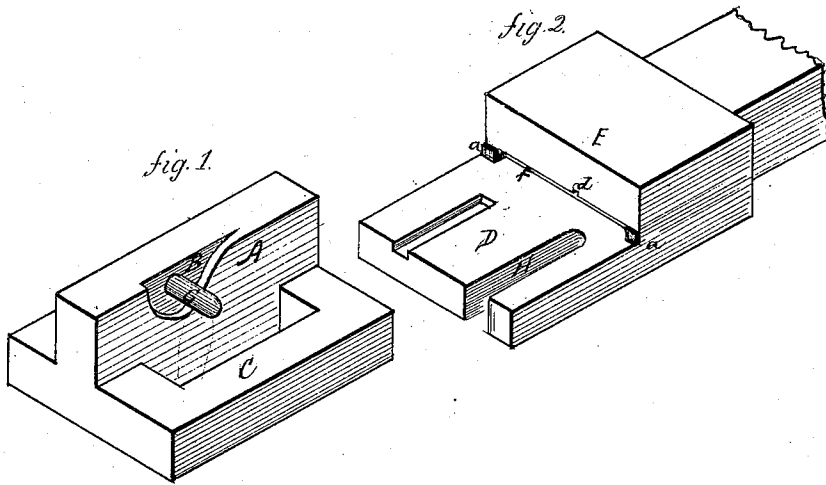


*J. Evans,*

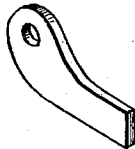
*Making Springs.*

*No. 104,292.*

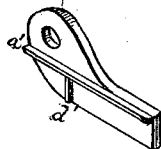
*Patented June 14, 1870.*



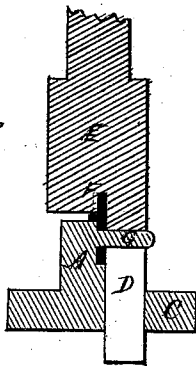
*fig. 3.*



*fig. 4.*



*fig. 5.*



*Witnesses*  
*J. W. Conway*  
*A. J. Tibbitts*

*John Evans*  
*Inventor*  
*By his Attorney,*  
*John E. Earle*

# United States Patent Office.

JOHN EVANS, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 104,292, dated June 14, 1870.

## IMPROVED DIE FOR FORGING EARS FOR CARRIAGE-SPRING HEADS.

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, JOHN EVANS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Dies for Forging Ears for Carriage-spring Heads; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be such a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, a perspective view of the die;  
Figure 2, a perspective view of the follower;  
Figure 3, the blank previous to operation;  
Figure 4, the blank after the operation; and, in  
Figure 5, a vertical central section through the die and follower to illustrate the operation.

This invention relates to an improvement in dies for forging ears for carriage spring-heads, the object being to prepare the ears for attachment to the springs previous to welding, that is to say, to form ribs upon one side as a guide for the proper relative position, and also as a means for attachment to the heated spring by compressing the said ribs into the heated metal; and,

The invention consists in a die and follower, constructed and formed so that the blank is set upon its edge and struck by the follower, and the metal forced out to form the ribs.

A is the die, with a recess, B, in its side corresponding to that portion of the ear above the rib *a'*, as

seen in fig. 4, and in the side of the die a guide, C, is formed, into which a projection, D, on the follower E, passes as a guide to insure the proper relative position of the die and follower.

In the follower E a recess, F, is formed, corresponding to that portion of the ear below the rib *a'*, (see fig. 4,) and with projections, *a*, of the thickness of the rib *a'*, which strike upon the upper edge of the die as a stop. A vertical groove, *d*, is formed in the follower, corresponding to the rib *d'* to be produced. A pin, G, is arranged in the recess B to preserve the perforation in the blank, and a slot, H, formed in the part D of the follower, to pass over the said pin.

The blank, as seen in fig. 3, is formed of sufficient width to give the requisite metal for forming the ribs, and when heated is placed into the recess B over the pin G; then the follower strikes down thereon, as seen in fig. 5, the ear shown in solid black, which compresses the metal, throwing out the ribs *a'* and *d'*, as seen in fig. 4.

I claim as my invention—

The die A, having the recess B, pin G, and guide C; and the follower E, having the recess F, with vertical grooved projections *a*, and slot H in the part D, as and for the purpose set forth.

JOHN EVANS.

Witnesses:

A. J. TIBBITS,  
J. H. SHUMWAY.