(No Model.)

W. T. COGGESHALL.

SPINDLE FOR LOOM SHUTTLES.

No. 273,468. Patented Mar. 6, 1883.

Fig. 1.

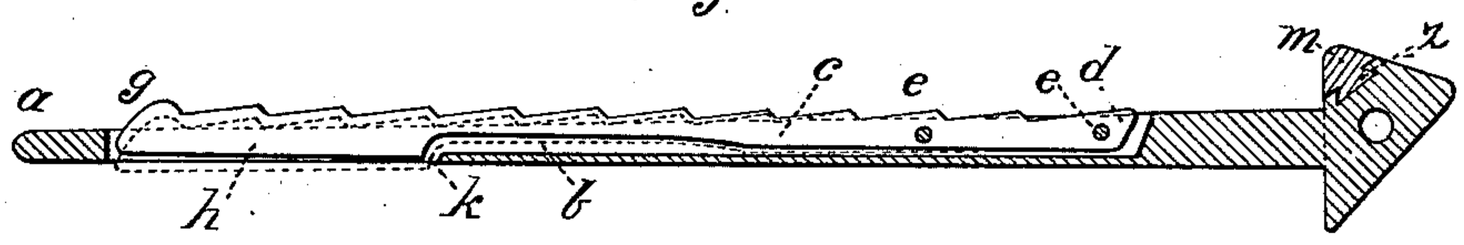


Fig. 2.

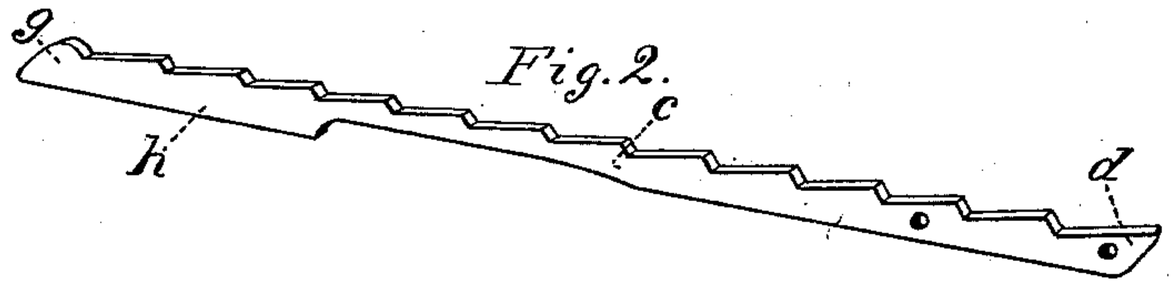
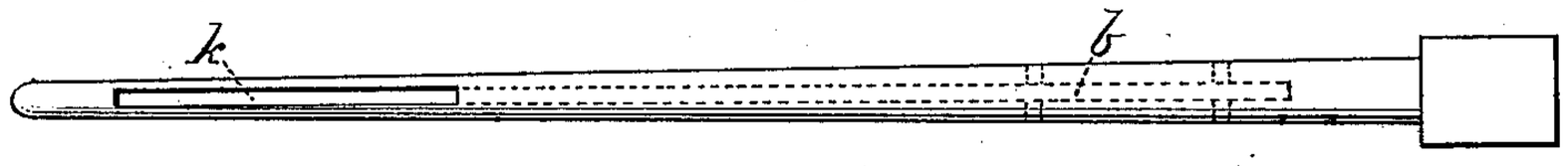


Fig. 3.



WITNESSES

Villette Anderson.

Amelia L. Keyser

INVENTOR

W. T. Coggeshall,

by Anderson & Smith

his ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM T. COGGESHALL, OF LOWELL, MASSACHUSETTS.

SPINDLE FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 273,463, dated March 6, 1883.

Application filed August 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. COGGESHALL, a citizen of the United States, and a resident of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and valuable Improvement in Spindles for Loom-Shuttles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 is a view of my improved spindle in section. Fig. 2 is a perspective view of the spring which is attached to and forms a part of the spindle, and Fig. 3 is a plan view of the under side of the spindle.

This invention has relation to spindles for loom-shuttles; and it consists in the construction and novel arrangement, in a spindle grooved longitudinally, of a spring fastened by its rear portion in the rear end of said groove, rising at its upper edge above said groove, and provided with a rounded projection above said groove at its point; in slotting the bottom of the groove in the spindle under the point portion only of the spring, and providing said spring with an under extension projecting through said slotted portion, all as hereinafter set forth and claimed.

In the accompanying drawings, *a* designates the spindle of a loom-shuttle, having a longitudinal vertical groove, *b*, made in its upper portion.

c represents a flat spring, which is inserted edgewise in the groove *b*, so that it extends longitudinally therein, its upper edge projecting somewhat above the groove. This spring is rigidly secured, at its heel end *d*, in the rear end of the groove by the two pins *e*, or by any common fastening device, and that portion of the spring which is in front of the rigidly-fastened heel is raised somewhat above the bottom of the groove *b*. The upper or exposed edge of the spring may be serrated or notched; but this is not essential. At the free end of the spring is a rounded projection, *g*, which allows the thread or filling to pass over it without breaking. This rounded projection rises out of the slot at the end of the spring, as shown in the drawings. The tension of the spring *c* is upward, and when the cop is put on it receives constant upward pressure from the spring, said pressure increasing toward the free end of the spring, and being greatest at or near its extremity. As the thread unwinds, lessening the amount on the spindle, the tendency of the spring, from its elasticity, is to gradually and evenly rise, presenting to the thread or cop a constantly-ascending edge, and thus acting effectually to prevent the slipping and consequent breaking of the cop.

In order to give greater depth of spring in the point portion, it is advisable in some spindles to slot the base of the groove *b* under this part of the spring for a short distance, not greater than two inches, and to form the spring with an under extension or under bearing-edge, *h*, which projects through the slotted portion *k* below the spindle, and forms a bearing for the cop on the under side. In this manner a pressure is effected on the upper and under sides of the spindle against that portion of the cop which is around the point portion of said spindle, whereby it is designed to aid the under pressure of the spring in preventing the breaking of the cop.

This spindle is designed to serve several important purposes. It will prevent the cop from slipping and breaking, it will obviate the effect of the concussions that occur when the shuttle strikes the loom-pickers, and it will prevent the thread from breaking at the cop as it unwinds therefrom. The spring may be fastened nearer the point portion if a stiffer or stronger tension is required.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. A spindle longitudinally grooved at *b* in its upper portion, and having the spring *c* rigidly fastened by its rear portion in the groove, rising at its upper edge above said groove, and provided with the raised rounded projection *g* at its free end or point, substantially as specified.

2. A spindle formed with a longitudinal groove, *b*, in its upper portion and partially

slotted through the bottom of said groove, near the point end, and having the spring *c* rigidly fastened in said groove, with its holding upper edge extended out of the groove and its lower extension, *k*, adapted to project through the slot, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM T. COGGESHALL.

Witnesses:
JOHN I. COGGESHALL,
HENRY W. FOSTER.