

G. G. LOBDELL.
Casting Chilled Rolls.

No. 139,798.

Patented June 10, 1873.

FIG. 2.

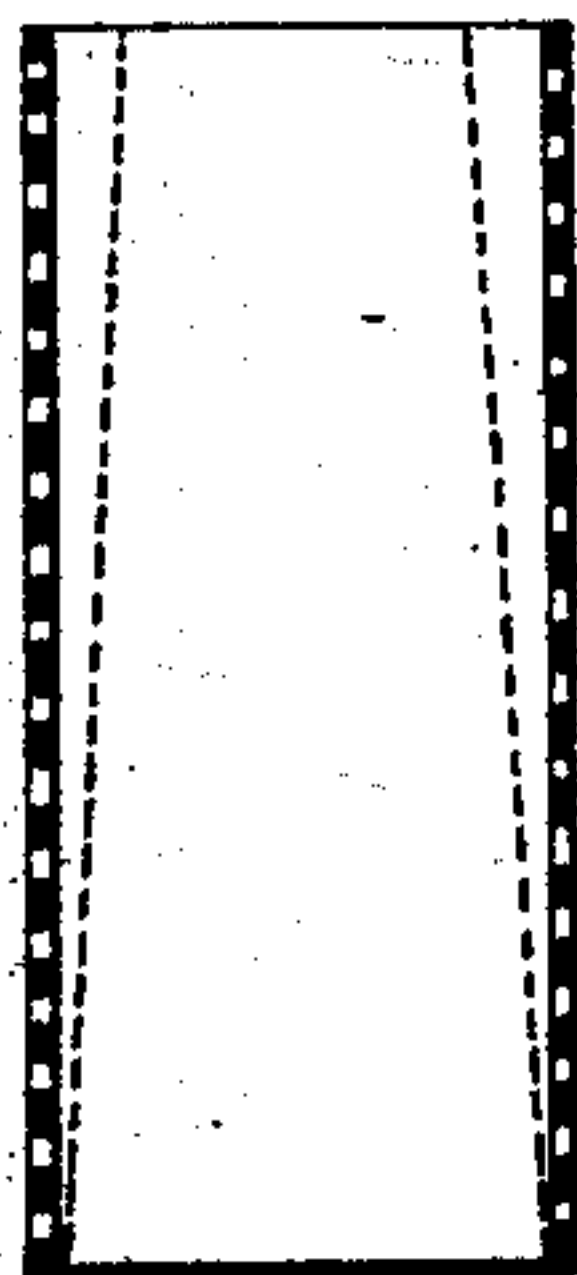
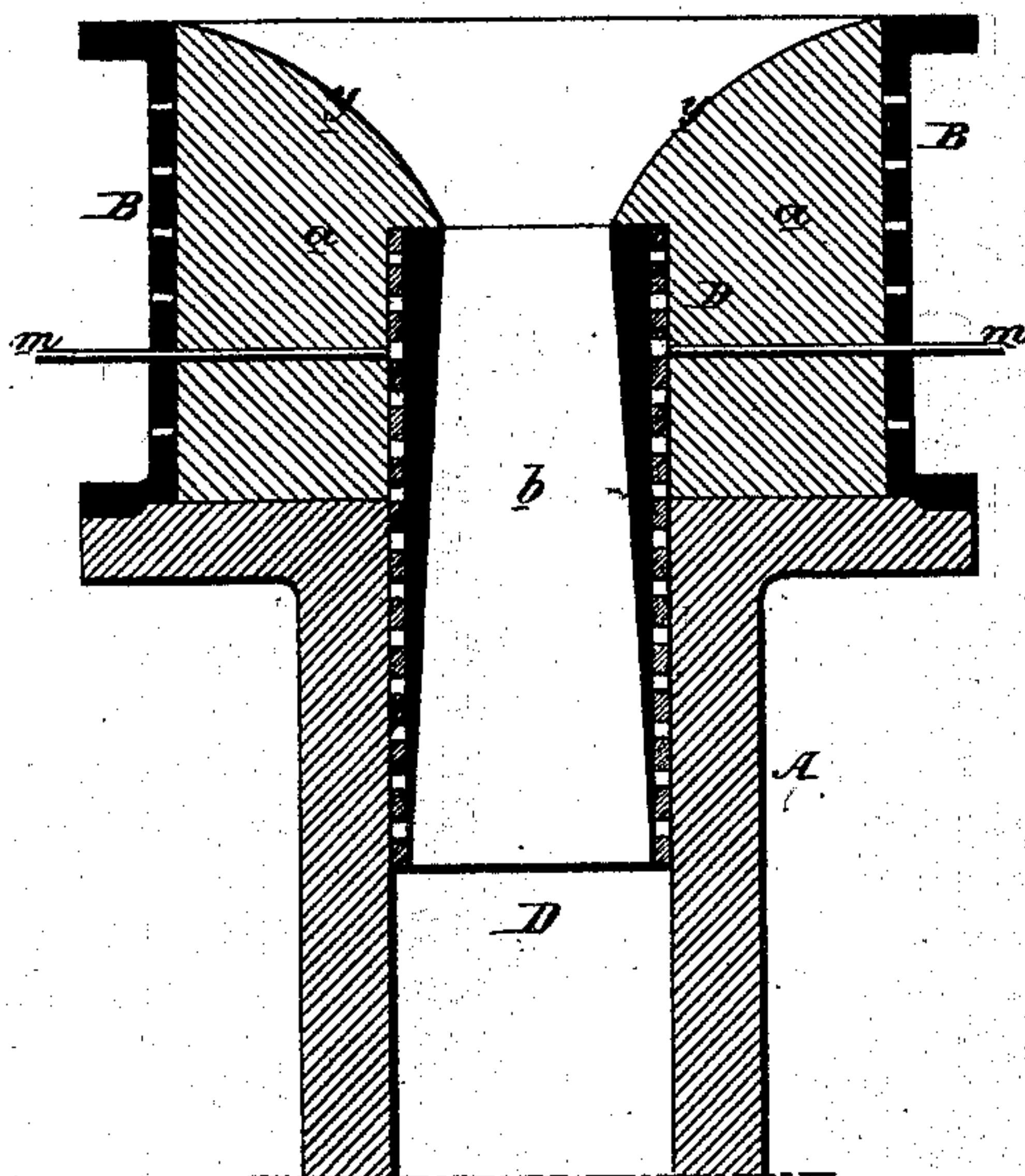


FIG. 1.



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John Hare

G. G. Lobdell
By his Atty
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UNITED STATES PATENT OFFICE.

GEORGE G. LOBDELL, OF WILMINGTON, DELAWARE, ASSIGNOR TO HIMSELF
AND WILLIAM STUART, OF SAME PLACE.

IMPROVEMENT IN CASTING CHILLED ROLLS.

Specification forming part of Letters Patent No. **139,798**, dated June 10, 1873; application filed
January 21, 1873.

To all whom it may concern:

Be it known that I, GEORGE G. LOBDELL, of Wilmington, Delaware, have invented an Improvement in Casting Chilled Rolls, of which the following is a specification:

The object of my invention is to prevent the breaking of the necks of chilled rolls during the process of casting the same, and to readily adjust the mold so as to cast rolls of different lengths. This object I attain by a sleeve, D, lined with sand or loam *b*, and adapted to the interior of the chill A, substantially as shown in the vertical section, Fig. 1, so that it can be adjusted vertically in the chill, and can yield and accommodate itself to the shrinkage of the metal poured into the mold.

A is the upper portion of the chill, in which the body of the roll is cast, and on the top of this chill is placed a box, B. D is a metal sleeve or cylinder, shown detached in Fig. 2, the upper portion of which is contained in the box B, and the lower portion in the chill, in which it can slide freely. The inside of this sleeve is lined with sand, or its equivalent, molded to the desired shape of the neck *b* of the roll.

When this sand lining has been properly dried it is placed with the sleeve D in the chill in the position which the length of the roll to be cast requires, the upper portion of the sleeve being contained within a body of sand, which has been previously prepared for its reception in the box B.

The sleeve may be temporarily supported by rods *m m* inserted through the box B and through the sand contained therein, the inner end of the rod fitting into holes in the sleeve.

The metal, being poured through the usual runners into the lower end of the mold, rises

therein into the box B, shortly after which the rods *m m* may be withdrawn and that part of the casting above the sleeve removed while the metal is in a semi-fluid state. The sleeve, with its sand lining, now supported by the metal in the mold, and being free to slide in the sand lining of the box, can descend with and accommodate itself to shrinkage of the roll, thereby preventing the separation of the same at the neck, which is liable to occur when the upper neck adheres to a fixed portion of the mold.

I prefer to perforate the sleeve, and, also, the box B with small holes, as shown, so as to permit the free escape of gases generated by the molten metal, these vents insuring the soundness of the neck of the roll.

One of the most important advantages of my invention is the facility which the sleeve affords for making rolls of different lengths, the length of the roll being determined by the simple adjustment of the sleeve in the chill.

I claim as my invention—

1. The sand-lined sleeve D, applied to the mold so as to be movable and adjustable therein, as set forth.

2. The sand-lined sleeve, suspended in the chill by rods *m m*, or their equivalent, as specified.

3. The combination of the perforated sleeve D with the perforated box B and its prepared lining.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE G. LOBDELL.

Witnesses:

JAMES H. CAMERON,
JOHN HARE.