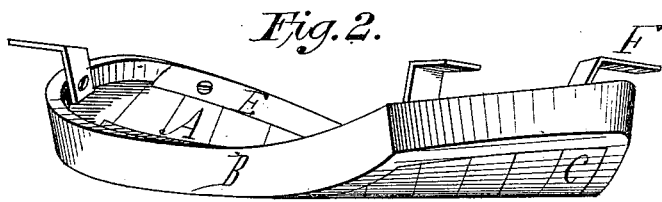
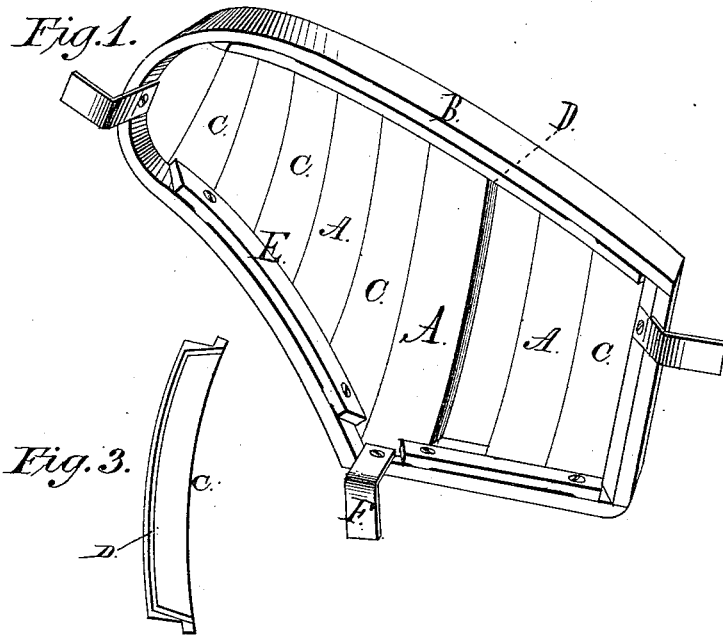


W. J. WELLING.

Chills.

No. 166,324.

Patented Aug. 3, 1875.



Attest:
Shepherd H. Wheeler
Alson H. Welling

Inventor:
W^m. J. Welling

UNITED STATES PATENT OFFICE.

WILLIAM J. WELLING, OF NILES, MICHIGAN.

IMPROVEMENT IN CHILLS.

Specification forming part of Letters Patent No. **166,324**, dated August 3, 1875; application filed March 8, 1875.

To all whom it may concern:

Be it known that I, WM. J. WELLING, of Niles, Berrien county, and State of Michigan, have invented a new and useful Improvement in Chills for Mold-Boards for Plows and other Castings; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a top view of the back of the chill with one of the bars removed. Fig. 2 is a perspective view of the same. Fig. 3 is a side view of one of the removable bars, showing the gas-duct D.

Like letters refer to like parts in each figure.

The nature and object of this invention relate to the method of constructing and ventilating chills for castings, whereby new and useful results are obtained by conducting the resultant gases (generated by pouring the molten iron) away from the face of the chill before allowing them to come in contact with the atmosphere. Thus the great heat generated by the burning of these gases (by coming in contact with the air) is removed from the side of the chill to its extremities, and the heating of the chill from that cause is, to a great extent, avoided, which, in the present state of the art of chilling castings, is a great desideratum.

In the drawing, A represents the stationary or fixed bars of the chill. These bars constitute about one-half of the chill, the face of which conforms to the shape of the iron to be chilled, and are joined at their ends in one piece with the rim B, so as to leave alternate bars and corresponding spaces. C represents detachable bars. These bars are fitted in the spaces between the bars A, and are only made

detachable for the convenience of constructing the gas-ducts D between their edges. These ducts are cut parallel to the face of the chill, and as close to the face as practical, extending the entire length of the bars, and leading out at the end on the back side of the chill. The bars C are fitted to and between the bars A. On the back of the chill the joints between the bars are made as tight as is practical, but on the face the joints are left sufficiently open to allow the gas to pass to the gas-ducts D, through which it freely escapes at the extremities of the chill, where it burns without heating the body of the chill.

As a further means of providing for the free escape of the gas from the face of the chill, small notches may be cut in the corners of the bars A and C, on the face side, deep enough to let the gas pass into the ducts D through them.

E represents cleats. These cleats are attached to the rim B of the chill for the purpose of holding the detachable bars C in their places. F represents ears attached to the chill, and on which it rests when placed in the flask.

I am aware that chills have been made of detachable bars, having V-shaped apertures, to be filled with sand; but such I do not claim.

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

The chill for mold-boards, consisting of the fixed bars A, detachable bars C, joined together by means of the rim B, the cleats E, gas-ducts D, and ears F, all constructed substantially as described.

WM. J. WELLING.

Witnesses:

ALSON H. WELLING,
SHEPHERD H. WHEELER.