(No Model.)

C. WOODMAN.

MACHINE FOR WINDING SEWING MACHINE BOBBINS.

No. 381,457. Patented Apr. 17, 1888.

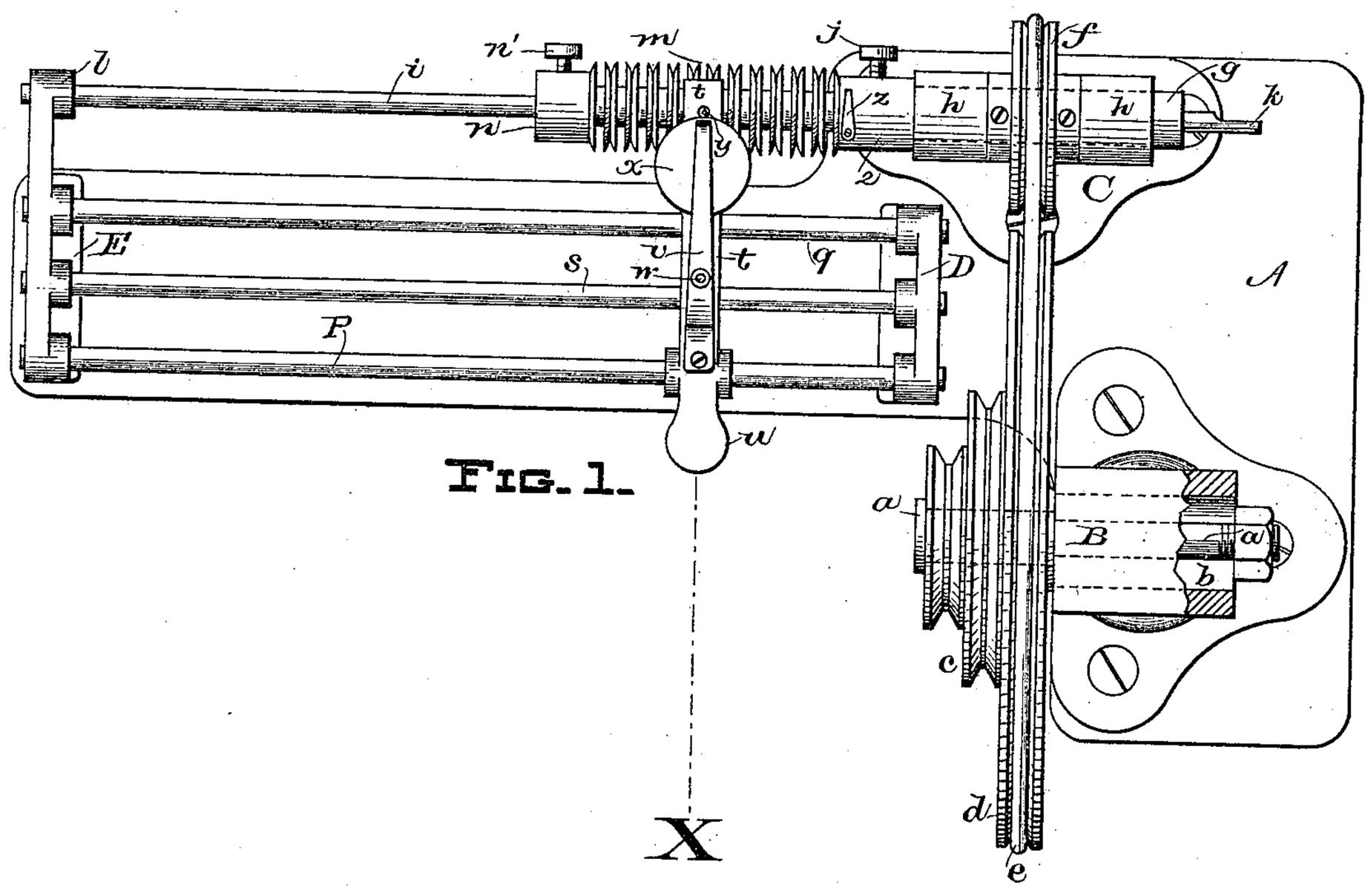

FIG. 1.

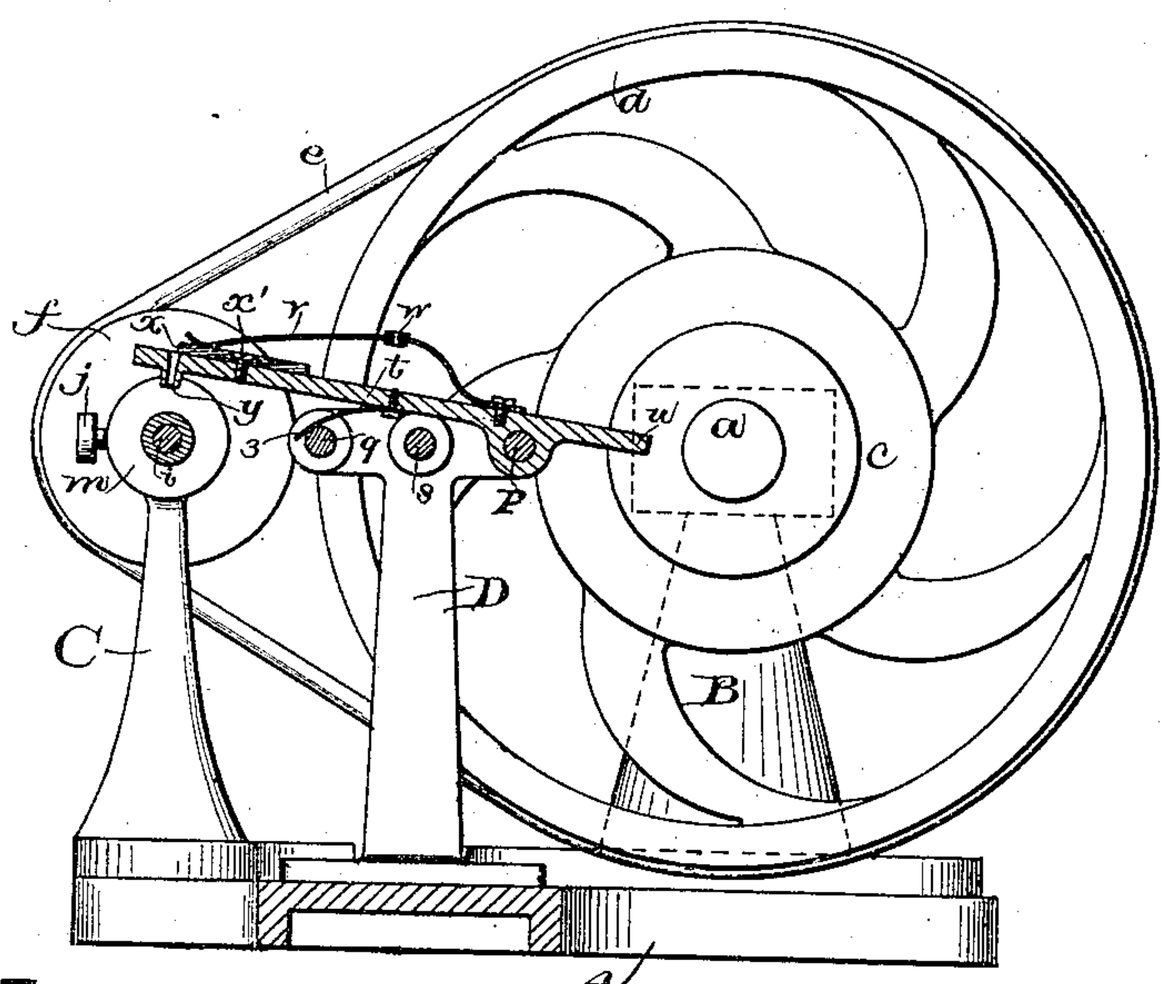

FIG. 2.

WITNESSES
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CHARLES WOODMAN, OF CHELSEA, MASSACHUSETTS.

MACHINE FOR WINDING SEWING-MACHINE BOBBINS.

SPECIFICATION forming part of Letters Patent No. 381,457, dated April 17, 1888.

Application filed March 15, 1886. Serial No. 195,280. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WOODMAN, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machines for Winding Sewing-Machine Bobbins, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

Figure 1 is a top plan view of a machine embodying my invention. Fig. 2 is a sectional elevation, the section being vertical and taken on line X, Fig. 1, and the view as from the left therein.

The object of my invention is to provide an improved machine on which a plurality of sewing-machine bobbins may be mounted and successively wound or filled, after which all may be removed and replaced by others preparatory to being filled, said machine being provided with a tension device and a thread-deliverer so constructed that when arranged relatively to the bobbin it will deliver the thread to the same at the desired tension, all as will be hereinafter more fully described.

Referring again to the drawings, A represents the bed of my machine, which may be of such size, proportion, and weight as may be found requisite. A standard, B, secured or formed upon the bed, supports the driving-pulleys *c* and speed-pulley *d*, which, in the usual manner, are united together, and are mounted to revolve on stud *a*, adjustably secured in slot *b* in the head of standard B, so that band *e*, which imparts the motion of pulley *d* to pulley *f*, may be readily kept at the desired tension. Said pulley *f* is secured on sleeve *g*, which is journaled in bearings *h h* of standard C, said sleeve receiving in its axial passage the rod *i*, on which the bobbins *m* are mounted and locked between set-collar *n* and the head 2 of the sleeve, in which is the set-screw *j*, which locks rod *i*, said rod *i* being at its outer end supported in bearing *l*, extending from standard E. The collar *n* is secured to the rod *i* by the set-screw *n'*. Said standard E and a corresponding standard, D, support the parallel rods P *q s*, and on rod P is pivoted the bar *t*, formed with thumb-piece *u*, by which to tilt it, and having an under spring, 3, which bears on rod *q*, as shown in Fig. 2. Upon the upper side of bar *t* is secured the curved spring *v*, in which is the thread guide or passage *w*, through which the thread enters from the supply above and passes thence between the end of the spring and disk *x*, whence it passes down through hollow stud *y*, secured in the bar, and from whence it is delivered upon the bobbins. When bar *t* is tilted backward for access to the bobbins, the contact of thumb-piece *u* with the middle rod, *s*, holds the bar horizontal, so as to be in convenient position to be tilted into position for use.

In practical operation my machine is driven by a belt engaging one of pulleys *c*, as desired speed may dictate. The bar *t* is moved to such position that hollow stud *y* may be pressed into the bobbin next to head 2 of sleeve *g*. The end of the thread is secured beneath spring-catch *z*, arranged on head 2, and the machine is started. After the thread is wound a few turns upon the bobbin, bar *t* is liberated and rises, so as to take stud *y* clear of the bobbin, by the action of spring 3. As each bobbin is filled, bar *t* is moved to the next, and the operation of filling is repeated. When all the bobbins on rod *i* are filled, the rod is liberated, and the bobbins removed therefrom and replaced by empty ones.

It is convenient to form end *k* of rod *i* as a half-round reamer, by which to smooth the hole in the bobbin when the same becomes roughened, as is liable to occur.

My machine is adapted to receive a large number of bobbins, which can be filled with great rapidity, and the thread is both guided and held at proper tension by suitable devices, which relieve the operator's fingers from such disagreeable duty. Therefore it affects a large saving in shops where numerous sewing-machines are employed.

The thread-bearing plate *x*, being a disk secured by a screw, *x'*, at its center, may (as the thread wears a groove therein, so that spring *v* cannot properly tension it) be moved successively to give the thread a new position thereon till so worn out upon both sides that it may be turned upside down when the first side is worn to such extent.

I claim as my invention—

1. The combination, with the rod or shaft *i* and its driving mechanism, of the horizontal rods P and *q*, and the bar *t*, pivoted on the said rod P and provided with a tension-spring, *v*,

and with a spring, 3, engaging the said rod *q*, substantially as set forth.

2. The combination, with the rod or shaft *i*, adapted to hold a series of bobbins, the sleeve *g*, having head 2, provided with the set-screw *j* and the thread-retaining spring *z*, and the collar *n*, having the set-screw *n'*, of mechanism for rotating said sleeve, substantially as described.

3. The combination, with the bed-plate A, having the standards B, C, D, and E, of the stud *a*, adjustably secured to the said standard B, a driving-pulley mounted on said stud, the rod or shaft *i*, having the sleeve *g*, provided with the head 2, the pulley *f*, mounted on said sleeve, the set-collar *n*, between which and the said head the bobbins to be filled are held, the rods P and *q*, and the bar *t*, adapted to slide lengthwise of the said rods and provided with a tension-spring, *v*, substantially as set forth.

4. The combination, with the tension-bar *t*, having thread-passage *y*, and the tension-spring *v*, having the thread-passage *w*, of the circular tension-plate *x*, adapted to be partially rotated to bring a new portion into use when one portion thereof is worn, substantially as set forth.

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Witnesses:
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