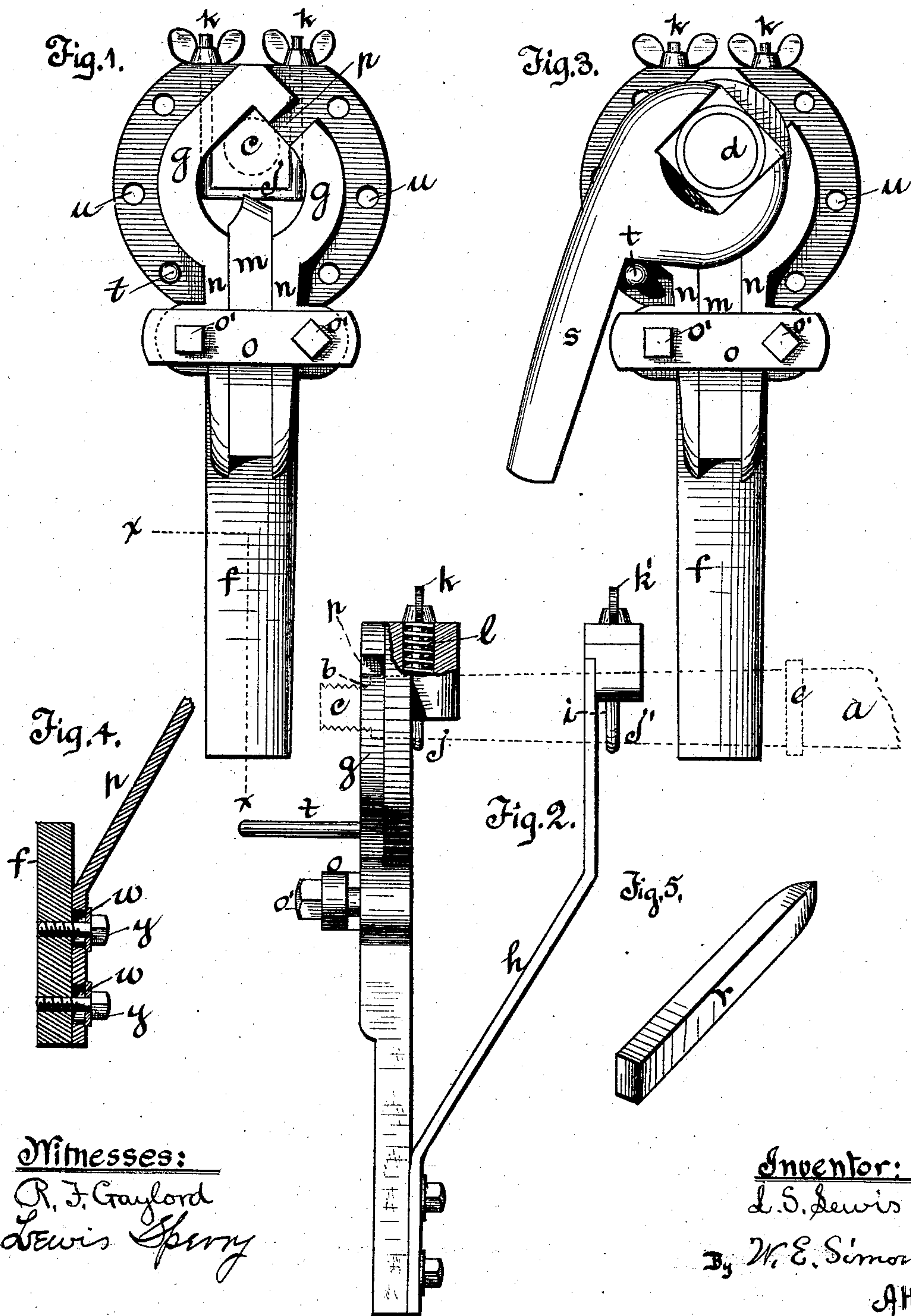


(No Model.)

L. S. LEWIS.  
Tool for Repairing Axle Arms.

No. 232,407.

Patented Sept. 21, 1880.



Witnesses:  
R. J. Gaylord  
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# UNITED STATES PATENT OFFICE.

LEROY S. LEWIS, OF ROCKVILLE, CONNECTICUT.

## TOOL FOR REPAIRING AXLE-ARMS.

SPECIFICATION forming part of Letters Patent No. 232,407, dated September 21, 1880.

Application filed March 6, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, LEROY S. LEWIS, of Rockville, in the county of Tolland and State of Connecticut, have invented certain new and useful Improvements pertaining to a Tool for Repairing Axle-Arms, whereof the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a front view of the device. Fig. 2 is a side view of same. Fig. 3 is a front view of the device when adjusted for cutting the thread. Fig. 4 is a view of a part of the lever and auxiliary arm in longitudinal section on the plane *x x*. Fig. 5 is a view of the threading-tool.

The hubs of vehicle-wheels usually bear within them an axle-box, which at first, and when the parts are new, has no longitudinal motion on the axle-arm; but after use, in consequence of the wear of the parts, this axle-box gets to have such longitudinal motion, which is an undesirable thing.

The device which I have invented is for the purpose of making such repairs of the axle-arm that such longitudinal motion of the axle-box shall be prevented.

The letter *a* denotes an axle-arm, bearing near its smaller end the shoulder *b*, leading down to the threaded spindle *c*, which in use carries the nut *d*. Said axle-box is borne on said axle-arm between the shoulder *e* and the nut *d*.

I cure said trouble I have mentioned by cutting back the shoulder *b* and lengthening the thread *c* correspondingly.

The letter *f* denotes a lever bearing, as a fulcrum-orifice, the mortise *g*, the shape of which is in one particular peculiar and essential. The peculiarity is, that this mortise, on the side thereof opposite the lever, is V-shaped, to fit to axle-arms of different diameters.

The lever *f* bears an auxiliary arm, *h*, which bears a corresponding V-shaped fulcrum-orifice, *i*. These two fulcrum-orifices, in conjunction with the clamps hereinafter mentioned, hold the whole tool in proper position on an axle-arm to properly operate.

The letter *j* denotes a U-shaped clamp appurtenant to the lever *f*, the legs of which pass out through the end of the lever, and these

bear the thumb-nuts *k k*, by the manipulation of which the clamp can be made to bear against the contained axle-arm, and thereby hold the axle-arm to place to be operated on. The springs *l l* under the thumb-nuts allow the clamp to give with irregularities in the axle-arm. The auxiliary arm *h* bears, for a similar purpose, the U-shaped clamp *j'*, bearing similar thumb-nuts *k' k'* and similar springs.

The mode of using this tool to cut back the shoulder *b* is as follows: The cutting-tool *m* is laid into its socket *n*, and fastened to place by the clamp-bar *o* and the set-screws *o' o'*, the whole tool being meanwhile adjusted on the axle-arm. The nut *d* is then run upon the threaded spindle *c* till it bears against the side of the tool *m*. The lever *f* is then rotated on the axle-arm, the feed of the cutting-tool being given by rotating the nut *d* against it. The radial mortise *p* in the head of the lever *f* gives opportunity to inspect the depth of the cut.

To cut the thread farther back on the spindle, the thread-cutting tool *r* is put in the place of tool *m*, its point coinciding with and entering the thread already cut. The nut *d* is run up against the tool, the wrench *s* applied to the nut, and the pin *t* inserted in one of the holes *u*, to make the wrench and nut move synchronously with the lever. Then by rotating the lever *f* the tool will be caused to cut a thread on the spindle *c*, the proper feed being given thereto by the synchronous movement of the nut and the thread-cutting tool. There is a series of the holes *u* in the side of the lever-head, so that the pin *t* may properly unite the wrench and the lever-head however the nut may happen to stop when run up against the side of the thread-cutting tool, for, obviously, it will not answer to rotate the wrench independently of the lever after the thread-cutting tool has been entered into the thread already cut and the nut has been run up against the side of the thread-cutting tool.

The auxiliary arm *h* has two longitudinal mortises, *w w*, and the headed set-screws *y y* run through them into the lever *f*, whereby the auxiliary arm may be adjustably set upon the lever *f*.

I claim as my invention—

1. In combination, the lever *f*, having the V-shaped fulcrum-orifice *g* and the tool-socket *n*, the auxiliary arm *h*, having the V-shaped fulcrum-orifice *i*, the clamps *j j'*, and a tool for  
5 socket *n*, having longitudinal adjustment on lever *f*, all substantially as described.
2. In combination, the lever *f*, having ful-

crum-orifice *g* and series of holes *u*, clamp *j*, wrench *s*, and an operating-tool, substantially as herein shown and described.

LEROY S. LEWIS.

Witnesses:

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