

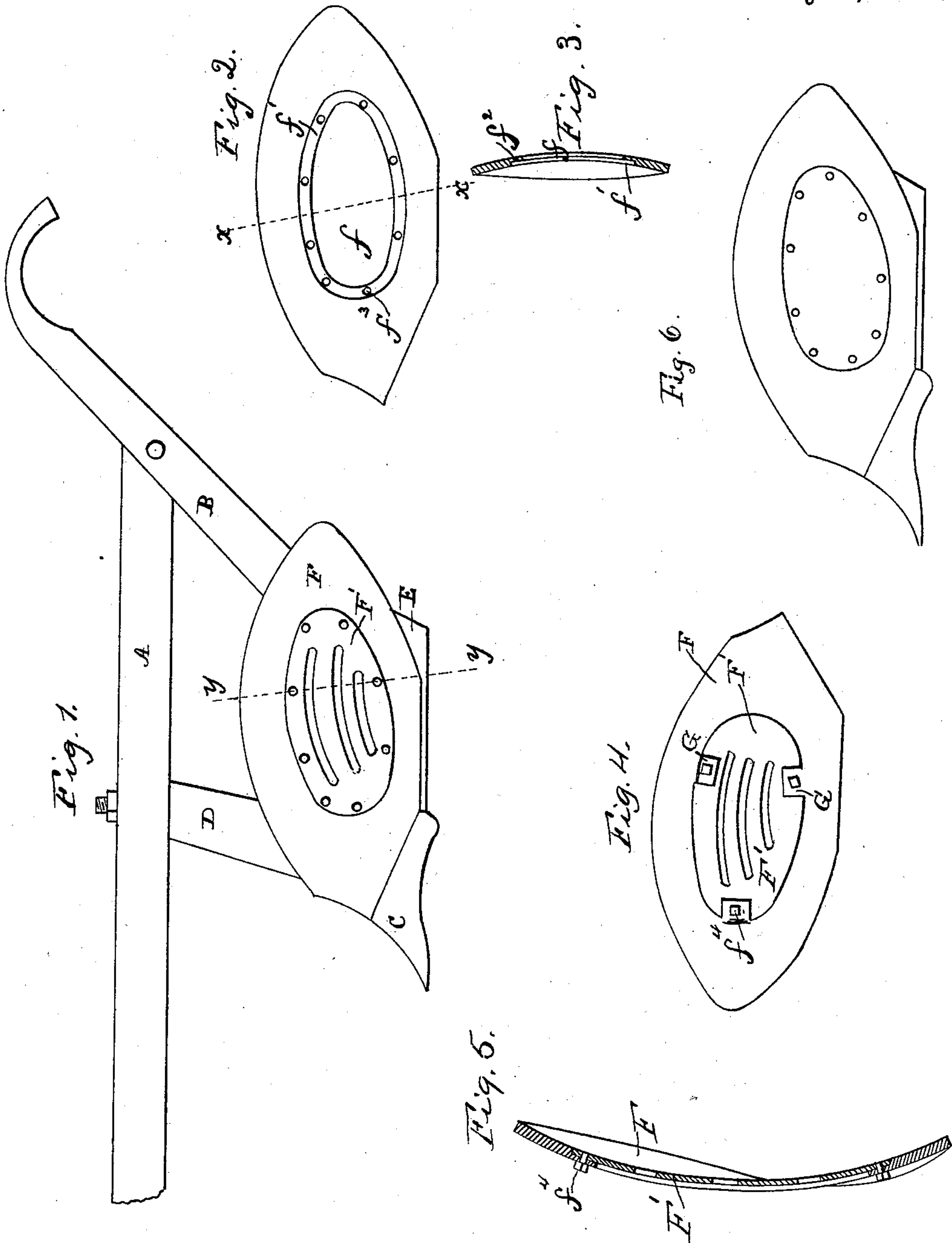
(No Model.)

O. A. ESSIG.

MOLD BOARD.

No. 298,189.

Patented May 6, 1884.



WITNESSES

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# UNITED STATES PATENT OFFICE.

OZIA A. ESSIG, OF CANTON, OHIO.

## MOLD-BOARD.

SPECIFICATION forming part of Letters Patent No. 298,189, dated May 6, 1884.

Application filed January 9, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, OZIA A. ESSIG, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Mold-Boards, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side elevation of a plow having a mold-board constructed after my improved plan. Fig. 2 is a face view of the mold-board with the detachable portion thereof removed. Fig. 3 is a section on the line *x x*. Fig. 4 is a rear or inside face view of a modified form of the mold-board. Fig. 5 is a section on an enlarged scale on line *y y*, Fig. 1, looking toward the rear of the plow. Fig. 6 shows a modified form of center plate.

Inasmuch as that which forms the essential feature of the present invention may be applied to plows of any character, so far as their general construction is concerned, a description in detail of the parts other than the mold-board is not herein necessary. However, for a clear understanding of the drawings, it will be said that A represents the beam, B one of the handles, D the standard, C the share and point, E the landside, and F F' the mold-board.

It has been customary heretofore to make the mold-boards for plows of one piece—that is to say, integral from the forward to the rear end and from top to bottom. However, it has been well known that these mold-boards are much more liable to wear in certain parts than at other points, this wear being so great at or about the central part of the mold-board that it will be practically worn out and worthless in this region while the rest of the board is yet of value. After this portion of the mold-board has become worn to such extent as to be worthless, the whole has to be removed and a new one put in place thereof, and thus there is considerable expense incident to the use of plows of this character. To avoid this necessity of removing the whole mold-board when a portion thereof has become worn, I construct it as follows: The central part of the mold-board is cast or otherwise provided with a comparatively large aperture, as shown at *f*, Figs. 2 and 3, and in this aperture a detachable plate, F', is adapted to fit. This plate is

situated at that part or region of the mold-board which receives the most serious wear from the soil which is being turned over, the location thereof being preferably substantially that which is shown in the drawings. When the plate F' has become impaired by wear, it can be readily removed and another substituted. I have shown two methods by which it can be held firmly in place, one method being shown in Figs. 1, 2, and 3, and another in Fig. 4. In the construction shown in the first aforesaid figures the part F is cast with a rabbet or groove at *f'*, in which the part F' can be seated, it resting against the flange or shoulder *f''* upon the rear side. In the flange or shoulder *f''* are formed apertures *f'''*, adapted to permit the passage of bolts *f''''*. The threads of these bolts engage with the plate F' by means of these apertures, and after the plate is clamped tightly in position the ends of the bolts may be filed or ground off smooth, so as to leave no obstructing projections. In the construction shown in Fig. 4 use is made of ears or lugs G, situated upon the rear side of the part F, and against these rest the plate F', and through them pass the bolts *f''''*. Other means for clamping the plate in position may be used, if desired. In the construction shown in Figs. 1, 4, and 5 the detachable plate is provided with slots or elongated apertures, extending entirely through the plate, which are preferably curved somewhat in the direction of the travel of the earth as it moves over the mold-board. These decrease the friction upon the soil, and also admit air from the rear side of the mold-board to relieve the under surface of the soil from adhesion against the mold-board caused by the atmospheric pressure on the other side. The moist soil tends to adhere to the surface of the mold-board, owing to the force exerted by atmospheric pressure, and it is overcome by admitting the air from the under side. As that portion of the board having the slots is detachable, any additional wear from the soil at the edges of the slots is not a serious matter, as the plate can be withdrawn and another substituted. In another respect my method of manufacturing mold-boards is superior to those heretofore followed. When the mold-boards are each cast all in one piece, many are lost, from the fact that the central portion of the board cools last, and as a



result there is much checking or cracking, which, as said, destroys many of these. In my case, the board being cast in two parts, there is less liability for this checking or cracking to occur.

I am aware of the fact that use has been made of mold-boards—both of glass and metal—each of which can be entirely removed from the supporting-frame, so as to permit the substitution of another, and I do not claim such device as my invention. I am also aware of the fact that double mold-boards have been used—that is, mold-boards each having two or more layers, sheets, or plates of metal or other material, one layer or plate being superposed upon another, and I do not claim these devices as my invention; but my construction is simpler and more cheaply made than those referred to. It is not necessary to remove the whole of the mold-board, and the only requirement is to provide several of the small plates, one of which can be substituted for another after it has become worn.

What I claim is—

1. In a plow, a mold-board constructed with an aperture, the mold-board surrounding said aperture being integral throughout, in combination with a detachable plate adapted to be situated in said aperture and have its wearing-face flush with that of the surrounding mold-board, and means for clamping the detachable plate in place, substantially as set forth.

2. In a plow, a mold-board having an aperture, the mold-board surrounding the aperture being integral throughout, in combination with a detachable wearing-plate provided with slots, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

OZIA A. ESSIG.

Witnesses:

JACOB P. FAWCETT,  
HENRY FISHER.