

(No Model.)

2 Sheets—Sheet 1.

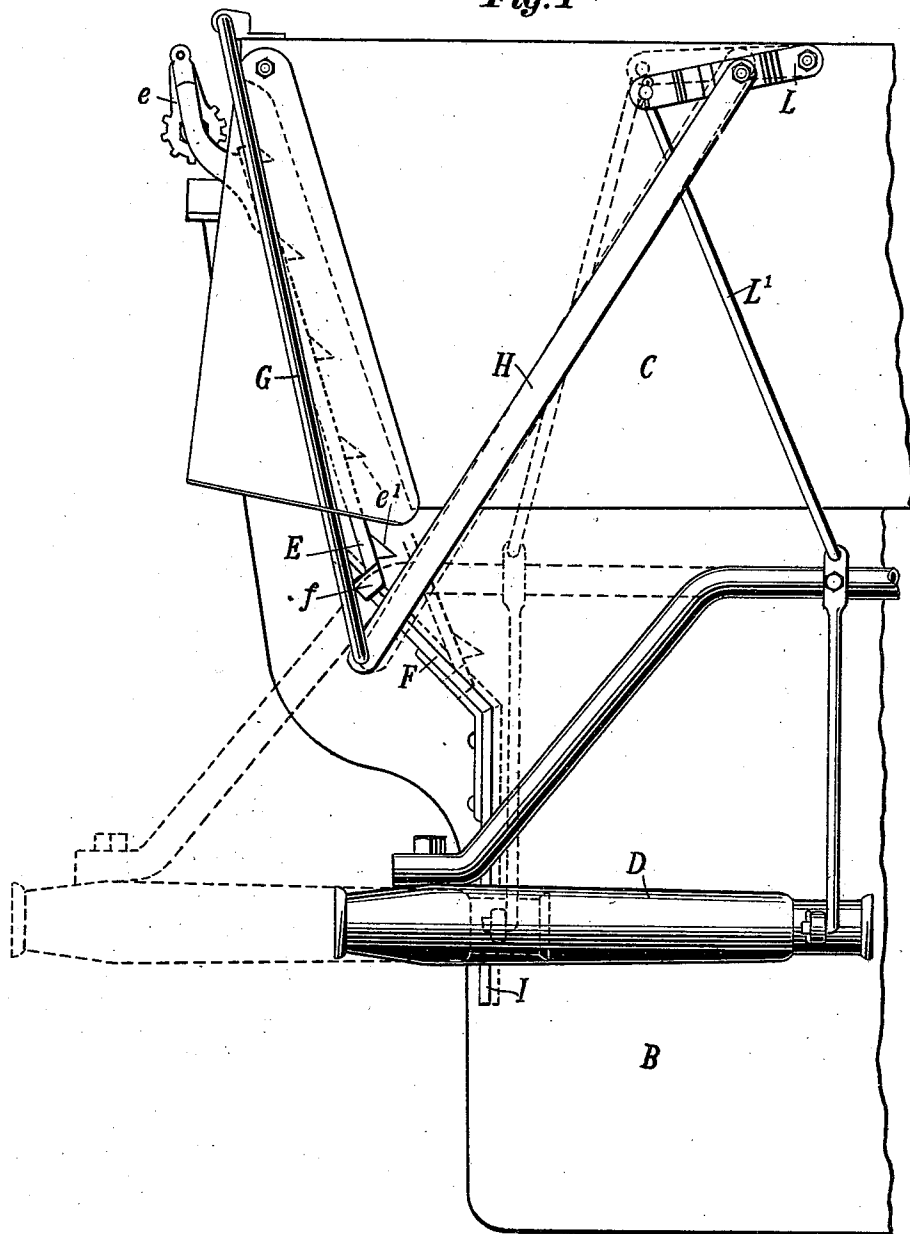
T. SMITH.

BUTT ADJUSTER FOR GRAIN BINDERS.

No. 561,182.

Patented June 2, 1896.

Fig. 1



WITNESSES:

E. E. Clinton.
John M. Culver

INVENTOR

Theodore Smith

BY

T. B. Swift.

ATTORNEY.

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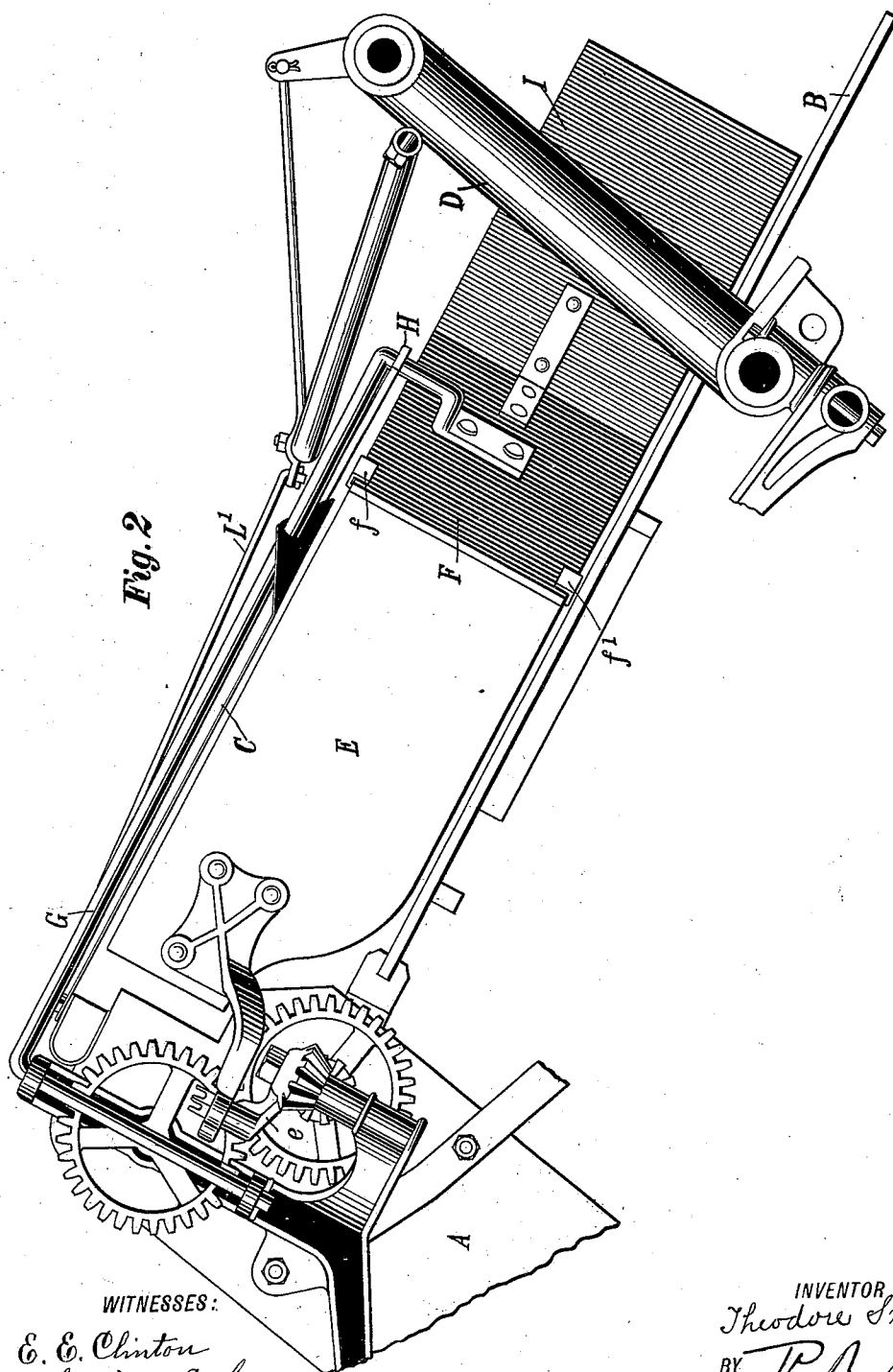


Fig. 2

WITNESSES:

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UNITED STATES PATENT OFFICE.

THEODORE SMITH, OF GEORGETOWN, ILLINOIS, ASSIGNOR TO THE
McCORMICK HARVESTING MACHINE COMPANY.

BUTT-ADJUSTER FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 561,182, dated June 2, 1896.

Application filed February 14, 1896. Serial No. 579,298. (No model.)

To all whom it may concern:

Be it known that I, THEODORE SMITH, a resident of Georgetown, in the county of Vermillion and State of Illinois, have invented certain new and useful Improvements in Grain-Binders, of which the following is a specification.

My invention relates to grain-binders that receive the swath of grain that has been cut and reeled upon the platform of the harvester and transport it sidewise to the binder. This stream of grain, as it is carried to the side by the platform-apron, has its travel hindered at the butts by the standing grain and by the grain as it falls upon the platform, and it thus moves on to the binder, usually with its heads in advance of the butts.

The object of my invention is to place a vertical butt-board in the line of the path of travel of this stream of grain at the butts of the grain and in such a position in the line of the path of the travel where there are no aggressive forwarding devices acting upon the grain. When the grain is grasped by forwarding devices that hold it, it cannot be adjusted laterally by a butt-board, nor can the butts be forwarded with a rapidity greater than the travel of the heads. It is therefore necessary to act upon the grain when it is in a free state, so that it can be adjusted laterally as well as forced onward into the binder more nearly even. This aggressive forwarding by the butt-board, as has been pointed out, accomplishes no result after the grain has been positively seized by forwarding devices, and the action of the butt-board must therefore cease before the grain is seized by the packers, to be forced onwardly into the binder, wisp by wisp, and compacted into a bundle. The butt-board is therefore positioned so as to move the grain onward and move it laterally, if desired, after leaving which the packers take possession of it and carry it forward against the trip of the binder. If the ground over which the machine is traveling is rough, these wisps of grain that are resting upon the trip are jolted and tend to shift laterally, and the bundle formed after such lateral shifting will be a loose straggling one, which will cause much waste before it

has been shocked and finally transported to the stack and threshing-machine.

My invention has to do with the butt-board and its path of movement, and also with a vertical plate that is extended beyond the path of the board, and against which the butts of the grain rest, thus preventing the grain from sliding, so that it will not be centrally bound.

In the accompanying drawings, Figure 1 is a top view of so much of the binding mechanism of a self-binding harvester as shows the chute in which the oncoming stream of grain is carried, together with the binding attachment, its deck, and the butt-board and its extension, together with the rods and levers by which the butt-board is adjusted in an opposite direction from the movement of the binder when the binder is shifted along the end of the harvester for central binding. Fig. 2 is an end view of the same parts, the gearing of the binder and other parts of the self-binding harvester, except those directly bearing upon this invention, having been omitted.

Referring to the drawings, A represents the elevator; B, the deck of the binder, upon which the grain falls as it is delivered from the elevator; C, the deflector or covering over the top of the elevator; D, the frame of the binder from which the gearing and shafting have been omitted. These parts are of the usual well-known construction that is common to all classes of self-binding harvesters.

My improvement, as heretofore stated, has more particular reference to the butt-board E, which is placed vertically at the top of the elevator where the stream of grain is discharged upon the deck. Its receiving end is actuated by the crank *e*, that receives its motion through the gear and sprocket wheels and connecting mechanism to the other moving parts of the machine. The delivery end of this butt-board slides on the diagonally-placed board F. Straps *f* and *f'* fit over the edges of the board F and are fastened to the delivery end of the butt-board E. These straps hold the delivery end of the butt-board closely against the face of the board F, and as the rotation of the crank vibrates the butt-

board back and forth its lower end slides on the diagonal path in which the board F is positioned.

A supporting-rod G is pivoted upon the machine-frame as closely to the pivot of the butt-board E as is possible, and extends downwardly, practically parallel with the top of the butt-board, and is bent at its lower end to form a foot, to which the board F is fastened. It is thus seen that any grain moved forward by the aggressive feeding-lugs *e'* on the butt-board will be not only carried down toward the binder, but will be moved laterally along the binder-deck, so as to be positioned in the desired place in the binder. As the board E retracts, any grain that falls against its face will be pushed along down its face, and the close fitting of the butt-board against this diagonal board and the way it is held by the straps *f* and *f'* will prevent its carrying any trash, damp grain, weeds, or other refuse back with it on its return stroke and drawing these in between the boards, thus preventing the onward movement of the grain. A connecting-rod H extends from the lower end of the supporting-rod G to a link L, that is pivoted upon the top of the elevator-frame. A connecting-rod L' joins this link with the binder, which is shifted along the delivery end of the harvester by any of the many well-known means for adjusting binders, and in its movement the connecting-rod H is swung so that the butt-board and its connecting parts have an opposite movement from the direction in which the binder is adjusted.

At the delivery end of the board F there is fastened a vertically-placed extension-board I, that extends outward toward the delivery side of the grain, practically at right angles with the onward path of the advance of the machine, which board rests against the butts of the accumulating bundle which is being brought forward by the packers, wisp by wisp, and prevents this grain from shifting laterally.

Attention is called to the fact that the extension-board I can be removed from the machine, if desired, in long grain, and the adjuster be moved ahead, so as to give more

room. It will, however, be seen that the board F must remain in place in order to support the delivery end of the butt-board E, and standing, as it does, into the path of the stream of grain, its face must be smooth and the delivery end of the butt-board E must be held against it, so as to be confined to a path of travel that is the same as the angle of the board F. If the board F were straight, the butt-board would not have sufficient aggressive action upon the grain so as to move the grain the necessary amount in order that a square-butted bundle may be formed before the grain is taken possession of by the packers. It being therefore necessary to have the board F obliquely placed to the line of the oncoming grain, it makes it necessary that the delivery end of the butt-board E shall be guided by it and held to the face of the board F; otherwise in light grain the end of the board E would flap back and forth, destroying the parts, damp stuff would lodge upon the diagonal face of the board F, and the office of the parts be defeated.

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

1. In combination in a self-binding harvester, a rotating, vibrating butt-board, positioned at the butts of the stream of grain, its receiving end actuated by a crank and its delivery end supported upon and guided by a diagonally-placed board, a supporting-rod pivoted upon the harvester and forming a support for the diagonally-placed board substantially as and for the purpose specified.

2. In combination in a self-binding harvester, a butt-board positioned at the butts of the stream of grain, its receiving end actuated by a crank, and its delivery end guided by and supported on a diagonally-placed board, that is supported by an arm pivoted to the harvester and an extension-board rigidly connected with the diagonal board and at an angle to it, substantially as and for the purpose specified.

THEODORE SMITH.

Witnesses:

A. J. DICKERSON,
G. MOORE.