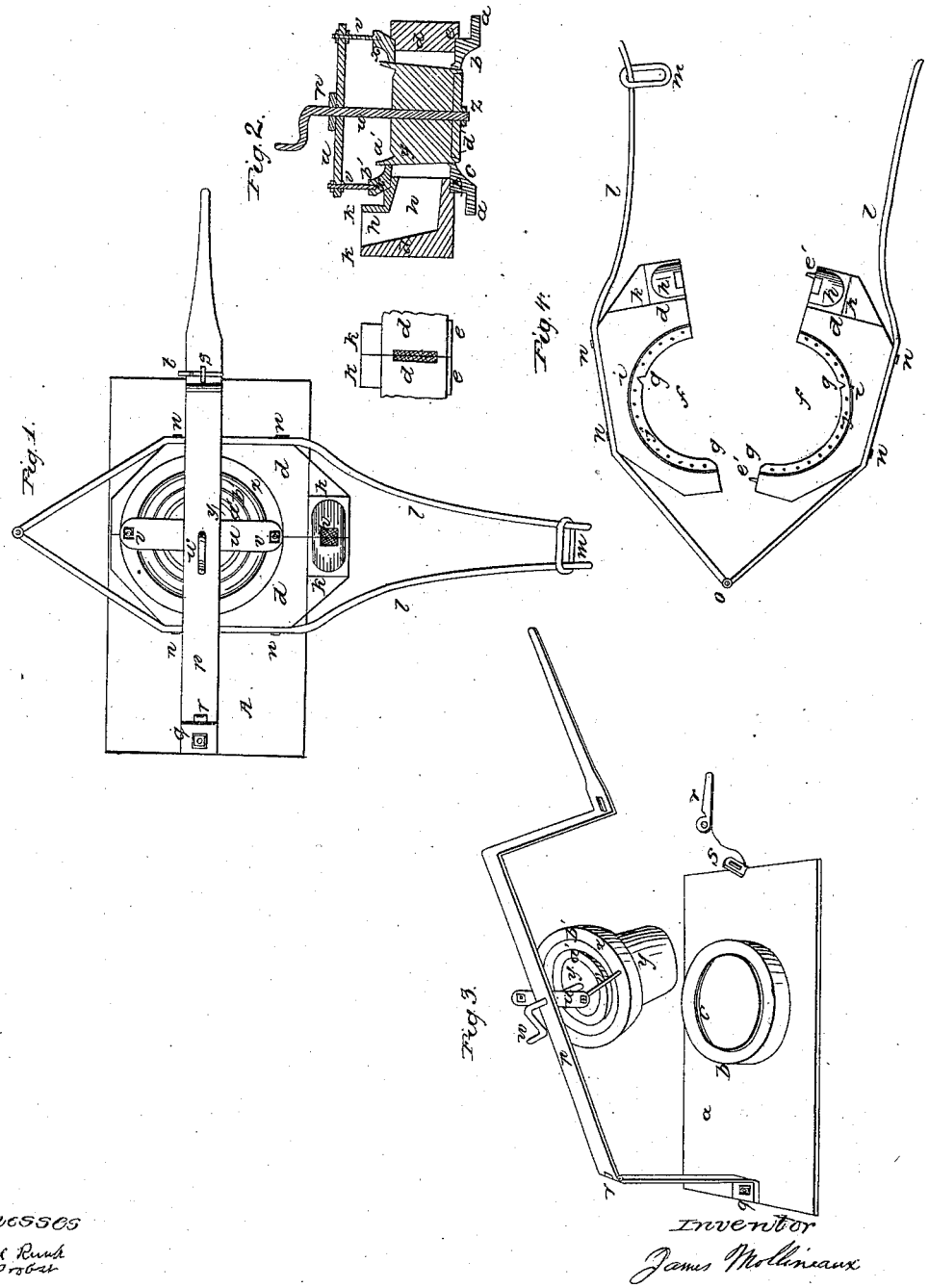
J. Mollineaux,

Casting Wagon Boxes.

No. 3,169. Patented July 12, 1843.



Witnesses

Samuel Rush
Geo Proctor

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UNITED STATES PATENT OFFICE.

JAMES MOLLINEAUX, OF NORTHAMPTON, PENNSYLVANIA.

IMPROVEMENT IN MOLDS FOR CASTING WAGON-BOXES.

Specification forming part of Letters Patent No. **3,169**, dated July 12, 1843.

To all whom it may concern:

Be it known that I, JAMES MOLLINEAUX, of Northampton, in the county of Lehigh and State of Pennsylvania, have invented a new and useful Improvement in Casting Boxes for Carriage-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan; Fig. 2, a vertical section; Fig. 3, a perspective of core and upper and lower plate with jaws removed; Fig. 4, a top plan of jaws.

The mold in which I cast the boxes is constructed as follows: An oblong plate or lower plate, *a*, is formed with a hole, *c*, through it at its center, around which a rim, *b*, projects up, the top of which is wide enough to receive the jaws *d*, which fit over it, and also to form the edge of the box to be cast. Around the inner edge of this rim there is a bead raised, and its under part is cut out at *c'*, (see Fig. 2,) so as to make it thin at that point *d*, a pair of jaws, the inside of each of which is rabbeted at its lower edge, so as to fit onto the rim *b*, (see *e*, Fig. 2.) The rest of the jaws, up to another rabbet around their upper edge, form on their inner surface, when closed, a hollow truncated cone of the height of the box required, and intersected vertically with three triangular grooves, *g*, at equal distances from each other, to form the ears on the box. In the rabbet *j* above, a number of holes are drilled downward, to render the metal of the side of the mold less solid at that point, and on one side there is a projection (half on each jaw) in which the gate *h* is made. This projection rises up a little beyond the top of the jaws, as shown at *k*, Fig. 2, where the metal is poured in. The opening of this gate or opening into the mold is a narrow vertical slit, *h*, running from top to bottom, so that when the casting cools the effect of the contraction shall be equal, which is necessary to form a perfect casting.

e' represents the steady-pins in the side of the jaws. (See Fig. 4.) The jaws are closed and held together by wrought-iron levers, which are jointed together at one end, *o*, and bend round on each side of the jaws, which they are attached to at *n* by bolts. They then project beyond the jaws, gradually curving in toward each other and forming handles *l*. When the jaws are closed, these handles are connected by a ring, *m*, passing over both.

Over the jaws before described there is a horizontal bar, *p*, passing over the center of the cone in the jaws. One end of this bar is jointed to the upper end of a standard, *q*, which is bolted upright to the lower plate, *a*. The other end of the bar is bent down at right angles to the same plate on the other side of the jaws, where it is again bent at right angles, the end being horizontal. At the point of the last-named angle a slot is cut in the bar, through which a staple, *s*, attached to plate *a*, passes. This staple receives a key, *t*, which secures the bar down to its place.

Directly over the jaws there is a horizontal cross-piece, *u*, which is fixed to the bar *p*, and at right angles to it. Through a hole in each end of the cross-pin *u* rods *v* pass. These are connected with a ring, *x*, below, which I denominate the "top plate." On the upper ends of the rods a screw is cut, on each of which two nuts are fitted, one above and the other below the cross-piece *u*, by which the length of the rods between the cross-piece and top plate is regulated, so that when the bar *p* is brought down to its place the top plate will bear on the rabbet *j* in the upper edge of the jaws and hold them down tight.

Through the center of the ring or upper plate, *x*, a core or mandrel, *y*, is put, the shape of which is tapering, corresponding with the form of the inside of the box to be cast. Both ends of this core are turned out, so as to leave very little metal at that point *a'*, which prevents the box from being so much chilled there, as it would otherwise be, which, together with the gradual thinning of all sides of the mold toward the end, produces a more regular chill throughout the box.

Through the center of the core *y* a rod, *w*, passes, having a washer, *z*, on its lower end. On the part of this rod which projects above the core a screw is cut, which screws into a nut cut in the cross-bar *p* above, the upper end of the rod being bent into a crank. By means of this rod the core can be raised or lowered at pleasure.

When the mold is brought into use, the jaws are closed together and fastened by the ring *m*. The bar *p* is also fastened down by the staple

and key, bringing the top plate into place and bearing down upon the jaws. The core is then screwed down to its place and the mold is ready to receive the melted metal. The mold thus complete is shown at Figs. 1 and 2. As soon as the mold is filled, the screw *w*, holding down the core, is started and gradually turned, drawing out the core as the metal contracts in cooling till the core is drawn out. The mold is then opened and the box taken out, after which the parts are returned to their places, and the same operation is again performed, by which means boxes of the most perfect description are made.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the jaws *d* and top and bottom plates, *a* and *x*, with the movable core constructed and arranged in the manner and for the purpose substantially as herein described.

2. In combination with the above, the gate *h*, opening into the side of the mold, with a long narrow mouth, reaching nearly from top to bottom of the casting, in the manner and for the purpose before specified.

JAMES MOLLINEAUX.

Witnesses:
JOHN HITZ,
J. J. GREENOUGH.