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(19) (CA) **CANADIAN PATENT** (12)

(54) SWATHER

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Canada

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Exhibit 1018

ABSTRACT

A self-propelled swather having a tractor unit with a central cutting head and two side cutting heads, one each being disposed on either side of the tractor unit and having the inner ends thereof behind and aligned with the outer ends of the central head. The central head is carried solely by the tractor while the side heads are carried at their inner ends by the tractor unit and at their outer ends by caster wheels. A pivot connection is provided between the inner ends of the side heads and the tractor unit so that the heads can swing from the work position to a transport position wherein the front cutting edges of the side heads are substantially parallel to the direction of travel of the tractor. Thus, the swather is readily maneuverable in the transport position and in width is only a fraction of the swather in its work position. The cutting height of the individual heads may be separately adjustable, and a separate drive is provided to the knives, reels and conveyors of each head.

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This invention relates to an agricultural machine of a type having a tractor unit and a number of heads, two side heads of which swing rearwardly to a transport position.

In harvesting equipment, such as swathers, it has been known to utilize a number of heads so as to cut a wide swath on each pass. A number of these types of swathers have three heads which are transversely aligned and wherein the two outer heads swing upwardly about their inner ends during transport. It has normally been proposed when the heads are transversely aligned to drive the knives and reels from a common drive. Generally, the known types of multi-head swathers have experienced difficulties in the drive systems which are of a complex design. When the heads are in a transport position the machine is awkward to handle and is restricted as to relatively wide roadways and high overhead obstructions.

According to the present invention, there is provided a self-propelled swather including a tractor unit having a prime mover, a central head and a pair of side heads. The central head is mounted in front of the tractor unit and has a front edge cutting means extending between opposite end edges. One each of the side heads is disposed on either side of the tractor unit, and each side head has a front edge cutting means extending between an inner end adjacent the tractor unit and an outer end, the inner ends of the side heads being behind and substantially aligned one each with opposite end edges of the central head when the

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side heads are in a work position. Pivot means connects the side heads to the tractor unit at the inner ends of the side heads and permit swinging rearwardly of each head to a transport position. In the transport position, the front edges of the side heads are substantially parallel to the normal direction of travel of the tractor unit.

In a specific embodiment of the invention, the central head is supported solely by the tractor unit, and each side head is supported at its inner end by the tractor unit and at its outer end by ground engaging means, such as a caster wheel.

Also in a specific embodiment of the invention each head has individual cutting height adjusting means, and the cutting means of each head is driven by separate power transmitting means from the tractor unit.

In the accompanying drawings, which show one embodiment as an example;

Figure 1 is a plan view of the swather in a working mode;

Figure 2 is a plan view the same as Figure 1, but with the heads in a transport position;

Figure 3 is an enlarged view of a pivot means between a side head and the tractor as seen from the line 3--3 of Figure 1;

Figure 4 is a view as seen from line 4--4 of Figure 1 illustrating a height adjustment means;

Figure 5 is a view of a ground engaging means of the head as seen from line 5--5 of Figure 2;

Figure 6 is a side view of the ground engaging

means shown in Figure 5;

Figure 7 is a partial plan view showing an alternative connection between the tractor and side head; and

Figure 8 is a rear view of an embodiment of a transfer conveyor mounted below the tractor unit.

The reference number 10 generally denotes the swather of the present invention, the swather 10 including a tractor unit 11, a central cutting head 12, and a pair of side cutting heads 13 and 14. The tractor unit 11 includes a body having a chassis with main frame members 36,36 carried by front drive wheels 37,37 and rear steering wheels 38,38. The drive wheels 37,37 are larger than the rear wheels 38,38 and the rear wheels may include a standard automotive type steer controlled from a operators position 42 in a cab near the front of the tractor unit. The tractor unit has a transversely disposed prime mover, such as a Diesel engine 40, with drive means 41 extending to the front wheels and controlled by a transmission system from the operators position 42. The tractor unit is also provided with power-take-off means in the form of a transversely extending shaft 43, the shaft 43 being driven from the engine 40 and the rotation of which is controllable from the operators position. The ends 44,44 of the shaft extend from opposite sides of the tractor unit. The tractor unit includes other structural features, many of which will be further described below.

The central head 12 has a main frame member 15 extending across the full width of the head at the back thereof, and the frame member 15 is carried at the front of the tractor unit by brackets 16,16. The central head 12 has a front edge cutting means 17 extending full width of the head between opposite end edges 18,18 of the central

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