

T. BAGGOTT.

## Improvement in Machines for Making Spiral Wire Springs.

No. 115,413.

Patented May 30, 1871.

Fig 1.

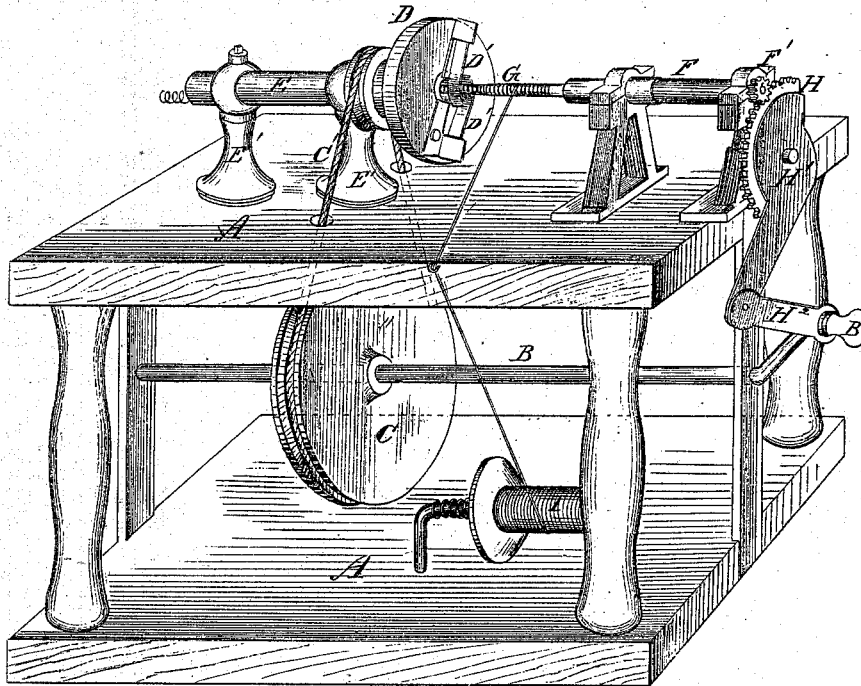
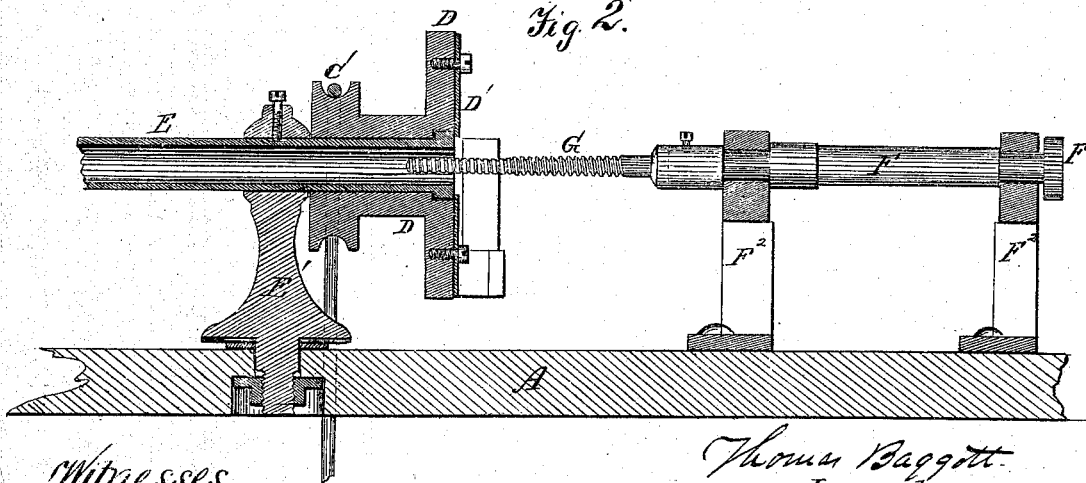


Fig. 2.



Witnesses,  
A. Ruppert  
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# UNITED STATES PATENT OFFICE.

THOMAS BAGGOTT, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF  
AND GEORGE J. DUFUR, OF SAME PLACE.

## IMPROVEMENT IN MACHINES FOR MAKING SPIRAL-WIRE SPRINGS.

Specification forming part of Letters Patent No. 115,413, dated May 30, 1871.

*To all whom it may concern:*

Be it known that I, THOMAS BAGGOTT, of the city and county of Baltimore and State of Maryland, have invented an Improved Machine for Making Spiral-Wire Springs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 is a vertical longitudinal section of the machine.

The same letters are employed in both the figures in the designation of identical parts.

The purpose of the machine is to wind wire into a continuous spiral of uniform pitch, which may be cut up into lengths suitable for spiral springs or used, as in my patent No. 83,019, of October 13, 1868, for weaving wire-cloth, or for other purposes.

My improvement consists in the use of a short screw-former having an oscillatory rotation on its own axis, around which the spiral is formed; and also in the use of spring-bearings for one end of the threaded former, and in the combinations to be specifically indicated in the following specification and claims.

In the annexed drawing, A indicates the frame of the machine, and B the driving-shaft, which is revolved by the crank F, or by other means, if preferred. On the shaft B is a driving-pulley, C, communicating a continuous motion, by means of the belt O, to the head D. This head turns on a tubular bearing, E, fixed in the bearings E' in such manner as to be in extension of the line of the former G. A short shaft, F, is supported in boxes upon the standards F<sup>2</sup>. On the outer overhung end is the pinion F<sup>1</sup>, and in the other end is a socket to receive a spirally-threaded former, G. This is a rod having cut on its periphery a spiral groove of such pitch and diameter as may be required to form the desired spiral on the wire. This rod may be fixed in the socket by a set-screw, or in other manner commonly employed in such cases. The pinion F<sup>1</sup> meshes into a segmental rack, H, which receives an oscillatory motion by means of the arms H<sup>1</sup>

and H<sup>2</sup>, united by a pivot, the latter being attached to the wrist of the crank. Other means may be adopted for giving an oscillatory motion to the spiral former G. In order that the former G may be maintained in a right line with the bore of the tube E springs D' are fastened to the face of the head D, and so arranged that they shall bear against the former G on opposite sides and form a bearing for it outside of the wire coiled around the former. The wire is wound around a spool, I, and its end carried up and wound around the spirally-grooved former G, in the spiral groove, and carried between the springs D' and into the tube E, through which the coiled wire is delivered.

By revolving the shaft B a continuous revolution will be given to the head D and an oscillatory or reciprocating revolution to the shaft F and spirally-grooved former G. As the former G revolves to the right it will draw the wire from the spool and wind it in the groove, which will give it the required spiral form; and as the former G revolves to the left it will feed the wire wound around it off from the point into the tube E. To relieve the friction the point of the former, after it passes the springs D', may be tapered, as shown in Fig. 2.

By the use of this machine the wire will be delivered in a continuous coil, and it may then be cut into such lengths as may be desired. The former G being overhung no impediment is offered to the continuous delivery of the coiled wire. Where the former G is of sufficient diameter to give it the requisite rigidity the springs D' have no other function than to hold the wire in coil around the former until it receives the requisite set, and other devices may be substituted.

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

1. As an improvement in machines for making spiral-wire springs, the combination of the overhung spirally-grooved former G with mechanism to impart to said former a reciprocating rotation, substantially as described.

2. In combination with former G having a

reciprocating rotation, the head D and springs D', arranged to operate substantially as set forth.

3. In combination with the shaft B communicating a continuous rotation to the head D and springs D', the segmental rack H and arms H<sup>1</sup> H<sup>2</sup>, for communicating a reciprocating rotation to the former G, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS BAGGOTT.

Witnesses:

JOHN A. RILEY,  
CONRAD MEISE.