(No Model.)

C. E. SÖDERBERG.

METHOD OF MAKING SPLIT SPINDLES FOR WEAVING SHUTTLES.

No. 458,507. Patented Aug. 25, 1891.

Fig. 1

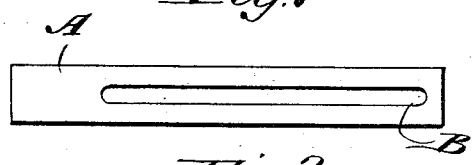


Fig. 2.

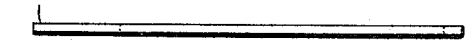


Fig 3

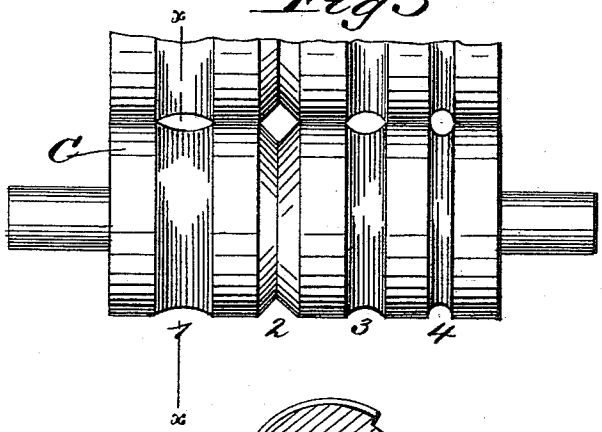


Fig. 4

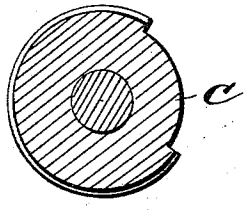


Fig 5

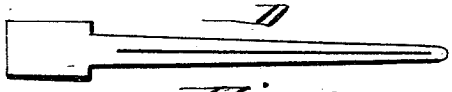


Fig. 6



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METHOD OF MAKING SPLIT SPINDLES FOR WEAVING-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 458,507, dated August 25, 1891.

Application filed November 19, 1890. Serial No. 371,897. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SÖDERBERG, a subject of the King of Sweden, and at present residing in Worcester, in the county of Worcester and State of Massachusetts, have invented a new and Improved Method of Making Split Spindles for Weaving-Shuttles, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved method for making split spindles for weaving-shuttles from one single piece of stock.

The method consists of first forming, by punching or otherwise, a slit in the spindle-blank and then rolling or hammering the blank by suitable machinery to form the spindle-body.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and numerals of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the spindle-blank. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of one of the rolls for rolling the blank. Fig. 4 is a transverse section of the same on the line *x x* of Fig. 3. Fig. 5 is a side elevation of the spindle after rolling, and Fig. 6 is a side elevation of the finished spindle.

Heretofore split spindles for weaving-shuttles were made by welding two strips of steel of a shape corresponding to the outline of the finished spindle together, the body and point previous to the welding being rolled half-round on each piece or strip. By this process the spindle was liable to be overheated, thereby causing considerable waste by breakage, and the weld, when not very exactly made, caused splitting of the spindle throughout the length. With the improved method presently to be described the above defects of the spindle are entirely overcome.

In order to carry out the improved method, I first take a blank A, of suitable stock, and form in the same, by punching or otherwise, a longitudinally-extending slot B, as is plainly shown in Fig. 1. This slotted blank A is now subjected to a pair of rolls C, provided with a number of segmental or annular grooves 1 2 3 4, through which the blank is alternately passed to be finally rolled into proper shape, the slot B being formed into a slit extending throughout a suitable length in the body of the spindle formed by the rolling, as described. When the blank A is punched to form the slot B, an emery-wheel or other grinding device is used, so as to grind off the burr formed by the punching. The grooves 1, 2, 3, and 4 in the roll C are made of such a length and depth as to conform to the length and conical shape of the spindle-body to be made. It is understood that after a spindle-body is rolled the head is formed thereon usually under a drop-hammer. The split is then opened by suitable tools to give the body the proper shape, as illustrated in Fig. 6. The spindle is then hardened and polished. A spindle made in this manner possesses the great advantage of being made of one single piece. This being homogeneous throughout is hence not liable to split open when in use. Furthermore, the cost of manufacturing the split spindle is greatly reduced.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

The herein-described method of making split spindles for weaving-shuttles, consisting of first forming, by punching or otherwise, a slot in the spindle-blank and then rolling or hammering the blank to form the spindle-body, substantially as shown and described.

CHARLES E. SÖDERBERG.

Witnesses:

CHARLES J. MALMBERG,

JOHN G. SODERBERG.