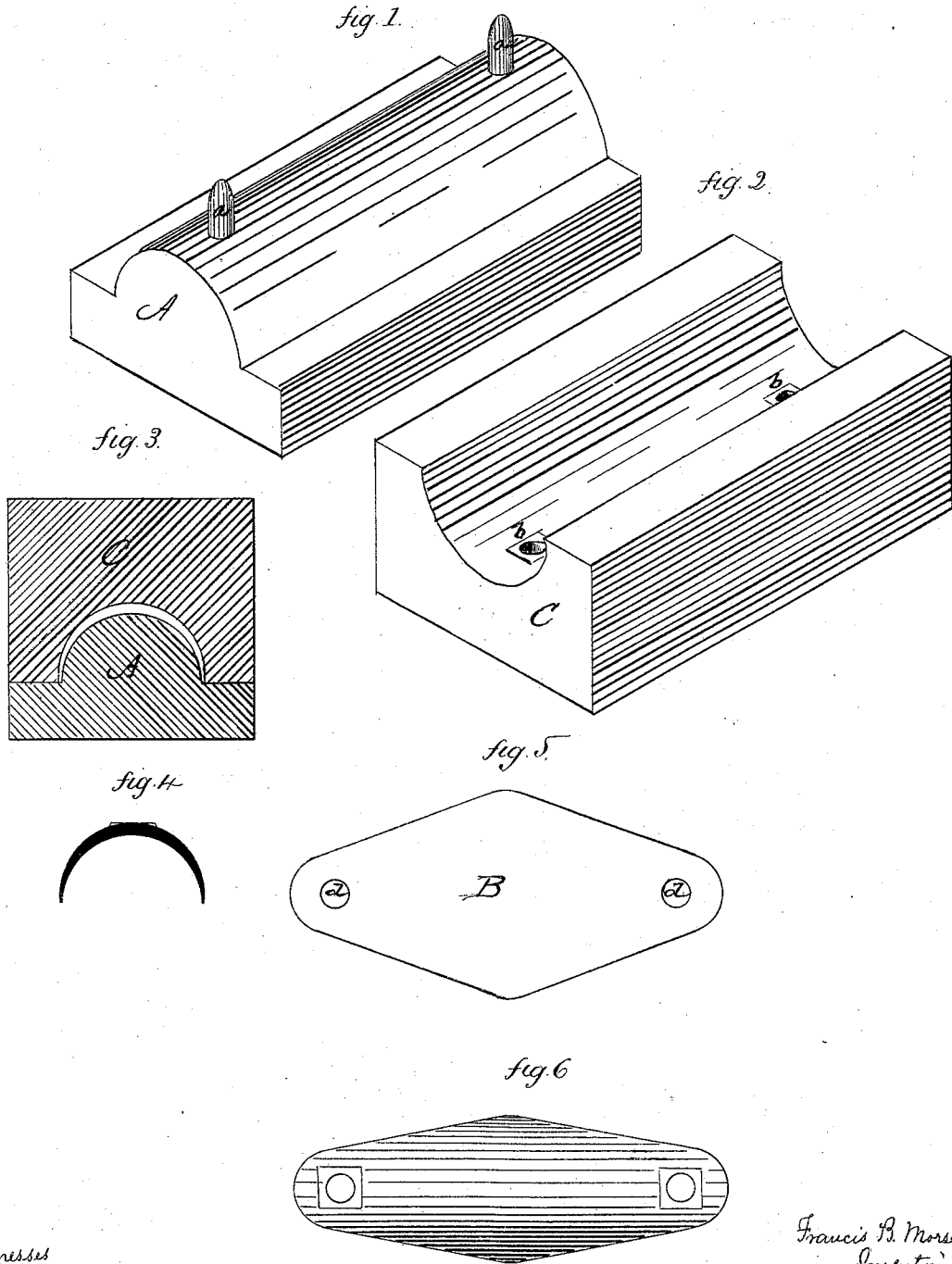


F. B. MORSE.

Improvement in Dies for Forming Felly Plates.

No. 125,751.

Patented April 16, 1872.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANCIS B. MORSE, OF PLANTSVILLE, CONNECTICUT, ASSIGNOR TO H. D. SMITH & CO., OF SAME PLACE.

IMPROVEMENT IN DIES FOR FORMING FELLY-PLATES.

Specification forming part of Letters Patent No. 125,751, dated April 16, 1872.

To all whom it may concern:

Be it known that I, FRANCIS B. MORSE, of Plantsville, in the county of Hartford and State of Connecticut, have invented a new Improvement in Dies for Forging Felly-Plates; and I do hereby declare the following, when taken in connection with the accompanying drawing and letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a perspective view of the lower die; Fig. 2, a perspective view of the upper die; Fig. 3, a transverse section of the two dies; Fig. 4, a transverse section of the plate produced by the dies; Fig. 5, the blank from which the plate is produced; and in Fig. 6, an outside view of the plate as produced finished from the die.

This invention relates to an improvement in dies for forging what are known to the trade as "felly-plates"—that is to say, the plate which is placed upon the inside of the felly over the meeting ends of the felly to hold the ends in their proper relative position. Heretofore this plate has been made of an equal thickness over its entire surface, or slightly chamfered around its edge; in either case the additional thickness of the plate is exposed and gives to the wheel at that point a bungling appearance. By my invention this difficulty is overcome; and it consists in dies, constructed as hereinafter described, to draw the plate from a point at or near the center to the edges, whereby the plate is gradually reduced from the said point to the edges, so that when placed upon the wheel the internal line of the felly is so little changed as to be scarcely perceptible. My invention consists in two dies, one being of the form of the felly at the place where the felly is to be applied, the other of a circle of slightly larger radius, but from a point eccentric to the center of the inner die, so that when one is set over the other the space between the two dies at the center will be the thick-

ness of the plate to be produced, while at the edges it will be much narrower, the space gradually diminishing from the center toward the edges, as more fully hereafter described.

A is the lower die, of the form of the interior of the plate, and is provided with two studs, *a a*, corresponding to the perforations *d* in the blank B, as seen in Fig. 5. C is the upper die, of a form relative to the lower die, as seen in Fig. 3, so that the space between the two dies, when set together, will be the greatest thickness at the center, gradually diminishing to the edges, and the said upper die constructed with perforations *b* corresponding to the studs *a* of the lower die. The blank B is cut from a sheet of suitable metal, of the form and size required for the plate, less so much as the plate will be extended in drawing, and is perforated at the two ends *d* to form the bolt holes. This flat blank is placed upon the die A, setting the perforations *d* of the blank onto the studs *a*, which retains the blank in a central position on the lower die. The upper die is struck down onto the said blank with sufficient force to curve the blank around the form, and which process, owing to the peculiar shape of the dies, as before described, not only curves the plate, but draws or extends the plate from a point at or near the center to the edges, gradually reducing the plate in thickness from this point to the edges, as seen in Fig. 4, producing the plate in external appearance as seen in Fig. 6. To form a flat surface around the bolt-holes, I make a recess in the die, which would form a projection on the plate, or make a projection in the die to produce a flat depression at that point in the plate.

I claim as my invention—

The dies A C, constructed as herein described, for forging felly-plates.

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Witnesses:

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