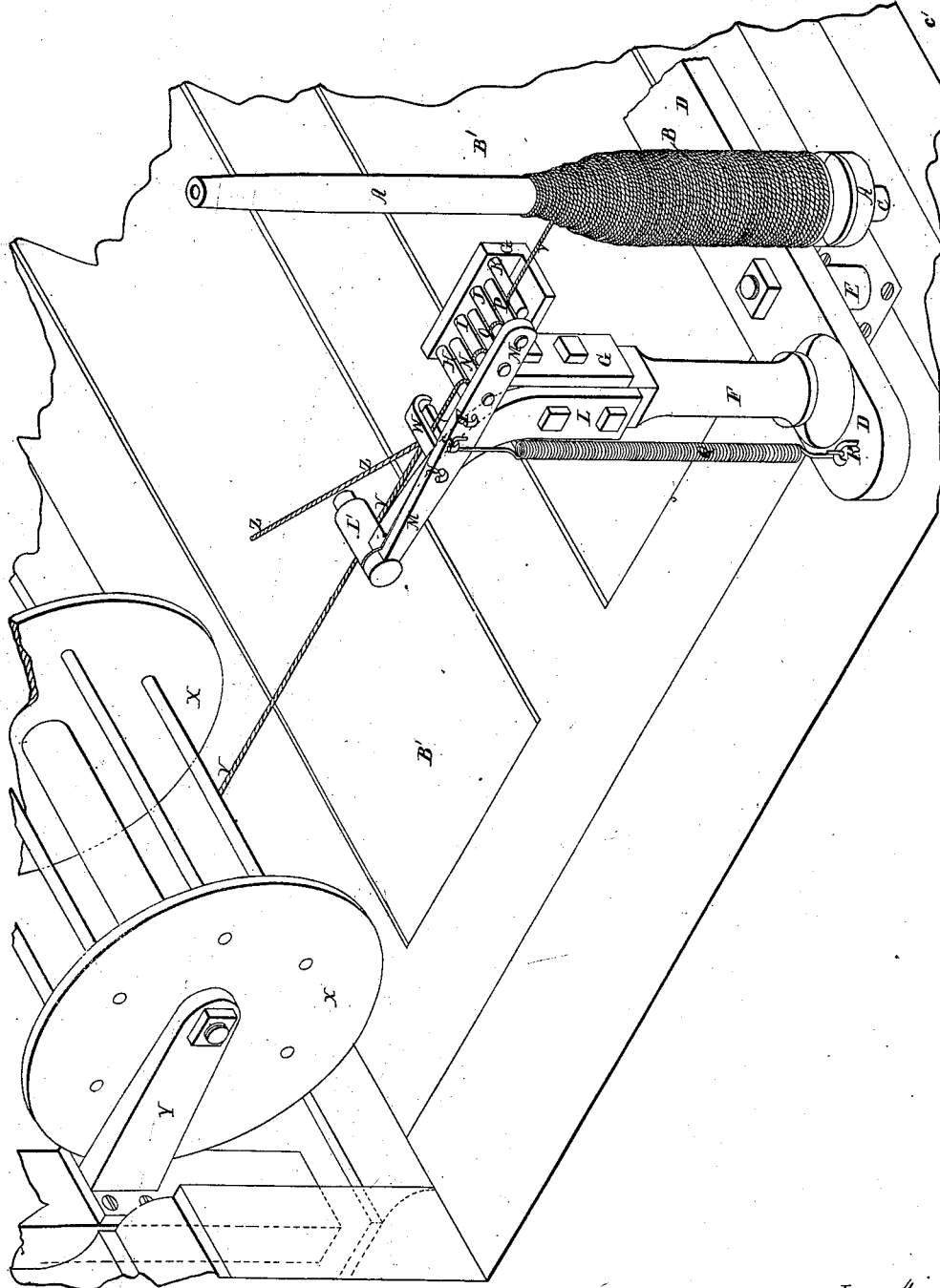


J. Babbett.
Winding Bobbins.

No. 7,004.

Patented Feb. 5, 1850.



Witnesses:
Samuel B. Babbett
Charles A. Babbett

Inventor,
J. Babbett

UNITED STATES PATENT OFFICE.

AVERY BABBETT, OF AUBURN, NEW YORK.

IMPROVEMENT IN MACHINERY FOR SPOOLING.

Specification forming part of Letters Patent No. 7,064, dated February 5, 1850.

To all whom it may concern:

Be it known that I, AVERY BABBETT, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Machines for Winding Yarns or Threads on Bobbins or Spools; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which is referred to in and forms a part of such description.

I will in the first place describe the material parts of the machine into which I have introduced my improvements, and with those improvements introduced as the same are formed in the machine when in working order.

The accompanying drawing represents the material parts of the machine into which I have introduced my improvements and comprehends those improvements.

A A is the bobbin.

B is the yarn on the bobbin.

C is the spindle that carries the bobbin.

D D is a part of the rod that carries the guides.

E is the vertical slide that carries the rod D D.

F is a stand screwed fast to the rod D D.

G G is a box holding the four pins H I J K.

L L' is a stand.

M M is a vibrating lever having its joint at L' and carrying the three pins N O P, which lie between the pins H I J K, and when the vibrating lever M M is down as far as it will go pass down between the pins H I J K, so that the tops of the pins N O P are then on a level with the bottoms of the pins H I J K.

Q is a spiral spring secured at its lower end to the rod D D by a staple at R, and at its upper end to the vibrating lever M M by the hook S.

T U are two other hooks exactly like the hook S.

V V V is the thread represented as coming from the lower runner.

W is a guide for the thread.

X X is one of the runners on which the skein is placed.

Y is the stand that holds the runner X X.

Z Z is the direction in which the thread would come if it came from the upper runner (not shown) to the thread-guide W, there be-

ing two runners to hold the skein in a vertical position, and the thread, from whichever runner it comes, always passing through the guide W before reaching the pins N O P.

A' represents one end of the machine, B' B' the top, and C' the front.

It will be seen that if the vibrating lever M M is raised up, carrying with it the pins N O P, and the thread V V V is placed under the pins N O P and on the pins H I J K, and the vibrating lever M M is then let down, carrying with it the pins N O P, and the machine is then put in motion, the thread V V V cannot pass from the runner X X onto the bobbin A A without sufficient friction being created between the thread V V V as it runs and the pins N O P above it, and the pins H I J K below it to wind the thread V V V tightly on the bobbin A A, because the vibrating lever M M is held down, and so the pins N O P are held firmly against the thread V V V by the action of the spiral spring Q. When the pull upon the thread as it runs off from the runner X X is greater, the friction between the thread V V V and the pins N O P and H I J K will be less, from the fact that the pins N O P in the vibrating lever M M will by the pulling of the thread V V V be raised from between the pins H I J K, and when the pull on the thread V V V from behind is less the friction between the thread V V V and the pins N O P and H I J K will be greater, from the fact that the pins N O P will by the yielding of the thread V V V be lowered, so as to fall between the pins H I J K. The pins N O P and H I J K are all so adjusted that when their centers are all on the same horizontal plane no one of them is nearer to another than the thickness of the thread V V V. The joint L' plays with great ease, and practically the vibrating lever M M and the pins N O P are kept constantly vibrating—that is, in constant upward and downward motion as the thread V V V runs. Therefore the spring Q must be very delicate. The slide E has a vertical motion and as it slides gives a vertical motion to the rod D D, which runs the whole length of the machine, and on which are placed all the stands (represented by F) which are necessary for one side of the machine. The vertical slide E has a play according to the play required for the bobbin or spool in winding. When the vibrat-

ing lever M M is held down so tightly that there is too great friction on the thread V V V, the friction may be diminished by shifting the upper end of the spiral spring Q onto one of the three hooks S T U that is nearer to the joint L', and so when the friction on the thread V V V is too little it may be increased by shifting the end of the spiral spring Q onto one of the three hooks S T U that is farther from the joint L'. The position of the upper end of the spiral spring Q on one or another of the three hooks S T U, by pulling down more or less the vibrating lever M M, determines the degree of tightness with which the thread is wound on the spool or bobbin.

The operation of the whole machinery is such that the thread is wound on the bobbin or spool not only with a given degree of tightness, but with a uniform tightness.

The drawing is drawn the full size of the parts as I have constructed them and applied them to a machine for winding on bobbins yarn for weaving in carpet-loom; but my improvements may be used in winding thread or yarn of any kind and may be adapted to any machine for winding bobbins or spools.

Having thus described fully the material parts of the machine in which my improvements are introduced and also those improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

Not the abstract production of friction between the thread or yarn and any other substance as the thread or yarn passes from the runners to the bobbin or spool, so as to secure the winding of the thread or yarn tightly on the bobbin or spool, but the combination of machinery hereinbefore described, whereby in machines for winding yarns or threads on bobbins or spools the thread or yarn on its passage from the runners to the bobbin or spool has applied to it friction produced between the thread or yarn and any other substance, which friction diminishes with uniformity as the pull upon the thread or yarn from the runners increases, and increases with uniformity as the pull upon the thread or yarn from the runners diminishes, such combination consisting, as shown in the accompanying drawing, of the vibrating lever M M, the stand L L', the joint L', the three pins N O P, the four pins H I J K, the box G G, the spiral spring Q, any one of the three hooks S T U, the staple at R, and the guide W, substantially as herein set forth.

AVERY BABBETT.

Witnesses:

HORACE T. COOK,
SAML. BLATCHFORD.