

COMMISSIONER'S DECISION

UNOBVIOUS: Not Taught By the Prior Art.

The claims in the application under Final Action directed to Figure 1, replaced new claims directed the embodiment of Figure 2. Such amendment permitted since the combination defined in the new claims is neither taught nor suggested by the prior art.

FINAL ACTION: Refusal of the application as a whole withdrawn.

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated April 4, 1973 on application 066,891 (Class 111 - Subclass 17). The application was filed on November 6, 1969 in the name of Paul Koronka and Richard J. Hirst, and is entitled "Agricultural Apparatus." Mr. P. Hammond represented the applicant at the Hearing conducted by the Patent Appeal Board on June 19, 1974.

Briefly, the application discloses a seeder for planting crops comprising a frame mounted upon wheels and a seed hopper mounted on the frame. The frame also supports a plurality of drag bars to which are attached discs or other devices to cultivate the soil. A cone-shaped rubber pad is fixed on the frame for transmitting a portion of the weight of the frame to the drag bars to force the discs down into the soil. Other means are connected to the frame for adjusting the position of the wheels on the frame, and consequently will effect both the height the frame stands above the ground and the weight transmitted to the drag bars.

The prosecution terminating with the Final Action rejected not only the claims but the whole application for lack of inventive subject matter over the following references:

Canadian Patents:

120,304	Aug. 31, 1909	Rogers
496,227	Sept. 22, 1953	Dewey

United States Patents:		
2,007,832	July 9, 1935	Nelson
2,813,712	Nov. 19, 1957	Stanis

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

In paragraph 2 on page 2 of the disclosure applicant lists, in detail, what is known in the art; this list includes a reference to soil working members being biased toward the ground by means of coil springs. The Rogers and Dewey patents merely illustrate what is admitted to be prior art.

The distinction between the Rogers and Dewey patents, and the apparatus claimed by claims 1 to 3, 6 and 7 in this application is that in this application, applicant has replaced the metal coil springs with rubber cushions or bumpers which act as spring means.

Rubber bumpers or rubber spring means, however, are well known as is shown by the Nelson and Stanis patents. The Nelson patent discloses the use of rubber bumpers as a spring means in a method similar to that used by applicant.

Since the rubber springs act in a similar manner and for the same purpose as the coil springs, and since no unexpected result is produced, the replacing of coil springs by ones made of rubber or some other form of elastomer is a mere substitution of an equivalent and such substitution is not considered to be inventive.

Regarding applicant's argument that the cited patents are taken from different arts, that is farm machinery and automobile engineering, it is pointed out that both are mechanical arts, and both are directed to the application of pressure to a beam; the patent to Nelson, in particular, shows the use of rubber springs where coil springs might have been used.

Applicant argues that there are certain advantages to the use of rubber springs such as simplicity, ease of assembly or disassembly, etc., but these advantages are inherent in this type of spring and are well known, hence no unexpected result has been produced.

The applicant in his response dated Oct. 4, 1973 to the Final Action stated (in part):

A very important advantage of the present spring means arising from the fact that the spring means are shaped in the form of a cone is the fact that such a rubber spring means has a variable rate response, compression being at first

relatively easy and then becoming progressively more difficult. In consequence, the conical rubber springs of the present invention are suitable for use with a wide variety of soils so that they need not be changed for a different size of spring near as often as with the use of coil springs. It should be noted that the coil springs employed in Canadian patent No. 120,304 have a straight line response as opposed to a variable rate response. In other words, each coil spring undergoes an equal amount of compression for every equal amount of increase in the compression force applied to the spring.

The feature of the "frame mounted means for moving said ground wheels vertically with respect to said frame for varying the portion of the weight of said frame borne by said drag bars" is also important because it is advantageous to be able to load the coulters with different loads, the particular load being chosen to suit the ground to be seeded. Where the ground is hard and difficult to break, the frame can be lowered with respect to the ground wheels to increase the load on the coulters. Moreover, being able to adjust the height of the ground wheels with respect to the main frame has certain advantages over being able to adjust the height of the drag bars with respect to the frame. This ability avoids the need for such devices as the hand levers 12, the rock arms 13, and the rack plate or notched arc plate 14, described in Canadian patent No. 120,304. It also avoids the need for any connection between the rubber spring means 7 of the present invention and the drag bars 4. Note that the rod 4 shown in Canadian patent No. 120,304 must be pivotally connected to the beam 6 in order to be able to vary the height of the harrow 8. Thus, a much simpler construction is permitted by the arrangement of the present invention set out in the new claim 1.

It should also be pointed out that the features described in claims 2, 3, 5, and 6 are no where described in this Canadian patent. In particular it should be pointed out that the discs 16 are sod cutting discs and are not slit widening disc means disposed to widen the slit formed by the forward harrows as described in claim 5 of the claims. There is also no disclosure that the tubular drill-head 19 is to be disposed between the discs 16. Indeed, there would be no sense in placing the drill-heads between the discs 16 since the discs 16 are merely used to cut sod.

Considering the prior art cited, Canadian patent 120,304 discloses a device which can be used alternatively as either a disc harrow or a seeder. The machine disclosed employs a plurality of

parallel transverse rock shafts, 2, to which are secured rock arms 3. To the outer end of each of these arms is pivotally connected a rod 4. The lower end of this rod is slidably mounted in a sleeve 5, pivotally connected to a draft beam 6 (see Figure 1) at a point a short distance from the lower end of the draft beam. The upper end of each draft beam is journaled to move freely on a transverse rod 7, while the lower end supports an inclined concave harrow disc 8. In order to enable slight independent movement of each disc 7 relative to its connecting rod, the connections between the rod and draft beam 6 are made yieldable and comprise a collar 9 on the rod and a coil spring 10 adapted to be interposed between the collar and the top of the sleeves.

Canadian patent 496,227 discloses a seed drill comprising a frame, ground wheels, a hopper or seed box and a number of soil working members. This reference illustrates what was admitted in the disclosure by the applicant to be prior art.

The Nelson and Stanis patents were cited to show that rubber bumpers or snubbers are well known as spring or damper means.

First it is observed that the applicant cancelled all the claims, which claims were directed to the embodiment of Figure 1, as a consequence of the Final Action, and submitted amended claims directed to the embodiment of Figure 2.

The question which we must decide is whether amended claims 1 to 7 disclose a patentable advance in the art over the cited art.

Amended claim 1 reads:

Seed drill comprising a frame mounted upon group wheels, said frame having mounted thereon a seed hopper to which conduit means for conveying seed from the hopper to the ground is attached, said frame also supporting a plurality of drag bars bearing soil working members, said drag bars being pivotally mounted on said frame, rubber spring means in the form of a cone fixed on said frame for transmitting a portion of the weight of said frame to said drag bars, the remainder of the weight of said frame being borne by said ground wheels, and frame mounted means for moving said ground wheels vertically with respect to said frame for varying the portion of the weight of said frame borne by said drag bars and thereby controlling the depth to which said soil working members are urged into the soil.

On considering the difference between the art and that covered by the amended claims, claim 1 recites the features of "rubber spring means in the form of a cone fixed on said frame for transmitting a portion of the weight of said frame to said drag bars," and "frame mounted means for moving said ground wheels vertically with respect to said frame for varying the portion of weight of said frame borne by said drag bars and thereby controlling the depth to which said soil-working members are urged into the soil." These features were not recited in the claims rejected by the examiner and cancelled by the applicant as a result of the Final Action.

We concur with the applicant's argument, on which particular emphasis was placed at the Hearing, that the art cited against the former claims does not show "a frame mounted means for moving said ground wheels vertically with respect to the frame."

The applicant also argues that amended claim 1 further distinguishes from the cited art by reciting the feature of "rubber spring means in the form of a cone fixed on said frame." While the Nelson and Stanis reference disclose the use of rubber bumpers or snubbers, it is the claim when read as a whole that must be considered in order to show a patentable advance in the art, and it is settled that all the elements of a patentable claim may be old.

Canadian patent 496,227 has no spring means for transmitting a portion of the weight of the frame to the drag bar (i.e. spring 10 is not disposed between the frame and the drag bar). Canadian patent 120,304 employs a coil spring 10. There is no reason apparent to disbelieve the applicant when he states that "rubber spring means in the form of a cone has a number of advantages over the coil spring." For example, the applicant maintains that: (a) less super-structure is required, (b) the rubber cone will not corrode as readily, (c) a better arrangement of the seed box is possible, and (d) the rubber cone has a variable rate response as opposed to a straight line response.

In summary, amended claim 1 distinguishes from the cited art by the following features:

- (1) rubber spring means in the form of cones "fixed on said frame for transmitting a portion of the weight" of said frame to said drag bars; and
- (2) frame mounted means for "moving said ground wheels vertically" with respect to said frame to vary the portion of the weight transmitted to the drag bars.

Accordingly, the Board is satisfied that the combination explicitly circumscribed by amended claim 1 is neither taught nor suggested by the cited art. It follows that amended claim 1, and claims 2 to 7 which depend directly or indirectly on claim 1, is an amendment which avoids the grounds for rejection made by the Examiner.

The applicant also proposed some clarifying amendments to the disclosure. The Board recommends that the proposed amendments including amended claims 1 to 7 be entered, that the rejection of the application as a whole (as distinct from a rejection of

the original claims) on the art cited be withdrawn, and that the application be returned to the examiner for a further consideration of the patentability of the amended claims.



J.F. Hughes,
Assistant Chairman,
Patent Appeal Board.

I concur with the findings of the Patent Appeal Board and accept the proposed amendments to the application. The application is returned to the examiner for resumption of prosecution along the lines indicated by the Board.

Decision accordingly,



A.M. Laidlaw,
Commissioner of Patents.

Dated and signed
in Hull, Quebec this
26th. day of July, 1974.

Agent for Applicant

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FIG. 1

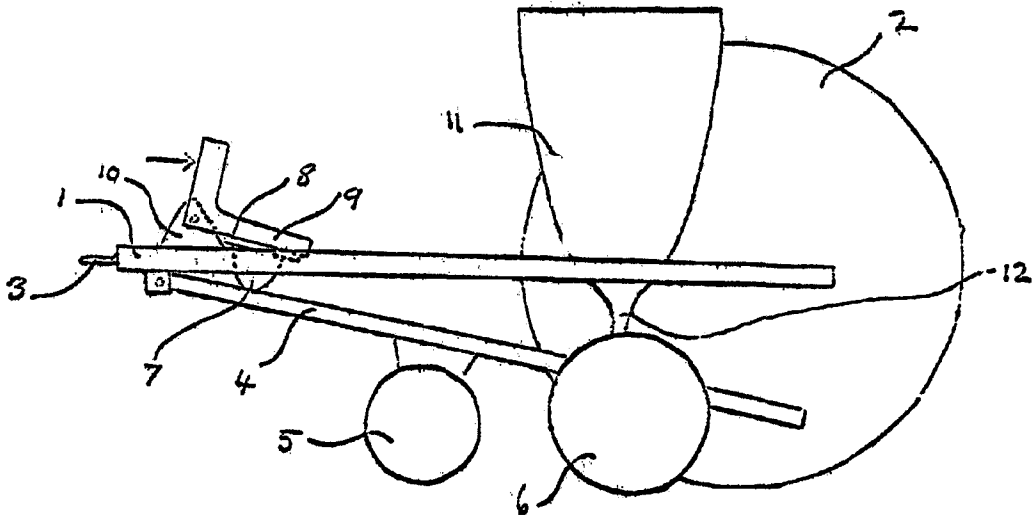


FIG. 2

