

No. 632,249.

Patented Sept. 5, 1899.

H. C. COOPER.  
MOLDING MACHINE MOLD.

(Application filed May 31, 1899.)

(No Model.)

Fig. 1.

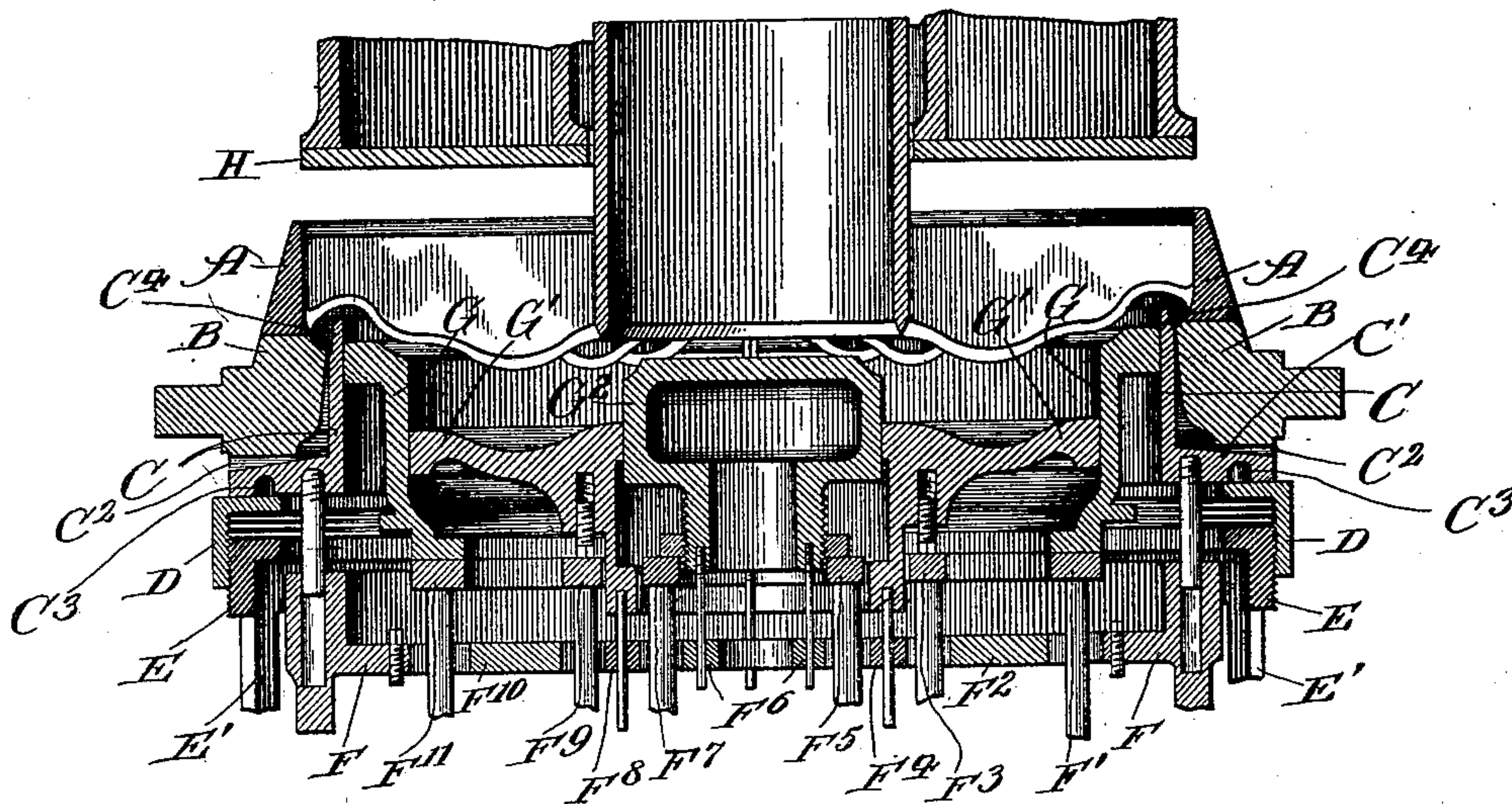
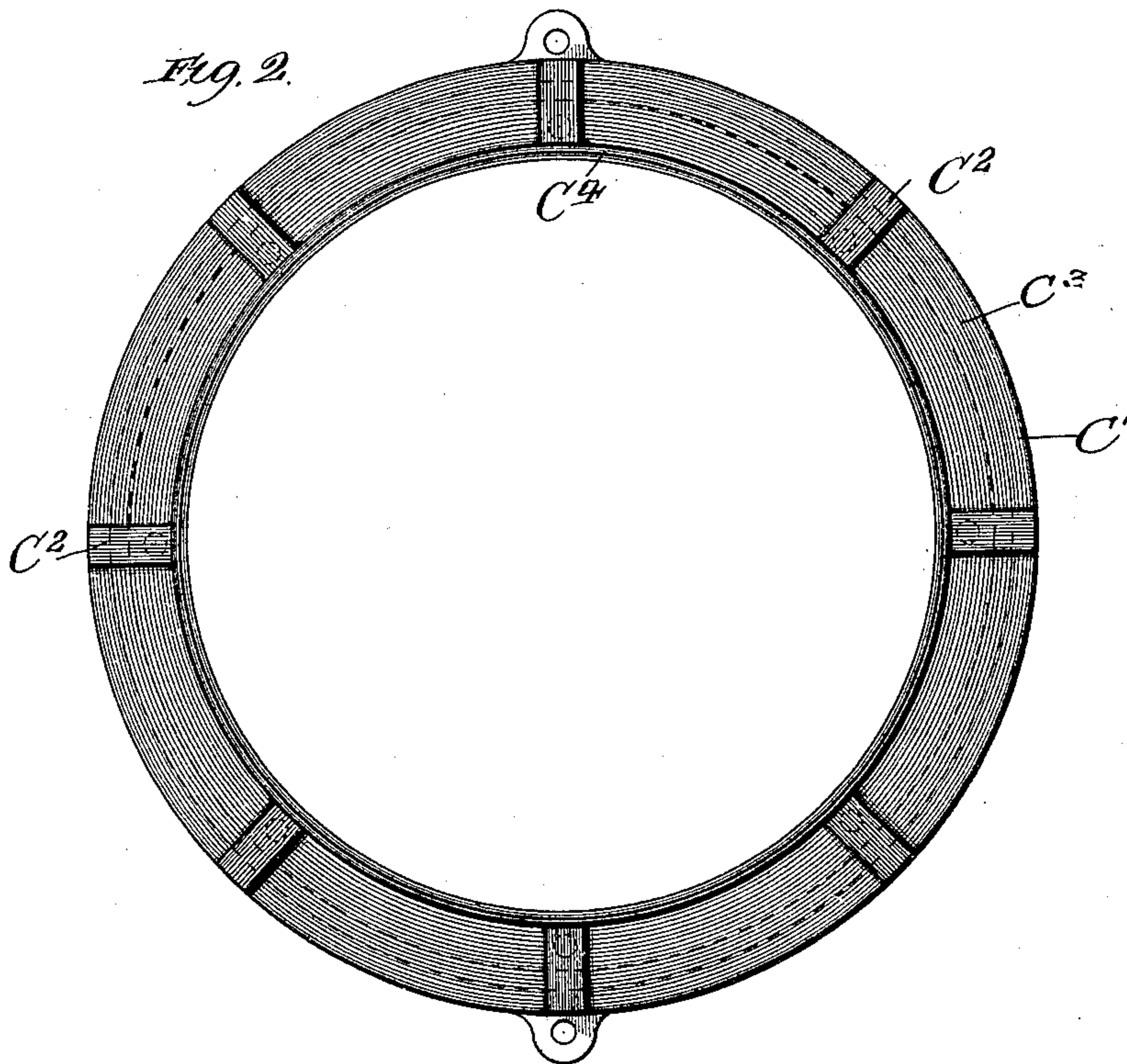


Fig. 2.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

HARRY C. COOPER, OF CHICAGO, ILLINOIS.

## MOLDING-MACHINE MOLD.

SPECIFICATION forming part of Letters Patent No. 632,249, dated September 5, 1899.

Original application filed December 19, 1898, Serial No. 699,720. Divided and this application filed May 31, 1899. Serial No. 718,870. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY C. COOPER, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have  
5 invented a certain new and useful Improvement in Molding-Machine Molds; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it per-  
10 tains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object the production of mechanism for forming a wheel-mold; and it is adapted for use more particularly in  
15 connection with the machine shown in my concurrently-pending application, filed December 19, 1898, Serial No. 699,720, of which this application is a division.

20 The present invention relates particularly to what I will term the "chill-support" and the manner of manipulating the same in the machine.

In the drawings, Figure 1 is a vertical section through the cope portion of the flask and adjacent parts constituting my invention. Fig. 2 is a plan view of the chill.

In carrying out the invention, A represents the cope portion of the flask of a wheel-mold, and B the chill thereof, the two being engaged  
30 together in any suitable manner.

C is the chill-support, and, as presently explained, this chill-support forms a part of the pattern in forming the cope portion of the mold. It is shaped with a horizontal portion  
35 C', extending outwardly from the vertical portion C, the said horizontal portion being channeled transversely, as at C<sup>2</sup>, the bottom of the channels inclining downward toward the periphery, so that any sand that accumulates  
40 between the flask and the support may work out. The under surface of the horizontal portion is also longitudinally channeled, as at C<sup>3</sup>, so that any sand that accumulates underneath  
45 the chill-support can work out and not interfere with a firm bearing of the parts. The upper end of the vertical portion C has its outer face recessed or channeled, as at C<sup>4</sup>, for a purpose which I will presently explain.

50 D is an adjustable ring which directly supports the chill-support C and is threaded onto the ring E, the latter being in turn supported

from standard E', which extends down and is connected in any suitable manner with the operating portion of the machine.

F to F<sup>11</sup> represent the pattern-supporting parts, and G G' G<sup>2</sup> represent sections of pattern.

The mechanism for moving the ring D and the pattern-supporting parts F to F<sup>11</sup> is immaterial in this case. Any desirable mechanism for accomplishing this purpose may be employed, that shown in my above-named concurrently-pending application being suitable  
65 for the purpose.

The operation of forming the cope portion of the mold will now be understood.

There is of course provided above the flask suitable pressure mechanism, such as the plate H, and the sand is compressed between  
70 the said pressure-plate and the upwardly-advancing pattern parts.

As will be seen by reference to Fig. 1, the upper end of the flask-support C is adjacent to and, so far as the formation of the mold is concerned, is a part of the section G of the pattern, so that as the sand is compressed it will be forced down along the face of the flask A and the corner of the chill B against the recess C<sup>4</sup> in the flask-support, and there will  
75 thus be formed a correspondingly-raised portion on the tread portion of the mold, the balance of the tread portion of the mold being formed by the chill. The formation of this raised portion of the tread-mold is old, the  
80 novelty in my construction being the formation of the recess (to form this raised portion) in the chill or flask support instead of in the pattern.

In addition to performing the function of a chill or flask support and of a part of the pattern the chill-support C also constitutes a chill-protector to protect the chill from the sand throughout the process of forming the mold.

In addition to all the above it will be seen that the chill-support also acts as a lower sand-box or lower false flask, since it holds the sand until the balance of the pattern parts move up and carry the sand up into the flask  
95 proper and compress it.

What I claim is—

1. A chill-support for a sand mold, having its upper surface inclined and supports ar-



ranged at intervals on the upper face to sustain the chill above the inclines, substantially as described.

2. A chill-support for a sand mold having its upper surface inclined and its under surface channeled, and supports arranged at intervals on the upper face to sustain the chill above the inclines, substantially as described.

3. In a molding apparatus, the combination with one or more pattern parts and mechanism for moving them into the flask, of the flask, the chill, and the chill-support, the latter comprising a horizontal portion on which the chill rests and a vertical portion extending upwardly along the face of the chill to protect the latter, said vertical portion and the adjacent pattern part being movable with respect to each other, substantially as described.

4. In a molding apparatus, the combination with one or more pattern parts, and mechanism

for moving them into the flask, of the flask, the chill on which the flask rests, and the chill-support, the latter having a horizontal portion on which the chill rests, and a vertical portion, the upper end of the latter comprising a portion of the pattern, substantially as described.

5. In a molding apparatus, the combination of one or more pattern parts, mechanism for moving them into the flask, the flask, the chill, and the chill-support, the latter having a portion that forms a lower sand-box or lower false flask, said chill-support and the adjacent pattern part being movable with respect to each other, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

HARRY C. COOPER.

Witnesses:

GERTRUDE HEIDELBERGER,  
LUTE S. ALTER.