March 17, 1959 F. KINDERKNECHT 2,877,900

GRAIN CLEANING ATTACHMENT FOR COMBINES

Filed May 20, 1958

Fig.1

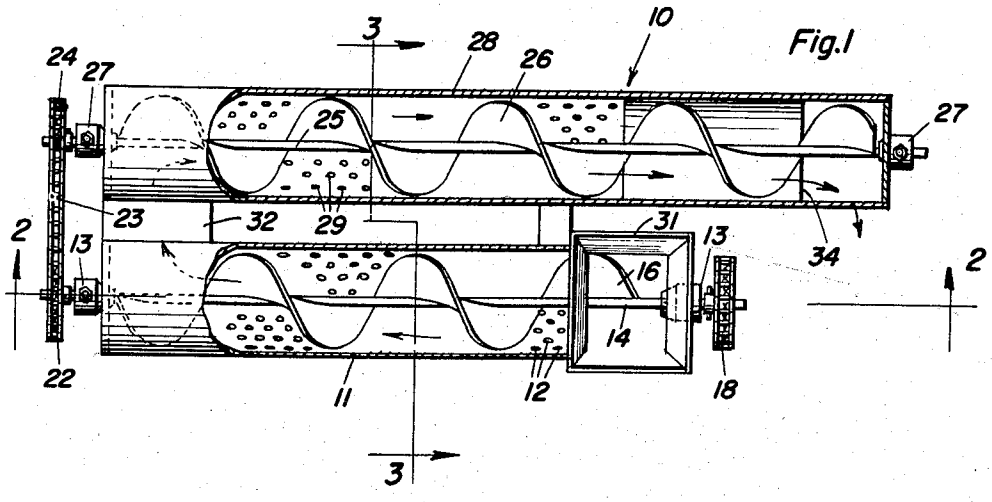


Fig.2

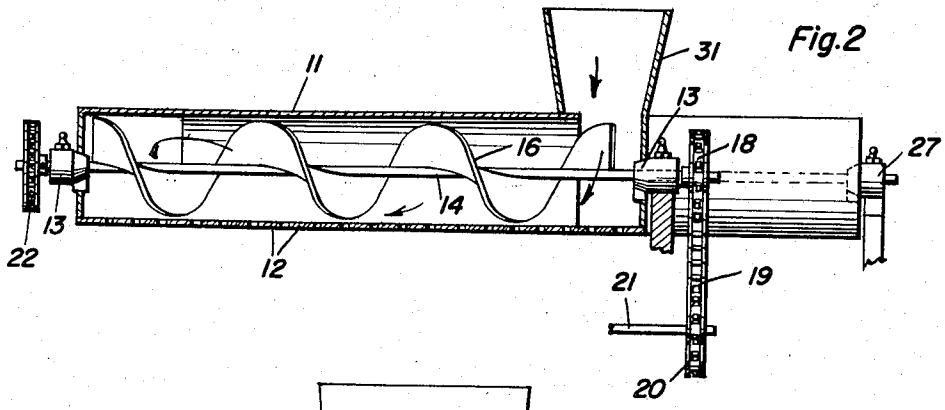
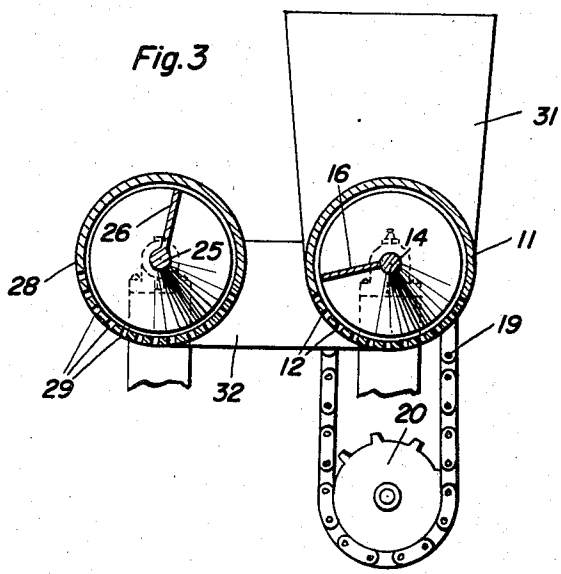


Fig.3



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GRAIN CLEANING ATTACHMENT FOR COMBINES

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1 Claim. (Cl. 209—283)

This invention relates to farm equipment and more particularly to a device for cleaning grain.

It is an object of the present invention to provide a grain cleaning attachment for combines which can be operated from the power shaft of the clean grain elevator of the combine for efficiently and effectively removing weed seed, grain dust, and cracked grain from the grain sorghum.

Another object of the present invention is to provide a grain cleaning attachment of the above type that transports the grain through an extended length of perforated casing for removing the unwanted particles before discharging the grain sorghum into the bin.

Other objects of the invention are to provide a grain cleaning attachment for combines bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawing, in which:

Figure 1 is a top plan view of a grain cleaning attachment made in accordance with the present invention, with parts broken away;

Figure 2 is a longitudinal cross sectional view taken along line 2—2 of Figure 1; and

Figure 3 is a transverse cross sectional view taken along line 3—3 of Figure 1.

Referring now more in detail to the drawing, a grain cleaning attachment 10 for combines made in accordance with the present invention is shown to include a first casing 11 having a plurality of perforations 12 of uniform size extending throughout the entire length thereof. A bearing 13 at each closed end of the casing 11 rotatably supports a longitudinal shaft 14 therewithin to which is integrally connected a screw auger for transporting grain from one end of the casing to the other. A sprocket wheel 18 secured to the proximal end of the shaft 14 relative to the bin (not shown) is adapted to be driven by means of a sprocket chain 19 from the sprocket 20 that is secured to the shaft 21 of the clean grain elevator of the combine.

The distal end of the shaft 14 has another sprocket 22 secured thereto which drives a sprocket 24 on the end of a shaft 25 of a second casing 28, by means of a chain 23.

The second casing 28 is substantially longer than the first casing 11, but has perforations 29 of substantially the same size as the perforations 12 in the first casing.

The shaft 25 is supported upon bearings 27 that are carried at the opposite closed ends of the casing 28. This shaft 25 is also provided with an integral screw auger 26 for transporting grain from one end to the opposite end thereof.

The proximal end of the first casing 11 is provided with an inlet hopper 31 into which grain to be cleaned is deposited into operative association with the auger 16. The grain is then carried toward the distal end of the casing, during which time broken grain, weed seed, and dust is allowed to escape from the casing through the perforations 12. A common chute 32 communicating with the adjacent distal ends of the first casing 11 and the second casing 28 carries the partially cleaned grain into the second casing 28, in which it is transported from the distal end to the proximal end thereof relative to the bin by the auger 26. At the proximal end of the second casing 28, a discharge opening 34 in the bottom of the casing 28 allows the grain to drop into a bin.

The reason for carrying the grain from a proximal point relative to the bin, outwardly to a distal point, and then back to the proximal end of the unit for discharge into the bin is to enable all of the waste products to be discharged through the perforations 12, 29, at a point away from the bin containing the clean grain. In addition, substantially greater length of travel is provided without unduly extending the casing in a single direction.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claim.

What I claim as new and desire to protect by Letters Patent of the United States is:

A grain cleaning attachment adapted to be operated from the power shaft of the clean grain elevator comprising a first perforated cylindrical casing, a grain receiving hopper on the end of the casing proximal to a storage bin, an auger shaft extending through the grain receiving hopper and the distal end of the perforated casing, a power drive on the proximal and distal ends of the shaft, a second perforated cylindrical casing, said second cylindrical casing being longer than the first cylinder casing and having its proximal end extending beyond the proximal end of the first cylindrical casing and nearer to the grain storage bin, said second cylindrical casing having a grain discharge opening in its proximal end thereof, an auger shaft extending longitudinally through the second cylindrical casing, power drive means interconnecting the auger shafts on their distal ends, and a chute extending between the distal ends of the first and second cylindrical casings for the delivery of the grain that has traversed the first cylindrical casing to the second cylindrical casing for further cleaning.

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