

B. T. BABBITT.  
Mold for Casting Chilled Rolls.

No. 232,227.

Patented Sept. 14, 1880.

Fig 1.

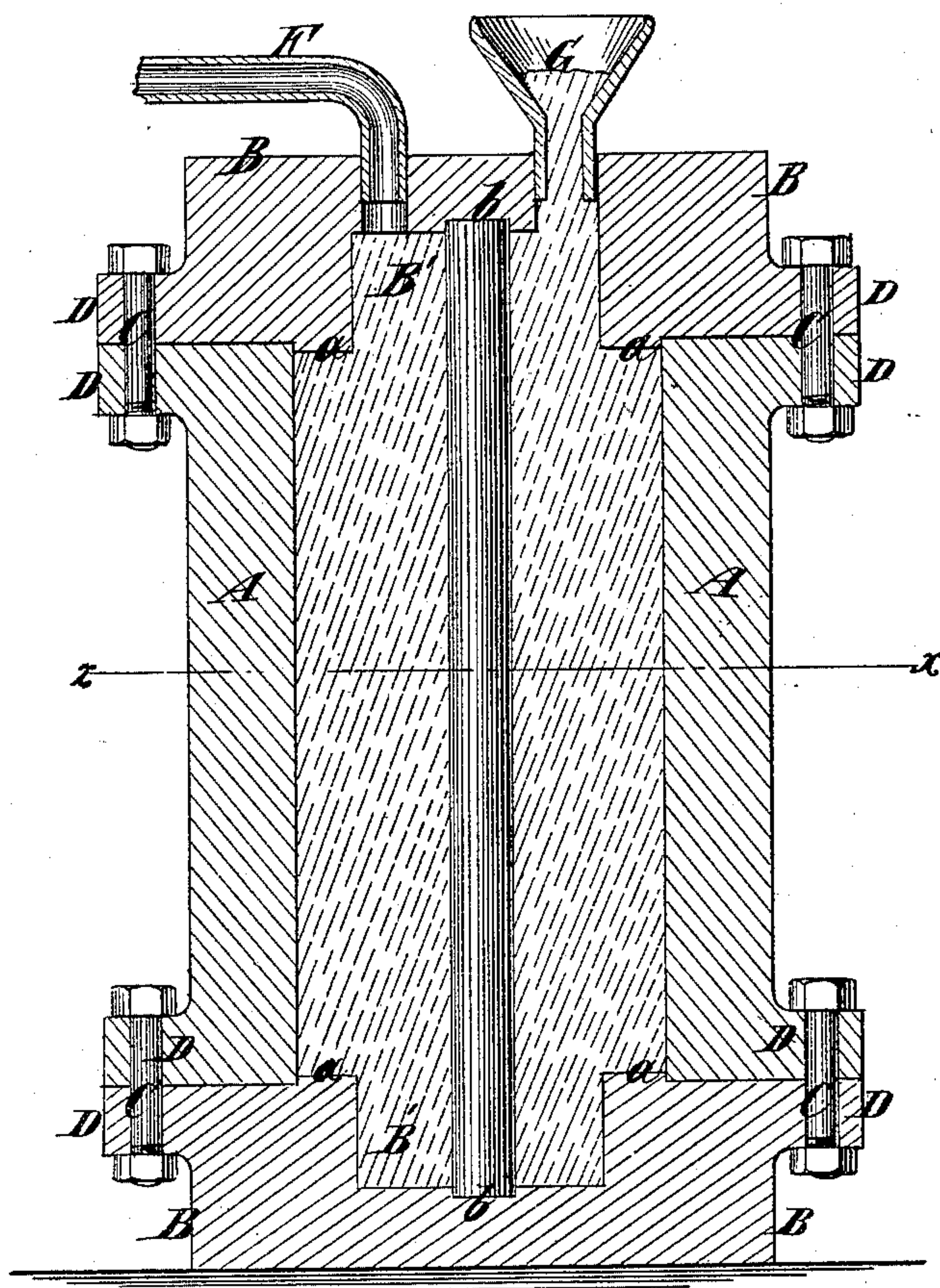
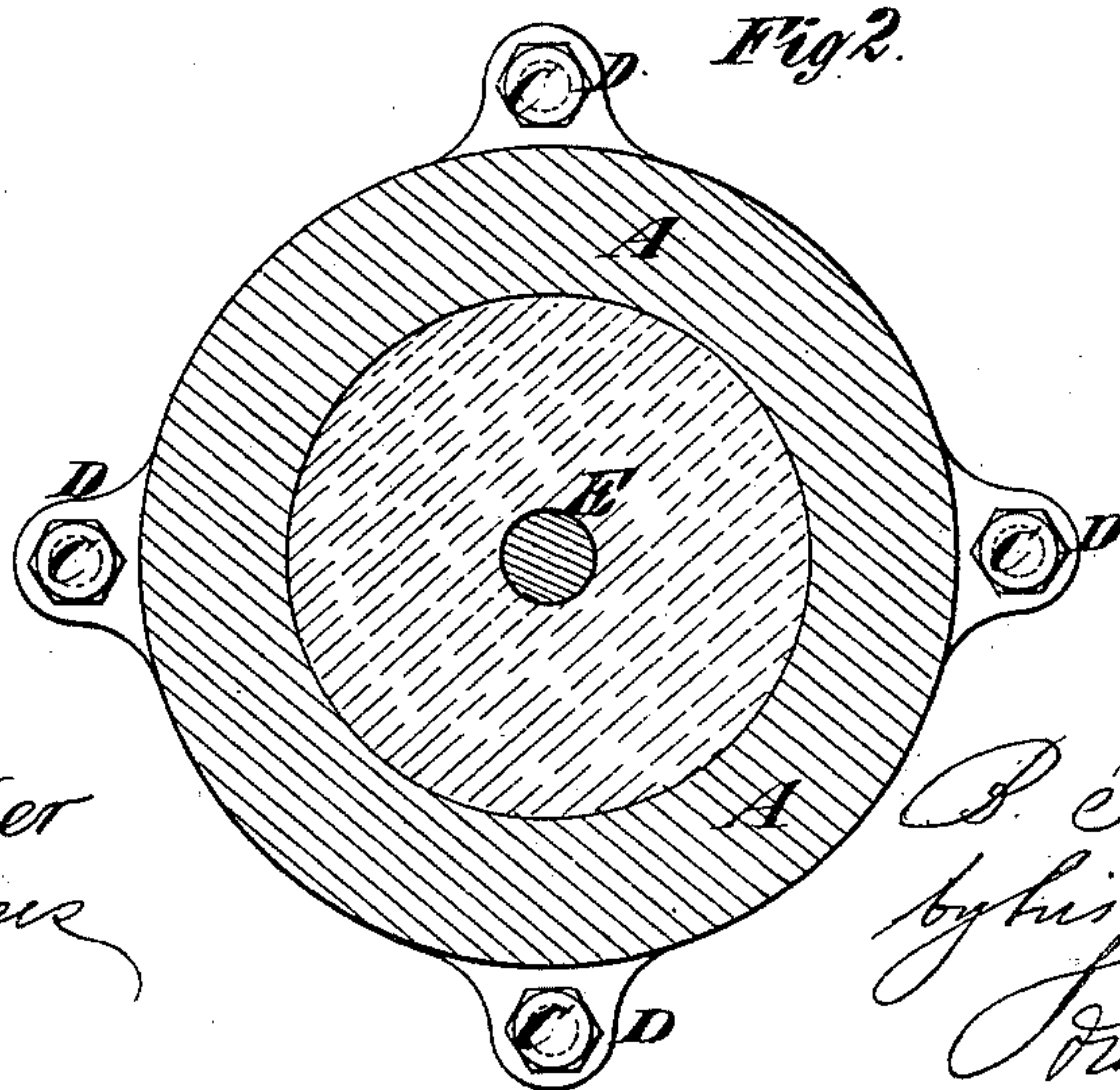


Fig 2.



Witnesses  
John Becker  
Fred Haynes

Inventor  
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# UNITED STATES PATENT OFFICE.

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## MOLD FOR CASTING CHILLED ROLLS.

SPECIFICATION forming part of Letters Patent No. 232,227, dated September 14, 1880.

Application filed January 19, 1880.

*To all whom it may concern:*

Be it known that I, BENJAMIN T. BABBITT, of the city of New York, in the county and State of New York, have invented certain  
5 new and useful Improvements in Molds for Casting Chilled Rolls, of which the following is a specification.

Chilled-iron rolls, which are used for a great number of purposes, are finished by grinding  
10 with an emery or other wheel, and as they are exceedingly hard it is very essential that the journals should be accurately concentric with the body of the roll and the surface of the body free from blow-holes or other imperfec-  
15 tions, so as to reduce the labor of grinding.

The object of my invention is to provide a mold for casting such rolls which is so constructed that the various parts may be accurately put together with little trouble, so as to  
20 insure the journals being concentric with the body of the roll, and also to provide for exhausting the air from such a mold while the metal is being poured in.

To this end my invention consists in a mold  
25 of novel construction, as hereinafter fully described.

In the accompanying drawings, Figure 1 represents a central vertical section through a mold embodying my invention, and Fig. 2  
30 represents a horizontal section thereof on the dotted line *x x*, Fig. 1.

Similar letters of reference designate corresponding parts in both figures.

A represents the cylindrical portion of the  
35 mold, which is intended to give shape to the body of the roll, and should be of about the same length as said body. The said cylindrical portion A is provided at each end with heads B, which are provided with slightly-  
40 projecting inner faces, *a*, fitting in the cylindrical body and serving to accurately center the heads of the mold.

As here represented, the heads B are secured to the cylindric body A by means of  
45 bolts C, which pass through lugs D on the said body and heads.

Each head has in its inner face a recess, B, which is of a proper length and diameter to give form to one of the journals of the roll,  
50 and which, when the head is bolted in place,

is always insured, being accurately concentric with the cylindric body of the mold by the projecting face *a* entering said body.

The inner surfaces of the cylindrical body A and heads B are carefully finished, so as to require but little to be removed from the roll by grinding.

As here represented, the heads B are provided at the bottom of the recesses B' with small recesses *b*, which receive and properly center the center core, E, which may be used to aid in chilling the metal, and which remains in the roll. This core may be of wrought-iron or cast-iron, and when cast it may be made hollow, so as to provide for circulating water through it.

In order to prevent blow-holes in the surface of the roll, it is preferable to maintain a vacuum in the mold during the process of casting; and F designates a nozzle for connecting the mold with an air-pump to exhaust the air.

G designates a pouring-hole for the inflow of the molten metal.

I am aware that the method of making chilled rolls which have tubular linings, consisting in placing the lining-tube in a chill-mold and pouring around it the metal for the body of the roll, is old, and therefore I do not claim this as my invention.

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

1. A mold for casting chilled rolls, composed of a cylindric body portion, A, for giving form to the body of the roll, and heads B, in which are recesses or cavities B' for giving form to the journals of the roll, and the core E, having its ends centered and held in the minor recesses *b* at the bottom of the recesses B', substantially as specified.

2. The combination, with the cylindric portion A and the upper and lower heads B, having recesses or cavities B', of the pouring-hole G and the exhaust-nozzle F in the upper head, substantially as specified.

B. T. BABBITT.

Witnesses:

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THOMAS E. BIRCH.