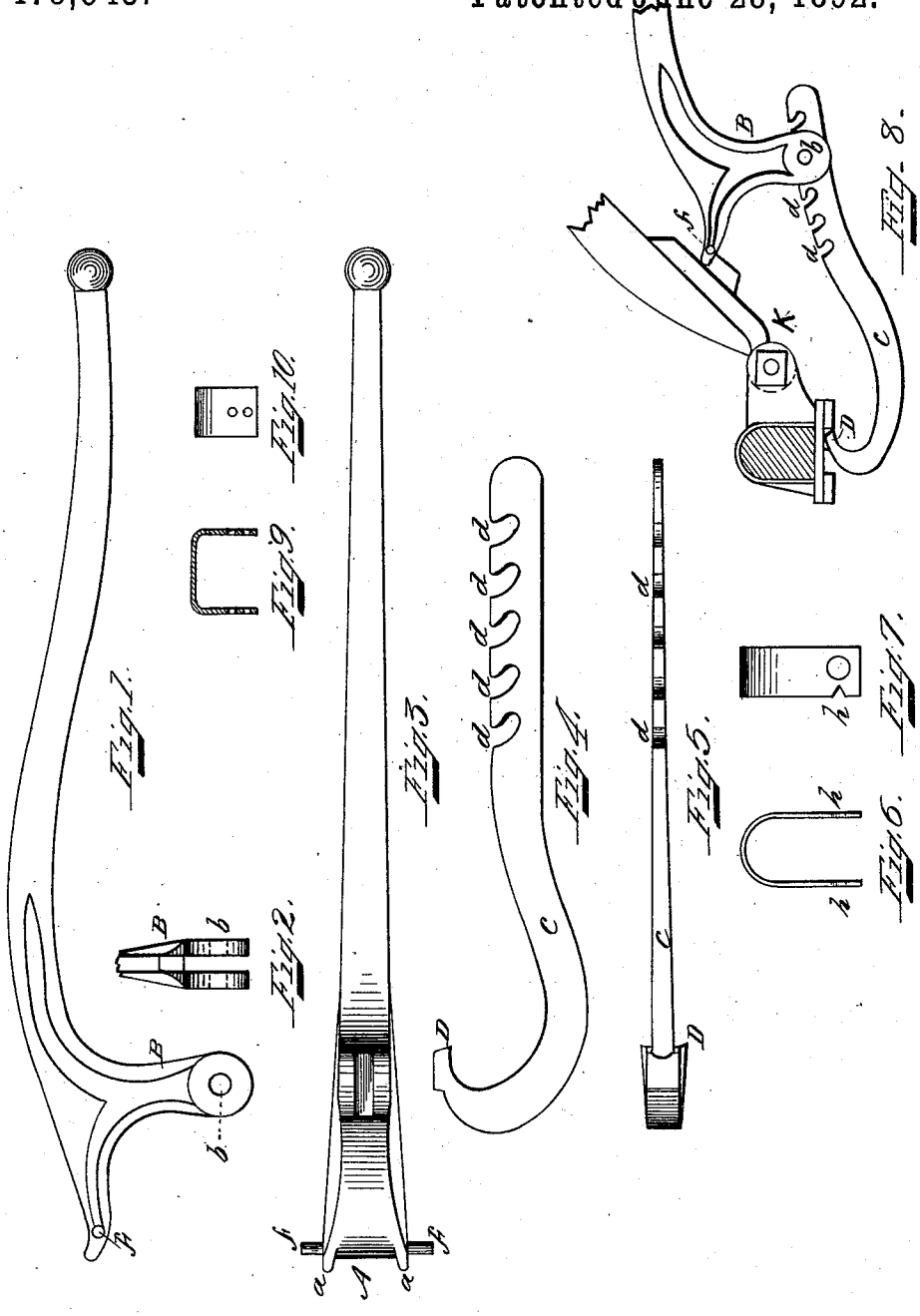
(No Model.)

A. A. BRAY.

THILL COUPLING JACK.

No. 478,043. Patented June 28, 1892.



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THILL-COUPLING JACK.

SPECIFICATION forming part of Letters Patent No. 478,043, dated June 28, 1892.

Application filed October 24, 1890. Serial No. 369,165. (No model.)

To all whom it may concern:

Be it known that I, ALVIN ADDISON BRAY, a citizen of the United States, residing at Lynn, in the State of Massachusetts, have invented a new and useful Implement, of which the following is a specification.

My invention is a machine or tool to be used in the manufacture, repair, and alteration of carriages; and the objects of my invention are, first, to produce an instrument which shall assist in connecting and disconnecting the shafts or pole of a carriage at the coupling or shackle; second, to make it as simple, cheap, and serviceable as possible; third, to make one which may be used on as many carriages as possible. I attain these objects of my invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of one part or lever. Fig. 2 is a longitudinal section of the lower part of Fig. 1 or the fulcrum of the lever. Fig. 3 is a plan of the lever. Fig. 4 is a section of the hook and ratchet-piece. Fig. 5 is a plan of the same piece as Fig. 4. Fig. 6 is a front view, and Fig. 7 is a side view, of the yoke. Fig. 8 is a view of the whole instrument. Fig. 9 is a front view, and Fig. 10 is a side view, of the lever-strap.

Similar letters refer to like parts in all the drawings.

In all carriages of the better grade the trade now requires in the coupling or shackle which unites the shafts or pole to the axles an anti-rattler—that is, a spring of some kind, usually of rubber. In coupling or uncoupling it requires great power to force the eyebolt on the shaft into its place against this spring. As it is necessary to couple or uncouple frequently the shafts of a carriage, a cheap, convenient, and serviceable tool to force the parts of the coupling together has been much needed.

The several parts of my invention should be made of metal or alloy, and should be as light as will be consistent with the strength required.

The part shown in Fig. 1, called the "lever," is usually made about fifteen inches long. The end A is made about an inch or more wide between the side points *a a*, which are about one-fourth inch long and a little less in diameter. Between these points the under side, as shown in Fig. 1, is beveled a little. About three inches from the end A is made the fulcrum B, as shown in Figs. 1 and 2. From the upper side, as shown in Fig. 1, to the bottom of B is about three inches. This fulcrum B should be about one inch in diameter and should have a longitudinal slot, as shown in Fig. 2, about an inch deep, extending quite across or through it. Through the two arms made by this slot is a round connection *b*. This connection may be left in the casting; but I find it better to drill through afterward and insert a round pin about one-fourth inch in diameter. The width of this slot should be just sufficient to take easily the ratchet edge of the part of the instrument shown in Fig. 4. The other end of the lever may be finished into a handle.

The part shown in Figs. 4 and 5 should be about ten inches long, from one-eighth to one-fourth inch thick, and from three-fourths of an inch to an inch wide. I usually make from four to six indentations *d d d*, in size and shape, as shown in Fig. 4, relative to the size of the piece. The end of the hook at D is broadened out about one inch wide, having a shoal recess of about one-half an inch wide, as shown in Fig. 5.

I usually cast the lever with the side projections *f f*, Fig. 3. They are not necessary to its use, but are a convenience to those who wish to use a strap to go over the shaft shown in Figs. 9 and 10, one end of the strap being attached to each projection. I sometime use, in connection with the other parts described, a yoke or piece of strap-iron about one inch wide, three inches long, and one-eighth thick, bent in the form shown in Fig. 6, and having a notch near each end, as shown in Fig. 7.

The co-operation of the several parts and the method of using the instrument is as follows: The end D of piece C is hooked to any part of the axle, usually to one of the nuts. The end of the lever A is placed against any convenient part of the shaft or pole near the eyebolt under the shaft (there is usually a nut at this place) and one of the indentations *d* is hooked around the pin *b* in the fulcrum. A pull on the lever tends to bring the ends A

and D together, and will force the eyebolt K of the shaft a little into the coupling against the anti-rattler spring.

The operation is much the same in coupling as in uncoupling. The use of the instrument allows the bolt of the coupler to be taken out or put in easily, which could not be done without the use of some means to hold the eyebolt in its place against the spring. If the strap, Fig. 9, is used, it is put over the shaft, and holding the lever from falling, allows the better use of the hands. In some cases when a pole is used there is no convenient nut for the end A of the lever. In such cases I use the piece of iron shown in Fig. 6, which rests against a cross-bar and offers a point of pressure for the end A in the notches *h h*. This piece of iron I call a "yoke."

I do not wish to be limited to the exact size or shape described and shown in this specification, for this instrument of my invention may be varied somewhat in size and shape; but I have found the size and shape given by me to be the best to accomplish the desired result—that is, to hold the eyebolt of the shaft or pole to its place and to give a straight motion to it in coupling. This is not so important in uncoupling; but in coupling it is very important, especially in coupling a pole, for it saves the necessity of a second man.

For want of this instrument it often takes two men a long time to couple, while it may be done in one minute by one man by the use of my mechanism.

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

1. In a coupling-tool, the combination, with a lever having a downwardly-projecting fulcrum, of the hook C, having an extended portion provided with a series of indentations *d*, each adapted to receive the said fulcrum, whereby the lever may be adjustably connected with the hook, as set forth.

2. In a coupling-tool, the combination, with a lever provided with a downwardly-projecting fulcrum having a bifurcated lower portion and a bearing-pin passing through the said bifurcated portion, of a hook having an extended portion provided with the indentations *d*, adapted to receive the said bearing-pin, as set forth.

3. In a coupling-tool, the combination, with the hook C, having indentations *d*, of a lever provided with a downwardly-projecting fulcrum adapted to engage the said indentations and having an enlarged extremity provided with the points *a* and the outwardly-projecting pins *f*, and means for connecting the end of the lever with a vehicle-shaft, as set forth.

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