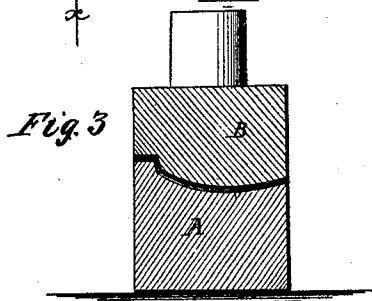
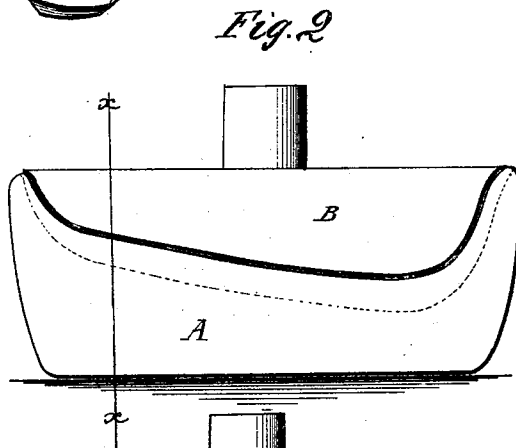
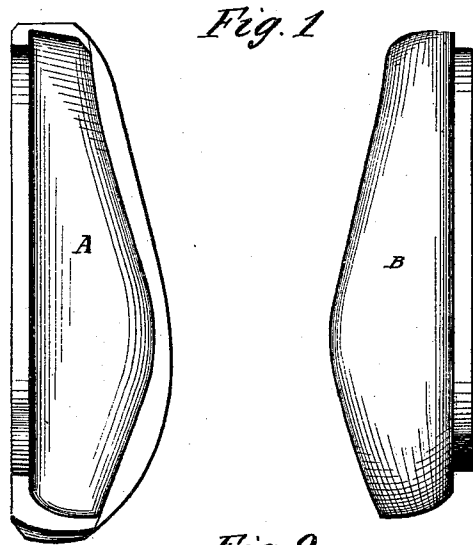


*J. W. Schwager*

*Die for Forming Horse Collar Stalls.*

*No. 110,685.*

*Patented Jan. 3, 1871.*



Witnesses:  
*A. W. Almqvist*  
*L. S. Mabee*

Inventor:  
*J. W. Schwager*  
PER *Munn & Co*  
Attorneys.

# United States Patent Office.

JOHN W. SCHWANER, OF EGG HARBOR CITY, NEW JERSEY.

Letters Patent No. 110,685, dated January 3, 1871.

## IMPROVEMENT IN DIES FOR FORMING HORSE-COLLAR SHELLS.

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 W. SCHWANER, of Egg Harbor City, in the county of Atlantic and State of New Jersey, have invented a new and useful Improvement in Dies for Forming Horse-Collar Shells; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a face view of my improved dies.

Figure 2 is a side view of the same.

Figure 3 is a detail cross-section of the same, taken through the line *x x*, fig. 2.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish improved dies for forming the shells or foundation-plates for my improved horse-collars; and

It consists in the dies, constructed as hereinafter more fully described.

A is the lower die, the face of which is concaved or

hollowed out, to give the desired form to the plate or shell.

B is the upper die, the face of which is convexed, to fit into the concavity of the die A, and thus form the plate or shell of the collar.

The face of the die B is rabbeted, as shown in figs. 1 and 3, along one edge, to receive the projecting edge of the other die A, to form a shoulder along the inner edge of the plate or shell, as shown in fig. 3.

By these dies the shells or foundation-plates of the collars may be quickly, easily, conveniently, and accurately formed of a piece of sheet metal cut out into the proper shape.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The improved dies A B, for forming the shells or foundation-plates of horse-collars, said dies being constructed substantially as herein shown and described.

Witnesses: JOHN W. SCHWANER.

HEINRICH BOENGE,  
AUGUST STEPHANY.