G. W. YEARGIN & T. L. WELLS.

Sand-Mold for Plows.

No. 197,922. Patented Dec. 4, 1877

fig. 1.

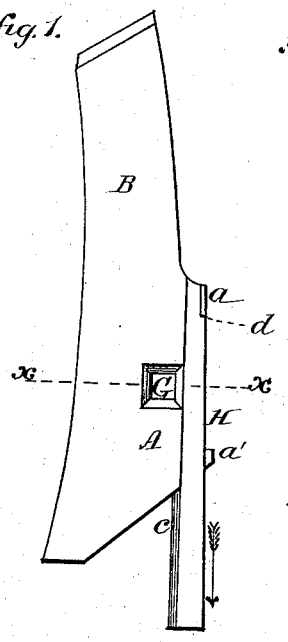


fig. 3.

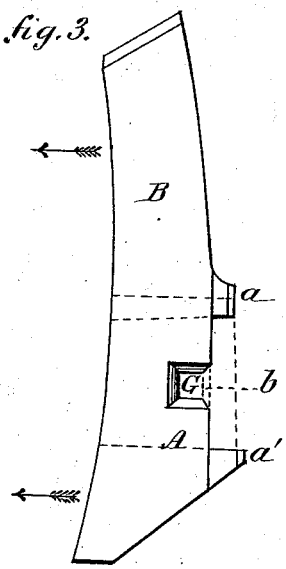


fig. 4.

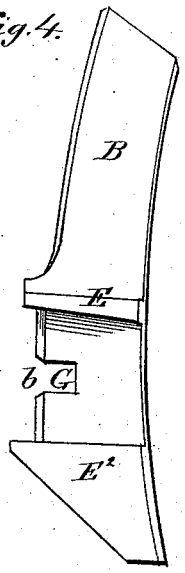


fig. 2.

fig. 7.

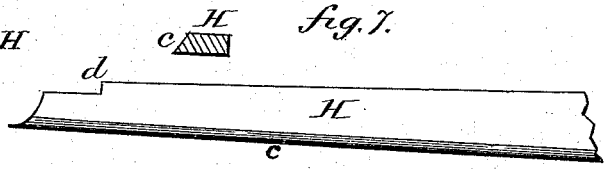


fig. 5.

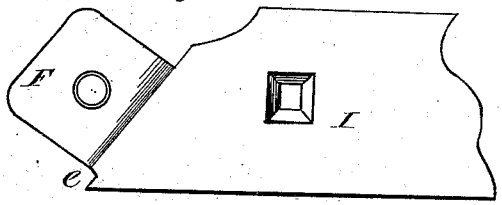
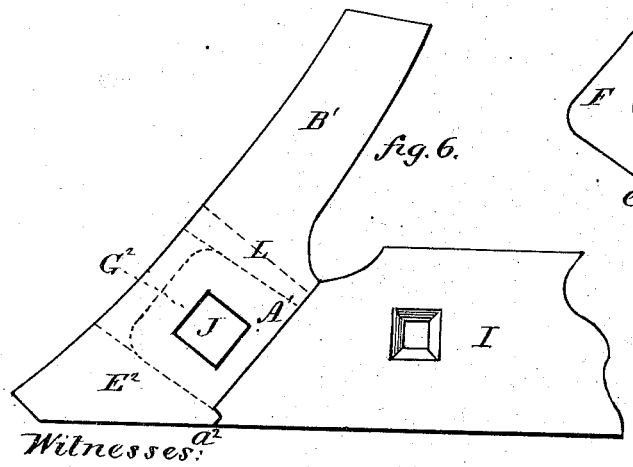


fig. 6.



Witnesses:

Floyd Norris

D. P. Lowe

Inventors:

George W. Yeargin

Thomas L. Wells

by Johnson & Johnson

Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE W. YEARGIN AND THOMAS L. WELLS, OF DYERSBURG, TENN.

IMPROVEMENT IN SAND-MOLDS FOR PLOWS.

Specification forming part of Letters Patent No. **197,922**, dated December 4, 1877; application filed October 6, 1877.

To all whom it may concern:

Be it known that we, GEORGE W. YEARGIN and THOMAS L. WELLS, both of Dyersburg, in the county of Dyer and State of Tennessee, have jointly invented certain new and useful Improvements in Method and Devices for Casting Plow Land-Side Locks; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

We have improved and simplified the forming of the lock for the land-sides of plows, by means of a new pattern adapted to facilitate the molding. The pattern for what is termed the "short land-side" has the beveled countersunk hole for the beveled head of the bolt which unites the two parts forming the land-side of the plow; and it is in forming this beveled countersunk hole that we employ as a part of said pattern a detachable device or stick of peculiar construction—that is to say, having a beveled side corresponding with the bevel of the countersunk hole, and used as the means for forming one side thereof.

The beveled device or stick is seated in the pattern between lug-stays on each side of the countersunk bolt-hole, and against the edge of the pattern, which is beveled for that purpose, coincident with one side of the countersunk hole. This allows the stick to be drawn out endwise after the mold has been properly prepared, leaving the core for the bolt-hole unbroken or undisturbed at the beveled side, formed by the beveled side of the stick, and allowing the pattern to be moved out sidewise, leaving the mold complete for the short land-side.

Referring to the drawings, Figure 1 represents the pattern with the detachable beveled device or stick in position to complete the core for the countersunk hole for the bolt-head; Fig. 2, a cross-section of the same, at the line *x x* of Fig. 1; Fig. 3, the pattern, showing the detachable beveled device or stick removed; Fig. 4, the inner side of the pattern; Fig. 5, the long land-side; Fig. 6, the parts of a complete land-side joined or locked together; and Fig. 7, the detachable beveled device or stick in elevation and section.

The pattern consists of a bar of metal, the lower portion of which, A, forms that part corresponding to the short land-side A′, and the upper part, B, the sheath B′ of the plow. The inner side of this pattern-bar has ribs or thickened portions E E^2, which form and shape the seat in the short land-side for the interlocking tongue F of the main land-side. These ribs or thickened parts extend a short distance beyond the edge of the pattern and on a plane with its inner side, and have upturned ends *a* a^1, the tops of which are flush with the top surface of the pattern, and form, with the edge of the pattern, seats and supports for the removable beveled device or stick, the purpose of which will be presently explained.

The pattern-bar has the usual countersunk hole G, equidistant between the projecting ribs, for the head of the locking-bolt; but, unlike other patterns, one side, *b*, of this countersunk hole is open, and the line of such open side is coincident with the beveled edge of the pattern-bar and the inner beveled edge *c* of the detachable stick H, in order that this side of said hole may be formed and closed by said stick, which is adapted to be slid in upon the seats of the upturned projections *a* a^1 and against the edge of the pattern.

The sides of the countersunk hole G in the pattern are beveled, so as to form a correspondingly-beveled countersunk hole in the finished plow land-side.

The joining edges of the pattern and the stick are beveled alike, and a shoulder, *d*, at the inner end and outer side of the stick strikes against the projecting end *a* of the inner rib, and is flush with its outer side, and limits the inward movement of the stick, so that its inner end is even with the upper edge of the short land-side pattern, and its outer edge forms the wall in the mold, which makes, in the complete casting, the edge of the short land-side, as shown in Figs. 1 and 2.

The outer upturned projecting seat a^1 for the beveled-stick pattern extends beyond the outer side of said stick, and such projection shapes the mold that forms the projection a^2

at the bottom corner of the finished short land-side, and which fits into a corresponding notch, *e*, in the front lower corner of the main land-side, so as to prevent vertical displacement, and to strengthen the joining of the parts when bolted together. (See Figs. 5 and 6.) After the mold is complete the pattern-stick is drawn out through a hole in the end of the cope, so as to leave the countersunk hole open again at the side which was closed by said stick, in order that the pattern-bar may be drawn out sidewise over the beveled headed core, which is to form the countersunk hole for the bolt-head.

The direction in which the pattern is drawn is, of course, to carry the closed side of the countersunk hole away from the bolt-head core, as shown by the arrows in Fig. 3, otherwise the pattern could not be removed without destroying the bevel-headed core of the mold.

The employment of the short land-side pattern, with its detachable beveled stick, makes the operation of molding the complete article very advantageous and simple, and to make the countersunk hole in the short land-side without the use of a dry-sand core by means of the removable beveled stick held in position by the pattern while molding.

The withdrawal of the beveled stick will cause the metal to form a projection below the bottom of the short land-side, which is broken off the casting.

The finished short land-side A′ is provided with a countersunk hole, G^2, and with ribs E E^2 on its under side, for receiving the interlocking tongue F of the long or main land-side I, these two parts being secured together by a screw-bolt, J, passed through the beveled hole G^2 and a hole in the tongue F, the head of said bolt fitting and being of corresponding form to the countersunk hole, and seated therein flush with the outer side of the land-side.

We claim—

1. A pattern, A, having the beveled countersunk hole G open at one side, and a removable pattern-stick, H, having a correspondingly-beveled side, substantially as and for the purpose set forth.

2. The pattern A, having inner side ribs E E^2, with upturned seat ends $a\,a^1$, and the open-sided beveled countersunk hole G, in combination with the removable beveled stick H, substantially as and for the purpose set forth.

In testimony that we claim the foregoing we have affixed our signatures in the presence of two witnesses.

GEORGE W. YEARGIN.
THOMAS LEE WELLS.

Witnesses:
S. A. WILLIAMS,
JOHN M. NICHOLS.