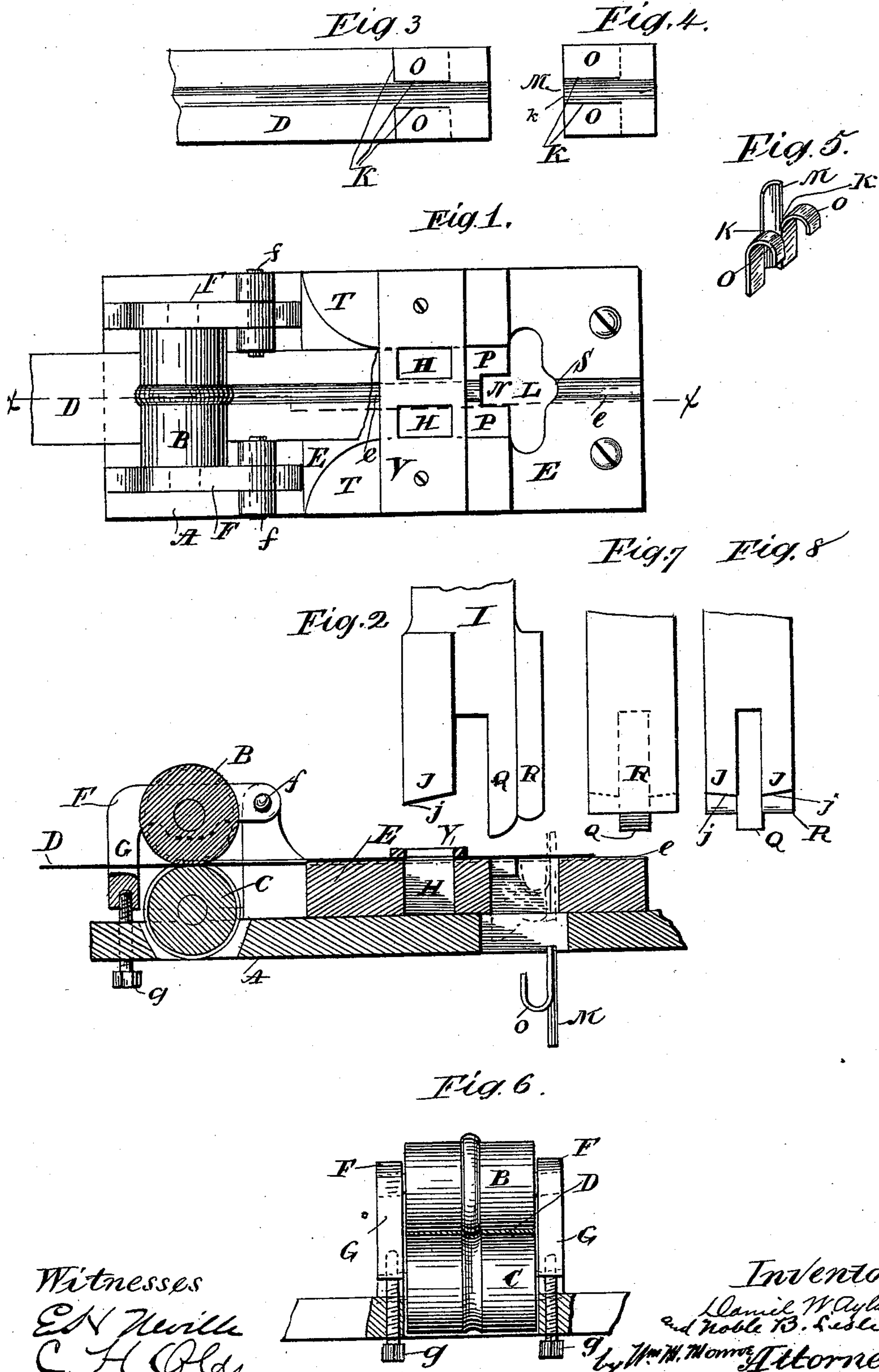


(No Model.)

D. W. AYLWORTH & N. B. LESLIE.
DIE FOR CLAMPS.

No. 539,332.

Patented May 14, 1895.



UNITED STATES PATENT OFFICE.

DANIEL W. AYLWORTH AND NOBLE B. LESLIE, OF CLEVELAND, OHIO.

DIE FOR CLAMPS.

SPECIFICATION forming part of Letters Patent No. 539,332, dated May 14, 1895.

Application filed June 20, 1894. Serial No. 515,206. (No model.)

To all whom it may concern:

Be it known that we, DANIEL W. AYLWORTH and NOBLE B. LESLIE, citizens of the United States, and residents of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Dies for Clamps, of which we hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in dies, and the objects of the invention are to provide means for cutting clamps for fastening wire crossings, out of a sheet metal strip, and simultaneously forming the clamp for use, and consists in the upper and lower dies, and feeding mechanism for the metal strip acting in unison therewith, as described herein, shown in the accompanying drawings and more specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of the dies and feed-rolls. Fig. 2 is an elevation in vertical section on line x x , Fig. 1. Fig. 3 is a view of the metal strip, showing the effect of the first cut, and Fig. 4 shows the final cut. Fig. 5 is a view of the finished clamp. Fig. 6 is a front view of rolls. Fig. 7 is a rear view, and Fig. 8 a front view, of upper die.

It will be seen from the figures that the clamp when finished is provided with partially detached strips which afterward form loops and a groove is made centrally to receive one of the cross wires.

In the drawings A is a platform upon which are fixed the feeding and grooving rollers, B, C, which feed the metal strip D upon the die plate E, grooved at e , to correspond therewith. These rollers are made adjustable to regulate the depth of the groove and degree of pressure, and as shown the upper roll B is mounted in a bearing F pivoted at f , and is made vertically adjustable by means of the depending arm G and adjusting screw g .

H, H, are rectangular openings in the die plate of the size of the portions separated to form the loops O of the clamp, which are detached by right angled cutters J upon the upper die, I. The edges of these cutters slant away from the angles to give a shearing cut as at j and the length of the stroke of the upper die is merely sufficient to make a rectangular cut in each side of the metal strip

as shown in Fig. 3 at K. This represents the first stage of the formation. The strip then passes farther across the die plate over the opening L, across the die, and the grooved center M of the incomplete clamp will be over the opening N, while the side strips O designed to form the loops will rest upon the solid metal at P. A second vertical die Q then comes down and cuts the center M loose from the metal strip at K while the narrow transverse die R, drives the clamp through the opening L, thus doubling up the side strips O and forming the loops as the clamp is forced through the opening. A vertical groove S receives the projection on the reverse side of the clamp caused by the rollers. These operations are clearly shown in Fig. 2 where the upper dies move simultaneously and are secured together, producing both cuts, and folding the loops at one movement.

T, T, are guide plates for the metal strip as it passes into the dies, and V is a cross strip through which the die enters and which serves to prevent displacement of the strip D when the die I rises.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a set of dies, for forming clamps, a grooved base plate, provided with an opening on each side of the groove, and a transverse opening extending at right angles to the groove, and an opening or off-set from the transverse opening extending in a line with the groove, combined with a die having two cutting prongs which enter the openings on each side of the groove, a central cutting die, and a transverse bending die, substantially as described.

2. In a set of dies for forming clamps, a grooved plate, provided with the openings H, one on each side of the groove, and a third opening I, N, directly in the line of the groove, combined with the feed rolls which groove and feed the blank, and which are located at one end of the plate, and the die having three cutting portions or dies J, Q, and the bending portion R, the parts being arranged to operate, substantially as specified.

DANIEL W. AYLWORTH.
NOBLE B. LESLIE.

Witnesses:

WM. M. MONROE,
E. H. NEVILLE.