July 20, 1943. O. M. BARBER 2,324,754

WIND BOARD

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Fig. 1.

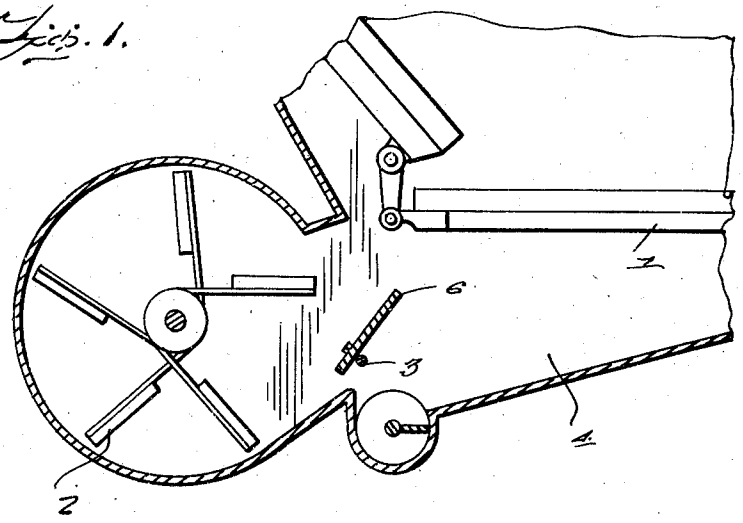


Fig. 3.

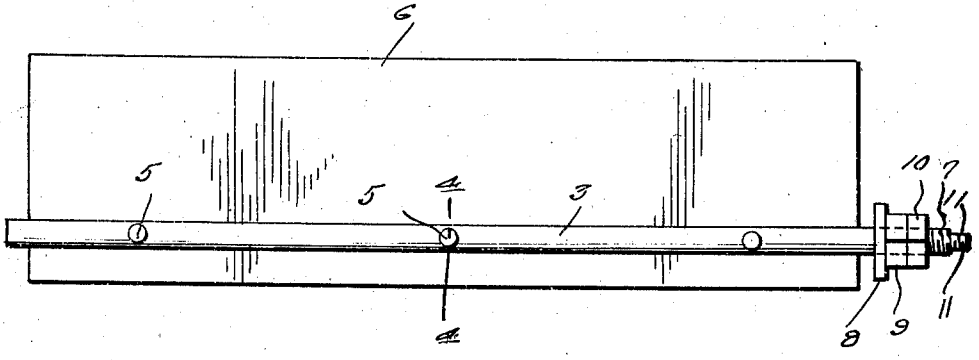
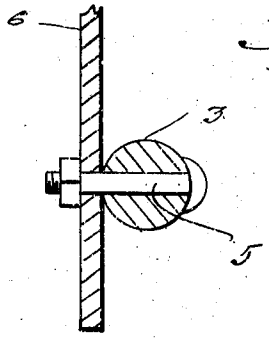


Fig. 4.



Inventor

Oliver M. Barber

By Clarence O'Brien

Attorney

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Fig. 2.

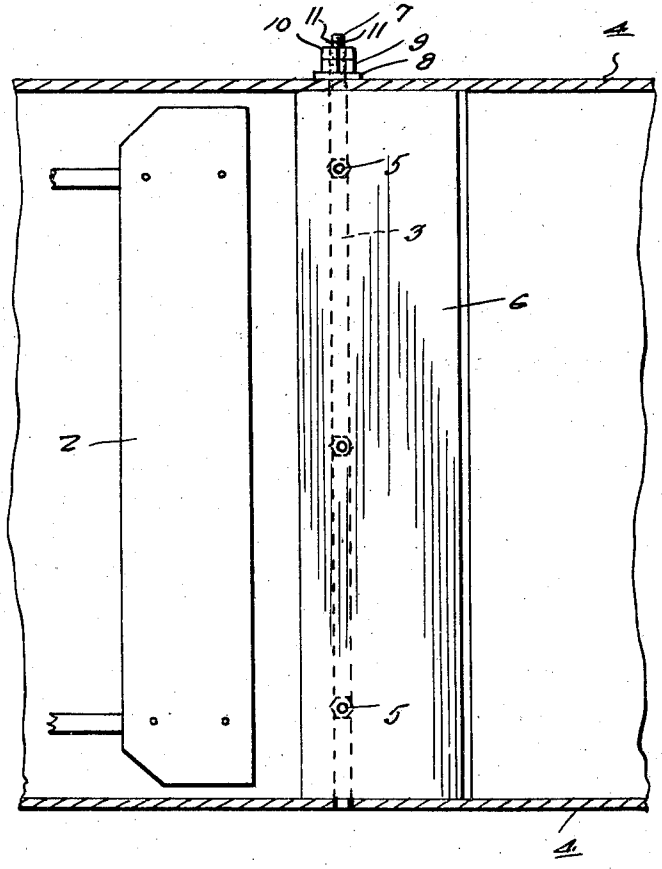
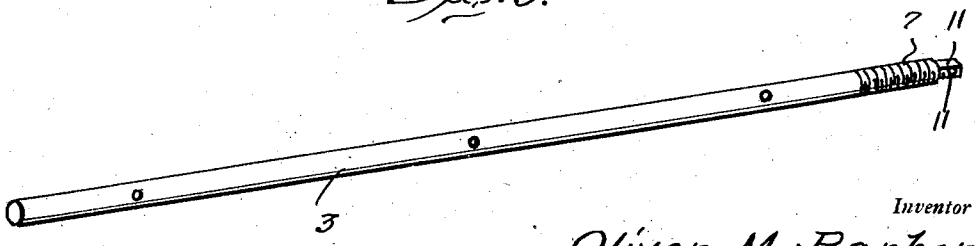


Fig. 5.



Inventor

Oliver M. Barber

By Clarence O'Brien

Attorney

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UNITED STATES PATENT OFFICE

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WIND BOARD

Oliver M. Barber, Visalia, Calif.

Application June 20, 1941, Serial No. 399,018

1 Claim. (Cl. 209—154)

The present invention relates to new and useful improvements in wind boards for combines, threshers and other separating machines and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character which is adapted to concentrate most of the air blast from the undershot fan over a comparatively restricted area on the front end portion of the screen, the rest of the air being permitted to pass under the board and to strike the screen from an intermediate point rearwardly.

Another very important object of the invention is to provide a wind board of the aforementioned character which is adapted to be expeditiously adjusted as desired from one side of the combine, thresher or other separating machine.

Other objects of the invention are to provide a wind board of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact and which may be manufactured and installed at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in vertical longitudinal section through a portion of a combine, showing a wind board constructed in accordance with the present invention in position therein.

Figure 2 is a view in horizontal section through this portion of the combine, showing the wind board constituting the present invention in top plan.

Figure 3 is a view in front elevation of the device.

Figure 4 is a detail view in cross-section, taken substantially on the line 4—4 of Figure 3.

Figure 5 is a detail view in perspective of the shaft.

Referring now to the drawings in detail, it will be seen that reference numeral 1 designates the front portion of the usual screen or sieve of a combine. Located forwardly and downwardly of the vibrating screen 1 is a conventional fan or blower 2. Of course, the fan 2 is adapted to blow air rearwardly and upwardly through the screen 1.

The embodiment of the present invention which has been illustrated comprises a metallic shaft 3 having its end portions journaled in openings which are provided therefor in the side walls 4 of the machine. It will be noted that the shaft 3 is mounted rearwardly of but adjacent to the fan 2. Rigidly secured by bolts 5 on one side of the shaft 3 is a board 6 of suitable metal or other material. Both longitudinal edges of the board 6 are spaced from the shaft 3. Also, the end portions of the shaft 3 project beyond the ends of the board 6. This is shown to advantage in Figure 3 of the drawings.

The shaft 3 includes a threaded end portion 7 which projects beyond the adjacent side wall 4 of the combine or other machine. Mounted on this end portion 7 of the shaft 3 is a washer 8 for engagement with the adjacent side wall 4. Then, a nut 9 is threaded on the end portion 7 of the shaft for securing said shaft in adjusted position against rotation. When the nut 9 is tightened the adjacent side wall 4 of the machine is clamped between the washer 8 and the adjacent end of the board 6. Thus, the device is frictionally secured in adjusted position. After the nut 9 has been tightened a lock nut 10 is threaded on the end portion 7 of the shaft 3. The threaded end portion 7 of the shaft 3 is provided with flat opposite side portions 11 for receiving a wrench or other tool for rotatably adjusting the shaft 3 and the board 6 thereon.

In operation, the shaft 3 is rotated by applying a wrench or other tool to the end portion 7 thereof for adjusting the board 6 to the desired inclination. The construction and arrangement is such that most of the air blast from the fan 2 may be concentrated on the front end portion of the vibrating screen 1. The area thus subjected to most of the air blast may be regulated as desired by adjusting the inclination of the board 6. The rest of the air passes under the board 6 and strikes the screen 1 approximately between the intermediate portion and rear end thereof. Thus, most of the air blast is played on the front portion of the screen where the load is heaviest with the result that a large percentage of the straw and the chaff will be separated and blown to the tail end of the machine before it can reach the screen 1. In this manner the screen 1 is kept comparatively clear at all times for maximum operating efficiency.

It is believed that the many advantages of a wind board constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts

may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

A wind board comprising, a shaft journaled for rotary adjustment in two opposed walls of a grain separating machine, a board fixed on the shaft, said shaft including a threaded end portion projecting outwardly from one of said walls and having flat opposite side portions, a washer on the shaft engageable with said one wall, a nut threaded on said threaded end portion of the shaft and engaged with the washer for clamping said one wall of the machine between said washer and the board for frictionally securing said shaft in adjusted position, and a lock nut threaded on the shaft and engaged with the first-named nut, the flat side portions of the shaft projecting beyond the nuts for receiving a holding tool for retaining said shaft against rotation when said nuts are turned.

OLIVER M. BARBER.