally by the arms *a* and *a'* of the coupling-block, and vertically by the end of the shaft and the spring-plate I, the latter being of sufficient

width to bear against the greater part of the surface of the washer.

In most of the devices employed to prevent the rattling of carriage-couplings, a constant pressure is exerted against the ends of the shafts, so as to render the coupling and uncoupling of the same a matter of more or less difficulty.

This objection I entirely overcome by the use of the plate I, which, when the thumb-screw H is turned down, springs back, and releases the end of the shaft from pressure, and enables the pin D to be easily withdrawn, and the shaft to be disconnected.

The shaft can also be readily connected to the carriage, when the plates I are thus permitted to spring back, all that is necessary being to adjust the rear end of each shaft to a proper position between the arms of its coupling-block, and then to insert the pin D.

It will be readily understood that when the shafts are thus connected, and the thumb-screws and spring-plates properly operated, the washers J can be caused to bear against the said shafts with sufficient pressure to prevent all disagreeable rattling of the couplings.

An important advantage of my invention is, that it can be readily applied to the carriage-couplings in common use; another advantage being that the leather washer is held firmly against the end of the shaft, and prevented from slipping or working out from its place.

It should be understood that my invention is as applicable to carriages provided with a single pole as to those in which shafts are employed.

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

The combination of the coupling A with its arms *a* and *a'*, packing-strip J, spring-plate I, and plate F, carrying a thumb-screw, H, the whole being arranged and operating substantially as and for the purpose herein set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

E. LANE.

Witnesses:

JOHN WHITE,  
HARRY SMITH.