(No Model.)

J. G. ENGLISH.

DIE FOR MAKING FELLY PLATES FOR CARRIAGE WHEELS.

No. 392,110. Patented Oct. 30, 1888.

Fig. 1

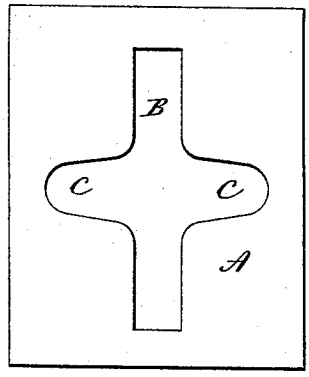


Fig. 3

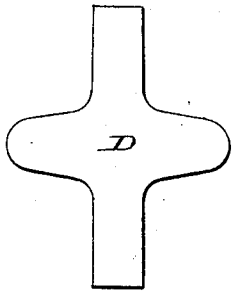


Fig. 5

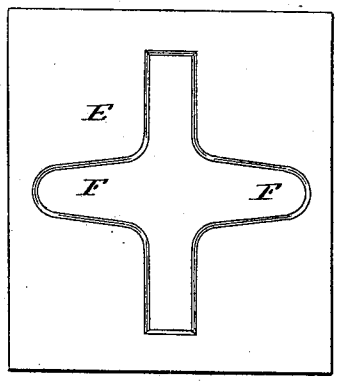


Fig. 2

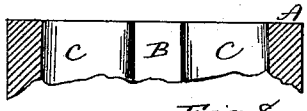


Fig. 4

Fig. 6

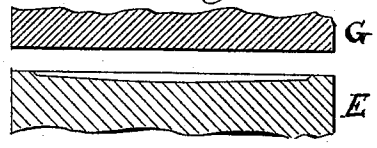


Fig. 8

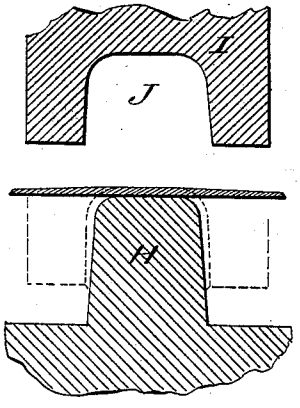


Fig. 7

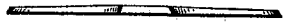


Fig. 10

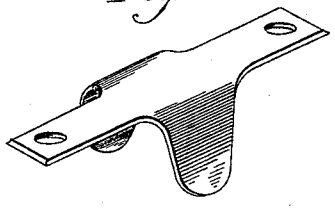
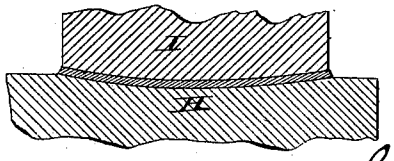


Fig. 9



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Inventor.
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Wm. C. Earle.

UNITED STATES PATENT OFFICE.

JAMES G. ENGLISH, OF NEW HAVEN, CONNECTICUT.

DIE FOR MAKING FELLY-PLATES FOR CARRIAGE-WHEELS.

SPECIFICATION forming part of Letters Patent No. 392,110, dated October 30, 1888.

Application filed September 3, 1888. Serial No. 284,495. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. ENGLISH, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Dies for Making Felly-Plates for Carriage-Wheels; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a top view of the blanking-die; Fig. 2, a vertical central section of the same; Fig. 3, a face view of the punch, which with the blanking-die forms the first pair of dies of the series; Fig. 4, a side view of the punch; Fig. 5, a face view of the second die of the series; Fig. 6, a vertical central section of the second pair of dies; Fig. 7, an end view of the blank as it comes from the second pair of dies; Fig. 8, a transverse section of the bending dies or third pair of dies of the series; Fig. 9, a longitudinal central section of the same; Fig. 10, a perspective view of the plate complete.

This invention relates to an improvement in the manufacture of the article commonly called "felly-plates"—that is to say, a metal plate which is adapted to be placed upon the inner surface of the felly at the joints and so as to overlap and secure the joint, the invention being applicable more particularly to plates for the larger class of carriage and coach wheels. These larger plates are more generally made from malleable iron and present a bungling appearance upon the wheel.

The object of my invention is to construct the plates from thin sheet or plate metal, and give to the plate a neat and finished appearance; and the invention consists in a series of dies, whereby the blank is first cut from sheet or plate metal of the requisite thickness, then the ears thinned and finally bent to the requisite shape.

A represents the first or blanking die, which has an opening through it corresponding to the shape of the blank required—that is to say, a slot, B, of the length required for the plate—with openings C C on each side transversely from the slot B, each of which openings C C corresponds to the ears of the plate.

D represents the punch, which is of a shape corresponding to the opening through the die A, so that a plate or sheet of metal laid upon the die A and the punch brought forcibly thereon will cut from the plate a blank in shape corresponding to the punch and the opening in the die.

E represents a second die, in the surface of which is a cavity corresponding to the shape of the blank as cut by the punch and die A, except that the transverse recesses F F are longer than the transverse openings C C of the die A. The cavity is of a depth slightly less than the thickness of the blank, except in the transverse recesses. These transverse recesses diminish in thickness toward the outer end, as seen in Fig. 6, and the edge of the cavity is beveled outward, as also seen in Fig. 6.

The blank is laid into the cavity of the die E and struck by a flat-faced die, G, Fig. 6, which operates upon the blank to bring it to the shape of the cavity in the die E—that is, will draw the transverse projections into the cavities, reducing the thickness toward the end, and also bevels the edges of the blank, as indicated in Fig. 7. This prepares the blank for the final operation of bending. The bending is produced by a pair of dies, (see Fig. 8,) one of which is constructed with a former, H, corresponding to the interior of the finished plate, and the other die, I, having a cavity, J, of corresponding shape. The blank is laid upon the former H, as represented in Fig. 8. Then the die I is brought down thereon, as represented in broken lines, which turns the two wings downward upon the sides of the former, as also seen in broken lines. At the same time the longitudinal curve necessary for the body of the plate is imparted to it, as represented in Fig. 9, this curve corresponding substantially to the curve of the inside of the felly to which the plate is adapted.

The finished plate as it comes from the bending-dies is represented in Fig. 10.

By means of these dies I am enabled to make the plate from steel or similar metal very thin, yet sufficiently strong, and so that the plate presents a neat and finished appearance, and

does not detract from the finished appearance desirable for the wheel.

I claim—

The herein-described dies for the manufacture of felly-plates for carriage-wheels, consisting of a die and punch of shape corresponding to the blank, a second die having a cavity therein in shape corresponding to the blank as it comes from the first die, except that the transverse portions of the cavity are extended and reduced in depth toward their outer ends with a corresponding flat-faced die, and a third pair of dies, the one consisting of a form corresponding to the interior of the finished plate and the other to the exterior surface of the finished plate, all substantially as described.

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Witnesses:
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