J. E. WILCOXEN.

MOLDING MACHINE.

APPLICATION FILED AUG. 31, 1911.

1,015,463.

Patented Jan. 23, 1912.

3 SHEETS—SHEET 1.

Fig. 1.

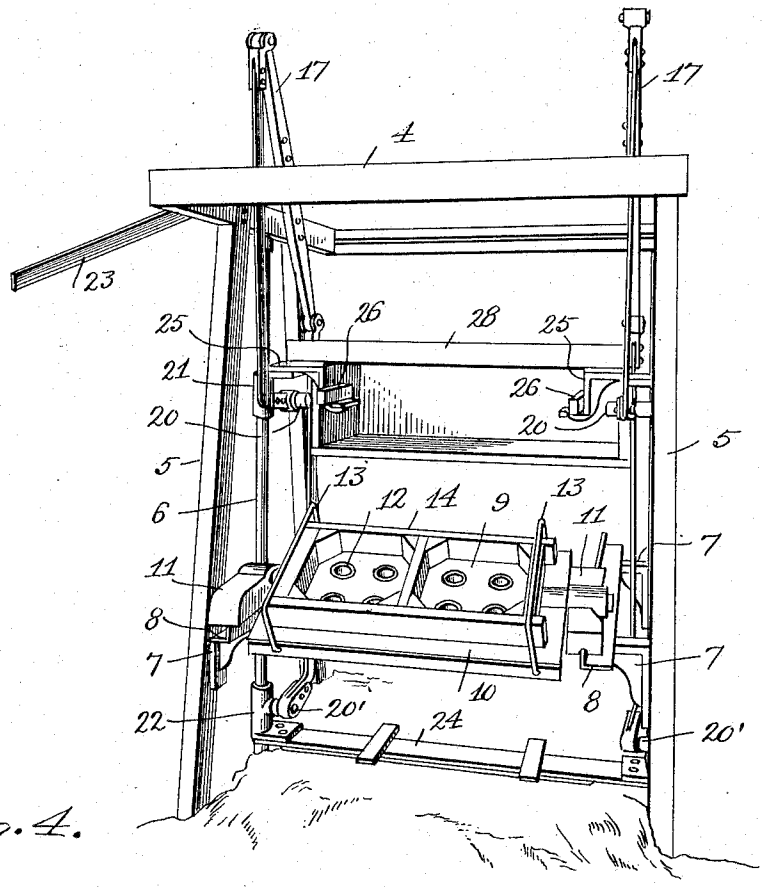
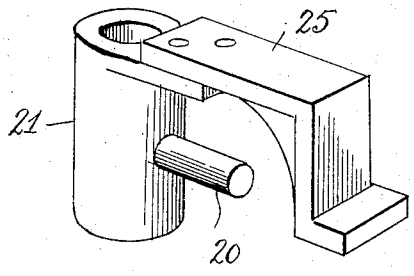


Fig. 4.



Witnesses

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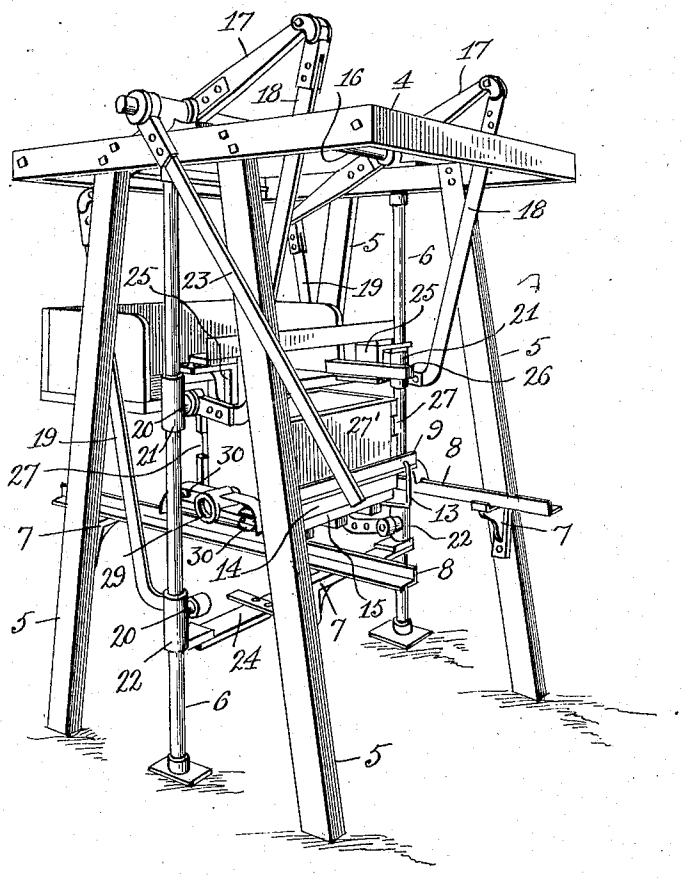
3 SHEETS—SHEET 2.

Fig. 2.



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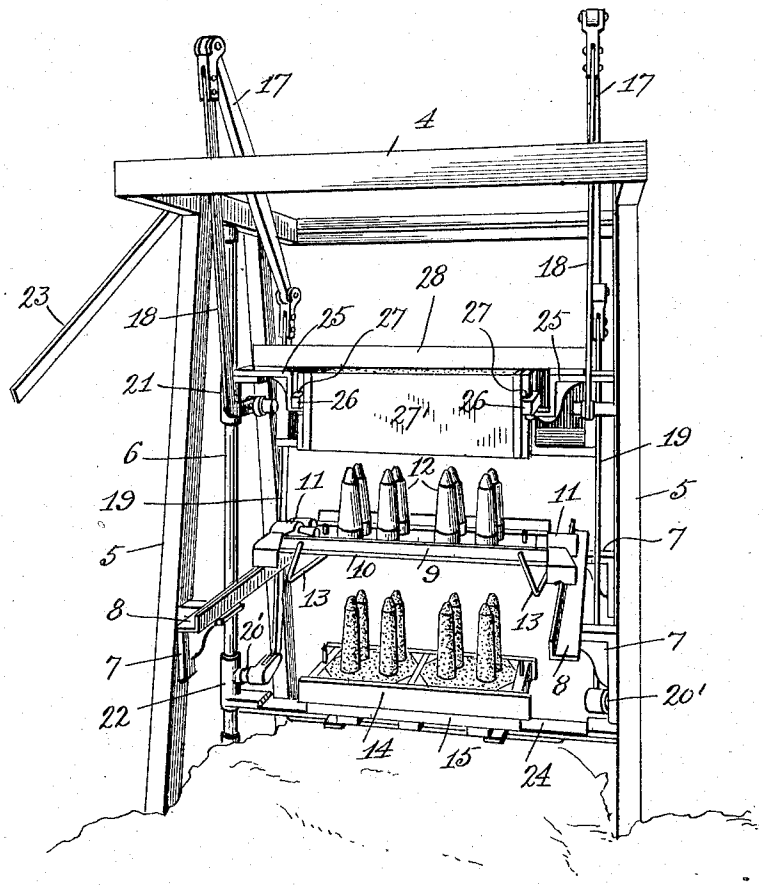
3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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MOLDING-MACHINE.

1,015,463. Specification of Letters Patent. Patented Jan. 23, 1912.

Application filed August 31, 1911. Serial No. 646,956.

To all whom it may concern:

Be it known that I, JOHN E. WILCOXEN, citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Molding-Machines, of which the following is a specification.

This invention relates to improvements in molding machines and has for its particular objects to provide means whereby articles can be molded with accuracy and rapidity. These and other objects hereinafter set forth and claimed, are attained by the means illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of my improved device, the parts being adjusted in position for filling the drag of the flask. Fig. 2 is a like view showing the parts after the flask is entirely filled. Fig. 3 is a similar view showing the drag and the cope of the flask separated from the pattern. Fig. 4 is a detail view of one of the sliding sleeves with its bracket.

Like reference numerals in all of the figures of the drawing designate the same parts.

This device is especially adapted for preparing molds for casting axle skeins and is constructed to support a movable pattern which is adjustable to and from the members of the flask and means for separating said members from said pattern and for closing said members after the pattern is removed.

As preferably constructed the machine embodies a frame 4, having the standards 5, and vertical guide rods 6 located between the standards 5 at each side of the frame. Secured upon brackets 7, which are fixed to the standards 5, are the rails or supports 8 upon which the pattern 9 is adapted to move back and forth, said pattern comprising a base 10, rotatably mounted upon suitable trucks 11, having secured thereon the hollow skein forms 12, and bails 13, said bails being adapted to retain the drag 14 and its removable platen 15, in close relation to said pattern.

A rock shaft 16 is suitably mounted centrally across the top of the main frame and has secured thereto at each end, the walking-beams 17, to the ends of which are pivoted links 18 and 19, one set being shorter than the other set, and the lower ends of these links are mounted upon studs 20 and 20′, projecting from sleeves 21 and 22 respectively, which are adapted to slide freely upon the guide-rods 6, the former adapted to operate above the plane of the rails 8 and the latter below said rails. The rock-shaft 16 has also secured to it, an operating lever 23, which when raised or depressed, slides the sleeves 21 and 22 in opposite directions. Sleeves 22 carry and are connected together by a platform 24, which is adapted to support the drag of the flask during certain periods of the operation of forming the skein molds as will hereinafter be set forth. Sleeves 21 are provided with brackets 25 which support the adjustable supporting or lifting bars 26, and said bars are adapted to engage notches 27 in the edges of the cope 27′ of the flask, the brackets 25 being braced to each other with the angle iron 28.

The trucks 11 are formed of journals 29 which are extended at each side and provided with rollers 30, as shown in Fig. 2.

In operation, assuming that the parts of the flask are separated and the pattern in a position therebetween with the skein forms projecting upwardly, the pattern is rotated and the drag is placed on the bottom side thereof as shown in Fig. 1. The drag and the skein forms are then filled with the core forming material, thoroughly tamped, the platen placed thereon and secured in position by the bails 13, and the assembled parts then reversed with the skein forms in the position above described. The cope is then placed in position around the skein forms, said position being determined by suitable dowel pins and the sides of the pattern, filled with the core material and tamped, thus completing the filling of the flask around the pattern, as shown in Fig. 2. Operating lever 23 is now manipulated bringing the frame 24 in close relation under the drag, and the lifting bars 26 adjacent to the notches in the cope, which are then inserted in said notches. By reversing the operating lever after the bails 13 have been turned to one side from their engagement with the drag, the drag descends supported by the frame 24, and the cope ascends carried by the lifting bars 26, freeing the pattern from the flask in a position to be moved out of alinement, as shown in Fig. 3. The operating handle is then manipulated again, bringing the two parts of the flask together with absolute accuracy, with the skein cores

projecting into the cope of the flask, in a position to form a perfect casting. After the parts of the flask are brought together, as last described, they are clamped to each other in the usual manner, the lifting bars 26 are removed from the notches in the cope, and the handle again reversed, thereby lowering the flask and contents in a position to be removed for casting.

While the invention has been described for skein molding, it is obvious that it is applicable to other forms wherein a two part flask is employed or a vertical core is used.

Having thus fully described the invention, what is claimed is:

1. A machine of the character described, comprising a support, a movable pattern truck thereon, a separable flask comprising a cope and drag, and a pivoted means for simultaneously moving said cope and drag in opposite directions.

2. A machine of the character described, comprising supports, a rotatable pattern mounted upon trucks which are adapted to engage said supports, a separable flask comprising a cope and drag, means for securing one part of the flask to the pattern, and a pivoted means for simultaneously moving said cope and drag in opposite directions.

3. A machine of the character described, comprising a frame, supports fixed to said frame, trucks carrying a rotatable pattern and adapted to move on said supports, guide-rods, sleeves on said guide rods, means fixed to said sleeves for supporting the parts of a flask comprising a cope and drag, and a pivoted means for simultaneously moving said cope and drag in opposite directions.

4. A machine of the character described, comprising a frame, supports fixed to said frame, trucks carrying a rotatable pattern and adapted to move on said supports, guide rods, sleeves on said guide rods, means fixed to said sleeves for supporting the parts of a flask, means for simultaneously moving said sleeves in opposite directions, said moving means embodying a shaft, walking-beams secured thereto, and links connecting the ends of said walking-beams with said sleeves.

5. A machine of the character described, comprising a frame, supports fixed to said frame, trucks carrying a rotatable pattern and adapted to move on said supports, guide rods, sleeves on said guide rods above and below said supports, means fixed to said sleeves for supporting the cope and drag of a flask, and a pivoted means for simultaneously moving said cope and drag in opposite directions.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN E. WILCOXEN.

Witnesses:
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C. W. THRESH.