(No Model.)

C. S. STROWBRIDGE.

MACHINE FOR WINDING BOBBINS.

No. 438,783. Patented Oct. 21, 1890.

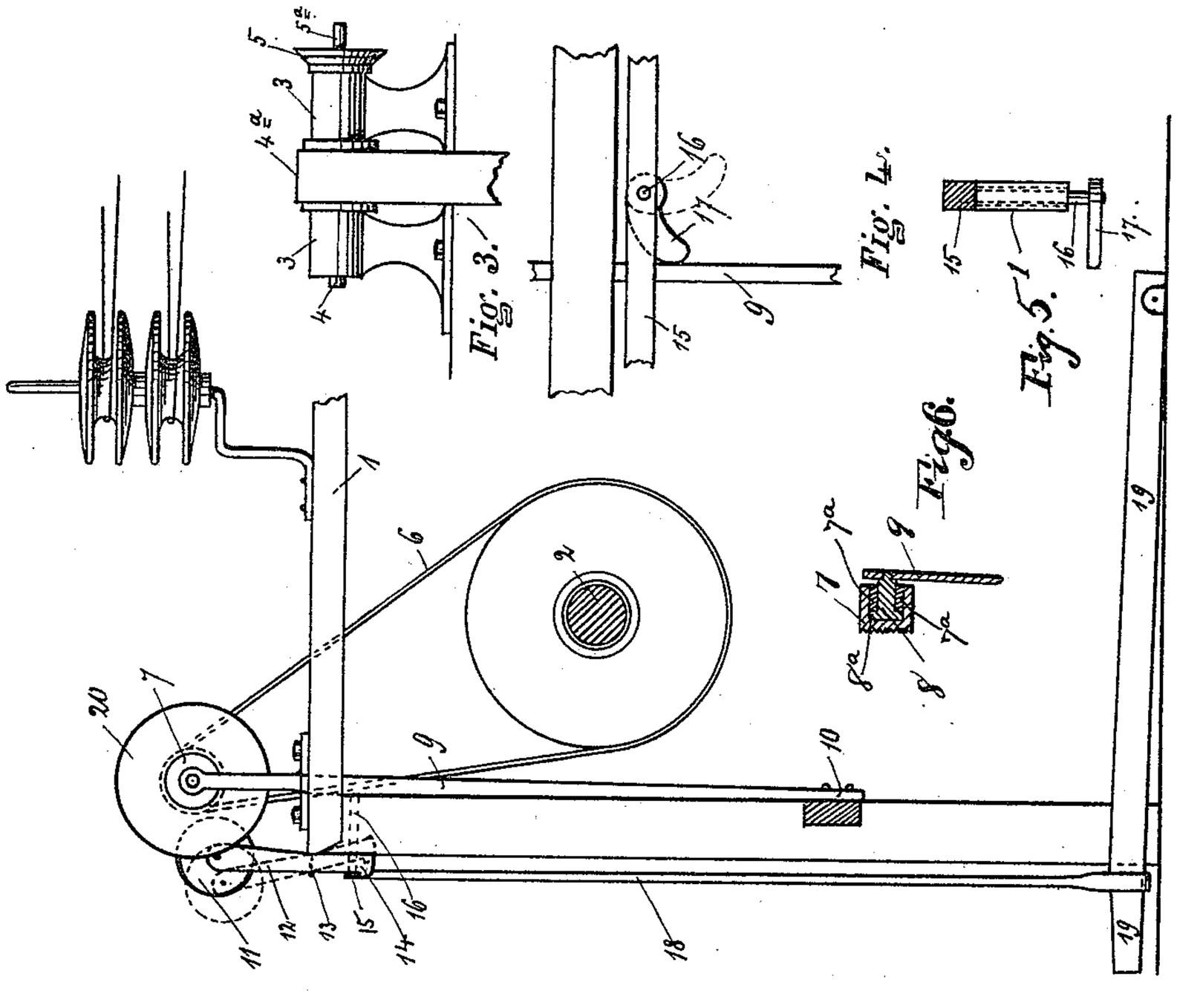

Fig. 2.

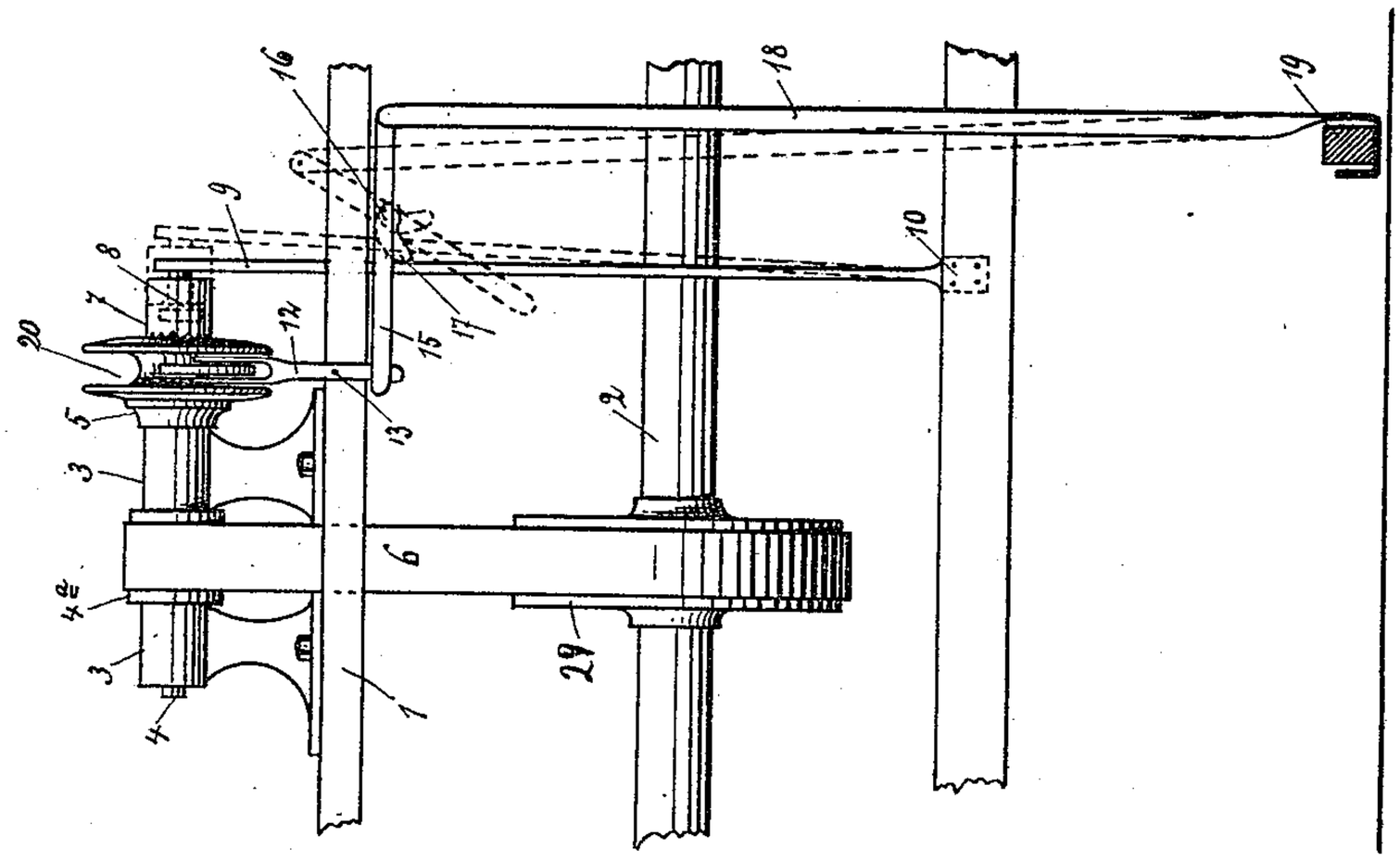

Fig. 4.

Fig. 3.

Fig. 6.

Fig. 5.

WITNESSES
Rich. George.
Milton E. Robinson.

INVENTOR.
Clarence S. Strowbridge
By Risley, Perry
Attys

UNITED STATES PATENT OFFICE.

CLARENCE S. STROWBRIDGE, OF HAMILTON, NEW YORK, ASSIGNOR TO THE HAMILTON WIRE CLOTH COMPANY, LIMITED, OF SAME PLACE.

MACHINE FOR WINDING BOBBINS.

SPECIFICATION forming part of Letters Patent No. 438,783, dated October 21, 1890.

Application filed February 7, 1890. Serial No. 339,560. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE S. STROWBRIDGE, of Hamilton, in the county of Madison and State of New York, have invented certain new and useful Improvements in Machines for Winding Bobbins; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to bobbin-winding machines.

In the drawings which accompany and form a part of this specification, and in which similar numerals of reference indicate like parts in the several views, Figure 1 shows a front elevation of a portion of a machine embodying my improvements. Fig. 2 shows an end view from the right of Fig. 1. Figs. 3, 4, 5, and 6 show details of construction.

The frame 1 of the machine is usually constructed to support several of the machines, and the driving-shaft 2 extends along the frame and is provided with a pulley 29 to drive each machine, over each of which pulleys runs a belt 6.

3 3 are bearing-boxes, in which is mounted mandrel 4, which carries pulley 4^a and a head or face plate 5, against which the bobbin 20 is brought to bear, and by which it is driven by frictional contact. The projection 5^a from the center of the face-plate 5 is adapted to enter the hole through the bobbin and center it.

The bobbin is held against the face 5 by a tail-block 7, which is preferably of rubber or similar elastic material to more readily engage the bobbin and cause it to revolve on pivot 8. The block 7 is mounted upon a pivot 8, (shown in dotted line,) so as to rotate with the bobbin, with which it is brought into contact. The pivot 8 is preferably provided with a collar or flange 8^a to retain the block 7 thereon, and an intermediate wearing-surface 7^a may be introduced between the rubber block and the bearing-pin 8. The bearing-pin 8 is secured at the upper end of the spring-arm 9 substantially in line with the mandrel 4. The spring-arm 9 is secured at 10 to the frame.

To a short shaft 16, passing through a bearing secured to the frame, is secured at one end an arm or lever 15, one end of which is adapted to be engaged by catch 14 on the forked roller-carrying arm 12. The arm 12 is pivoted to the frame at 13 and carries pivoted in its upper forked end a roller 11, adapted to run on the wire wound on the bobbin 20. To the opposite end of lever 15 from that which engages the catch 14 is connected a rod 18, which extends to and may be operated by treadle 19. On the opposite end of the shaft 16 from that to which the lever 15 is attached is secured a cam 17, adapted to engage the spring-arm 9. The spring-arm 9 is tensioned to throw the tail-block 7 away from the mandrel.

The operation of the device is substantially as follows: The mandrel 4 being put in motion by the driving-shaft 2, belt 6, and pulley 4^a, a bobbin 20 is placed on the projection 5^a of the mandrel, and by bringing down the treadle 19 the shaft 16 is rocked, turning the lever 15 up until it is engaged by catch 14, and turning the cam 17 against the arm 9 and bringing the block 7 to bear on the bobbin, holding it to the face-plate 5, by which it is rotated by frictional contact. As the bobbin is filled with wire, the roller 11 is forced out until the catch 14 is tripped, when the lever 15 swings down by its own gravity from the position shown in full lines to the position shown in dotted lines in Fig. 1. The cam 17 is thereby relieved from the arm 9, which flies back and relieves the bobbin and its rotation ceases. The bobbin may then be readily removed and another substituted.

It is evident that various modifications and changes of the construction shown may be made without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a bobbin-winder, of a mandrel having a face-plate, a spring-arm carrying an elastic-faced rotatable block in line with the mandrel, and a cam for forcing

the arm and carrying the block toward the face-plate, substantially as set forth.

2. The combination, in a bobbin-winder, of a mandrel, a face-plate on the mandrel, a spring-arm carrying a rotatable block in line with the mandrel, and a cam for forcing the arm toward the mandrel, substantially as set forth.

3. The combination, in a bobbin-winding machine, of a mandrel, the bearings for the mandrel, the face-plate on the mandrel, the spring-arm carrying a rotatable block in line with the mandrel, the cam for forcing the arm toward the mandrel, the catch for securing the cam, the roller, and a bar connected with the cam and adapted to be engaged by the catch, substantially as set forth,

4. The combination, in a bobbin-winding machine, of the mandrel having bearings 3 3 and face-plate 5 and projection 5^a, the spring-arm carrying an elastic block 7 in line with the mandrel, the cam 17, engaging the spring-arm, the catch 14, the roller 11, the roller-carrying arm 12, and the swinging arm 15, adapted to be engaged by the catch and connecting with the cam, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

CLARENCE S. STROWBRIDGE.

Witnesses:
GEO. G. SPERRY,
A. F. LINDSLEY.