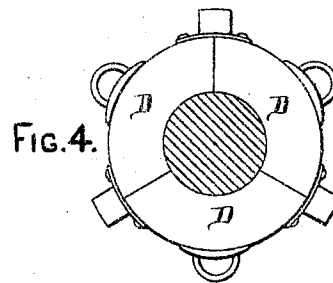
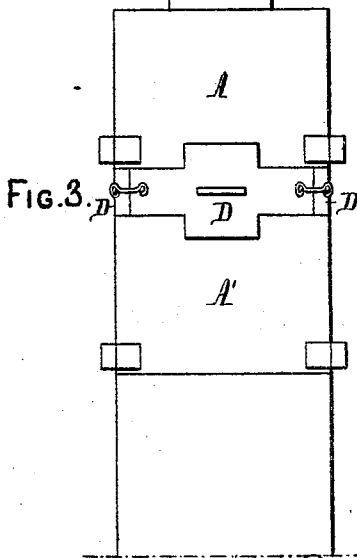
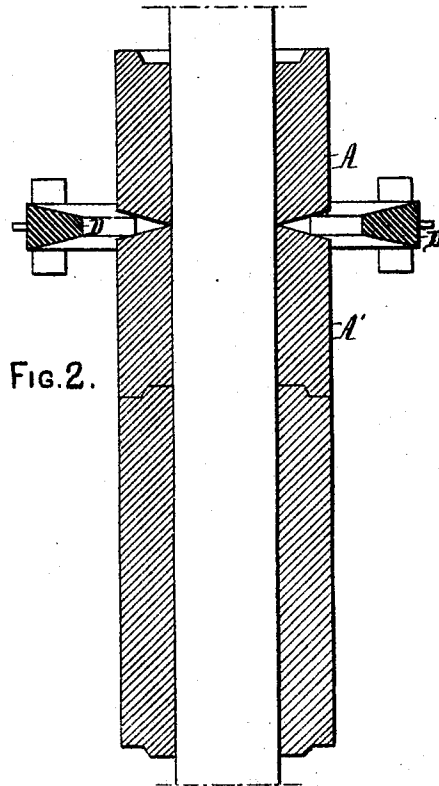
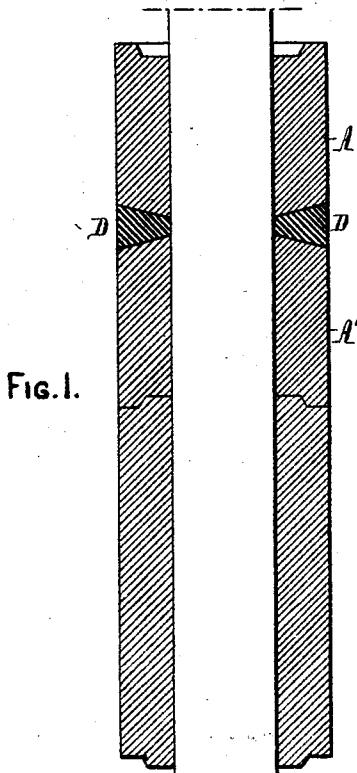


ROBERT TOLMIE.

Chills for Casting Chilled Rolls.

No. 123,953.

Patented Feb. 20, 1872.



WITNESSES { *John Parker*
Harry Smith

Robert Tolmie
By his Atty
Johnston & Co

UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN CHILLS FOR CASTING CHILLED ROLLS.

Specification forming part of Letters Patent No. 123,953, dated February 20, 1872.

Specification describing Improvement in Chills for Casting Chilled Rolls, invented by ROBERT TOLMIE, of Wilmington, New Castle county, Delaware.

My invention consists of a chill for casting chilled rolls made in sections, which are rendered contractile by detachable blocks forming part of the chill, all substantially as described hereafter, so that the chill can be made to accommodate itself to the contraction of the roll, thereby obviating the tendency which the contraction has to tear off the necks of the rolls.

In the accompanying drawing, Figures 1 and 2 are vertical sections, representing sufficient of a chill for casting chilled rolls to illustrate my invention; Fig. 3, an exterior view; and Fig. 4, a plan view with the upper portion of the chill removed.

The chill is composed, as usual, of a number of cast-iron cylindrical sections fitted together, as shown in the drawing. Between an upper section, A, and a lower section, A', of the chill intervene segmental blocks D, three being shown in the present instance, and these blocks are wedge-shaped, as shown in Figs. 1 and 2, to permit their easy withdrawal, in a manner and for a purpose explained hereafter.

When the chill is being prepared for receiving the molten iron, the blocks are placed in the position shown in Fig. 1, so as to elevate the section A above the section A', the blocks which form part of the chill being retained in place, in the present instance, by a hook connected to one block, fitting with its bent end into the staple in the adjoining block; other fastening devices may, however, be adopted for attaining the same end. After the chill has been

filled, in the usual manner, with molten metal, the latter contracts in cooling, and, if no provision is made to accommodate the mold to this contraction, the separation of the casting at the neck of the roll is liable to take place—an evil which my invention has been designed to obviate.

After the metal in the chill has become "set," and before the rapid contraction commences, I detach the blocks D, thereby leaving a vacancy between the two sections A and A' of the chill, so that the latter can contract with the casting to the extent of this vacancy, which may be such as to compensate for the entire contraction of the roll. By permitting a contractile chill to thus accommodate itself to the contraction of the casting, the difficulty above mentioned is effectually obviated.

It is immaterial how many blocks D are used, or of what shape they are made, providing they form, when in their places, a part of the chill, and providing they can be easily detached.

I claim as my invention—

A chill for casting chilled rolls made in sections, and rendered contractile by detachable blocks forming part of the chill, all substantially in the manner described.

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

ROBERT TOLMIE.

Witnesses:

A. MCLEOD,
JNO. HENRY PUHL.