

# Traversing Mechanisms Used

The seven mechanisms shown below are used on different types of yarn and coil winding machines. Their fundamentals, however, may be applicable to other machines which require

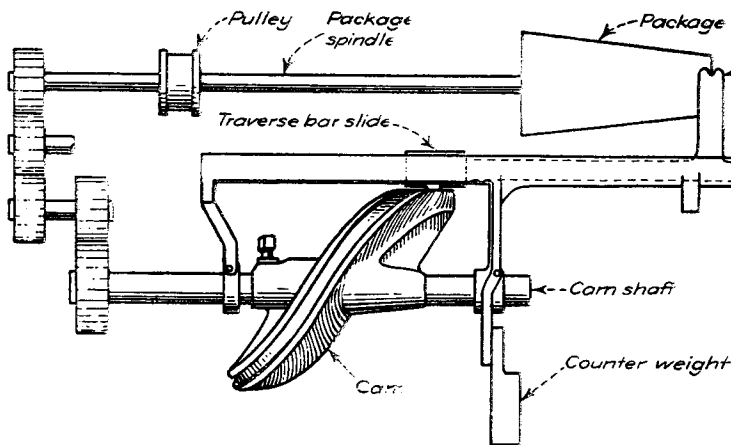


FIG. 1. Package is mounted on belt driven shaft on this precision type winding mechanism. Cam shaft imparts reciprocating motion to traverse bar by means of cam roll that runs in cam groove. Gears determine speed ratio between cam and package. Thread guide is attached to traverse bar. Counterweight keeps thread guide against package.

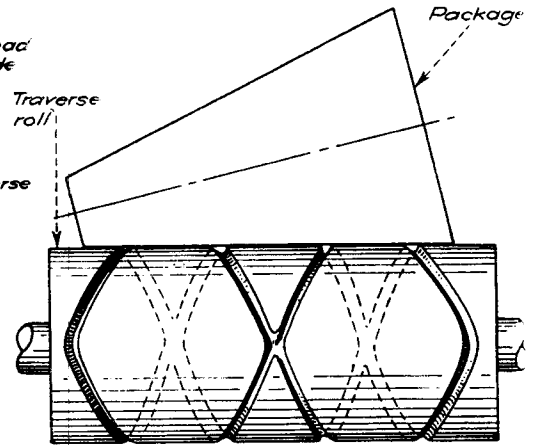


FIG. 2. Package is friction-driven from traverse roll. Yarn is drawn from the supply source by traverse roll and is transferred to package from the continuous groove in the roll. Different winds are obtained by varying the grooved path.

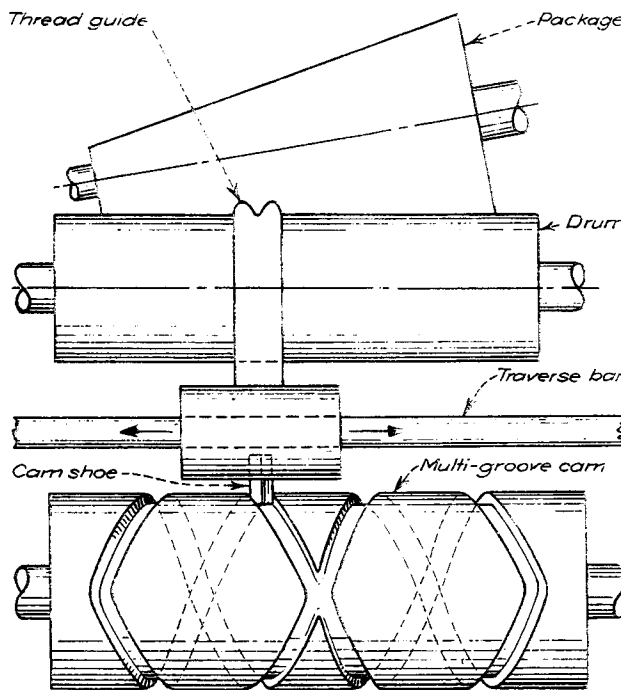


FIG. 4. Drum drives package by friction. Pointed cam shoe which pivots in the bottom side of the thread guide assembly rides in cam grooves and produces reciprocating motion of the thread guide assembly on the traverse bar. Plastic cams have proved quite satisfactory even with fast traverse speeds. Interchangeable cams permit a wide variety of winds.

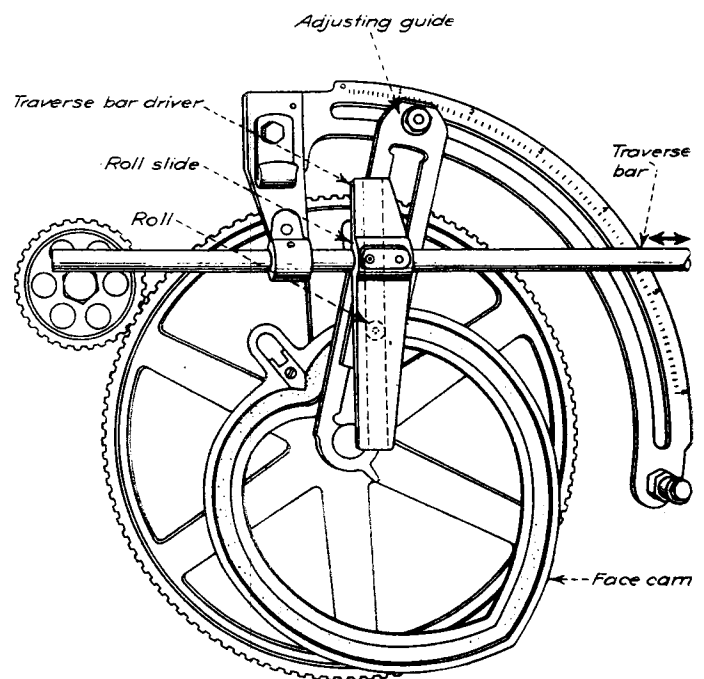


FIG. 5. Roll that rides in heart-shaped cam groove engages slot in traverse bar driver which is attached to the traverse bar. Maximum traverse is obtained when adjusting guide is perpendicular to the driver. As angle between guide and driver is decreased, traverse decreases proportionately. Inertia effects limit this type mechanism to slow speeds.

# on Winding Machines

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similar changes of motion. Except for the lead screw as used, for example on lathes, these seven represent the operating principles of all well-known, mechanical types of traversing devices.

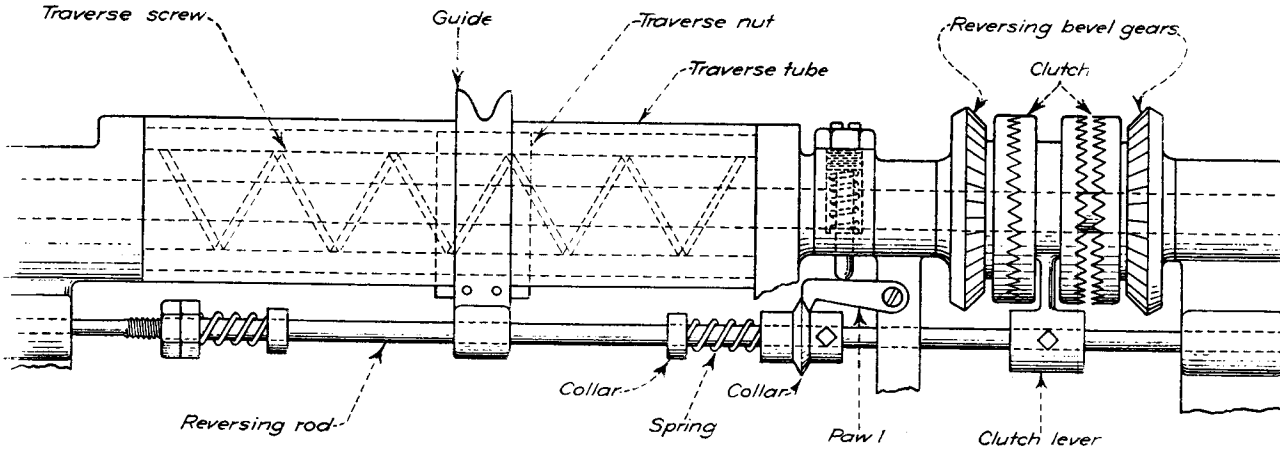


FIG. 3. Reversing bevel gears which are driven by a common bevel gear, drive the shaft carrying the traverse screw. Traverse nut mates with this screw and is connected to the yarn guide. Guide slides along the reversing rod. When nut reaches end of its travel, the thread guide compresses the

spring that actuates the pawl and the reversing lever. This engages the clutch that rotates the traverse screw in the opposite direction. As indicated by the large pitch on the screw, this mechanism is limited to low speeds, but permits longer lengths of traverse than most of the others shown.

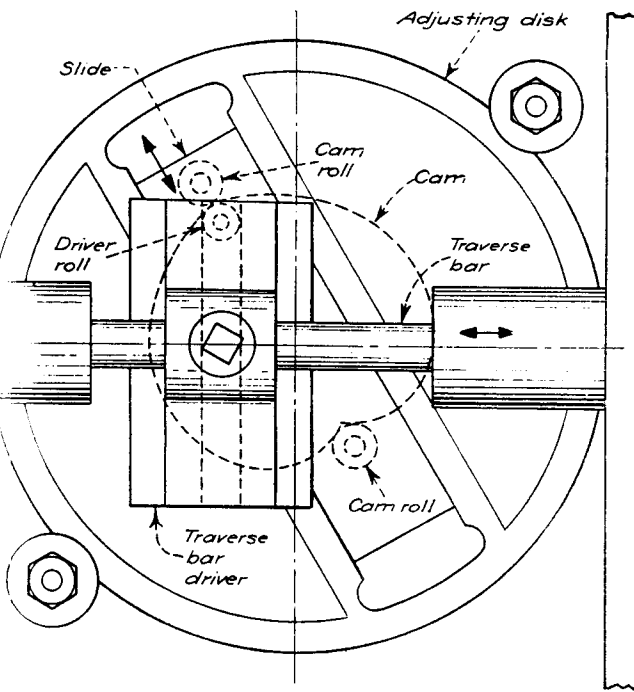


FIG. 6. Two cam rolls that engage heart shaped cam are attached to the slide. Slide has a driver roll that engages a slot in the traverse bar driver. Maximum traverse (to capacity of cam) occurs when adjusting disk is set so slide is parallel to traverse bar. As angle between traverse bar and slide increases, traverse decreases. At 90 deg traverse is zero.

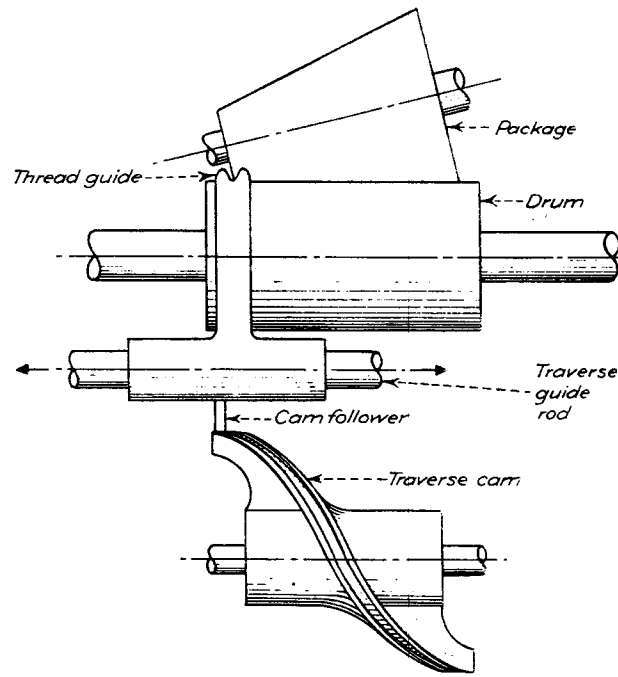


FIG. 7. Traverse cam imparts reciprocating motion to cam follower which drives thread guides on traverse guide rods. Package is friction driven from drum. Yarn is drawn from the supply source through thread guide and transferred to the drum-driven package. Speed of this type of mechanism is determined by the weight of the reciprocating parts.