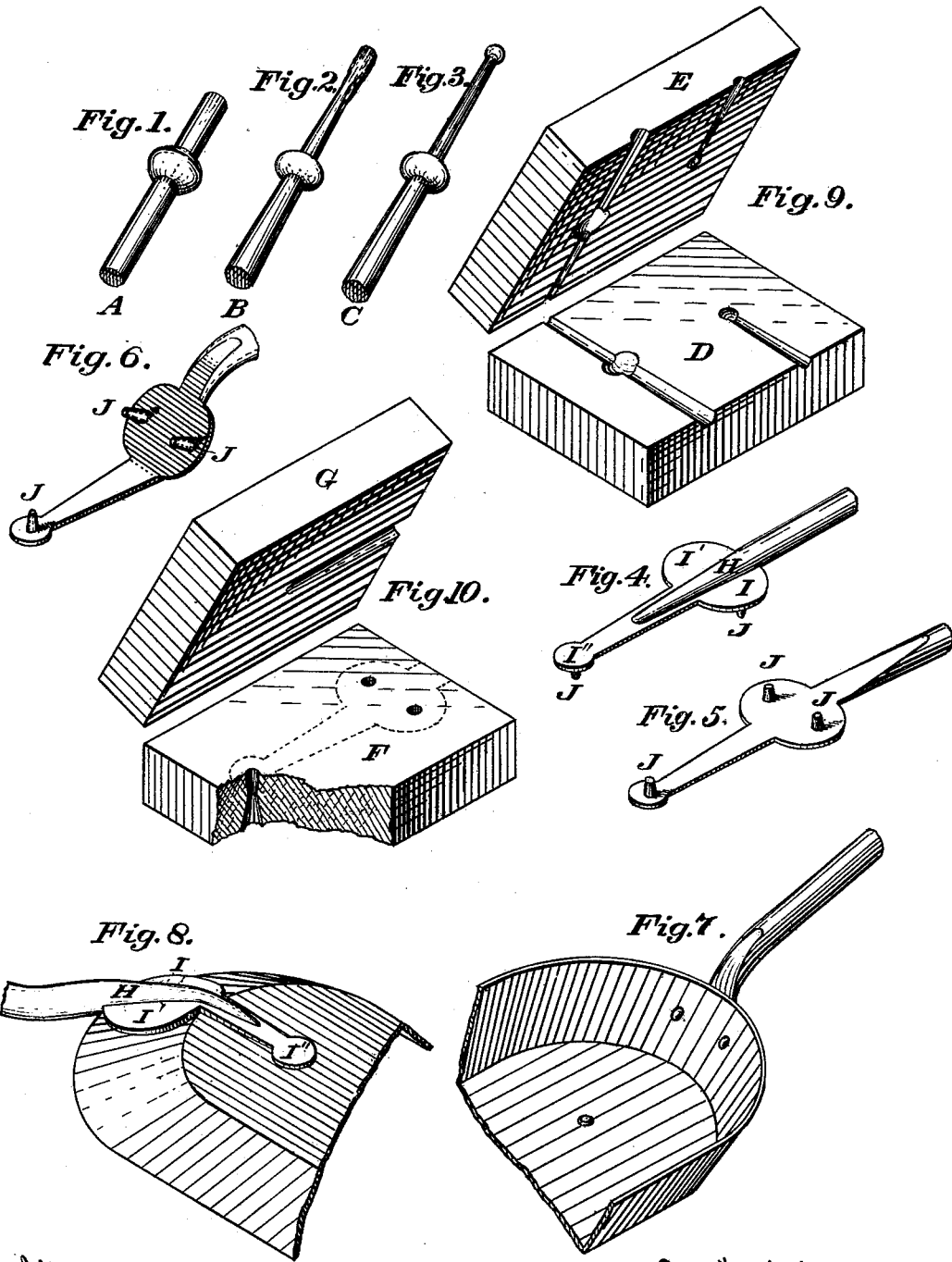


P. KIEFER.

MANUFACTURE OF FIRE-SHOVELS.

No. 188,148.

Patented March 6, 1877.



Attest  
Walter Knight,  
C. H. Knight

Patented  
My Knight Iron.  
copy.

# UNITED STATES PATENT OFFICE

PETER KIEFER, OF NEWPORT, KENTUCKY.

## IMPROVEMENT IN THE MANUFACTURE OF FIRE-SHOVELS.

Specification forming part of Letters Patent No. **188,148**, dated March 6, 1877; application filed January 4, 1877.

*To all whom it may concern:*

Be it known that I, PETER KIEFER, of Newport, Campbell county, Kentucky, have invented a new and Improved Manufacture of Shovels having Wrought-Iron Handles, of which the following is a specification:

Wrought-iron handles of shovels and like articles are commonly attached by means of two or more rivets inserted through holes in the ear or lap of the handle and in the body of the article. This mode of manufacture of course necessitates the expense of rivets and the labor of applying them, and is further objectionable in leaving the rivet-heads as inconvenient and unsightly projections from the under side of the shovel or outside of the pot, as the case may be.

The above defects I remedy by producing, in the act of swaging the lap, a number of studs or projections, in one piece therewith, which projections, being introduced through corresponding holes provided in the shovel, are then riveted on the upper or inner side thereof.

In the accompanying drawing, Figures 1, 2, and 3 represent the three successive stages of the manufacture which immediately precede that which embodies the characteristic feature of my invention. This feature—namely, the solid projections from the substance of the lap—appears in the succeeding stage, of which Fig. 4 is an under-side and Fig. 5 an upper-side view. Fig. 6 shows the swaged handle, bent ready for application to the body or arti-

cle proper—in the present illustration, a fire-shovel. Fig. 7 shows by an upper and Fig. 8 by an under view a portion of the shovel-blade with my improved handle attached. Figs. 9 and 10 represent dies employed by me in the manufacture of my improved handle, a portion of one die being broken away to exhibit the form for the swage-holes.

By means of suitable dies D E, I bring the lap end of the rod, by any proper stages, A and B, to the form C, which, being laid upon the die F, is compressed by the descent of the die G into the form shown in Figs. 4 and 5, having the spine H, ears I I', and studs or projections J. The lap, being then bent to the form shown in Fig. 6, is ready for attachment to the shovel-blade, which is accomplished by so applying the handle as for its studs to occupy the customary holes in the shovel-blade, which studs, being then riveted, serve to firmly unite the blade and handle, as shown in Figs. 7 and 8.

I claim as a new article of manufacture—

As an improvement in the art of making fire-shovels, the construction of the lap and rivets integrally with the handle, from a blank of wrought-iron of the form represented, by means of dies, in the manner described.

In testimony of which invention I hereunto set my hand.

PETER KIEFER.

Witnesses:

GEO. H. KNIGHT,  
L. H. BOND.