

May 29, 1956

O. BAKKE

2,747,792

FAN ATTACHMENT FOR COMBINES

Filed June 8, 1953

2 Sheets-Sheet 1

Fig. 1

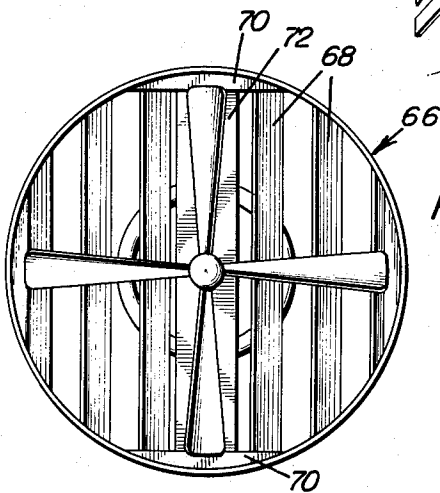
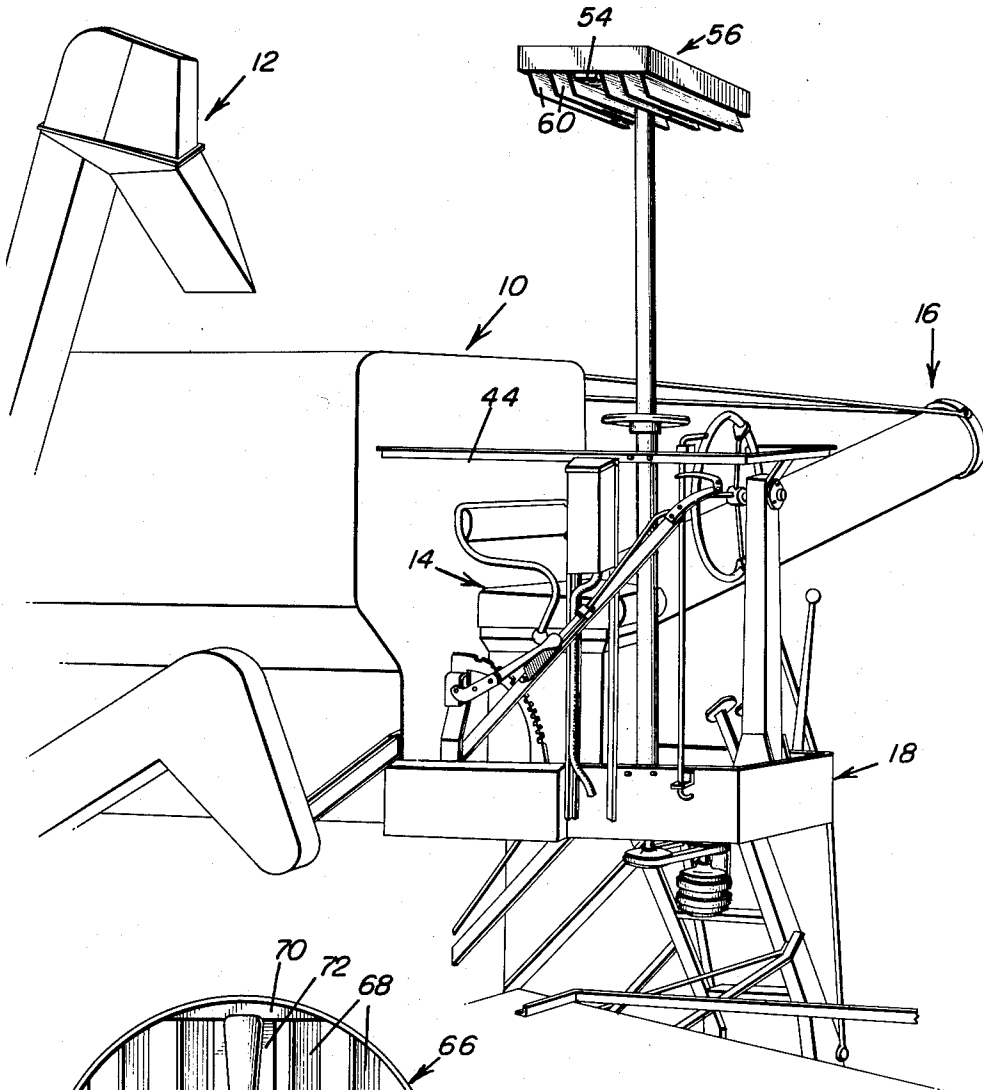


Fig. 3

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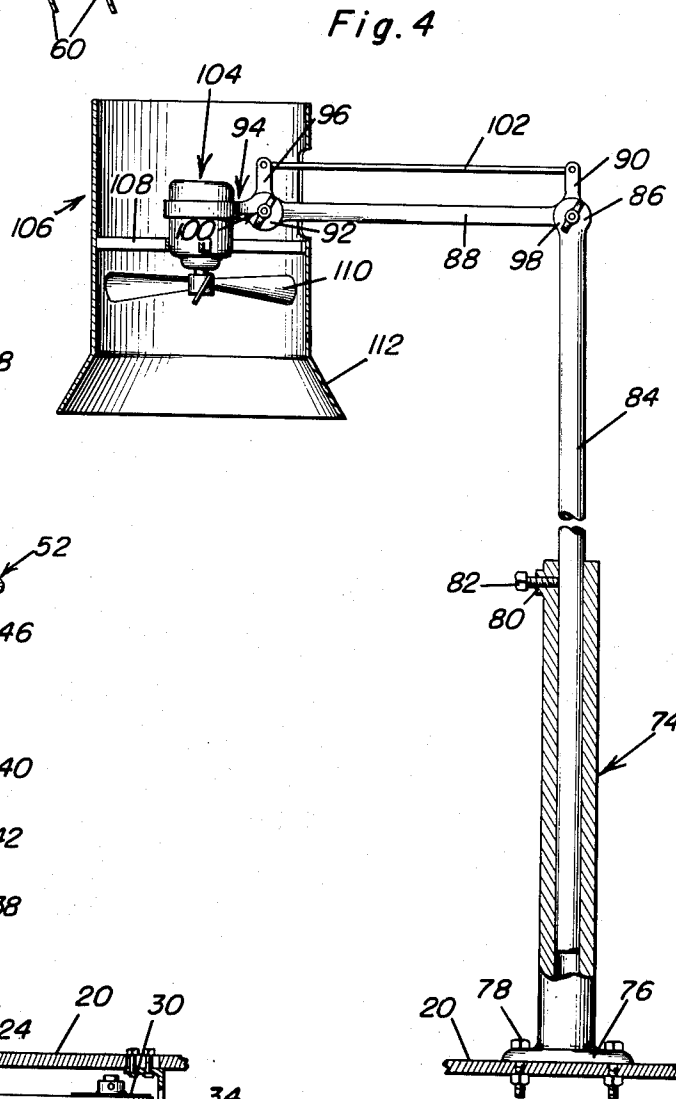
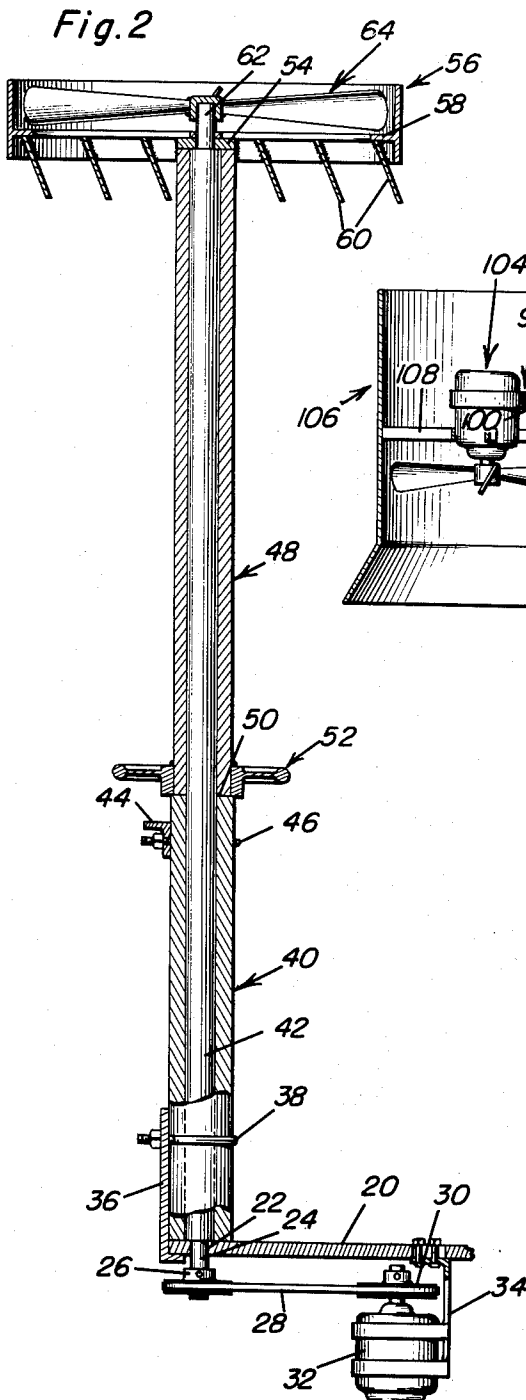
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2 Sheets-Sheet 2



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2,747,792

FAN ATTACHMENT FOR COMBINES

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2 Claims. (Cl. 230—273)

This invention relates primarily to accessory attachments for farm machinery and pertains more particularly to a fan attachment for combines.

A primary object of this invention is to provide a means for maintaining a dust free condition in the area of the operator's station of a combine and a further object is to provide an improved fan construction for accomplishing this result.

Another object of this invention is to provide a fan attachment for combines constructed in such a manner as to derive the most dust-free condition at an operator's station of a combine.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a portion of a combine showing the attachment in place;

Figure 2 is a vertical section through the fan attachment and a portion of the associated combine;

Figure 3 is a top plan view of a modified form of fan shroud; and

Figure 4 is a vertical section similar to Figure 2 but showing a modified construction of fan.

Referring now more particularly to Figure 1, reference numeral 10 indicates generally the main body portion of a combine or similar farm vehicle which includes the usual grain chute 12 and also includes the seat member 14 for an operator of the combine, adjacent to which are placed suitable control members which form no part of this invention. The combine also includes the chaff chute 16 and it will be noted that the seat member 14 is located on the platform assembly indicated generally by the reference character 18. Referring now particularly to Figure 2 as well as Figure 1, it will be seen that the floor 20 of the operator's platform is provided with an aperture 22 through which the lower reduced end portion 24 of an actuating shaft projects, this shaft terminating at its lower free end with a pulley member 26 connected by a belt member 28 to the pulley 30 of the electric motor 32 which is supported on the under surface of the platform floor 20 by means of the bracket assembly 34, as will be apparent. One of the side walls 36 of the platform is provided with a U-bolt assembly 38 engaging the lower end portion of the standard member 40 whose lower end face abuts against the upper surface of the platform floor in the manner shown and it will also be seen that the enlarged main portion 42 of the actuating shaft presents a shoulder abutting the upper surface of this platform floor also. The guard rail 44 surrounding the operator's station is also provided with the U-bolt assembly 46 attaching the upper end portion of the standard member 40 thereto, so that the standard is rigidly supported in relation to the platform. A sleeve 48 has its lower end abutting the upper surface of the standard,

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as indicated by the reference character 50 and the outer surface of this lower end has rigidly secured thereto an operating handle 52 for a purpose presently apparent. The upper end of the sleeve is rigidly secured to the cross frame member 54, secured at its opposite ends to opposed side walls of the shroud assembly indicated generally by the reference character 56, this shroud assembly being provided with the inwardly directed open rectangular flange 58 which forms supporting surfaces for opposite end portions of the deflector plate 60.

The upper reduced end portion 62 of the actuating shaft is suitably feathered to the fan 64 so that the same is rotated thereby when the electric motor 34 is energized. It will be noted that the fan is disposed within the shroud member for most effectively performing its air mass moving operation. It will be noted that the deflector plates or slats 60 are angularly disposed with respect to the vertical so that air blown through the shroud assembly will be deflected laterally thereby, the purpose thereof being presently apparent.

It will be noted that the fan assembly is disposed in relation to the operator's seat 14 in such a manner that it is very nearly in vertical alignment therewith. Since it is not desirable to direct the air blown from the fan directly on the operator, the deflector slats are disposed in the angular relation shown to prevent the direct impingement of the air upon the operator.

The handle assembly 52 allows the sleeve member 48 to be rotated which effects corresponding rotation of the shroud assembly and its associated deflector plate so that the direction of air flow originating therefrom may be directed, within the limits of the shroud, in a desired manner. Thus, the operator has ready control over the air blast from the fan to direct the same in the most efficient manner for effectively maintaining a dust free condition adjacent his station.

Referring now more particularly to Figure 3, it will be seen that the construction is substantially the same as shown in Figures 1 and 2, with the exception that the shroud member 66 is circular in configuration and that certain of the deflector slats 68 are secured directly to the main wall portion thereof rather than the horizontal flange portion 70 to which the cross brace 72 is rigidly secured.

Referring now more particularly to Figure 4, wherein a modified form of fan assembly is shown, it will be seen that the standard 74 is provided at its lower end with the mounting flange portion 76 which is suitably secured as by the fastener 78 to the operator's platform 20 and the upper end of this standard is provided with the threaded bore 80 receiving the screw 82 bearing against the adjusting shaft 84, this shaft being disposed in telescoping relation within the standard 74. The upper end of this shaft is bifurcated to provide spaced ears 86 and a vertical ear 90, the ears 86 receiving therebetween one end of the arm 88, the other end of this arm 88 being pivotally secured between the clamping legs 92 of the bracket member 94, which bracket member is provided with the lateral ear 96. The ears 86 and the clamping legs 92 are provided with associated bolt and wing nut assemblies 98 and 100 to selectively permit pivotal motion of the arm 88 and the bracket member 94. The upper free ends of the ears 90 and 96 are inter-connected by the idler link 102 which extends therebetween and is pivotally secured to corresponding ears so that a parallelogram assembly is formed. The bracket 94 carries the electric fan 104 which, in turn, carries the shroud assembly 106 through the medium of the spider assembly 108 and it will be noted that the fan blades 110 are disposed within this shroud member, whose lower end is outwardly flared as indicated by the reference character 112.

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In operation of the modification as shown in Figure 4, it will be manifest that the entire assembly may be swung above the standard in a circular fashion by loosening the set screw 32 and rotating the shaft 84, and it will also be noted that the vertical height of the fan assembly may be adjusted by effecting longitudinal movement of the shaft 84 within the standard member 74 to obtain the most advantageous position of the fan assembly with respect to the operator's station. Since the fan and shroud assembly is connected to the actuator shaft 84 through the medium of the previously mentioned parallelogram linkage, this assembly will be maintained in the vertical position without tilting no matter to what height it is adjusted.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. An attachment for combines for maintaining a dust free condition around an operating station thereof, comprising a vertical standard, a shaft journaled within said standard and extending vertically therefrom and having a bifurcated upper end providing spaced ears and a vertical ear, an arm having one end received between said spaced ears, a bracket member at the other end of said

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arm having clamping legs between which said other end of said arm is received, said bracket member being provided with a lateral ear, associated bolt and wing nut assemblies for said spaced ears and clamping legs to selectively permit pivotal movement of said arm and said bracket member, an idler link pivotally secured at its ends to said vertical and lateral ears and an electric fan carried by said bracket.

2. An attachment for combines for maintaining a dust free condition around an operating station thereof, comprising a vertical standard, a shaft journaled within said standard and extending vertically therefrom and having a bifurcated upper end providing spaced ears and a vertical ear, an arm having one end received between said spaced ears, a bracket member at the other end of said arm having clamping legs between which said other end of said arm is received, said bracket member being provided with a lateral ear, associated bolt and wing nut assemblies for said spaced ears and clamping legs to selectively permit pivotal movement of said arm and said bracket member, an idler link pivotally secured at its ends to said vertical and lateral ears and an electric fan carried by said bracket, a shroud secured to said fan in surrounding relation thereto.

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