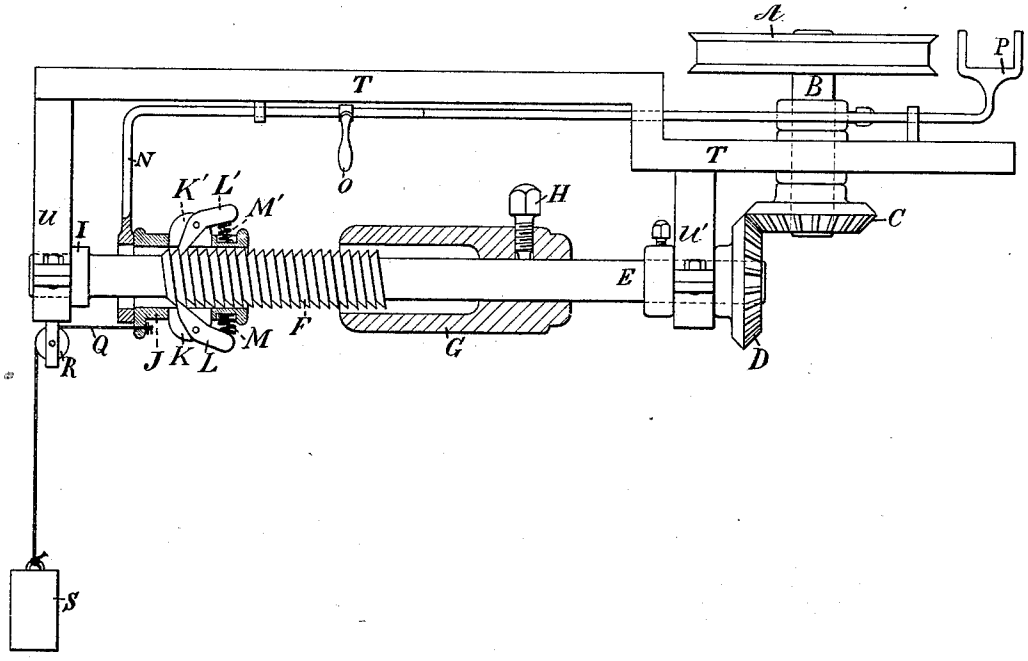
(No Model.)

R. R. PEASE.

AUTOMATIC STOP MOTION.

No. 300,120. Patented June 10, 1884.



Witnesses
Albert H. Walker
Morgan W. Bach

Inventor.
Robert R. Pease

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

ROBERT R. PEASE, OF HARTFORD, CONNECTICUT.

AUTOMATIC STOP-MOTION.

SPECIFICATION forming part of Letters Patent No. 300,120, dated June 10, 1884.

Application filed September 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, ROBERT R. PEASE, of Hartford, Connecticut, have invented a new and useful Automatic Stop-Motion, of which the following description and claims constitute the specification, and which is illustrated by the accompanying drawing.

This apparatus is especially adapted to stop the motion of machines for weaving wire fabrics when such a machine is adapted to be stopped by shifting the belt which runs it, from the fixed pulley which receives power from the belt, to a loose pulley running on the same center and running immediately at the side of the other pulley.

The wire-weaving machine in connection with which I use this apparatus is one which operates as follows: It receives plain wire from a spool and ejects it in the form of a spiral wire along the upper surface of an adjacent table. When the ejected portion is as long as the fabric to be woven, the machine stops, and the ejected portion is cut off, and is left lying on the table. Then the machine is started again and ejects another portion of spiral wire along the table in such a way as to interlock its convolutions with those of the portion previously ejected and cut off. This second portion is in its turn cut off, and the machine is again started, and ejects a third portion of spiral wire along the table in such a way as to interlock its convolutions with those of the second portion. Thus the machine continues to operate till it has woven a fabric of the width desired and of a length corresponding with that of the portions of spiral wire successively ejected and cut off. Machines of this sort are old and well known; but heretofore they have been stopped by hand at the end of each ejection and started by hand at the beginning of each ejection of spiral wire. Such stopping by hand cannot be done with absolute precision, and therefore the ejected and cut-off portions of spiral wire are sure to vary in length, and the fabric, when woven, is sure to have a ragged end. It is the function of my apparatus to stop the weaving-machine automatically precisely when the ejected portion of wire has reached the length of the desired fabric. My automatic stop-motion is adjustable, so that it can be made to operate and stop the machine at variant points, as desired, for different fabrics of variant lengths.

The figure of the accompanying drawing represents my newly-invented apparatus in side view.

A is a pulley around which the wire passes two or three times, more or less, on its way from the spool to the weaving-machine. B is a shaft to which the pulley A is keyed. C is a bevel-gear keyed to the shaft B, and D is a bevel-gear keyed to the shaft E. On the shaft E a screw-thread, F, is cut. Encircling the shaft E are the adjustable stop G, fastened by the set-screw H, and the thimble J, having the ears K K′, with the pawls L L′, pivoted to those ears, respectively, and with their points held in the threads of the screw by the springs M M′, respectively; also, encircling the shaft E is the perforated end of the angle-rod N. The stop I is an enlargement of the shaft E. Attached to the angle-rod N are the handle O and the belt-shifting fork P. Attached to the thimble J is the cord Q, which works over the pulley R and suspends the weight S. T is a table from which the shaft E is suspended by the brackets U U′. The same table furnishes a bearing for the shaft B, and it also supports the spool of wire and the weaving-machine and the fabric being woven. Neither of those three things are shown in the drawing, because the apparatus shown has no connection therewith, except to receive motion from the wire as it passes from the spool to the weaving-machine, and to shift the belt which gives motion to the weaving-machine from one pulley to another by means of the fork P.

The mode of operation of this apparatus is as follows: While the weaving-machine is drawing wire from the spool around the pulley A, that pulley is forced to revolve by means of the friction of the coils of wire passing around it. That revolution is communicated through the shaft B and the gears C and D to the shaft E. The revolutions of that shaft force the thimble J toward the left, and that thimble as it travels forces the angle-rod N in the same direction, and that rod, by means of the fork P, draws the belt across the periphery of the fixed pulley. When the shaft E has revolved long enough to force the points of both the pawls L L′ to the left of all the

threads of the screw F, the weight S suddenly draws the thimble J, and with it the angle-rod N, to the left until the perforated end of that rod is stopped by the stop I. This sudden movement draws the belt entirely off from the fixed pulley and upon the loose pulley, and thus stops the weaving-machine. Afterward, when the operator would start the weaving-machine, he forces the handle O to the right as far as he can, and in so doing shifts the belt back to the fixed pulley, and also carries the perforated end of the angle-rod N, and with it the thimble J, to the right until the latter is stopped by the adjustable stop G. The position of the latter regulates the number of revolutions which the shaft E will make before the apparatus operates to again shift the belt, and thus stop the weaving-machine.

By accurately adjusting the stop G upon the shaft E, the weaving-machine may be made to stop after a few inches of wire have been drawn into it or after many feet of wire have been so drawn, or at any intermediate point of wire. So, also, the operator can at any instant stop the weaving-machine by forcing the handle O to the left as far as it will go.

I claim as my invention—

1. The combination of the pulley A, the shaft E, having the screw-thread F, the thimble J, having the pawls L L′ and the springs M M′, and the angle-rod having the handle O and the shifting-fork P.

2. The combination of the pulley A, the shaft E, having the screw-thread F, the thimble J, having the pawls L L′ and the springs M M′, the adjustable stop G, the weight S, and the angle-rod N.

ROBERT R. PEASE.

Witnesses:
ALBERT H. WALKER,
MORGAN W. BEACH.