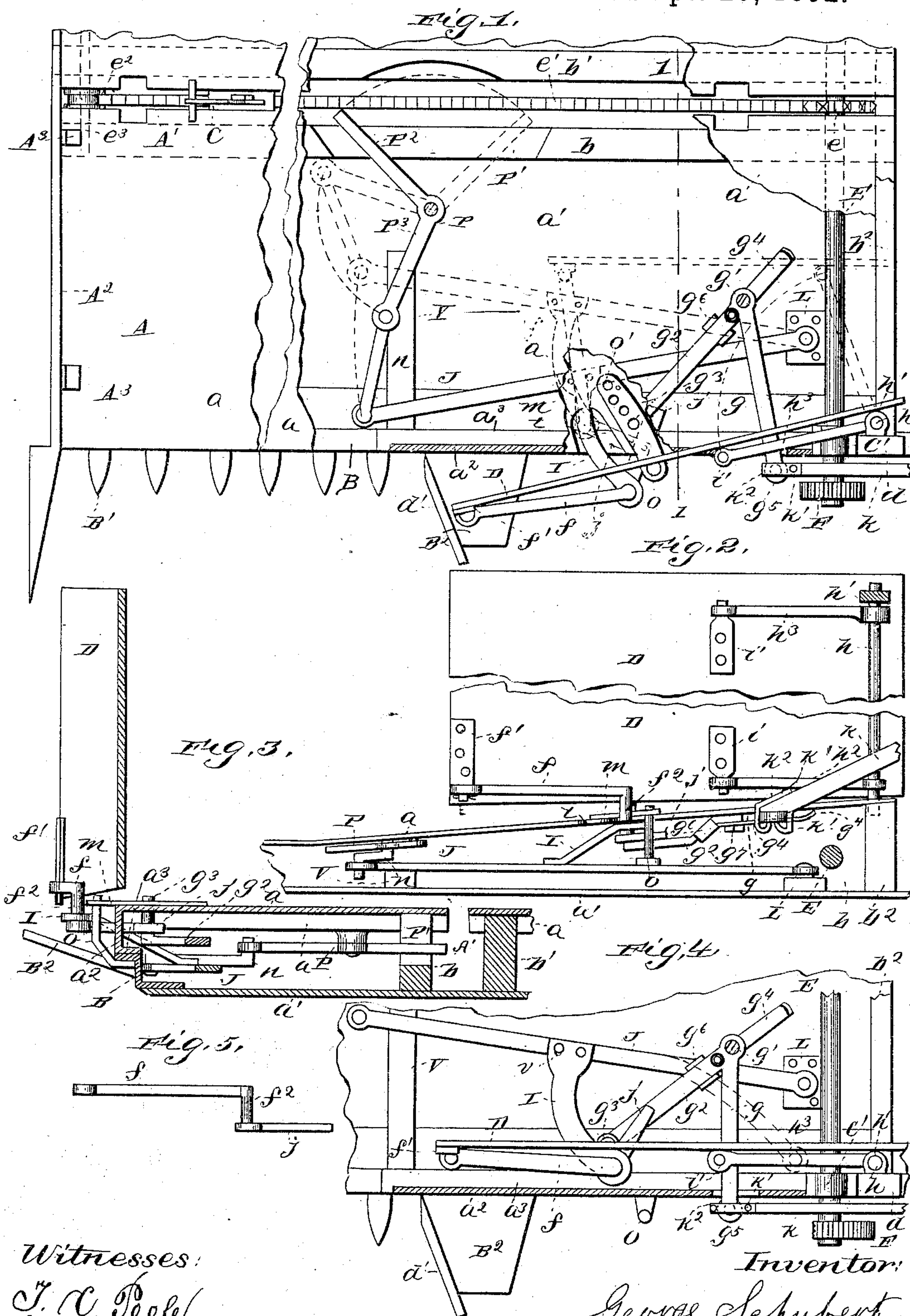


(No Model.)

G. SCHUBERT.  
BUTT BOARD FOR GRAIN BINDERS.

No. 473,559.

Patented Apr. 26, 1892.



Witnesses:  
J. C. Poole  
J. F. Noble

Inventor:  
George Schubert



# UNITED STATES PATENT OFFICE.

GEORGE SCHUBERT, OF WALNUT, TEXAS.

## BUTT-BOARD FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 473,559, dated April 26, 1892.

Application filed April 3, 1891. Serial No. 387,574. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE SCHUBERT, a citizen of the United States, residing at Walnut, in the county of Bosque and State of Texas, have invented certain new and useful Improvements in Butt-Boards for Grain-Binders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in butt-boards for grain-binders to even the butts of the gavel of grain to be bound and to also adjust said gavel in regard to length so that short grain will be bound near the center as well as long grain, and said adjustment is so arranged that it can be changed by the operator whenever so desired. Said butt-board and mechanism are especially adapted for the conveyer invented by myself and patented February 17, 1891, No. 446,473. It has reference more especially to the construction of the butt-board and operating parts, so as to even the butts of the grain and adjust the same to proper position to the binder at one single movement of the butt-board, and to construct such operating parts so that the operator can increase or decrease the movement of the butt-board without checking the movement of the machine, and thus adjust the gavel of grain so that a long gavel or a short gavel will be bound nearer the center of its length without any shifting of the binder mechanism. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a harvester-platform provided with my improvements, the upper plate of the platform being mostly removed, so as to show the construction of the lever arrangement below said plate. Fig. 2 is a front view of the inner portion of Fig. 1 with the finger-bar removed, so as to show parts beyond in full lines. Fig. 3 is a vertical cross-section on line 1 1, Fig. 1, showing the parts beyond the section-line in full lines. Fig. 4 is a plan view of part of the machine shown in Fig. 1, with the upper plate of the platform removed, with the shiftable lever moved to the rear, moving the grainward end of the butt-board only and only far enough to

bring said butt-board parallel with the front edge of the platform, as shown in said figure. Fig. 5 is a detail view of one of the operating-levers.

Referring to the drawings, A designates the platform, constructed of plates  $a$  and  $a'$ , braced apart by strips  $b$  and  $b'$ , to which the plates  $a$  and  $a'$  are secured. The strips  $b$  and  $b'$  form the usual walls for the passage-way for the conveyer C, a slot  $A'$  being left between the plates  $a$  for the conveyer C. The strip  $b$  is cut down at  $P'$  to permit the working of the arm  $P^2$  of lever P. The front edge of the lower plate  $a'$  is secured to the lower flange of the finger-bar B, and the front upper plate  $a$  is secured to the upper flange of the finger-bar B. The inner ends of the upper plates  $a$  are slightly elevated. The front edge of said elevated portion of front plate  $a$  is turned down, forming the part  $a^2$ , and then inward, forming the flange  $a^3$ , by which said elevated part of the front plate  $a$  is secured to the upper flange of the finger-bar. (See Fig. 3.)

$A^2$  designates the grain-board, secured to the plates  $a$  and  $a'$  by corner-irons  $A^3$ . (Seen in Fig. 1.) The finger-bar B is provided with the usual guard-fingers  $B'$  and a shoe  $B^2$ . To said shoe  $B^2$  can be secured an inner grain-board  $d'$ . A slot is made in the front  $a^2$  of plate  $a$  for the operation of lever  $g$ , and a notch  $t$  is made in the front plate  $a$  for the operation of the stud  $f^2$ , and the front plate  $a$  is perforated at  $o'$  for the purpose herein-after described.

E designates a shaft located near the inner end of the platform A, with its front bearing  $C'$  secured to the finger-bar B and extending through the strip  $b$ , with its rear bearing in the strip  $b'$ . Said shaft is provided with a pinion F on its forward projecting end and a sprocket-wheel  $e$ , located in the slot  $A'$ , provided with a chain  $e'$ , extending over an idler  $e^2$ , secured to a shaft  $e^3$ , having its bearings in the strips  $b$  and  $b'$  at the grainward end of the platform. Said shaft  $e^3$  is shown in dotted lines in Fig. 1. By said chain the conveyer is operated.

$b^2$  is a cross-bar at the inner end of the platform, secured to the finger-bar B and the strips  $b$  and  $b'$ .

$d$  is an upright secured at its lower end to



the cross-bar  $b^2$  and the finger-bar B, provided at its upper end with the lug  $h'$  to receive the upper end of the rod  $h$ , by which the butt-board is held in an upright position, the lower end of the rod  $h$  being pivoted to the cross-bar  $b^2$ , as shown in Figs. 1, 2, and 4.

$h^2$  and  $h^3$  are arms secured to the rod  $h$ , as shown in Fig. 2, with their other ends pivoted to the butt-board D by brackets  $i$  and  $i'$ . By said arms  $h^2$  and  $h^3$  the butt-board is supported or carried and also operated, as hereinafter described.

The length of the butt-board D beyond the brackets  $i$  and  $i'$  and the height of the same may be varied according to the size of gavel of grain to be operated on.

$f$  designates a lever pivoted to the bracket  $f'$  with its free end. Said bracket  $f'$  is secured to the butt-board near its free or grainward end. The other end of lever  $f$  is provided with a stud  $f^2$  to receive the arm I, and to the lower end of said stud is secured the arm  $j$ . Said lever  $f$  is supported by the bracket  $f'$  and the arm I. The arm  $j$  extends toward the rear, as shown in Fig. 1, and is to operate on the stud  $g^3$ , as hereinafter described. The arm I is secured to and carried by the bar J. The stubbleward end of bar J is pivoted to a block L, secured to the plate  $a'$ . Said bar may be pivoted to the plate  $a'$  near the finger-bar B or a slight distance to the rear of the finger-bar B, as seen in Figs. 1 and 4. When so placed to the rear, as shown, one or both of the holes  $v$  in the arm I should be made somewhat oblong, as shown in Fig. 4, so as to give the arm I a slight lateral movement for the purpose hereinafter stated.

The arm I is secured to near the center of bar J. The free end of said bar J extends a short distance past the pivot of the bell-crank lever P, and is connected to the arm  $P^3$  of said lever P by the connecting-rod  $n$ . Said lever P is pivoted to the under side of the plate  $a$  a suitable distance from the inner or stubbleward end of the platform, so that the arm  $P^2$ , extending into the passage-way of the conveyer, will be operated by the same at the proper time, so as to operate the butt-board at the desired time.

V is a strip of wood secured to the plate  $a'$  for the support of the free end of bar J.

$g$  is a bell-crank lever pivoted at its rear to the stud  $g'$ , secured to the under side of plate  $a$  and located a suitable distance from the finger-bar B, as shown in Fig. 1, with the arm  $g^2$  slightly crooked down, as shown in Fig. 2, and extending to near the arm I and provided with a stud  $g^3$  at its free end, projecting upward and into one of the perforations  $o'$  in the plate  $a$ , so as to withstand the pressure received from the arm  $j$ .

$g^4$  is a spring secured to the stud  $g'$  below the lever  $g$  and forced against said lever  $g$  by a nut  $g^7$ . One end of said spring  $g^4$  extends along the arm  $g^2$  for four or five inches and is provided with ear laps  $g^6$  to prevent the disengaging from said arm  $g^2$ . Its other

end projects about the same distance beyond the pivot  $g'$ , with its end curved upward and in contact with the plate  $a$ , and is to prevent the stud  $g^3$  from disengaging from the perforation  $o'$ . The arm  $g$  projects forward and projects from the platform through a slot made in the vertical front  $a^2$  of plate  $a$  and is provided with an eye  $g^5$  on its forward-projecting end. To said eye  $g^5$  is secured the shifting-bar  $k$  by an ordinary bolt or by a hook-bolt  $k'$ , passing down on the outside of the eye  $g^5$ , with the hook engaging the eye.

$k^2$  is a strap brought down on the other side of the eye  $g^5$ , with its hook also engaging the eye  $g^5$ , so as to prevent the bar  $k$  from rocking on the lever  $g$ .

The free end of the shifting-bar  $k$  extends to the driver's seat and is operated by him. By elevating the free end of the shifting-bar  $k$  the stud  $g^3$  will be disengaged from the perforations  $o'$ , when it may be adjusted to either one of the perforations  $o'$  by shifting or drawing the draw-bar  $k$ . The weight of the free end of the draw-bar  $k$  can be so adjusted as to hold the stud  $g^3$  in engagement with the perforations  $o'$  without the assistance of the spring  $g^4$ , above described; but I prefer to also employ the spring  $g^4$ .

$m$  designates a strip secured to the plate  $a$ , as seen in Fig. 1, and perforated the same as plate  $a$ , and is to strengthen said perforations  $a'$ . Its front end projects forward to receive the upper end of the pin  $o$ . The lower end of said pin is secured to the upper flange of the finger-bar B, as seen in Fig. 3.

The operations may be summarized as follows: The rearward-projecting end  $P^2$  of lever P is operated by the conveyer-block C, passing along in the slot  $A'$  and moving said lever to the position as seen in dotted lines in Fig. 1, thereby moving the bar J, to which is secured the arm I, also as seen in dotted lines, thus drawing the stubbleward end of lever  $f$  or stud  $f^2$  to the rear, and as the projecting arm  $j$  is in contact with the stud  $g^3$  and rigidly secured to the stud  $f^2$  on lever  $f$  it will cause the lever  $f$  to swing to the position as seen in dotted lines in Fig. 1. During this movement the distance between the pivots  $f'$  and  $h$  of the arms  $h^2$  and  $h^3$  decreases, thus forcing the arms  $h^2$  and  $h^3$  also out, as seen in dotted lines, thus moving the butt-board D out parallel with the platform, as seen in dotted lines in Fig. 1. As the conveyer moves back it engages the lever P again and moves it back in position, as seen in full lines, thus moving the bar J and arm I and the stud  $f^2$  also back in position, as seen in full lines. At this movement the projecting arm  $j$  comes against the pin  $o$ , thus forcing the free end of lever  $f$  back, and thereby moving the butt-board back again, as seen in full lines. The distance of movement of the butt-board can be regulated by shifting the stud  $g^3$  from one perforation  $o'$  to another, as heretofore described. By moving the stud to the rearmost perforation the butt-board will only



be moved to a position parallel with the platform, as seen in Fig. 4. For this latter movement the arm I is provided with a slot or slots *v* (see Fig. 4,) so as to permit a slight lateral movement, so as to avoid an increase in distance between the pivot or bracket *f'* and the pivot *h*, to which the arms *h*<sup>2</sup> and *h*<sup>3</sup> are secured. By curving the bar J slightly and pivoting it near the finger-bar B, as shown in dotted lines in Fig. 4, the arm I can be rigidly secured to the bar J, as in this instance the distance between the pivots *f'* and *h* will not increase to an appreciable extent. The lever P springs back far enough into the passage-way of the conveyer after the latter has passed by reason of its elastic connection so that it will be again engaged by the conveyer on its return movement.

Many slight changes can be made in the form of the parts of these devices without a departure from the spirit of or exceeding the scope of my invention. Hence I do not wish to restrict myself to the exact forms herein shown; but,

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

1. A butt-board for grain-binders, supported by the arms *h*<sup>2</sup> and *h*<sup>3</sup>, secured to the rod *h*, as shown, an arm *f*, pivoted to the bracket *f'* and having a stud *f*<sup>2</sup>, provided with an arm *j*, and operated by an arm I, a stud *g*<sup>3</sup>, secured in the platform, the arm I, secured to the bar J, the lever P, pivoted in the platform A and connected to the bar J by the connecting-rod *n*, and a conveyer moving in the platform, as and for the purpose described.

2. In a butt-board for grain-binders, the arms *h*<sup>2</sup> and *h*<sup>3</sup>, pivoted with one end to the butt-board and with their other end to the harvester-frame or to the rod *h*, as shown, a lever *f*, pivoted to the butt-board D and provided with a stud *f*<sup>2</sup> and arm *j* and operated by the arm I, in connection with a stud *g*<sup>3</sup>, all as shown, and for the purpose described.

3. In a butt-board for grain-binders, a lever *f*, pivoted to the butt-board D, as shown, and provided with a stud *f*<sup>2</sup>, an arm *j*, secured thereto, in connection with a stud *g*<sup>3</sup>, the arms *h*<sup>2</sup> and *h*<sup>3</sup>, secured to the rod *h* and pivoted to the butt-board D, the bar J, provided with the arm I, the lever P, pivoted in the platform and connected to the bar J by a link or rod *n*, and a conveyer moving in said platform, for the purpose described.

4. In a butt-board for grain-binders, a bar

J, pivoted in the platform and provided with the arm I, extending toward the front, in connection with lever *f*, pivoted to the butt-board D and provided with the arm *j*, a stud *g*<sup>3</sup>, arms *h*<sup>2</sup> and *h*<sup>3</sup>, as shown, a lever P, pivoted in the platform and connected to the bar J, and a conveyer moving in said platform, for the purpose described.

5. In a butt-board for grain-binders, a lever P, pivoted in the platform, a conveyer moving in said platform, a bar J, pivoted in the platform and connected to the lever P and provided with an arm I, in engagement with the stud *f*<sup>2</sup>, the arms *h*<sup>2</sup> and *h*<sup>3</sup>, pivoted to the butt-board, and lever *f*, pivoted to the butt-board and provided with the arm *j*, in connection with a stud *g*<sup>3</sup> and a pin *o*, as shown, and for the purpose described.

6. In a butt-board for grain-binders, a lever *g*, pivoted in the platform and provided with the arm *g*<sup>2</sup>, having a stud *g*<sup>3</sup>, perforations *o'* in the plate *a* to receive the stud *g*<sup>3</sup>, a lever *f*, pivoted to the butt-board, provided with an arm *j*, and operated by the arm I, and arms *h*<sup>2</sup> and *h*<sup>3</sup>, pivoted to the butt-board, as shown, and for the purpose described.

7. In a butt-board for grain-binders, a lever *g*, pivoted in the platform and projecting out from under the platform and provided with a shifting-bar *k*, as shown, with its other arm *g*<sup>2</sup> extending to near the arm I and provided with a stud *g*<sup>3</sup>, as shown, perforations *o'* in the plate *a* to receive said stud, a lever *f*, pivoted to the butt-board, provided with an arm *j*, and operated by the arm I, and arms *h*<sup>2</sup> and *h*<sup>3</sup>, pivoted to the butt-board, as shown, and for the purpose described.

8. In a butt-board for grain-binders, a lever *g*, pivoted in the platform and projecting from the edge of said platform, a shifting-bar *k*, attached to said projecting end, with its other arm *g*<sup>2</sup> extending to near the arm I and provided with a stud *g*<sup>3</sup>, perforations *o'* in the plate *a* to receive said stud, a spring *g*<sup>4</sup>, as shown, to prevent the disengaging of the stud *g*<sup>3</sup>, a lever *f*, pivoted to the butt-board, provided with an arm *j*, and operated by the arm I, and arms *h*<sup>2</sup> and *h*<sup>3</sup>, pivoted to the butt-board, substantially as described.

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

GEORGE SCHUBERT.

Witnesses:

P. M. CROW,  
L. G. HUGHES.