Aug. 7, 1951 E. J. COURTNEY 2,563,398

TEXTILE SPINDLE

Filed Jan. 2, 1947

Fig. 2.

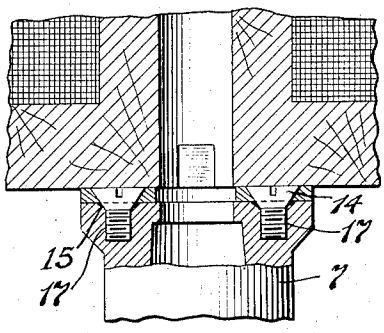
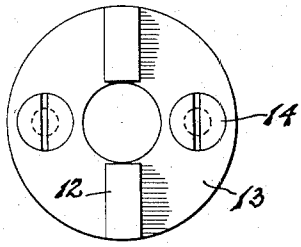


Fig. 3.



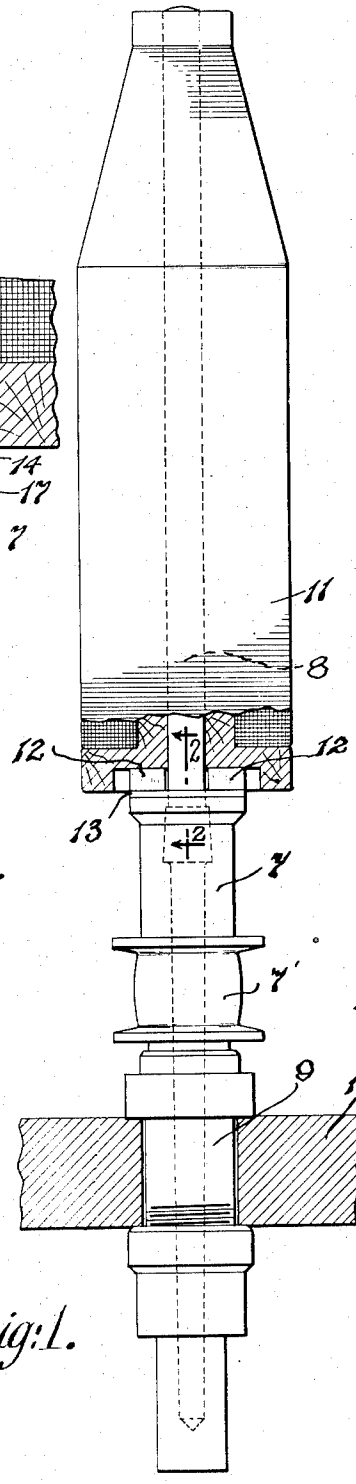


Fig. 1.

Fig. 5.

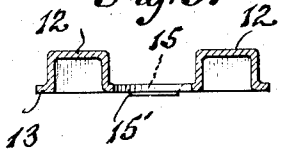
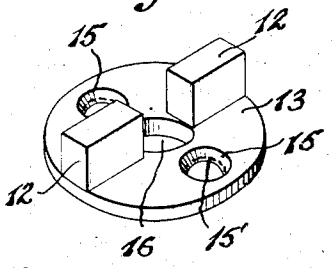


Fig. 4.



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TEXTILE SPINDLE

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2 Claims. (Cl. 242—46.3)

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This invention relates to textile spindles utilized in the manufacture of yarns.

Such spindles have been so constructed that when the parts have worn substantially, particularly the driving lugs which nest in the bottom of the spool or bobbin, the entire spindle must be discarded and replaced with a new one, which constitutes a substantial item in the cost of upkeep. This wear is due to the fact that each spindle has a wharve, i. e., a flywheel, in consequence of which the spindle is frequently rotating at substantial velocity when a bobbin is doffed and a fresh bobbin emplaced. Due to the consequent relative motion as between the bobbin and the spindle, at the time of doffing and replacement, the driving lugs wear and eventually the driving connection is so impaired as to require replacement of the entire spindle.

The primary object of my invention is to provide an improved construction of spindle whereby when the driving lugs wear, they can be replaced, the remainder of the spindle being preserved.

More specifically, it is an object of my invention to provide an adapter whereby a worn spindle can be repaired and again put to use.

How the foregoing, together with such other objects as may hereinafter appear or are incident to the invention, are realized is illustrated in the accompanying drawings, wherein

Fig. 1 is a partial side elevation in section through my improved spindle, showing the bobbin in place.

Fig. 2 is an enlarged section taken on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of the top of the wharve of the spindle, drawn on an enlarged scale.

Fig. 4 is a perspective of the adapter of my invention, and

Fig. 5 is a sectional view illustrating a modification of the adapter.

Referring now to Fig. 1, the reference numeral 7 indicates the wharve or flywheel of the spindle; and the reference numeral 8 indicates the spindle or shaft proper which, as in conventional practice, is press fitted or otherwise secured to the wharve so as to constitute, for all practical purposes, a unitary structure. As is customary, the lower portion of the shaft or spindle 8 projects below the wharve so as to be received in the bearing 9 supported in any preferred manner in the frame 10. The upper portion of the spindle projects above the wharve to receive the bobbin or spool 11. The wharve is provided with a pulley portion 7' to receive the customary driving belt (not shown).

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The reference numeral 12 indicates the driving lugs on the upper end of the wharve 7. In this instance, however, such lugs, instead of being formed integrally with the wharve, are carried by the disk or plate 13 which is preferably a stamping for reasons which will appear hereinafter. The lugs 12 may be made of especially hard steel and welded or otherwise unitarily secured to the plate 13, as shown in Fig. 4; or may be stamped as part of the plate 13 as shown in Fig. 5, so as to constitute an integral part of the plate 13.

The plate 13 fits on the top face of the wharve 7 and is secured thereto by means of taper head screws 14, for which purpose the plate 13 is provided with countersunk screw receiving holes 15. The wharve has, of course, tapped holes 17 to receive the screws. The plate has a central opening 16 to receive the spindle and the driving lugs are located on opposite sides thereof.

By stamping the screw receiving holes 15 in the plate 13, a rim or burr 15', best shown in Figs. 2, 4 and 5, is formed of the metal immediately adjacent the holes, such burrs projecting downwardly somewhat below the lower face of the plate. The upper portions of the screw-receiving holes 17 in the wharves 7 are also tapered at a somewhat flatter angle than that of the screw heads, in consequence of which the burrs or rims 15' fit down into the screw holes 17, when the screws 14 are tightened home. Thus, the screws are relieved of part of the driving thrust and a firm connection is obtained between plate and wharve. Of course, the rims or burrs can be otherwise formed, but by employing a stamped plate, the construction is quite cheap and metal which would otherwise ordinarily be scrapped can be employed.

When the driving lugs wear, it is obvious that a new plate with its driving lugs, can be substituted, and the worn one discarded. The replacement can be made at very low cost as compared with discarding the spindle, as has been universal practice.

Similarly, it will be seen that a worn spindle of conventional construction can be readily repaired by cutting off the existing lugs, drilling and tapping screw receiving holes in the top of the wharve, and applying the adapter of my invention. Even this operation is a very cheap one as contrasted to providing an entirely new spindle.

I claim:

1. In a textile spindle, a wharve provided with spaced threaded recesses in its top portion, a replaceable disc having correspondingly located

holes therethrough and adapted to seat on the top of the wharve, said disc having spaced bobbin driving lugs on its upper face, and screws threaded into said recesses in the top portion of the wharve and fixedly securing said disc to said wharve.

2. In a textile spindle, a wharve provided with spaced threaded recesses in its top portion, a disc having correspondingly located holes therethrough and adapted to seat on the top of the wharve, said disc having spaced bobbin driving lugs on its upper face, and screws for securing said disc to said wharve, said recesses and said holes being countersunk to receive taper head screws, and said disc having annular rims surrounding said holes on the face of the disc next to the wharve.

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