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PATENT

To Edward Gribben Wilson, of Bury, in the county of Lancaster, tin-plate worker, for his invention of certain improvements in the construction of tin drums or rollers used in the machinery for drawing, spinning, doubling, twisting, and throwing cotton, wool, silk, flax, and other fibrous substances.- [Sealed 1st August, 1848.]

These improvements in the construction of tin drums or rollers, used in the machinery for drawing, spinning, doubling, twisting, and throwing cotton, wool, silk, flax, and other fibrous substances, apply to the construction of the drums or rollers usually employed in such machinery for the purpose of driving the spindles ; and their principal object is to impart to such drums or rollers a greater degree of strength and durability, and also a much more accurate and true surface than can be obtained by the ordinary method of manufacture. It is well known to persons conversant with such machinery that tin drums and rollers, manufactured in the manner hitherto employed, are, on account of the number of joints and piecing, very liable to get distorted and to break at the joints; and also that, for the same reason, there are always more or less irregularities and inequalities of surface; and that the driving-bands, by sometimes working in the crevice at the junction of the different lengths of which the roller is formed, and sometimes upon the top of the swaging (which is often slightly raised above the level of the rest of the length, and consequently of a larger diameter), cause an uncertainty and irregularity in the speed of the spindles exceedingly detrimental to the perfect and uniform operation of the machine.

In manufacturing a tin throstle roller, by the ordinary process, as hitherto employed (supposing the roller to be about twelve feet in length and nine inches diameter), it is constructed in twelve lengths, jointed together; each length being composed of three sheets of tin, so that each roller requires thirty-six sheets of tin to form the body, exclusive of the ends and blocks. The present invention consists simply in constructing the said rollers of tin plates of a much larger size than have hitherto been employed for that purpose, say from three feet to twelve feet, or more, in length, and sufficiently wide to form the circumference ; so that a tin roller, of twelve feet long, can be composed of four sheets, three sheets, two sheets, or one sheet of tin, and have only three joints, two joints, or no joint in the whole length, instead of eleven, as by the ordinary method; each length having thus but one seam instead of three. When the roller has been thus made, and the joints and seams well secured, the roller must be rounded and turned in a slide or other lathe (upon a mandril adapted to its length and diameter) to a perfect and uniform cylinder, presenting a straight and parallel surface. Thus it will be evident that the liability of such rollers to get distorted and break at the joints, and their want of uniformity of diameter and truth of surface-inevitable under the old mode of construction-is completely obviated by the improved method, and a more perfect uniformity than has hitherto been obtained in the speed of the spindles is ensured.

In manufacturing tin drums for self-acting and other mules, the improvement consists in constructing the grooved pulley, which receives the driving-band, of one and the same piece with the rim of the body, instead of being made of a separate piece, and soldered together in the usual way. By the use of this improvement, it will be seen that the drum is much less liable to get out of repair; and if the pulley should wear out, it may be replaced with great facility,-the drum being provided with an internal belt to support its circumference, should the original pulley be removed.

The patentee claims, Firstly,-the method of constructing tin rollers, used in the above-named machinery, of tin plates of a much larger size than have hitherto been employed for that purpose, so as to require much fewer seams and joints; and also rounding and turning them in a slide or other lathe, as above described. Secondly,-in forming the grooved pulley of mule-drums of one and the same piece with the rim of the body of the drum itself, instead of forming it of separate pieces and soldering it on to the drum, as hitherto practised. -[Inrolled February, 1849.]