COMMISSIONER'S DECISION

OBVIOUSNESS: Grain Harvester Equipment

Positioning an additional duct area at the rear of the collector screen to catch grain which passes over the screen is not novel.

Final Action: Affirmed

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This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated March 3, 1976, on application 159,838 (Class 130-19). The application was filed on December 22, 1972, in the name of David J. Farrant, and is entitled "Grain Harvester Equipment."

This application relates to a grain collecting attachment for a grain harvester. The unit is attached to and rearwardly of the downstream duct. Figures 2 and 3 of the application are shown below to illustrate that device.

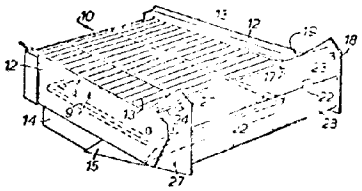


FIG. 2.

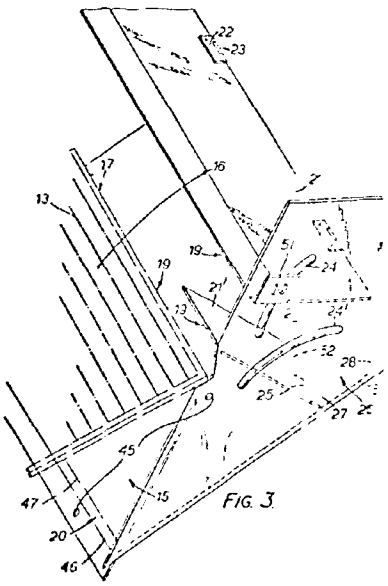
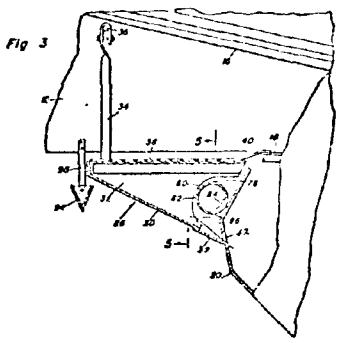


FIG. 3.

In the Final Action the examiner rejected the claims for lacking patentable subject matter over the following reference:

Canadian Patent		
597,142	May 3, 1960	Angus

This patent is for a grain saving collecting attachment for combines. It attaches to the rear of the shaker frame and has an air duct therein. Figure 3 is illustrative of the patented device



In the Final Action the examiner stated (in part):

> The examiner in studying applicant's device is unable to ascertain in the claims any inventive improvement in this device. The state of the art has not been advanced. In effect all applicant has done is to remove the screen 38 and blower 80-84 of Angus, with the corresponding loss of their function, namely rejection of chaff. Applicant of course does not consider a small amount of chaff any great problem since he returns his saved product for rethreashing. But this is not seen to involve invention. It is mere matter of choice.
>
> As regard the adjustability of applicant's components these are held to be mere matters of choice, well within the skills of an ordinary workman in this field.
>
> All claims thus stand rejected.
>
> As regards the provision of a blower for producing an upward draft of air through the main grain duct below the shaker 18 of Angus it is held that this is conventional in combines. It is such air flow that blows the chaff and straw away from the heavier falling grain. Attention is directed to Canadian Patent 536,636 to Busack on February 5, 1957, note fan at 40,41 for creating an upward air flow. It is this sort of air flow that is present in Angus even though it is not discussed by him. Angus does note his blower 44-46 is "auxiliary", page 3, line 1.

> It is again stressed that Angus provides his blower 44-46 and pipe 76 with holes 78-82 therein to separate grain and chaff. But the grain is saved. Applicant on the other hand is not concerned with an additional cleaning step and returns not only the saved grain, but any chaff that is present. Thus applicant's device is simpler, to be sure, but doesn't perform the additional cleaning step. Simplification with corresponding loss of function is clearly not inventive.

In his response to the Final Action the applicant contended that this action was improper as it was not on the same ground as any previous action and submitted arguments with respect to the primary reference which stated (in part):

> Both Angus and the present invention are concerned with grain saving attachments for harvesters. In both attachments the objective is to retrieve grain that would otherwise be lost at the rear edge of the implements used for separating grain from chaff. At this point the similarities end.
>
> The Angus apparatus is an attachment to a combine in which a shaker is used to separate the grain from the chaff. In Angus, the attachment employs an auxiliary chaffer 38 attached to the rear of the shaker 18 for movement with the shaker, a blower and duct arrangement 44, 72, 74 and 76 for blowing air upwardly through the auxiliary chaffer to separate chaff and straw from grain, and a grain tray 30 below the auxiliary chaffer and blower for collecting grain falling through the chaffer and feeding it through an opening 42 in the rear of the outlet duct 20. (It will be noted that the element 30 is a tray and not a duct since it has only bottom and partial side walls. The top and front of the tray 30 are open, the top to receive the large chaffer 38 and the front to permit movement of the chaffer 38 and tray 30 with respect to the blower tube 76 and outlet duct 20.)
>
> Applicant's apparatus is an attachment for a harvester in which a collector screen is used in combination with an upward draught of air through the outlet duct and through the screen for separating grain from chaff. Applicant's attachment consists of a sheet metal return duct positioned at the rear of the collector screen. The duct has an unobstructed mouth positioned to collect grain which passes over the rear edge of the screen. The duct leads into the outlet duct beneath the collector screen through a restricted opening. In applicant's apparatus, no chaffer and no blower are necessary since the air current passing upwardly through the screen flows past the mouth of the return duct to carry the chaff away. Because this flow of air passes through the outlet duct, the restricted opening between the return duct and the outlet duct is included to avoid an undesired flow of air upwardly through the return duct. (No such flow occurs in Angus since he does not employ a flow of air through the outlet duct.)

The issue to be considered is whether or not the claims are directed to a patentable advance in the art. Claim 1 reads as follows:

> Grain harvesting equipment comprising a collector screen for separating grain from chaff, an outlet duct for the grain passing through the screen, a return duct having an unobstructed mouth positioned to collect grain which passes over the screen and leading into the outlet duct, a blower for providing an upward current of air through the outlet duct and the screen and past the mouth of the return duct, and a restricted opening between the return duct and the outlet duct for controlling draught of air from the blower through the return duct, and through which grain collected by the return duct can pass into the outlet duct.

We do not agree with the applicant's submission that the Final Action was improper. The examiner's action dated September 30, 1975 cited the Angus patent and stated "the examiner in studying the applicants device is unable to ascertain any inventive improvement in this device. The state of the art has not been advanced." In the Final Action the Angus reference was applied and the examiner stated that "in studying the applicants device the examiner is unable to ascertain in the claims any inventive improvement in this device." Also in enlarging on the blower art, in this field the examiner directed the applicants attention to the Busack patent of Feb. 5, 1957. This patent is added merely to substantiate what is common knowledge in the art and was not applied to any of the rejected claims.

Another objection made by the applicant is to the examiners requirement for clarification of statements identifying the ducts. As there are other areas of the disclosure unclear we will comment on this later. We fail to find any valid basis on either ground for objecting to the Final Action report.

Turning to the specification we observe that the disclosure is not clear and the drawings also lack many basic essential details necessary for a full understanding of the alleged invention. For example, in the second paragraph of page 2 the applicant outlines a series of elements as his invention whereas these elements and their arrangement with respect of one another is well known in the grain harvester art, as shown in the Angus citation used by the examiner. Throughout the disclosure the applicant makes confounding

reference to upstream duct, downstread duct and return duct. In order to comprehend this arrangement there should be a cross sectional view in the drawings to clearly show the position of these ducts. As currently on file figures 2 and 3 are extremely obscure with respect to detail and the size proportion of the various elements.

Therefore, we can readily understand why the examiner required an amendment in the Final Action report with regard to duct air flow. In his response the applicant states that the "examiner has not understood this important aspect of the applicants claimed apparatus." With the disclosure in its present form coupled with the inadequate drawings we also have difficulty to understand the important aspects of the applicants alleged invention.

One of the arguments advanced by the applicant is that this attachment consists of a sheet metal return duct positioned at the rear of the collector screen wherein there is an unobstructed mouth to collect the grain which passes over the rear edge of the screen. Looking at the Angus citation it also has an additional duct positioned at the rear of the screen as well as an unobstructed mouth since the duct is retained by the straps 40. We, therefore, find no novelty in the patent sense in this portion of the applicants arrangement.

Another feature argued by the applicant is that in his device air flow passes through the outlet duct and the restricted opening between the return duct and outlet duct to avoid an undesirable flow of air upwardly through the return duct. Further the applicant states that "no such flow occurs in Angus since he does not employ a flow of air through the outlet duct." Angus does have an air flow in his screen area 18 of which some would flow through opening 42 to the added duct. The air supply pipe 72 provides constant air flow through the openings 78 which is within the confines of the added duct. Consequently we cannot agree with the applicant that no flow occurs in the Angus device.

The applicant maintains that an ingenious feature of his invention is that he has an unobstructed duct for collecting grain and he does not require a separate outlet duct because he feeds grain from the return duct into the outlet duct through a small slot. In Angus the opening duct between the straps 40 also can be construed as an unobstructed duct and the slot 42 feeds grain into the outlet duct as does the applicant. There is not in our view any ingenuity in these features.

Considering claim 1 we find it calls for a collector screen, an outlet duct, a return duct and a restricted opening between the return duct and the outlet duct. As we have pointed out earlier with respect to page 2, paragraph 2 of the disclosure, these elements and their respective position relative to one another are known in grain harvesting equipment. Certainly the additional duct of Angus corresponds to the applicants "return" duct and the other ducts are also part of this citation. It is our view that claim 1 is not directed to a patentable advance in the art and should be refused.

Claims 2 to 6 depend on claim 1 and they add features of adjustable opening, multiple ducts, and removing the return duct. These added features do not make these claims patentable over refused claim 1.

Independent claim 7 specifies an outlet duct, a fixture fitted to the collector screen and a plate which is adjustable to control air flow. The basic components of this claim are also found in the Angus citation. Granted the adjustable air flow control in Angus utilizes a rotational movement as compared to the applicants movable panel opening 20, but this is not patentably significant. Therefore, claim 7, and claim 8 which depends on it, are refused.

In the Final Action the examiner indicated that he would allow a claim or claims which "sets forth the member 21 in its two positions 21, 21' above the upper end extremity of the assembly adjustably mounted by way of arcuate slots." We agree with the examiner that this added feature would clear the cited art.

We are satisfied that the claims are not directed to any patentable improvement over the prior art and recommend that the Final Action rejecting the claims be affirmed.

J.F. Hughes
Acting Chairman
Patent Appeal Board, Canada

I have studied the prosecution of this application and reviewed the recommendations of the Patent Appeal Board. In the circumstances I have decided to refuse claims 1 to 8. I will however, accept claims when amended as indicated by the Board. The applicant has six (6) months within which to delete claims 1 to 8, submit the suggested amended claims, or appeal this decision under the provisions of Section 44 of the Patent Act.

J.H.A. Gariépy
Commissioner of Patents

Agent for Applicant

Fetherstonhaugh & Co.
70 Gloucester Street
Ottawa 4, Canada

Dated at Hull, Quebec
this 3rd. day of May, 1977