Feb. 17, 1959 R. L. BROOKS 2,873,867

GRAIN BOARD AND HOOKS THEREFOR

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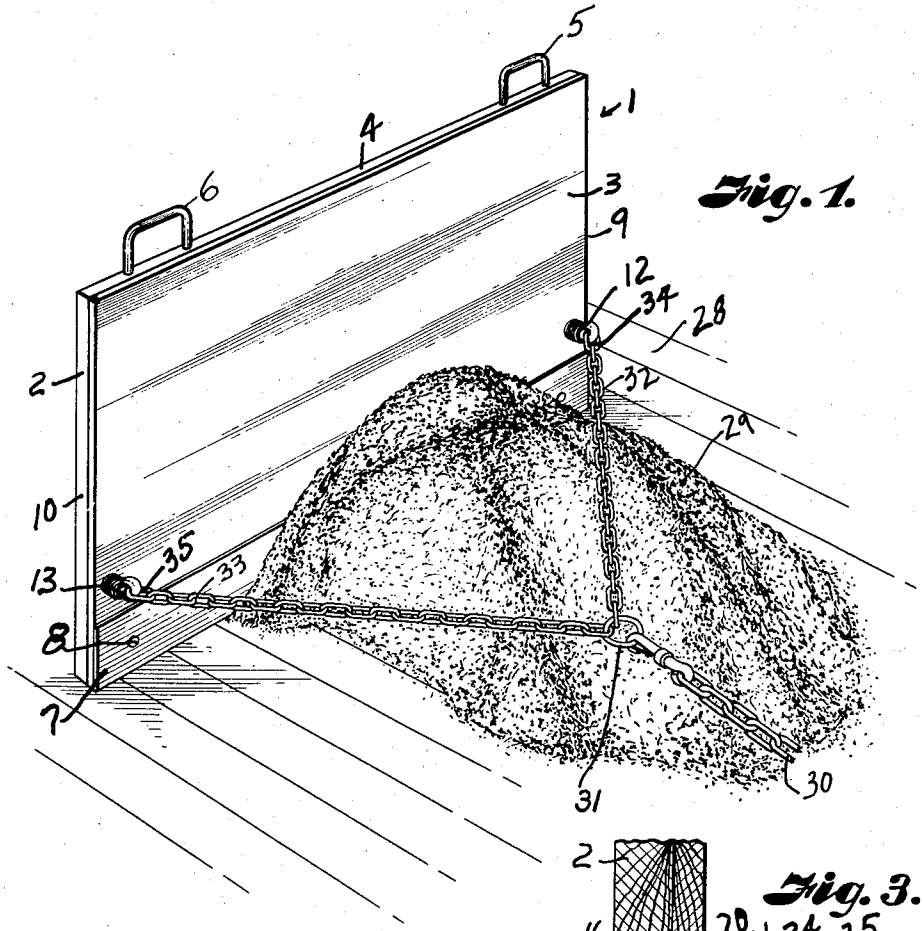


Fig. 1.

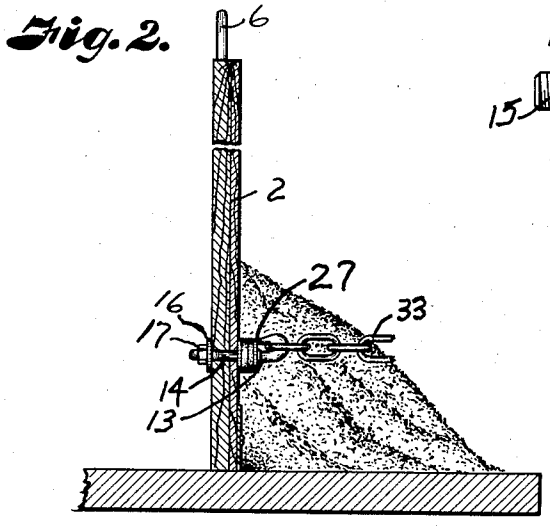


Fig. 2.

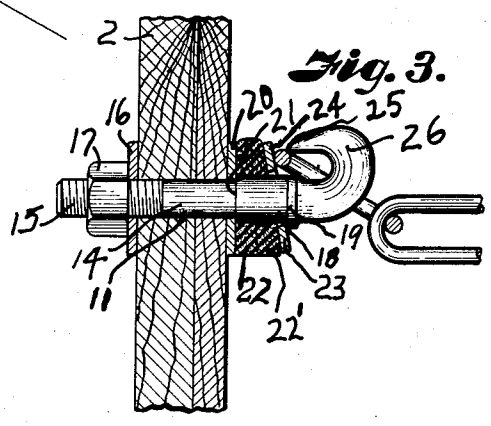


Fig. 3.

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GRAIN BOARD AND HOOKS THEREFOR

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1 Claim. (Cl. 214—44)

This invention relates to a grain board, and more particularly to a board for moving grain, the board having hooks on the front face thereof to which a chain or other device may be attached for moving the board with the grain in front thereof on a plane surface or piled in a bin or the like.

Various devices have been used for movement of grain in bins and other places and grain boards themselves have been used without success, the reason being the fastening devices for the draw chain or cable have been unwieldy and hard to engage and disengage, or if ordinary hooks are used they become disengaged easily.

It is therefore the principal object of the present invention to provide hooks near the lower edge of the grain board to which a chain or other draw means may be quickly engaged and disengaged yet retained thereon until desired to be disengaged.

Other objects of the present invention are to provide a grain board of substantially triangular shape having a plate on the front lower face thereof for engaging the floor of a grain bin or other place where the wheat is stored; to provide handles on the upper edge of the grain board for holding the same as it is drawn through the grain; to provide a chain or other means for attachment to the grain board for drawing the grain board through power means (not shown); to provide a hook on each lower edge of the forward face of the grain board having a shank member extending through the board and resilient washers surrounding the shank on the front face of the board with a washer engaging a flange on the shank against which a link of the chain may be inserted to press the washer against the resilient member to engage the link on the hook member; and to provide a device of this character simple and economical to manufacture.

In accomplishing these and other objects of the invention I have provided improved details of structure the preferred forms of which are illustrated in the accompany drawings, wherein:

Fig. 1 is a perspective view of my invention showing the board engaging the pile of grain.

Fig. 2 is a cross sectional view through the device particularly illustrating one of the hooks through the board.

Fig. 3 is an enlarged cross sectional view particularly illustrating one of the hooks through the board and the resilient washers on the shanks of the hook members to provide for the link to be engaged over the hook portion of the hook member.

Referring more in detail to the drawings:

1 designates a grain board embodying the features of my invention comprising, a substantially rectangularly shaped board member 2 having a front face 3 and a top edge 4 to which are secured handles 5 and 6. A metal plate, or the like, 7 is secured along the lower front edge of the board 2 by bolts, screws, or the like, 8. The board may be of one piece or may be of plywood or other suitable material.

Near the lower edge of the board and near the edges 9 and 10 thereof are openings 11 for hook members 12 and 13. The hook members are identical, only one will be described. The hook member has a shank 14 and a threaded end 15 which extends through the openings 11 in the board and is held therein by washer 16 and nut 17. The shank of the bolt is provided with an enlarged portion 18 and the outer end still further enlarged to form an annular flange 19. A washer 20 surrounds the shank 14 of the bolt and engages against the shoulder 21 of the enlarged portion 18. A pair of resilient washers 22 and 22' surround the enlarged portion 18 and may be of foam rubber or other similar material. A washer 23 surrounds the enlarged portion 18 and engages against the flange 19 of the shank so that the outer face 24 of the washer engages against the point 25 of the hook portion 26 of the hook members 12 and 13 as indicated at 27 (Fig. 2).

28 designates a floor upon which grain 29 is placed or stored and when it is desired to move the grain a chain 30 is attached to a source of power (not shown) and its other end is attached to a ring member 31 having pieces of chain 32 and 33 having one end engaging the ring 31 and the opposite ends engaging the hooks 12 and 13 as illustrated in Fig. 1.

In order to engage the links 34 and 35 on the hooks 26 of the hook members 12 and 13 the link is pressed against the front face of the washer 21 and force applied against the resilient washers 22 so as to move the washer 21 away from the point 25 of the hook member as best illustrated in Fig. 3, so that the link will pass the point 25 and engage the hook member. The resilient washers will then move the washer 21 back against point 25 of the hook to retain the links on the hook and prevent disengagement thereof when in operation.

By utilizing the source of power (not shown) the board may be pulled with the grain in front thereof as shown in Fig. 1, as desired and when it is desired to disengage the chains from the hook the links 34 and 35 are then pressed against the washers 21 so that the resilient washers 22 and 22' will give to allow the links to again pass the point 25 of the hook.

It will be obvious from the foregoing that I have provided an improved grain board and hooks thereon for moving grain which will be easily engaged to the source of power by the chain or other device and which may be readily disengaged therefrom through the resilient washers on the hook members.

It will be obvious that the hooks utilized in my invention may be used for other purposes than grain boards. I particularly do not wish to be limited to such use as the hooks may be used for any purpose wherein the chain or other fastening device be desired to be engaged with the hook and yet have the hook retain the link therein so that it will not become disengaged in use.

What I claim and desire to secure by Letters Patent is:

A grain board for moving bulk material by a source of power through a chain link connection, said board including spaced hook members adapted to receive a chain link and to retain said chain link without danger of accidental detachment but wherein the chain link may be easily engaged and disengaged, said hook comprising a longitudinally extending shank having one end adapted for mounting in a support, said shank having its other end turned laterally and rearwardly to form a reversely extending hook portion and having the end of said hook portion terminating in a point, an enlarged portion extending completely around said shank, a first washer mounted on said shank and in abutting relationship with said enlarged portion, an annular flange on said shank having one face thereof substantially in a plane trans-

verse and perpendicular to the axis of said shank and in alignment with the extreme end portion of the hook point, a second washer loosely sleeved and slidable on said shank between said first washer and said annular flange and being maintained in spaced relation to said first washer with the said annular flange serving as a stop for said second washer substantially adjacent the point of said hook, the radial face of said second washer being of such a diameter as to extend both above and below the hook point so that the second washer may be engaged by the chain link to effect either an engagement or disengagement of the link, resilient means mounted on said shank between said first and second washers and urging

said second washer into resilient engagement with said hook point thereby preventing accidental disengagement of said chain link but whereby pressure on said second washer toward said first washer compresses said resilient means and moves said second washer into spaced relation to the hook point in order to allow for engagement or disengagement of the chain link and said hook.

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