

E. F. Hurlbut,

Casting Thimble Skeins.

N^o 32,399.

Patented May 21, 1861.

Fig. 2.

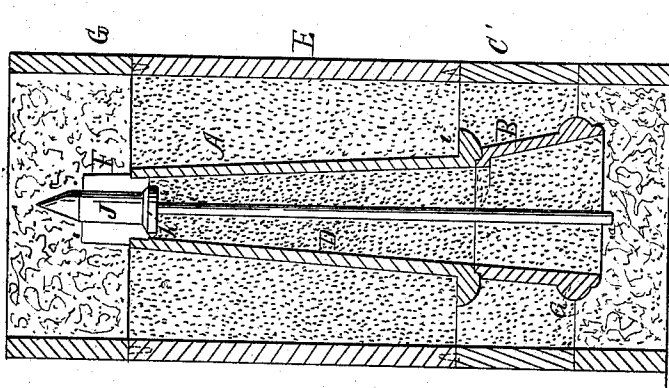


Fig. 3.

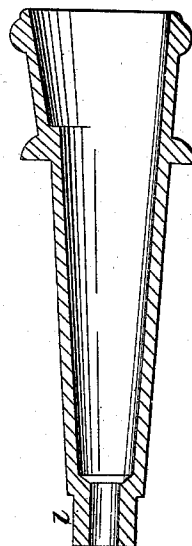
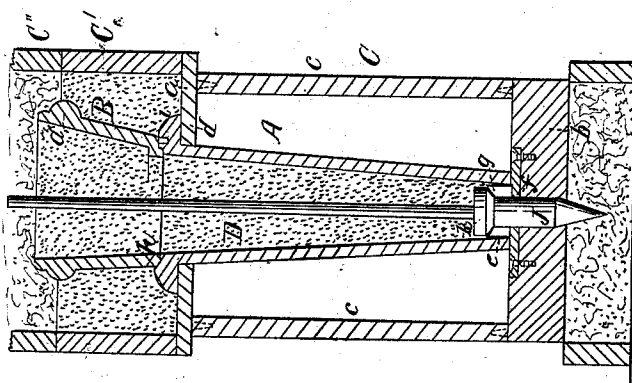


Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SAME PLACE.

IMPROVEMENT IN PATTERNS FOR THIMBLE-SKEINS.

Specification forming part of Letters Patent No. 32,399, dated May 21, 1861.

To all whom it may concern:

Be it known that I, EDWIN F. HURLBUT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Molding Thimble-Skeins for Axles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2 are vertical central sections of the flasks and pattern, showing the process of forming the mold; Fig. 3, a detached longitudinal section of the thimble-skein.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in the pattern used in making thimble-skeins, by which, while enabled to mold the same vertically, the cost of producing an increased or decreased shoulder to fit different-sized wood axles is much cheapened, and the method of adjusting the green sand cores, so that they will be truly vertical, and thus produce a casting of even thickness.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

The thimble-skein pattern is made in two parts, A B, separated at the collar or flange *i* of the skein. The part marked A, I term the "axle-pattern," and that marked B the "butt" or "shoulder" pattern, both together producing the skein-pattern in its perfect form. The advantage claimed and derived by this mode of making the pattern over all other modes, whether vertical or horizontal, is that frequent changes are made in the size of wood axles to be fitted with skeins; and heretofore it has been necessary, in order to suit all such cases, to have different patterns. By my method an axle-pattern once made is sufficient for that size, and the butt or shoulder pattern alone is required new. This pattern is of small cost, quickly made, and thereby saves large expense for patterns over any other mode.

The follow-board C may be made in such form as any foundryman may choose to answer the purpose designed. I use two boards, *a b*, one raised above the other by means of studs *c c* to a height equal to the length of the axle-

pattern, with a hole, *d*, through the upper board, and under and immediately below the same, fast to the under board, a small casting, *e*, which fits the inside of the small end of the axle-pattern, having a hole through it of just the size of the points or cylinders used in my cores, hereinafter to be described.

D is a metal rod, which has a cylinder, *j*, of enlarged diameter at its lower end, as shown in Figs. 1 and 2. This cylinder is pointed in conical form at its outer end, and at its inner end there is a conical shoulder, *k*, which corresponds inversely in form to the upper beveled or flaring end, *g*, of the casting *e*.

The manipulation is as follows: The axle-pattern is inserted in this hole of the upper board, its end covering the previously-described casting below. Now place the butt or shoulder pattern B upon the axle-pattern A in proper position, place the butt-check C' upon the follow-board C, and the self-adjusting core-bar D and point or cylinder *j* dropped into the hollow of the pattern will assume a perpendicular position in the center of the pattern. This point or cylinder is of either cast or wrought iron, (cast preferred,) varying in length and size with the size of the skein to be made, but is generally from one-half ($\frac{1}{2}$) to three-fourths ($\frac{3}{4}$) of an inch in diameter, and from one (1) inch to three (3) inches long, shaped conical at its end, with a rod of iron one-fourth ($\frac{1}{4}$) or three-eighths ($\frac{3}{8}$) diameter extending from the base, which may be from two-thirds ($\frac{2}{3}$) the length of both patterns to even longer than the patterns, as convenience dictates. A small rod is put into the hollow patterns, one end near the center of the base of the point or cylinder above described, and of sufficient length to extend through the bottom board after the different parts are molded. Fill and ram evenly the inside of the patterns with sand for the core. When the core is finished, ram up the check-flask C', already in place, making a parting at the center of the band on the butt or shoulder pattern, place the nowel C'' of the flask in position, and ram it up, the mold of the core and of the nowel uniting as one, place the bottom board in position, clamp the flask ready for reversing position, draw the vent-rod and reverse. Take off the follow-board, place the axle-check E of

flask in position after the parting made by the follow-board is completed. Upon the end of the axle-pattern now exposed place tip of wood or iron F, which shall form when the casting is produced that part where the thread is cut, (designated by *l* in Fig. 3,) the same having a hole in it to let through the point or cylinder *j*, previously mentioned. Ram up the flask and make parting at the top or small end of axle-pattern. Place the cope G in position and ram it up in usual form.

The gates where the iron is poured I generally place in the center of my flask, pouring the iron into the mold at the band; but others may prefer a different method. Take off the cope and the tip F will lift with it, draw the same from the cope, take off the axle-check after having rapped the ends of the pattern to loosen it, draw the axle-pattern perpendicular, lift the butt-check of the flask, draw the butt-pattern, the gates being cut, replace each

division of the flask, and the work is complete.

In case the green sand cores lean or incline from the center of the mold, the point by its peculiar shape will, when the cope is placed, force the core into its proper vertical position, and is by this means a self-adjuster to the green sand cores.

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

Constructing the pattern of two parts, A B, substantially as shown, so that different shoulder or butt parts, B, may be used with one and the same axle part, A, as and for the purpose set forth.

EDWIN F. HURLBUT.

Witnesses:

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