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### THE CANADIAN TEXTILE DIRECTORY

A Handbook of all the Cotton, Woolen and other Textile manufactures of Canada, with lists of manufacturers agents and the wholesale and retail dry goods and kindred trades of the Dominion, to which is appended a vast amount of valuable statistics relating to these trades. Fourth edition Price, \$3.00

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### MODERN FLAX SPINNING.\*

BY H. R. CARTER.

(Continued from last issue.)

Another means in general use of giving motion to the "head" is the cam wheel, which is a solid wheel of similar size to the last mentioned, with a somewhat heart shaped groove or race cast in one side of it. A runner or roller working upon a stud fixed near the fulcrum in the end of a lever works in this groove. The long arm of the lever is slotted and connected by a rod with the top shaft, the height of lift being adjustable by lengthening or shortening the effective length of the long arm of the lever. To obtain

a uniform up and down motion without appreciable rest either top or bottom, the shape of the cam groove or race should be of the ordinary heart shape. In practice it is usual to give a short rest at the top of the lift when the holders are shifting, and a longer one at the bottom. To effect this, the part of the cam next the centre is rounded into an arc of a circle of length, say 20°, while the other extremity is formed into another arc of, say, 40°. This wheel, if properly made, gives a nice motion, but is heavy to drive.

One of the newest forms of mechanism for giving this up and down motion consists of two wheels geared into each other, and having runners working upon studs near the periphery of each. As these wheels revolve the friction rollers alternately come in contact with either side of one arm of a T shaped lever arrangement working upon a central stud. The other arms of the lever are slotted to adjust the height of the lift, and connected by rods with a segment upon the top shaft of the machine. The dwell or rest of the channel when at its lowest point can be altered by means of adjustable hinges, through which the revolving wheels communicate motion to the lever, the amount of rest depending upon the point in the path of the stud in the aforesaid wheels where contact takes place with the hinges on the lever arm. The shifting of the holders along the channel is effected by means of a slide bar, upon which "dogs" or detents are pivoted, which catch upon the bearing pins of the holder when moving towards the fine end of the machine, and slip over them when receding prior to making a fresh shift. These catch bars are actuated either by a cam wheel and connecting levers or by means of mitre wheels transmitting the reciprocating circular motion of the top shaft to a short cross shaft, upon which is keyed a circular slotted disc with adjustable studs actuating the "catch bar" by a lever and connecting rod. Machines are often fitted with what is termed a casting or throwing out motion, by means of which the holders may be ejected without subjecting their contents to the last or two finishing hackles, thus in a measure enabling a fine machine to take the place of a coarser one. Motions to effect this purpose are numerous, one of the simplest consisting in a lever, one extremity of which works upon a stud fixed in the channel, while the other is connected to a long arm which slides in the channel and pushes out the holders. A point nearly midway up the lever is connected by a rod with the catch bar, the traverse of the throwing out arm bearing the same ratio to that of the catch bar as does the

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