

J. Avery, Braiding Machine.

No. 78,411.

Patented June 2, 1868.

Fig. 1

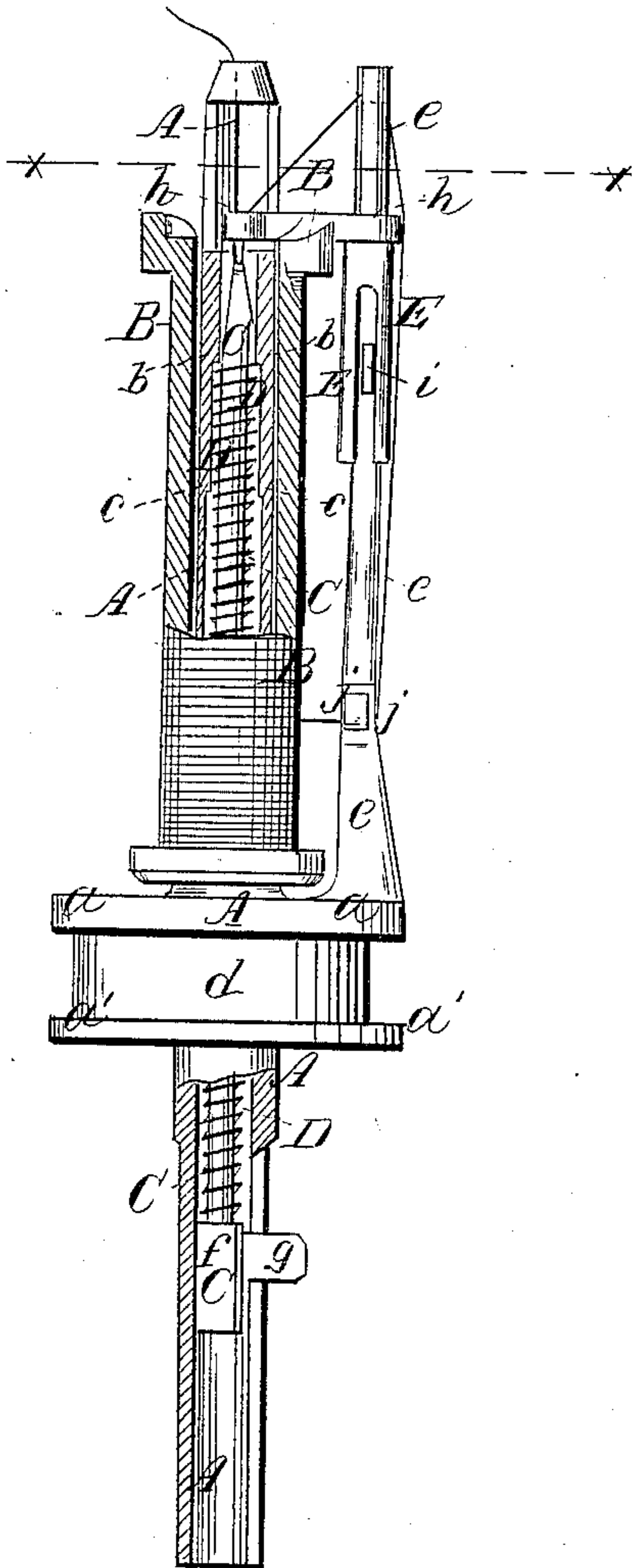
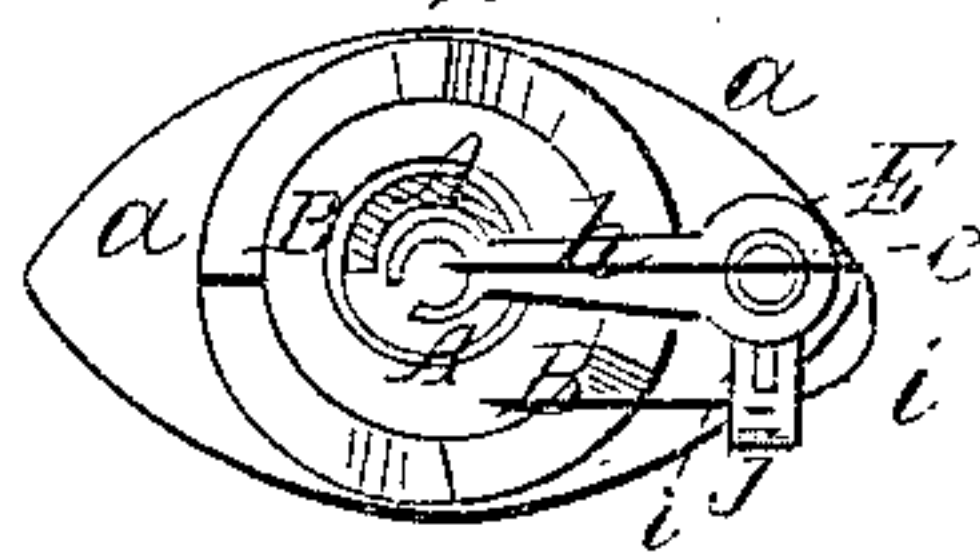


Fig. 2



Witnesses.

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DEXTER AVERY, OF WESTFIELD, MASSACHUSETTS.

Letters Patent No. 78,411, dated June 2, 1868.

IMPROVEMENT IN CARRIER FOR BRAIDING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, DEXTER AVERY, of Westfield, in the county of Hampden, and State of Massachusetts, have invented a new and improved Carrier for Braiding-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view, partly in section, of my improved carrier.

Figure 2 is a horizontal sectional view of the same, taken on the plane of the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new carrier for braiding-machines, the object of which is to produce the required tension of the threads, to protect the spring (which keeps the spring tense) from wear, and to obtain a complete and effective carrier in the simplest and least expensive manner.

The invention consists in the manner of guiding and protecting the spring, which works in a tubular holder, and around the hook-rod, to which the thread is attached; also in a new manner of guiding the sliding catch, by which the intermittent motion of the bobbin is produced, and in the general combination of all the parts, as will be hereinafter more fully described.

A, in the drawing, represents the spindle, around which the bobbin B turns, said bobbin resting upon a flange, *a*, that is formed on the spindle. The spindle A is tubular, as shown, and has two shoulders, *b c*, formed within its bore, so as to have three variations of bore, as shown in fig. 1. The uppermost end of the bore is the narrowest, and the lowermost the widest, as shown.

The spindle or carrier A has a suitable elliptic or other external shoe, *d*, which is between two flanges, *a a'*, and which moves in suitable guides that are on the frame of the machine.

From the flange *a* projects, upwards, a rod, *e*, which is parallel with the tube A, as shown.

Within the tube A is arranged a rod, C, which has a hook at its upper end, and a head, *f*, at its lower end. A spiral spring, D, is arranged within the tube A, around the rod C, and between the upper shoulder *b* and the head *f* of the rod, as is clearly shown in fig. 1.

The outside of the spring D only touches the tube A in that portion of the same which is between the shoulders *b* and *c*.

The lower part of the tube is too wide for the spring to reach it, and just large enough for the head *f* to play in. The spring is thus fully protected, and cannot wear against the tube, being completely guided by the rod C. From the head *f* projects a lug, *g*, which fits through a slot in the lower part of the tube, and which serves as a handle to move the rod C up, to have its hook threaded.

The bobbin B, upon which the thread is wound, has a ratchet formed at its upper end, as shown, and as usual.

Upon the rod *e* slides a slotted tube, E, from which an arm, *h*, projects, which arm rests upon the ratchet-end of the bobbin. A pin, *i*, projecting from the rod *e*, fits through the slot in the tube E, and prevents the same from turning, so that should the thread break, the arm *h* may not fly round and strike the thread on another carrier, thereby also breaking the same.

The end of the thread is, from the bobbin, brought through an eye, *j*, in the rod *e*, thence laid over the forked end of the rod *e*, brought through a loop in the end of the arm *h*, and then through the hook on the upper end of the rod C.

The thread is then drawn once more through the eye in the arm *h*, and finally through the upper end of the tube A, as is clearly indicated by red lines in fig. 1.

The spring D keeps the thread always tense, but still allows the rod C to be drawn up by the same. When the thread is pulled by the action of the machine, the bobbin cannot turn, as it is held by the arm *h*. The arm C will, therefore, be drawn up until its hooked end strikes the end of the arm *h*, when the latter will be raised

out of the ratchet so as to liberate the bobbin. The required quantity of thread is then taken from the bobbin, the motion of which is again stopped by the arm *h* falling into the next tooth of the ratchet.

The upper portion of the tube *A*, between the upper end of the bobbin and the extreme upper end of the tube, is laid open, so as to facilitate the threading of the hook, and to enable the end of the arm *h* to be above the hook *C*.

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

The hollow spindle *A*, spring *D*, and hook-rod *C*, in combination with the rod *e*, sleeve *E*, and arm *h*, all made and operating substantially as and for the purpose herein shown and described.

DEXTER AVERY.

Witnesses:

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