

T. Considine,

Molding Apparatus.

No 50,340.

Patented Oct. 10, 1865.

Fig. 2

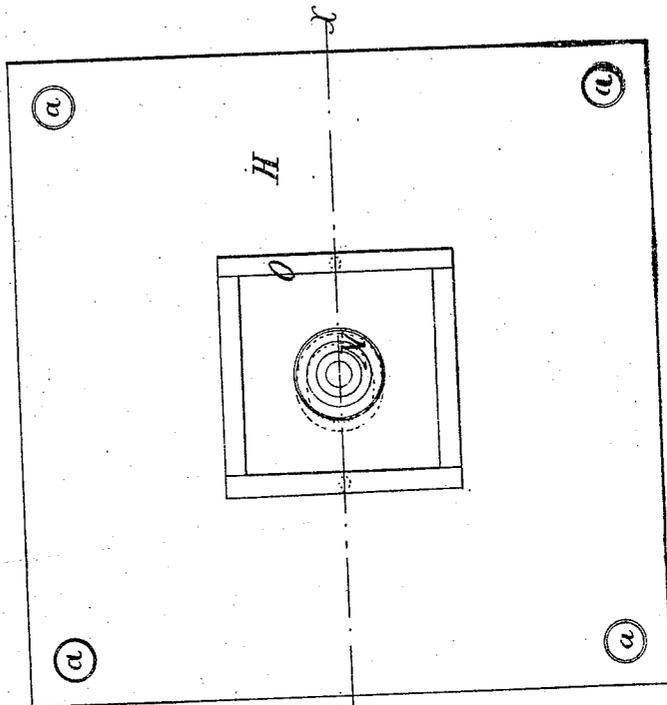
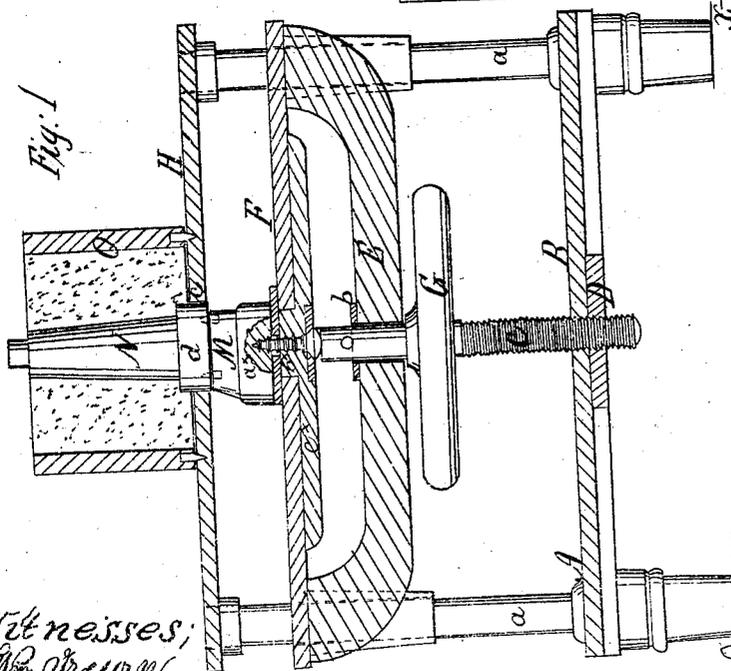


Fig. 1



Witnesses;  
W. Brown  
Fred. J. Smith

Inventor  
T. Considine  
By *[Signature]*  
*[Signature]*

# UNITED STATES PATENT OFFICE.

THOMAS CONSIDINE, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN CASTING SKEINS OF WAGON-BOXES.

Specification forming part of Letters Patent No. 50,340, dated October 10, 1865.

To all whom it may concern:

Be it known that I, THOMAS CONSIDINE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Casting Skeins and Boxes for the Axles of Wheel-Vehicles; 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 drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a vertical section of my invention, taken in the line *xx*, Fig. 2. Fig. 2 is a plan or top view of the same; Fig. 3, Sheet No. 2, a longitudinal section of a skein and box cast according to my invention; Fig. 4, a vertical section of the flasks in which the mold for the skein is formed; Fig. 5, a vertical section of the flasks in which the mold for the box and nut is formed; Fig. 6, a vertical section of the mold in which the core for the skein is formed; Fig. 7, a vertical section of the mold in which the core for the box is formed.

Similar letters of reference indicate like parts.

This invention relates to a new and improved mode of casting or forming molds for the casting of metal skeins and boxes for the axles of wheel-vehicles; and it consists in a novel means employed for adjusting the patterns, constructing and arranging the same relatively with the flasks, whereby the forming of the molds is greatly expedited and very perfect and superior castings obtained.

A, Fig. 1, represents a framing composed of four vertical posts, *a*, having a horizontal platform, B, near its lower part, and a vertical screw, C, which works in a nut, D, at the center of the platform, the shaft on which the screw is cut passing up through a bar, E, on which a platform, F, is secured, and through which platform the posts *a* of the framing pass loosely. The screw-shaft below the bar E has a hand-wheel, G, keyed upon it, and above said bar it has a key, *b*, passing through it, so that by turning the wheel G the platform F may be raised and lowered. This will be fully understood by referring to Fig. 1. On the tops of the posts *a* of the framing A there is placed a horizontal platform, H, having a hole, *c*, at its center to admit of the lower parts of the

patterns passing through, and corresponding in shape to said patterns, so as to fit snugly around them.

I will first proceed to describe the manner of forming the mold for the skein I and socket J, (shown in Fig. 3,) and which are both cast in one piece.

The lower part of the socket J, or the inner part when viewed in a horizontal position on the axle, has its mold in a flask placed on a box, K, (see Fig. 6,) which contains the mold K' for forming the core of the skein and socket. This portion of the mold, with its flask, is designated by L, Fig. 4. The part *a'* of the mold above the box K serves as a pattern for the inner part of the socket-mold, as will be perfectly understood by referring to Figs. 4 and 6. The other part of the mold for the socket is formed by a pattern, M, which is screwed on the center of a block, *a*<sup>x</sup>, having an arbor, *b*<sup>x</sup>, which passes through the center of platform F, and has a wheel, *c*<sup>x</sup>, attached, and on the platform H a flask, L', is placed and filled with sand around M, the latter being raised the required distance through hole *c*. This portion of the mold is placed on L, and completes the mold for the socket, as shown in Fig. 4.

The mold for the skein is formed by a separate pattern, N, screwed on pattern M and passing up through the hole of a platform similar to H.

By turning the screw C the platform F, and consequently the pattern N, may be raised or lowered as desired, and it is adjusted so that the collar portion *d* will project the required distance above the upper surface of platform H. A flask, O, is then placed on platform H and filled with sand around the pattern, and when filled the pattern is turned by turning the wheel *c*<sup>x</sup>, and the sand around the pattern made perfectly smooth. The flask O is then placed on flask L', as shown in Fig. 4. The mold for the screw of the skein is in a flask, P, and is formed in the usual way. The patterns M N may be withdrawn from their flasks by screwing down the platform F.

The core for the skein and socket is formed in the mold K' in box K (shown in Fig. 6) in one operation with the formation of the mold for the inner end of the exterior of the socket, as previously alluded to. This mold K' may

be of metal and fitted in the box K in such a manner that it may be readily withdrawn when required.

The pattern for the box Q is made of a form corresponding to the exterior of the latter, and is fitted on the block  $a^x$  like the pattern M, and raised and lowered through a platform like H. A flask, R, is placed on this platform and filled with sand around the pattern.

The core for the box is formed in a mold (shown at T in Fig. 7,) and it is composed of two equal parts fitted in a box, U. This mold is formed with a recess or sunken portion,  $e$ , extending all around it, as shown in Fig. 7, so that the core will have a corresponding circumferential projection, and cause the box to be cast with an internal recess,  $f$ , corresponding to that,  $e$ , of the mold, said recess  $f$  serving as an oil-chamber, as shown clearly in Fig. 3. The forming of the mold T in two parts admits of the core being made with the projection to form the oil-chamber in the box.

By this mode of forming the molds for the skeins and boxes the work may be expeditiously performed, and in a superior manner. The turning of the pattern N is an important feature, as it smooths the interior of the mold formed by said pattern, and causes the skein to be cast with a smooth exterior, and dispenses with the necessity for rapping the pattern in drawing it, which rapping in the com-

mon way of molding not only scars the inner surface of the mold, but causes the pattern to settle down in the sand, and hence results in variation and inaccuracy in the length of the skeins or other articles produced.

In practice I frequently employ racks and pinions instead of the screw C shown in the drawings, and form a number of molds at one operation, the runner being located in the center, with gates communicating to the several molds, and the patterns for said gates and runner being withdrawn from the sand by the same operation already described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The screw C, connected with a platform, F, and placed in a suitable framing, A, in connection with the rotary block  $a^x$  in the platform F, all arranged substantially as shown, for raising and lowering and for rotating the pattern, for the purpose specified.

2. The mold  $K'$  for the core of the skein and socket, having a pattern,  $a'$ , to form the mold for the inner end of the exterior of the socket J, when used in combination with the match board or box K and flask L, as described.

THOMAS CONSIDINE.

Witnesses:

J. C. THAYER,  
MICHAEL HANLON.