

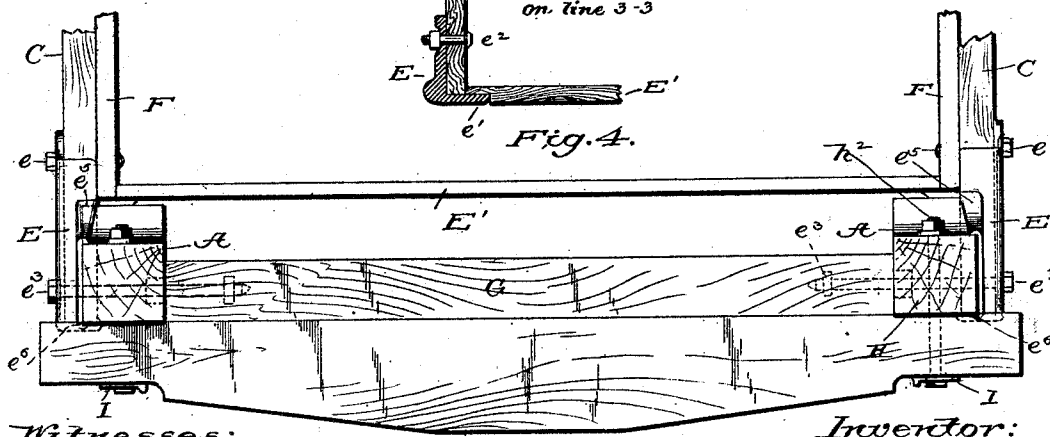
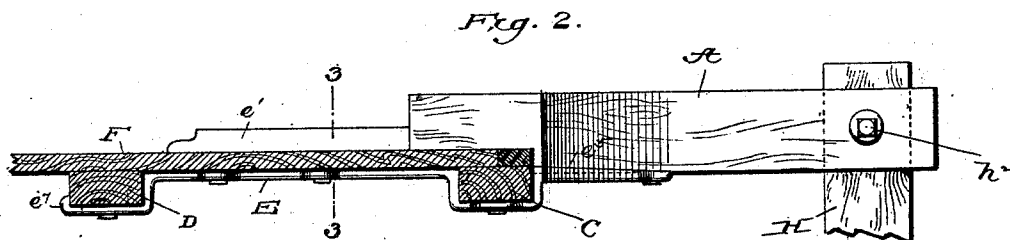
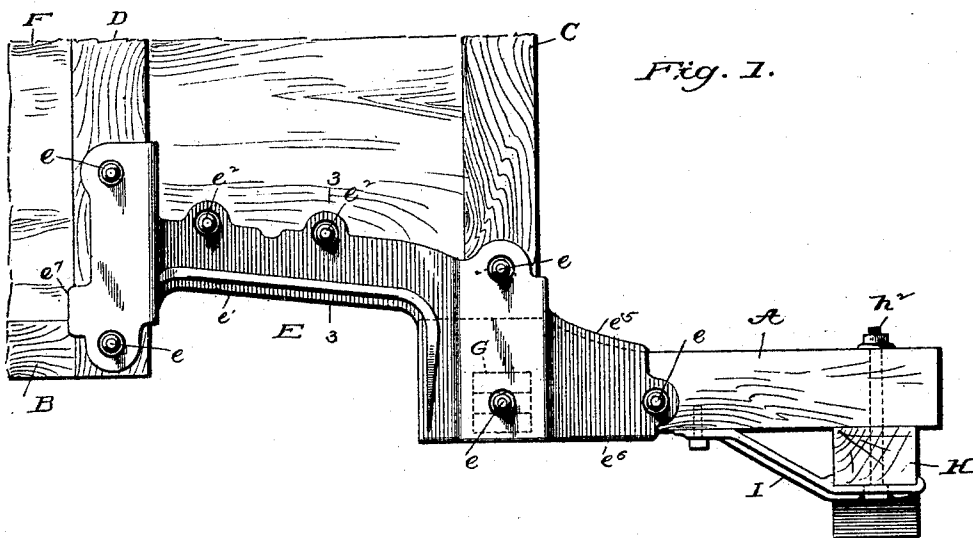
(No Model.)

2 Sheets—Sheet 1.

A. MILLER.  
CLOVER HULLING MACHINE.

No. 491,740.

Patented Feb. 14, 1893.



Witnesses:

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J. M. W. Martin.  
A. R. Keimig.

*Inventor:*

Abraham Miller  
By his atty.  
Phil T. Dodge

(No Model.)

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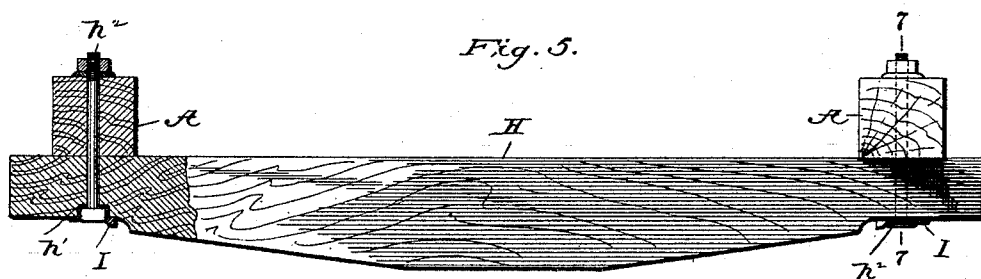
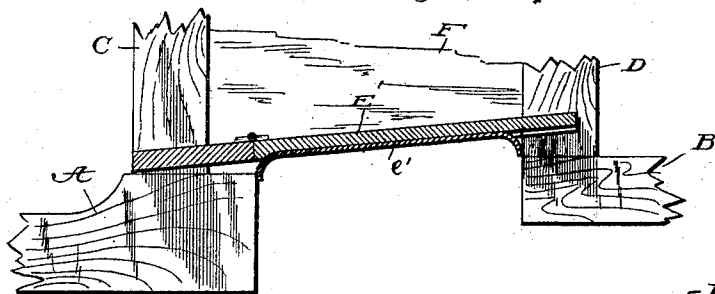
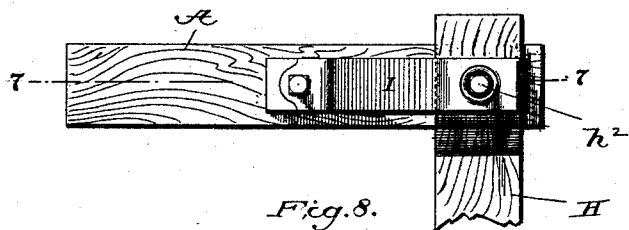
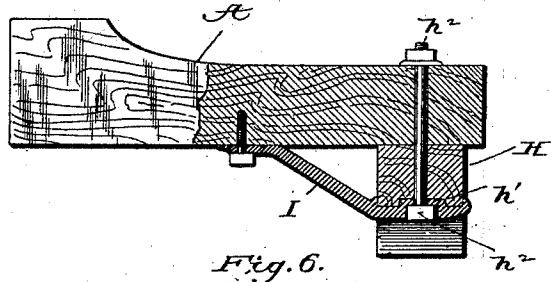


Fig. 7.  
on line 7-7.



Witnesses:  
W. W. Martineau  
M. R. Kneuf.

Inventor:  
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Phil. F. Dodge

# UNITED STATES PATENT OFFICE.

ABRAHAM MILLER, OF NEWARK, OHIO.

## CLOVER-HULLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 491,740, dated February 14, 1893.

Application filed August 1, 1890. Serial No. 360,632. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM MILLER, of Newark, in the county of Licking and State of Ohio, have invented certain Improvements in Clover-Hulling Machines, of which the following is a specification.

This invention relates to clover-hulling machines of the type now in general use, in which the frame is mounted upon four carrying wheels; the axle of the two front wheels being swiveled to a bolster underneath the main-frame near its forward end.

For various reasons unnecessary to detail it is very desirable to have the body or frame of the machine stand as near the ground as possible. It is equally important to have the front wheels and axles so arranged that the wheels may swing under the body to a greater or less extent and thus admit of the machine being turned abruptly or in a small space.

Now the principal object of my invention is to provide an improved construction of the frame which will permit the front wheels to turn thereunder, admit of the frame or body of the machine being placed as low or lower than usual and at the same time provide for the connection of the various parts in a stronger or more rigid manner than usual.

In the drawings,—Figure 1 is a side view of a portion of the forward end of a clover-hulling machine with my improvement applied thereto. Fig. 2 is a top plan view showing the parts represented in the preceding figure on one side of the machine. Fig. 3 is a vertical cross-section on the line 3—3 of the preceding figures. Fig. 4 is a front end elevation. Fig. 5 is a front elevation of the bolster and the parts to which it is connected. Fig. 6 is a bottom plan view showing one end of the bolster and the timber to which it is attached. Fig. 7 is a cross-section on the line 7—7 of Figs. 5 and 6. Fig. 8 is a longitudinal vertical section through the frame of the machine looking outward to show the support for the lower blast board.

The two sides of the machine are constructed in duplicate and the following description of one side may, therefore, be considered as a description of the other.

In the drawings,—A represents a horizon-

tal sill or timber forming the lower part of the main-frame on one side.

B is a rear sill or timber located behind the timber A with a considerable distance between their two ends.

C and D are two vertical posts, the former connected to the rear end of the sill A, and the latter to the forward end of the sill B. These posts C and D, which correspond substantially in form and arrangement with those now in use, assist in giving support to the huller cylinder and its connection, and they are commonly known in the art as the front and rear huller posts.

In machines as heretofore constructed the separate sills A and B, were not employed but in their place there was a single timber extending from front to rear so as to leave no space or opening between the posts C and D. By using the separate sills I am enabled to leave between them, as shown, a space or opening into which the front wheels of the machine may swing or turn in turning the machine. When the two sills are thus separated, however, it becomes necessary to provide a special means for connecting them with each other and for maintaining the huller posts in position. This I accomplish as shown in Figs. 1 to 4, by the employment on the side of the machine of a strong arched plate, E, adapted to span the space between the two posts, and so flanged and otherwise formed that it will fit the posts and the ends of the sills. It is to be observed that the plate fits not only against the outer or side faces of the parts but also against the transverse vertical faces of the posts, and that it is strongly attached to the various parts by bolts *e*, so that it ties them all together in the required relations. That portion of the plate which spans the space between the posts is also formed along its lower edge with a flange or lip *e'* extending horizontally inward to sustain the ends of the lower blast-board *E'*, which is in other respects arranged and sustained as usual. The usual stationary side-board *F*, forming part of the thrasher frame or body is also bolted to the arched plate at *e''*, so as to be held the more securely in position thereby. The two front posts *C* are extended lower than the rear posts and sunk into gains in the outer

sides of the front sills, as shown in Fig. 4, and the two sills are connected between the front posts by a cross-sill or tie, G, the ends of which are tenoned into the sills. A horizontal bolt,  $e^3$ , is inserted through the plate E, the front post, the sill and the cross tie, as shown in Fig. 4, thus securing said parts firmly together. In order that the front sills may be held the more securely the plate E, has along its upper and lower edges flanges  $e^5$   $e^6$ , between which the sill is embraced. At the rear end the plate E bears against the front face of the rear post and also has at its lower edge a lip  $e^7$ , to engage behind the post and take the principal part of the strain. At their forward ends the front sills, A, rest upon and are sustained by the ends of the transverse bolster H. An angular plate, I, is extended as in Figs. 5, 6 and 7, from the underside of the bolster rearward and upward to the under side of the sill to which it is bolted at  $h$ . The brace has its forward end flanged to engage the edges of the bolster and provided with a hollow boss,  $h'$ , seated in the bolster, as shown in Fig. 7. A vertical bolt,  $h^2$ , having its head seated in the boss is extended upward through the brace bolster and sills, and ties said parts securely together. The front axle will be located under and connected to the bolster as usual. The rear huller posts D will be united to the rear part of the frame and all the other parts not above described constructed and united in the usual manner.

Having thus described my invention, what I claim is.

1. In a clover huller, the combination of the front and rear sills having an open space between them for the reception of the sustaining wheels, the huller posts rising from the adjacent ends of said sills, and the arched plates spanning said open space and connected with the posts, substantially as shown and described.

2. In a clover huller the combination of the front and rear sills having an open space between them, the huller posts rising from the adjacent ends of said sills, and the arched plate spanning said open space and overlapping the posts and bolted thereto, substantially as shown and for the purposes described.

3. In a clover huller, the combination of the front and rear sills having an open space between them for the reception of the sustaining wheels, the huller posts rising from the adjacent ends of said sills, and the arched plate spanning said open space and overlapping the posts and having in its face vertical recesses for the reception of the same, substantially as shown and described.

4. In a clover huller, the combination of the front and rear sills having an open space between them for the reception of the sustaining wheels, the huller posts rising from the adjacent ends of said sills, the arched plates spanning said open space and connected with the posts, and having inwardly-projecting horizontal flanges  $e'$  to receive and sustain the ends of the blast-board.

5. The combination of the front sills A, and the front huller posts C, the latter being gained into the former, and the plate E, overlapping the sill and post and bolted thereto and having in its face recesses for the reception of said members, substantially as shown and described.

6. The combination of the front and rear huller posts C, D, the side-boards F secured to the same, and the arched plate E, formed with recesses for the reception of the posts and bolted thereto and to the side-boards, substantially as shown and described.

7. The combination of the front sills A, the transverse bolster H, lying thereunder, and secured thereto, and the braces I, bolted to the under sides of the sills and bolster and recessed for the reception of the latter, substantially as shown and described.

8. The combination of the front sills A, the transverse bolster H, lying thereunder and secured thereto, and the braces I, bolted to the undersides of sills and bolster and having recesses for the reception of the latter and bosses  $H'$  projecting into the same.

In testimony whereof I hereunto set my hand, this 19th day of July, 1890, in the presence of two attesting witnesses.

ABRAHAM MILLER.

Witnesses:

EDWIN A. BRADDOCK,  
CHAS. H. FOLLETT.