

Jan. 5, 1926.

1,568,573

S. G. SMITH

WIRE SPRING MAKING MACHINE

Filed March 14, 1925

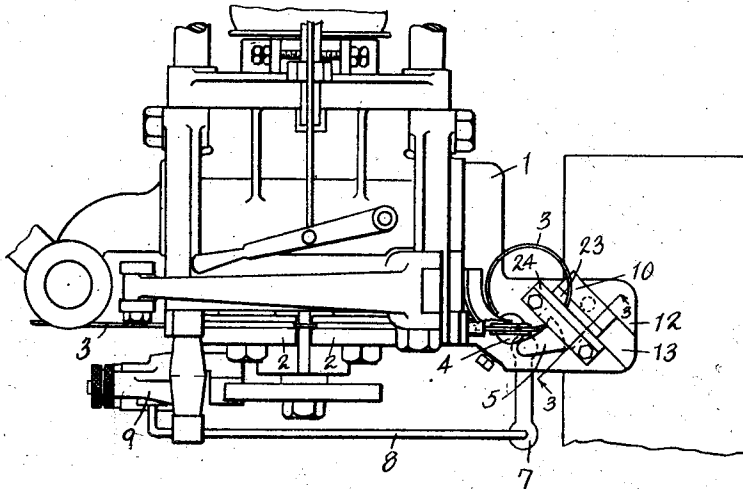


FIG. 1

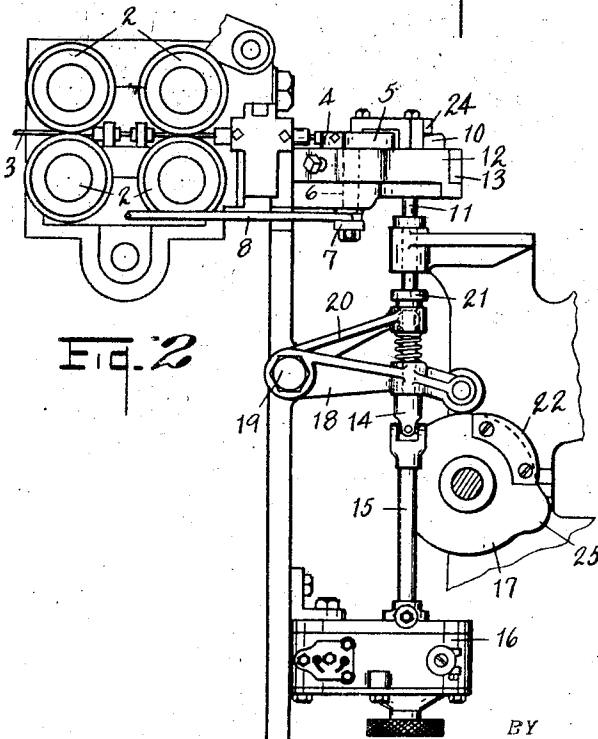


FIG. 2

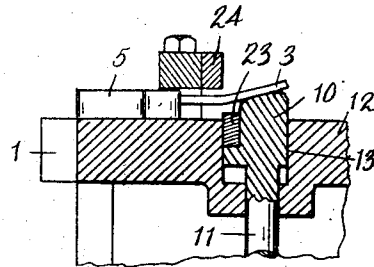


FIG. 3

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UNITED STATES PATENT OFFICE.

STANLEY G. SMITH, OF DETROIT, MICHIGAN, ASSIGNOR TO L. A. YOUNG INDUSTRIES, INC., OF DETROIT, MICHIGAN.

WIRE-SPRING-MAKING MACHINE.

Application filed March 14, 1925. Serial No. 15,564.

To all whom it may concern:

Be it known that I, STANLEY G. SMITH, citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented certain new and useful Improvements in Wire-Spring-Making Machines, of which the following is a specification.

This invention relates to improvements in wire spring making machines.

My improvements are especially designed by me for embodiment in wire spring making machines of the type shown in the Van Orman Patent No. 1,480,798, dated January 15, 1924, and I have illustrated the same as embodied or adapted for such machine. Only such parts of the machine, however, are illustrated as are deemed desirable for illustrating an adaptation or embodiment of my improvements.

The main object of my invention is to provide in a wire spring making machine an improved pitch block and cut-off mechanism.

A further object is to provide in a spring making machine an improved pitch controlling and cut-off means which is very simple and durable in structure.

Objects pertaining to details and economies of construction and operation of my invention will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my improvements is clearly illustrated in the accompanying drawing forming a part of this application, in which:

Fig. 1 is a fragmentary plan view of a spring forming machine embodying the features of my invention.

Fig. 2 is a fragmentary elevation.

Fig. 3 is a fragmentary section on a line corresponding to line 3—3 of Fig. 1.

Similar numerals of reference indicate similar parts in all of the views.

Referring to the drawing, 1 indicates the supporting frame of the machine on which are mounted pairs of feed rollers 2 for feeding the wire indicated at 3. The wire is projected by these feed rollers through a guide 4 and against a coiler block 5. This

coiler block is adjustably mounted on the rockshaft 6 having an arm 7 thereon connected by the link 8 to an adjusting means indicated generally by the numeral 9. The details of this mechanism form no part of this invention and are therefore not illustrated or described.

The wire is projected from the coiler block against the pitch block 10 which is mounted on the vertically reciprocating rod 11, the frame bracket or arm 12 having a supporting and guiding recess 13 therein for the pitch block. The rod 11 is connected by the universal joint 14 to an adjusting shaft 15 which is adjusted by the mechanism indicated generally at 16. This mechanism I do not describe in detail as suitable mechanism is described in the above mentioned patent.

The pitch block is adjusted to control variation in pitch as the spring is formed by means of the cam 17 acting upon the arm 18 of the rockshaft 19, the rockshaft having an arm 20 engaging a collar 21 on the shaft 11. The cam has a lift 22 for actuating the rod to control the normal movement of the pitch block. The pitch block carries a cutter 23 coacting with a shear bar 24, the cam 17 having a lift 25 actuating the pitch bar to sever the formed spring. This is actuated after the spring is completely formed, the feed rollers acting to intermittently feed the wire as is described in the said patent.

This arrangement provides a simple compact arrangement with relatively few parts.

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

1. In a structure of the class described, the combination of a wire feed means, a coiler block operatively associated therewith, a pitch block operatively associated with said coiler block, means for actuating said pitch block comprising a cam, a cutter operatively mounted on said pitch block, and a coacting shear bar, said cam being provided with a lift adapted to actuate said cutter to sever the formed spring.

2. In a structure of the class described, the combination of a wire feed means, a coiler block operatively associated therewith, a pitch block operatively associated with said coiler block, means for actuating said pitch block comprising a cam, and a

cutter operatively associated with said pitch block for movement therewith, said cam being provided with a lift adapted to actuate said cutter to sever the formed spring.

3. In a structure of the class described, the combination of a wire feed means, a coiler block operatively associated therewith, a pitch block operatively associated with said coiler block, a cutter carried by said pitch block, a coacting shear bar, and means for actuating said pitch block to control the pitch of the spring and to actuate said cutter.

4. In a structure of the class described, the combination of a wire feed means, a coiler block operatively associated therewith, a pitch block operatively associated

with said coiler block, a cutter operatively associated with said pitch block for movement therewith, and means for actuating said pitch block to control the pitch of the spring and to actuate said cutter to sever the formed spring.

5. In a structure of the class described, the combination of a wire feed means, a coiler block operatively associated therewith, a pitch block operatively associated with said coiler block, a cutter operatively associated with said pitch block for movement therewith, and means for actuating said pitch block to sever the formed spring.

In witness whereof I have hereunto set my hand.

STANLEY G. SMITH,