

L. MORGAN.
Method of Casting.

No. 164,198.

Patented June 8, 1875.

Fig. 1.

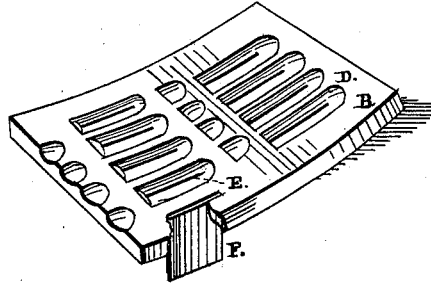
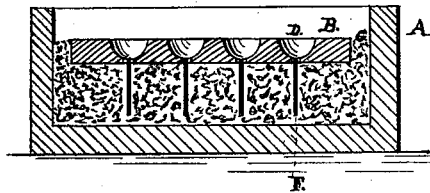


Fig. 2.



WITNESSES
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his atty in fact.

UNITED STATES PATENT OFFICE.

LYMAN MORGAN, OF PORT WASHINGTON, WISCONSIN.

IMPROVEMENT IN METHODS OF CASTING.

Specification forming part of Letters Patent No. **164,198**, dated June 8, 1875; application filed March 13, 1873.

To all whom it may concern:

Be it known that I, LYMAN MORGAN, of Port Washington, in the county of Ozaukee, in the State of Wisconsin, have invented certain Improvements in Smut-Mills, of which the following is a specification:

My invention relates to the mode of molding and casting a smutter-case in staves by embedding the pattern in the sand and sticking the chills through the pattern into the sand, and when the pattern is taken off the chills are left standing.

Figure 1 is a view of the pattern used in the operation. Fig. 2 is a cross-sectional view of the lower part of a flask, and the pattern and chills in place in the sand.

A is the flask; B, the pattern with indentations D in it. C represents the molding-sand; E, the oblong holes running crosswise of the smutter-case; F, the chills, running down into the sand, their upper edges coming up through the pattern. The outside of the smutter-case is smooth, the oblong holes coming up flush with the outside case, so that if the grain wears the inside of the case the holes for the escape of dust will maintain their size, and will be no larger than when the case is new or unworn.

I mold the case as follows: Take the pattern and put it into the flask with sand in its bed, the pattern down into the sand, the rounding

or outside down; then tamp the molding-sand around it even with the top; then take the chills or cores and stick them through the holes in the pattern down into the sand so that their tops shall just come up with the bottom of the indentations; then pack sand on top of the pattern, tamping it in the usual manner, making the necessary provisions for pouring the metal in the mold; then remove the top of the flask with the sand from the top of the pattern; then draw the pattern from the sand, leaving the cores sticking up in the mold; and when the top of the flask is put on again, or the two halves of the flask put together again, it will make a mold with the chills or cores in place, so that, as the metal is poured in, the cores will make the oblong openings in the smutter-case, the cores being pulled out of the staves after it is cast.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The method of molding for casting staves for smut-machine cases by sticking the cores through the pattern, and then lifting the pattern off of the cores, leaving them sticking in the sand, substantially as described.

LYMAN MORGAN.

Witnesses:

J. B. SMITH,
E. J. SMITH.