

is regulated by another lever, to provide for cutting within an inch of the ground which is necessary when the grain is much beaten down. To ensure the twine being tied about the centre of the bundle, whether the grain is long or short, the entire packing and binding mechanism may be shifted, the square packer-driving shaft sliding through the centre of the driving sprocket. Other adjustments, not made from the driver's seat, are, regulating the size of the bundle for damp or dry grain, done by altering the position of the compress hook regulating the tightness of the twine about the sheaf; and raising and lowering the entire machine, by a crank and worm-gear working a spur pinion along an enclosed rack.

Local conditions are all provided for. The three conditions which are so different from those of Canada as to require special construction are, the value of the straw, the dampness of the climate, and the narrow gates in common use. The value of straw requires that the machine be made with an entirely open rear to allow any length of grain to be handled, while in America the rear of the machine is closed, and the height is regulated by the raise and lower gear to cut a length of straw that will easily pass up the elevators within the space between the closed ends. The Canadian grain is, as a rule, dry, but in Great Britain it is so damp that it soon soaks the platform canvas, causing it to shrink, and when it dries again, the canvas expands. In order, therefore, to keep it always tight, springs are provided in the platform, which contract when the canvas shrinks and force the rollers outward again when it dries, thus keeping it always just tight enough to work perfectly. In Western Canada there are no gates at all, and in Eastern Canada the gates are wide, but in Great Britain the gates are too narrow to allow the projecting points of the dividers to pass through easily when the machine is mounted sideways on the transport truck. To provide for this the dividers are made to fold, reducing the width of the machine by about two feet.

*Bearings.*—The application of roller and ball bearings to agricultural machinery, Plate 5, has resulted in so reducing the draught that two light horses can now easily draw machines formerly