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**Walworth**

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(54) **BLOCKS,SHEAVES,MOULDING BUSHES**

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# Thomas D'Arcy
## Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words following, that is to say: Thomas D'Arcy hereinafter called the Inventor hereby declares the nature of this invention for improved apparatus for moulding bushes or cups for thimbles or bottles and the manner in which the same is to be performed is particularly described and ascertained as follows:

The apparatus for moulding bushes or cups for thimbles or bottles consists of a flask, such as is generally used by moulders of any convenient size, and four boards or plates of metal, filling the size of the flask. The first board has the flange part of the patterns attached to it with holes through the centre of the pins and board of sufficient size to admit the barrel part of the patterns, and with holes for rivet bolts through the flanges one near each centre pin and through the board. The holes for the pattern pins are bored to the centre of the board exceeding to each flange part of the bushes or cups. There are four steady pins to this board two on opposite ends to agree with holes in the flask. The second board or plate has as many pins attached to it as there are rivet holes in the flanges on the first boards and of sufficient length to pass through the first boards into the flanges the depth of the countersinkes, leaving a space between the first and second boards equal to the thickness of the flanges on the first board, which space is formed by four steady pins (two on opposite ends) attached to the second board passing through the first board and resting on the flask. There are also holes in this board to agree with holes in the first board at the centre of the pins. The third board or plate has the barrel part of the patterns attached to it as many in number as there are flanges on the first board) of sufficient length to pass through the second and first boards, and there the centre of the flanges so as to form the exact shape and size of the bushes or cups on the first board. The fourth board has as many pins attached to it as there are barrels attached to the third

board of a size to agree with the inside of the barrels and of sufficient length to extend into the barrels passing through the third and second and first boards, leaving a space between the fourth and third boards equal to the length of the barrels below the flanges on the first board, which space is formed by four pins, two on opposite ends attached to the fourth board passing through the third and second boards and resting on the first board. The fifth board placed on it to form the countersink to the wood holes on the flanges. The precept for moulding the heads or caps, is by placing that part of the flask, commonly called the mould, in a convenient place for moulding with the holes for the steady pins uppermost, then the first board (to which is attached the flange part of the patterns) is placed on the flask the steady pins in the board filling the holes in the flask to keep it from warping. Then the second board is placed on the first board, the third on the second and the fourth on the third, two narrow strips of wood are laid between the fourth and third boards (of sufficient thickness to fill the space) to prevent any variation by the pressure of the sand while moulding; then by having the boards and flasks over the exact shape and size of the bushes or caps are to be seen on the first board, the sand is then thrown forcibly into the flask (on the patterns) until the flask is full, a board is then placed on the flask and the whole is turned bottom up, the two strips of wood between the fourth and third boards are taken out, and the fourth or top board (to which is attached the pins that extend into the barrel part of the patterns) is kept firmly to its place to prevent the sand moulded in the barrels from rising while the third board, to which is attached the barrel part of patterns is drawn up to the fourth or top board, then the two boards fourth and third are taken off; then the second board (to which is attached the pins that fill the wood holes in the flanges) is kept firmly to its place to prevent the sand that form the wood holes in the flanges from rising while the first board (to which is attached the flange part of the patterns) is drawn up to it, the second and first boards are then taken off

and this part of the mould is finished. The other part of the flask (commonly called the cope) is moulded on the eighth board which has the brass in it to form the countersinks to agree with the rivet holes in the flanges. A sprue is moulded in the centre of this part of the flask to agree with the gates on the other part, this part of the flask is then placed on the other part of the flask, and the mould is then ready to admit the melted metal. Another board or plate may be added to the five already mentioned with holes in it the size of the flanges for the flange plates to draw through to prevent the sand from breaking. When the cores and patterns are placed ready for the sand to be thrown in, steel cores may be placed in the barrels instead of sand which makes the casting very hard and smooth. This principle of moulding applies to carriage boxes bed hinges and most other small articles.

Witnesses)
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