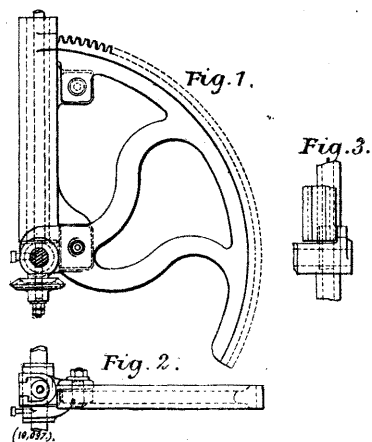


## TEXTILE MACHINERY.

**10,097. A. Lees and Co. and J. Clegg, Oldham, Lancaster. Winding Arms and Quadrants of Mules and Twiners.** [3 Figs.] May 13, 1899.—This invention relates to the construction of the winding arm and quadrant of self-acting mule and twiner, and its object is to improve the gearing between the teeth on the quadrant and the pinion and to minimise breakage of the same. A central boss is cast on the quadrant portion, and two or more lugs are provided in position



to correspond with the lugs on the winding arm. The quadrant when cast is put in a lathe and bored and turned on its periphery, the teeth are machine-cut. The winding arm is fitted to the quadrant and the lugs on each part bored to receive turned bolts by which the quadrant and arm are secured together, so as to enable the winding arm to be removed or replaced without disturbing the short shaft or central stud. (Accepted December 27, 1899.)