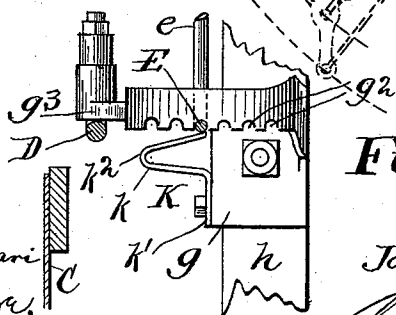
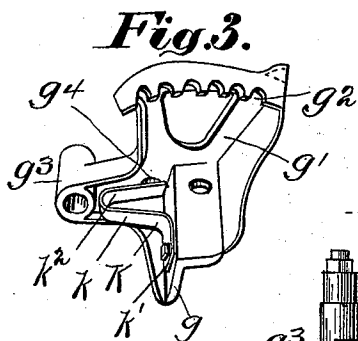
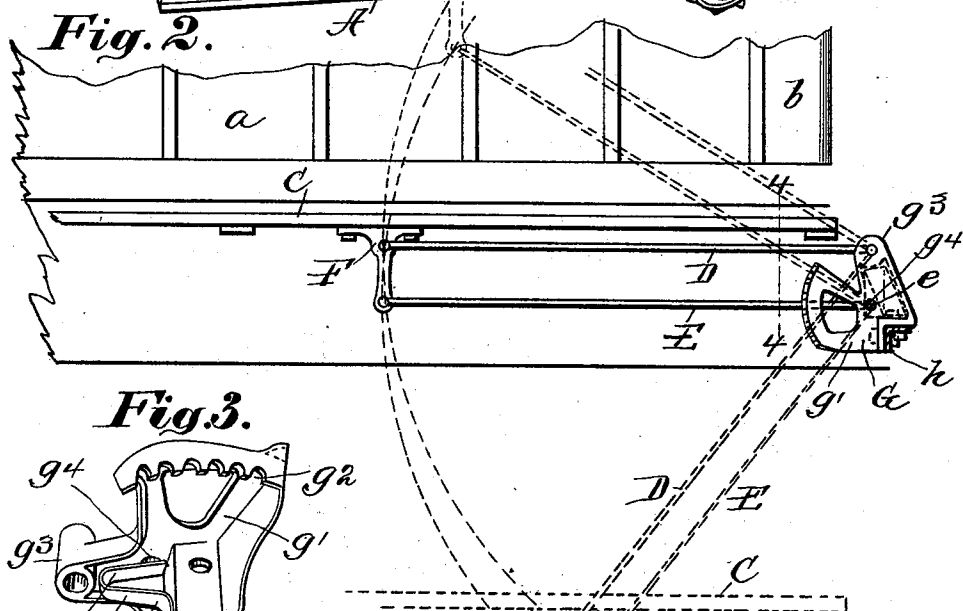
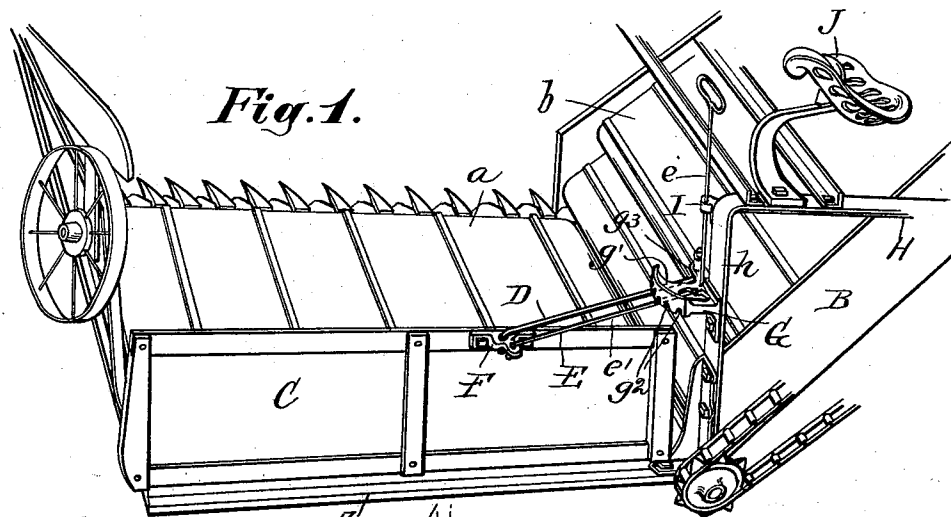


(No Model.)

J. MACPHAIL.  
WIND BOARD ADJUSTER.

No. 537,213.

Patented Apr. 9, 1895.



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# UNITED STATES PATENT OFFICE.

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## WIND-BOARD ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 537,213, dated April 9, 1895.

Application filed May 4, 1894. Serial No. 510,048. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES MACPHAIL, a citizen of the United States, residing at Blue Island, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wind-Board Adjusters, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 represents a perspective view of the platform and part of the elevator of a harvester embodying my invention; Fig. 2, a plan view of the platform in Fig. 1, broken away in front and with the adjuster support in plan  
15 section on the line 2. 2 of Fig. 1; Fig. 3, a perspective view of the adjuster bracket detached and looking toward the bottom; and Fig. 4, a detail section taken on the line 4. 4 of Fig. 2. Fig. 1 is upon a scale by itself; Fig. 2 upon  
20 another and enlarged scale; and Figs. 3 and 4 upon a scale by themselves, still further enlarged.

A wind-board mounted at the rear of the platform and adjustable on its support is a  
25 well known device in grain harvesting machines.

My present invention relates to the devices for supporting and adjusting such a wind-board, and consists in extending one of the  
30 supporting rods, to provide a handle for adjusting the wind-board, in connection with a bracket provided with a notched segment and a spring arranged to hold the handle-rod in engagement with the notched segment.

35 I will now describe in detail so much of a machine as is necessary to understand the construction and operation of my invention, and the particular improvements will then be designated more definitely in claims.

40 The main parts of the machine may be of any known construction, and, therefore, a full machine is not shown in the drawings, and some of the parts shown require only a general reference.

45 In the drawings, A, represents the platform, and B, the elevator frame of a grain-binding harvester, the former being shown provided with an endless carrier, *a*, and the latter with the usual endless elevators, *b*, both well known parts of the machine. If the machine  
50 is in use on a windy day, the grain, as it is cut

and falls upon the platform, is liable to be thrown or tossed about by the wind, so that it cannot be delivered to the elevators and thence to the grain-binder in suitable condition for binding.

A device called a "wind-board" has been applied to the rear of the platform to catch the wind and deflect it from the platform, thus permitting the grain to fall upon the latter reasonably straight and regular. In the drawings C represents such a wind-board arranged at the rear side of the platform. This board is supported and carried by two parallel swinging rods, D and E, both of which are connected  
65 pivotally at their outer ends to a bracket, F, secured to the back of the wind-board, and at their inner ends to a bracket, G, which is mounted on and fixed to some portion of the elevator frame, or the upright frame common  
70 in these machines. In this instance this bracket is shown mounted on the rear member, H, of the upright frame, being secured to the inner upright post, *h*, thereof.

The bracket, G, consists of an upright portion, *g*, which is shaped like angle iron, and is, therefore, adapted to be applied and fitted to the similar shaped post, *h*, of the frame piece, H, as seen in Figs. 2, 3 and 4, being secured thereto by bolts or screws. From the  
80 upper end of this upright section a web or plate-like structure, *g'*, projects outward horizontally and a little over the rear beam of the platform. This projection is curved on the arc of a circle at its outer edge, which  
85 edge is widened somewhat and is provided on the under side of the bracket with a series of notches, *g''*, thus providing a notched segment for fastening purposes as will be described presently. The bracket is also provided with an arm or lug, *g'''*, extending horizontally directly forward from the supporting post, *h*. The swinging supporting rod, D, is the front one and is pivotally connected at its inner end to this projecting arm, *g'''*, as seen  
95 in Figs. 2 and 4, the outer end of the said arm being pivotally connected to the bracket, F, on the wind-board, as already stated.

The rear supporting rod, E, is bent upward at right angles at its inner end and extended  
100 upward to form a handle, *e*, which passes up directly from the bend through a suitable

bearing aperture,  $g^1$ , in the bracket, thereby providing a pivotal connection of this rod to the bracket similar to the connection of the front rod therewith, the two connections being in line with each other in the direction of the forward movement of the machine.

The handle,  $e$ , is extended upward by the side of the post,  $h$ , passing through a small bearing bracket,  $I$ , secured to the upper end of the latter, as seen in Fig. 1, and terminating in a loop or other convenient device, by means of which it may be readily reached and oscillated by the driver on the seat,  $J$ . At its outer end this rod,  $E$ , is pivotally connected to the bracket on the wind-board the same as the front rod and in a way to make a swinging parallel rod support or carrier for the wind-board which is suspended therefrom. Obviously the oscillation of the handle extension of the rod,  $E$ , will swing this support upon its pivots, thereby adjusting the wind-board toward the front or rear of the platform, as indicated by dotted lines in Fig. 2. The horizontal or main part,  $e'$ , of the rod,  $E$ , extends outward from its handle end directly underneath the notched segment, and if brought into engagement with a notch therein will lock the wind-board in any position to which it may be adjusted. In order to hold this rod up at its inner end in proper position, both for the horizontal and handle portion thereof, a spring,  $K$ , is provided, being fastened to any suitable support immediately below the upward bend in the rod, whereby the handle is formed, and arranged to normally hold the rod up against the bracket for the same purpose and with the same result as a nut or any other similar unyielding device; but from the description above of the locking action it will be seen that this rod,  $E$ , must have a slight vertical vibration so that it may be depressed sufficiently to be disengaged from the notched segment, while normally it is held up into engagement therewith. The spring being yielding will permit this depression, while at the same time it acts normally to hold the rod in engagement with the notched segment, as indicated in Fig. 4. As shown in the drawings this spring,  $K$ , is V-shaped and provided at the outer extremity of one of its arms,  $k$ , with a right angled short, straight extension,  $k'$ , by means of which it is bolted or otherwise fastened to one side of the angle section,  $g$ , of the bracket,  $G$ , at a point directly under the upward bend in the rod. The other arm,  $k^2$ , of the V-spring is free, and its outer or free end is brought directly under and makes contact with the swinging rod,  $E$ , at the upward bend therein or directly under the handle portion thereof, as indicated in Figs. 3 and 4. The spring is so arranged that its normal action is to hold the bend or handle end of the rod,  $E$ , up against the under side of the bracket,  $G$ , with sufficient force to insure its constant engagement with a notch in the segment, as indicated in Fig.

4; but obviously the spring will yield sufficiently to permit this end of the rod,  $E$ , to be depressed by pushing down the handle sufficiently to disengage the rod from the said notch, when the support may be swung by the handle for the adjustment of the wind-board, as already described.

It will be seen from the description above that the free end of the spring will always be in contact with the rod, because the spring is so located that this end contacts with the rod practically in vertical line with its pivot, so that, as the rod is swung by the turning of the handle the action is practically that of a pivot turning on the end of the spring and the contact between the two will not be disturbed by any turning of the rod.

The construction and arrangement of the spring described above and shown in the drawings produces a convenient and efficient device for the purpose named, but the invention is not limited to this particular spring or the special attachment and support thereof. Any spring adapted by construction and location to perform the functions mentioned above may be used in place of the special spring,  $K$ , here shown and described.

In swinging the wind-board to the rear, it is obvious that, beyond a certain point, the forward rod,  $E$ , must pass under the notched segment, as indicated by dotted lines in Fig. 2. To accommodate this motion the fixed position of the inner end of this rod,  $D$ , is in a plane a little below that of the normal position of the rod,  $E$ , as indicated in Fig. 4, so that when the support is swung backward this rod,  $D$ , will just pass freely below the notched segment, and, hence, will not interfere with the adjustment of the wind-board to the rear.

With this invention I provide a swinging support from which the wind-board is suspended, with all the well known advantages of this device. At the same time I also provide additional features, in the handle in one piece with one of the suspending rods, whereby this swinging support is easily turned in one direction or the other, and also in simple and efficient means for locking the support in any position to which it may be adjusted, but at the same time providing for ready release of the lock whenever necessary for change in adjustment, all of which new features are of benefit to an adjustable wind-board and valuable improvements to the construction of this device as heretofore known.

In details of mechanical construction there may be changes without departing from the essential characteristics of my invention; and such modifications I contemplate in the application of the invention to different machines.

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

1. In a grain harvester, a pair of parallel

rods pivoted at their inner ends to a suitable support at the inner end of the platform, in combination with a wind-board pivotally connected to the outer ends of said rods and suspended and carried thereby, and an upright handle formed at the inner end of one of said rods, whereby the latter may be vibrated to adjust the wind-board, substantially as described.

2. In a grain harvester, the wind-board supporting rods, D and E, the latter provided with an extension, *e*, bent upward at right angles to the main rod to form a handle, a wind-board, C, pivotally connected to the outer ends of said rods, and a bracket, G, secured to a suitable support on the main frame and having pivotal bearings for the inner ends of the said swinging rods, D and E, and a notched segment, *g'*, which engages the rod, E, substantially as described.

3. In a grain harvester, a wind-board, C, in combination with a bracket, G, secured to a suitable support at the inner end of the platform and provided with a notched segment, *g'*, swinging supporting rods, D and E, pivoted at their outer ends to the wind-board, which is suspended therefrom, and at their inner ends to the said bracket, the rod, E, having an upward right angled extension, *e*, passing loosely through said bracket, and a spring arranged underneath the inner end of the rod, E, and adapted normally to hold the said rod in engagement with the notched segment, but

yielding to permit disengagement therefrom, substantially as described.

4. In a grain binding harvester, a bracket, G, fixed on a suitable support at the inner end of the platform and provided with notched segment, *g'*, in combination with the wind-board rods, D and E, both connected by pivotal joints to the said bracket and the pivot end of the front rod, D, arranged in a plane lower than that of the rod, E, and just below the notched segment of the bracket, and a spring, K, mounted below the said notched segment and adapted normally to hold the rod, E, in engagement therewith, substantially as described.

5. In a grain harvester, a bracket, G, consisting of an upright section, *g*, of angle-iron shape and a horizontal notched segment, *g'*, the upright post, *h*, of angle-iron shape to which the similar shaped section of the bracket is fitted and secured, the swinging rods, D and E, pivotally connected to said bracket at their inner ends, a spring arranged to normally hold the rod E in engagement with the said notched segment and the wind-board, C, pivotally connected to and carried by the outer ends of the same rods, substantially as described.

JAMES MACPHAIL.

Witnesses:

LE OTIE LEIB,  
ALLAN A. MURRAY.