To all whom it may concern:

Be it known that I, SAMUEL K. DENNIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Driving Mechanism for Grain-Binder Machines, of which the following is a specification.

My invention relates to a novel and simple mechanism for driving the upper elevator-canvas from the top roller of the lower canvas and also for driving the reel from the same shaft, and is designed to produce a structure for this purpose that shall be simple, cheaply manufactured, durable, and efficient in operation.

Referring to the accompanying sheet of drawings, in which the same reference characters designate identical parts in both the figures, Figure 1 is an end elevation of so much of the front of the grain-binder as is necessary to disclose my invention, and Fig. 2 is an enlarged view thereof in section on the line A A of Fig. 1.

The front side board a of the elevator mechanism is supported in the customary manner on the angle-iron b, constituting a portion of the framework, and carries at its lower end the bracket c, which has the supporting-rod d for the reel extending between suitable lugs on the framework b and the bracket c. The reel-supporting post e has the reel-arm f secured thereto by the customary adjusting mechanism g, and the reel-shaft h is mounted to rotate in the bearing-sleeve j, secured at the end of the arm f. All these parts are of the customary and well-known construction.

The top roller k of the lower canvas is secured to the shaft l, which has its front end journaled in bearings formed in the side board a and in the bracket m, which is bolted to the angle-iron framework b, as clearly shown in Fig. 1. The shaft l has secured to its outer end the flexible shaft o, which extends around in a semicircular curve, as shown, and is secured to the corresponding end of the shaft o of the top roller p for the upper canvas, which is journaled in bearings in the side boards a in the customary manner. By this simple connection it will be apparent that as the shaft l is rotated the shaft o will be rotated at the same speed and in the proper direction to cause the proper cooperation of the two elevator-canvases.

Secured on the shaft l and in a suitable recess q in the bracket m is the worm r, which meshes with the worm-wheel s, which is secured upon the short shaft t, which is journaled in suitable bearings in the bracket m. The shaft t is secured by the universal joint u to the telescoping tumbling-rod consisting of the hollow portion v, whose angular interior is preferably square in cross-section and which receives the cooperating portion w of the tumbling-rod, which is of the same angular cross-section as the interior of the portion v and in turn is secured to the reel-shaft h by means of the universal joint x. With the construction shown it will be apparent that as the shaft l is rotated the reel-shaft h will be driven thereby in the proper direction and at the proper speed and that the telescoping tumbling-rod forming the connections will permit of the adjustment of the reel to any necessary position without disconnecting the parts.

With the construction herein shown and described it will be seen that I have produced an extremely simple and efficient mechanism for driving the upper elevator-canvas and reel from the top roller-shaft of the lower canvas, and that while I have shown my invention as embodied in the form which I at present consider best adapted to carry out its purposes it is capable of some modifications, and that I do not desire to be limited in the interpretation of the following claims by the language thereof, but only so much as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States is—

1. In a device of the class described, the combination with the top roller-shafts of the two elevator-canvases, of the worm secured adjacent to the end of one of said shafts, the flexible shaft connecting the adjacent ends of said roller-shafts, the reel-shaft, and connections between said worm and the reel-shaft consisting of the worm-wheel and the telescoping tumbling-rod secured thereto.

2. In a device of the class described, the combination with the shaft l having the
worm r secured near the end thereof, of the shaft o, the flexible shaft n connecting the adjacent ends of said shafts t and o, the bracket m in which the end of the shaft t is journaled, the shaft t journaled in said bracket and having the worm-wheel s thereon meshing with the worm r, the reel-shaft h, and the telescoping tumbling-rod connected by universal joints to said shafts t and h; substantially as and for the purpose described.

SAMUEL K. DENNIS.

Witnesses:

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