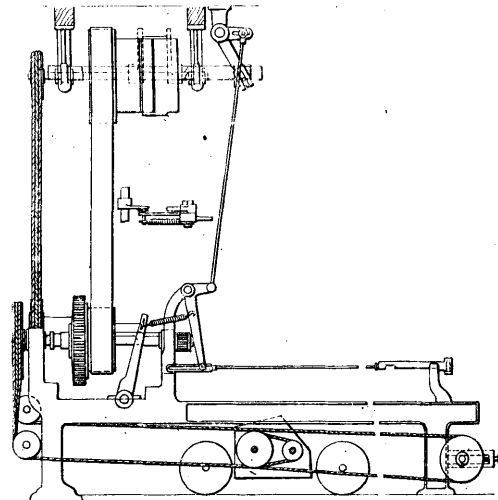


TEXTILE MACHINERY.

20,442. J. Moorhouse, Oldham. Self-Acting Mule and Twiner. [6 Figs.] October 12, 1899.—The rim shaft of the machine has fixed to it a belt pulley, and on the countershaft is loosely mounted a further belt pulley, the two pulleys having around them a belt. Upon the countershaft are two other pulleys, both loose on the shaft, one of them connected to the before-mentioned belt pulley. Between these two pulleys is mounted a narrower pulley fixed to the shaft. The driving belt, when the mule is at rest, lies around the pulley farthest from the driving pulley; when the mule is started the belt is partly on



[20,442]

the pulley connected to the driving pulley, and partly on the narrow fixed pulley; when backing-off is timed to take place, the belt is moved off the pulley connected to the driving pulley, partly on to the pulley at the other side of the narrow fixed pulley, at the same time remaining partly on the narrow fixed pulley. The advantage gained by this arrangement of driving gear is that the belt from the countershaft to the machine has never to be moved. Upon reference to the drawing here reproduced, it will be seen that by a system of bellcrank levers and rods the above-described movements are effected from the usual strap guide shaft. (Accepted June 13, 1900.)