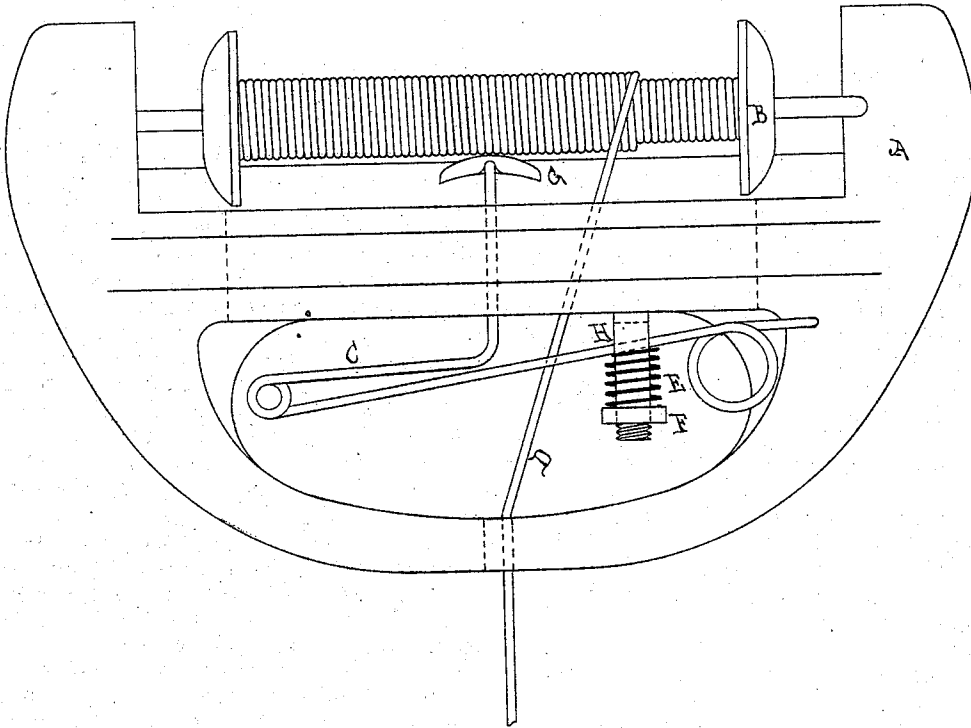


D. C. G. FIELD.

Loom-Shuttles.

No. 136,715.

Patented March 11, 1873.



WITNESSES.

Abel T. Atherton
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DAVID C. G. FIELD, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. 136,715, dated March 11, 1873.

To all whom it may concern:

Be it known that I, DAVID C. G. FIELD, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Shuttles, of which the following is a specification:

My invention relates to an improved method of creating the tension upon the quill containing the yarn; and consists, first, in the peculiar construction of a brake, which is composed of a single or continuous piece of spring-wire with a coil at each end, and arranged in such a manner that, when the brake is pressed forward by the insertion of the spool or quill in the shuttle, the brake moves forward in a direct line toward the eye of the shuttle, through which the yarn passes; secondly, the combination of certain operating parts, whereby the pressure of the brake upon the quill is regulated.

The accompanying drawing represents my invention.

A is the shuttle. B is the quill containing the yarn. C is the brake-spring, composed of a single or continuous piece of spring-wire with two coils, attached at one end to the shuttle, and so constructed that the brake-plate G always moves forward in a direct line toward the eye of the shuttle. D is the yarn passing from the quill through the shuttle. E is a spiral spring upon the stud H. F is a compression-nut, by means of which, together with the spiral spring E operating in connection with the brake-spring C, a greater or less amount of tension is created, as desired. G is the brake-plate, operating in connection with the brake-spring C. H is a slotted stud, in which the spring C moves. Upon the outside of said stud is a spiral spring compressed by the nut F.

By having two coils to the spring, the spring-wire must move forward in a straight line through the hole in the shuttle, for, in moving, the tendency of the wire of each coil to describe the arc of a circle, and in opposite directions, must, when they are connected as in my invention, be to allow the spring-wire C, in passing through the hole in the shuttle D, as herein shown, to move in the direction of a right angle to the quill, thus preventing any friction on the sides of the hole of the shuttle through which the spring-wire passes, as would be the case if the spring-wire C moved in any other direction than that of a right angle.

I have found by experience that, when there is any friction of the spring-wire where it passes through the hole in the shuttle, the sensitiveness of the tension is destroyed, and fabrics of uneven selvage are produced. My invention completely obviates this difficulty.

It is often desirable to increase or diminish the amount of tension upon the yarn in the weaving of different kinds of fabrics; and to accomplish this I make use of the slotted stud, spiral spring, and compression-nut in combination with the brake-spring C.

I claim as my invention—

1. The brake upon the quill B, composed of the spring C acting upon the plate G, said spring being constructed as herein shown and described.

2. The combination of the slotted stud H, spiral spring E, compression-nut F, with the spring C acting upon the plate G, constructed and arranged substantially as described.

D. C. G. FIELD.

Witnesses:

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