

W. & A. Shedlock. Winding Bobbin.

N^o 87,117.

Patented Feb. 23, 1869.

Fig. 1.

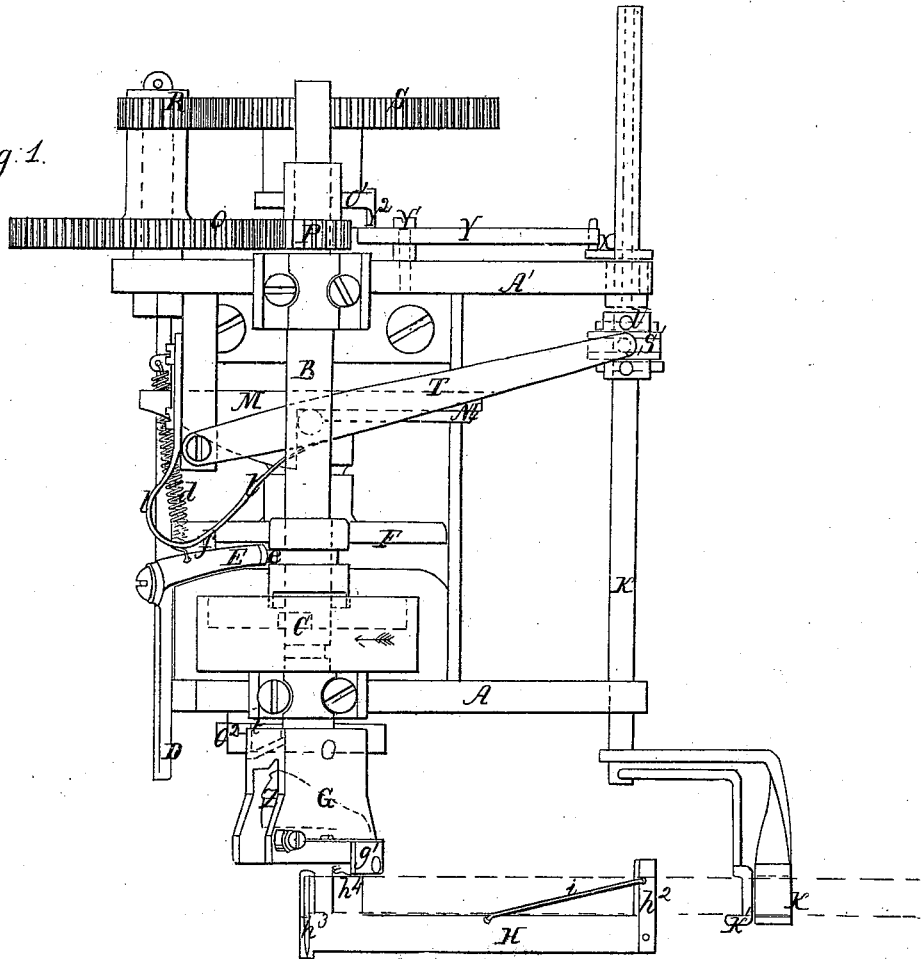


Fig. 3.

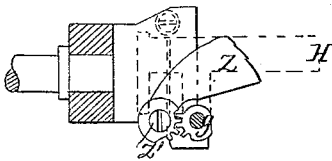
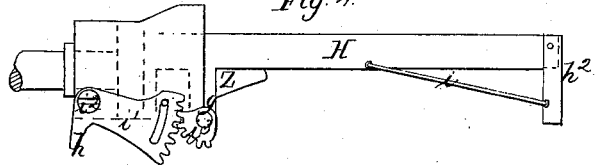


Fig. 4.



Witnesses;

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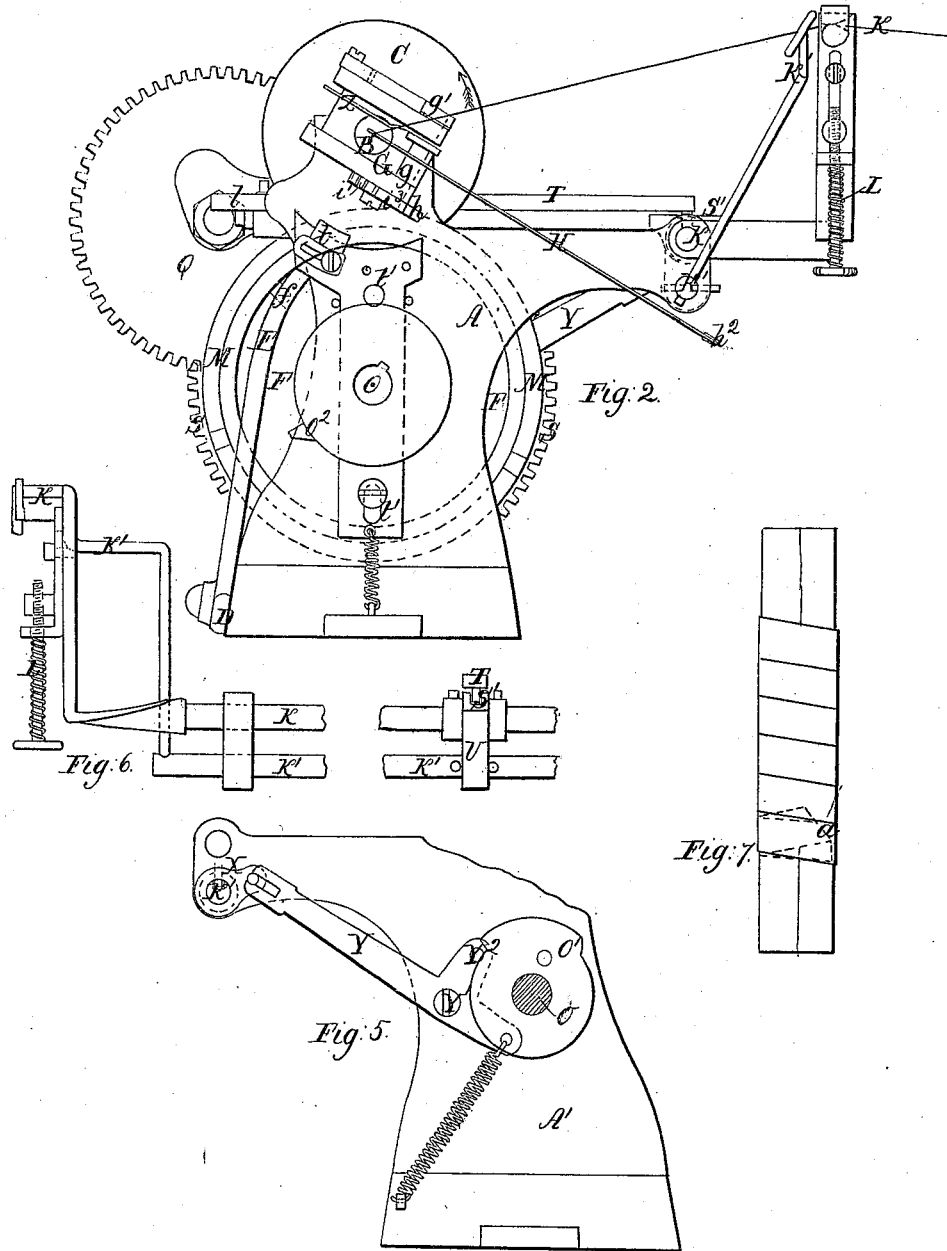
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Alfred Shedlock

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WILLIAM SHEDLOCK AND ALFRED SHEDLOCK, OF NEW YORK, N. Y.

Letters Patent No. 87,117, dated February 23, 1869.

IMPROVEMENT IN MACHINE FOR WINDING BRAID.

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

To all whom it may concern:

Be it known that we, WILLIAM SHEDLOCK and ALFRED SHEDLOCK, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Winding Braids and Ribbons into Hanks; and we do hereby declare the following to be a sufficiently clear and exact description of the same, that any one skilled in such matters may construct and use the same.

Figure 1 is a plan of our invention as seen from above the machine.

Figure 2 is a front elevation of the same, and in the same position.

Figures 3, 4, and 5, are detached portions of the mechanism, showing more clearly their construction in detail.

Figure 6 is an elevation of the guides that carry the braid to the reel.

Figure 7 represents a hank or skein of braid as folded or wound by our machine.

Like letters of reference refer to like parts in all the drawings.

A and A' are the main frame of the machine, consisting simply of two uprights, rising from a base similar to that of a lathe-head, and at the upper end of said uprights is mounted the main driving-shaft B, which receives motion from the pulley C, said pulley being provided with a clutch, indicated by the dotted lines at C, fig. 1.

The clutch is shown in the drawing as open or out of contact with the pulley, but may easily be thrown in gear by pressing upon the end D of the right-angled shipping-lever E, which has a pin, e, working in a groove in the sleeve of said clutch.

At f, upon the shipping-lever E, is a stud, which, when the clutch is engaged, presses against the face of the disk F, which is on the shaft O, directly under and parallel to the shaft B, and thereby overcomes the action of the spring d, which would draw the clutch open, but is only permitted to accomplish such a result when the winding or forming of a hank is completed, the stud then dropping into a hole, or recess, at f, in the disk F.

The spool, or winding-reel H, consists simply of a thin piece of metal, of sufficient length to form the hanks, and having the ends broad enough to receive two widths of the braid side by side.

This spool H is attached to a head, G, upon the main shaft B, which projects outside of the frame A, and is slotted to receive the bracket h', fig. 1, of the spool H, at g, where it is pivoted and so arranged that the braid or ribbon is always drawn tightly around the spool H.

This action is only accomplished by having both ends of the spool, or winding-reel H, extended beyond the centre, upon which it revolves, and thereby produces a drawing action upon the goods, through the guides K and K', that convey or conduct it to the spool H.

These guides are shown at K and K', figs. 1, 2, and 6, and comprehend two important principles, viz, that of tension and that of direction.

The braid is caused to pass through or between the tension-guide K, which is composed of two pieces of metal, chamfered off at their receiving-side, for the purpose of allowing any irregularities in the braid passing freely through them, one of the said pieces being made adjustable by the set-screw and spring L, in combination therewith, thereby clamping the braid between them.

The other guide, K', is merely a loop, of wire, that directs the braid or ribbon to the spool H when the position of said spool is changed, and it has a motion independent of the tension-guide K, which will be hereafter explained.

After a certain number of folds is placed on the reel H, one over the other, the guides K and K' are moved a sufficient distance to lap or fold a corresponding series by the side of the first. This operation is accomplished by the cam M, on the shaft O, which is driven by the gearing P, Q, R, and S, said gearing being so arranged that the shaft O shall make only one revolution to complete the winding of one hank of braid, which is twenty-three revolutions of the spool H to one of the shaft O.

The cam M is so formed that it drives the lever T, which engages with the tension-guide K at S', in a groove on the sleeved bracket U, in such a manner that whatever throw the cam M may have is multiplied four times by the lever T, and imparted to the guide K, and since the guide K extends through the bracket U, and is controlled thereby, it receives the same motion laterally or sideways as the tension-guide K; but when the spool or reel H is turned so as to receive the braid or ribbon at a right angle to its previous position, the guide K' is thrown forward, in close proximity to the spool H, by means of its crank X and lever Y, said lever being pivoted to the frame A' at Y', and provided with a pin, Y², which is operated by the cam O', said guide K' being held in such position, thereby guiding the braid nearer to the axis upon which it is wound, until a sufficient number of layers is wound at right angles to and over the previous layers. This position of the guide-K' effectually prevents the twist in the braid caused by the spool altering its position from winding on the spool H, as the twist is retained between the two guides.

When the lever Y is released from the cam O', the guide K' then returns to its original position at the same time the lever T passes over the highest point of the cam M, and both guides are moved back by the action of the spring l on the lever T.

Z is a device for holding the braid when it is changed from the longitudinal lap to when it is wrapped round the hank, as shown in dotted lines at a, fig. 7.

This device Z is attached to the inside of the head G by the screw Z', upon which it moves. It is a thin

piece of metal, with a mutilated pinion fastened to it, and is worked by a corresponding pinion on the pivot *g*, which is fast to the bracket *h*⁴ of the spool *H*, so that when the spool *H* changes its position, the device *Z* moves, as shown at figs. 3 and 4.

It will be seen that the end of the device or folder *Z* is serrated, for the purpose of catching and firmly holding the braid at a proper angle to be overlapped by a succeeding fold, that shall hold the first one in position.

The changing of the position of the spool or reel *H* is effected by the geared segment *i*¹, pivoted to the head *G* at *i*², which works into a pinion, *i*³, made fast to the pivot *g*, and moving with the reel *H*, as shown in fig. 4, the arm *h* of said geared segment *i*¹ being operated by the cam *t*, fixed to the slide *t*¹, said slide being lifted by the cam *O*², keyed to the end of the shaft *O*, so as to place the cam *t* in such a position that the arm *h* of the geared segment *i*¹ shall come in contact with and be operated by it, when a sufficient number of folds is laid lengthwise on the spool.

Upon the pivot which holds the spool *H* in the head *G*, is a spring-catch, *g*¹, for the purpose of retaining the spool *H* in either of its positions.

The spool *H* is also, for the greater convenience of stripping it, provided with a jointed end, *h*², said end being held in a proper position to wind the braid, by a spring, *i*, but so arranged that when the hank is to be removed, the end *h*² will be easily drawn out in a line with the spool *H*, and thereby permit the hank to be easily stripped from it.

The other end of the spool *H* is provided with a pin, *h*³, for the purpose of attaching the braid thereto.

The operation of winding the braid or ribbon is performed by first passing it through the guides *K* and *K*¹ on to the pin *h*³. The machine is then started by pressing on the end *D* of the shipping-lever *E*, which connects the main shaft *B* with the driving-pulley *C*. The braid or ribbon is wound automatically, as above described. The machine is then stopped by the clutch being thrown out of contact with the driving-pulley, leaving the spool or reel *H* in a line with the main shaft *B*. The braid is then cut, and the end tucked into the hank, when the spool is returned into position shown at figs. 1 and 2, and the hank removed, which completes the operation.

Having thus described our invention,

What we claim, and desire to secure by Letters Patent, is—

1. The spool or reel *H*, constructed substantially as and for the purpose herein specified.

2. The folder or device *Z*, in combination with the spool *H*, substantially as described and for the purpose set forth.

3. The combination of the two guides *K* and *K*¹, made and operated substantially as hereinbefore described.

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Witnesses:

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