CANADIAN AGRICULTURAL MACHINERY.

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laceaves or nct ud ns ud r top and on to the slanting binder-deck under which the packers work. It is then packed tightly against the binding cord until the required size of bundle is obtained, when a trip is pressed releasing a catch, which, in turn, throws the tying mechanism into gear. The needle arm rises through the deck, carrying the twine which completes the circle of the sheaf, a quick knot is tied, the twine cut, the needle quickly returns to its position below the deck, and the bundle is discharged on the ground or on a carrier at the will of the operator.

The entire mechanism is driven from a high and broad-rimmed steel wheel whose motion is communicated to the main gear shaft through a large sprocket-wheel and a powerful endless chain, Fig. 8. On this shaft is located the arrangement for throwing the machine in and out of gear, controlled by a lever within convenient reach of the driver when on his seat. From the main gear shaft the motion is communicated throughout the machine by means of chain and spurwheel gearing. The main weight of the machine is supported by the driving-wheel, and the lesser weight by a steel grain-wheel at the outer end of the platform. At each end of the platform there is a divider extending about two feet in front of the knife. The outside divider separates the grain to be cut from the standing grain, supports it above the grain wheel, and lays it evenly on the platform. It is set at a slight outward angle to gather in a sufficient quantity beyond the end of the platform to provide a clear track for the grain wheel.

The crank-shaft is driven directly from the main gear shaft by a bevel wheel and pinion. This drives the knife through a wooden connecting-rcd as on the mower. At the rear end of the crank-shaft is the sprocket-wheel for driving the long main-chain which passes over several wheels, driving directly the platform canvas, the lower elevator canvas, and the packers, also a shaft or roller which drives the upper elevator canvas through a chain or wheel gearing at the front. This elevator must be driven from the front as it is narrower than the lower to allow the heads of long grain to pass up clear of the canvases. The lower elevator is driven from its top roller and this in turn drives, through two or three pinions, a free roller, inserted in the

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