

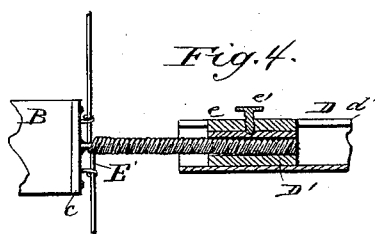
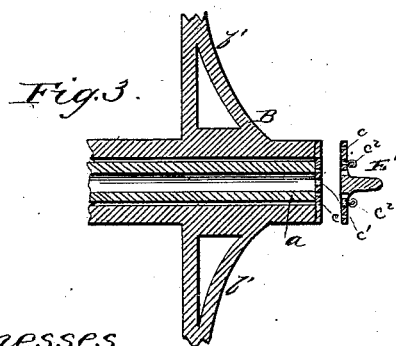
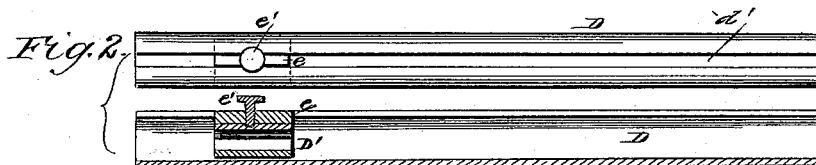
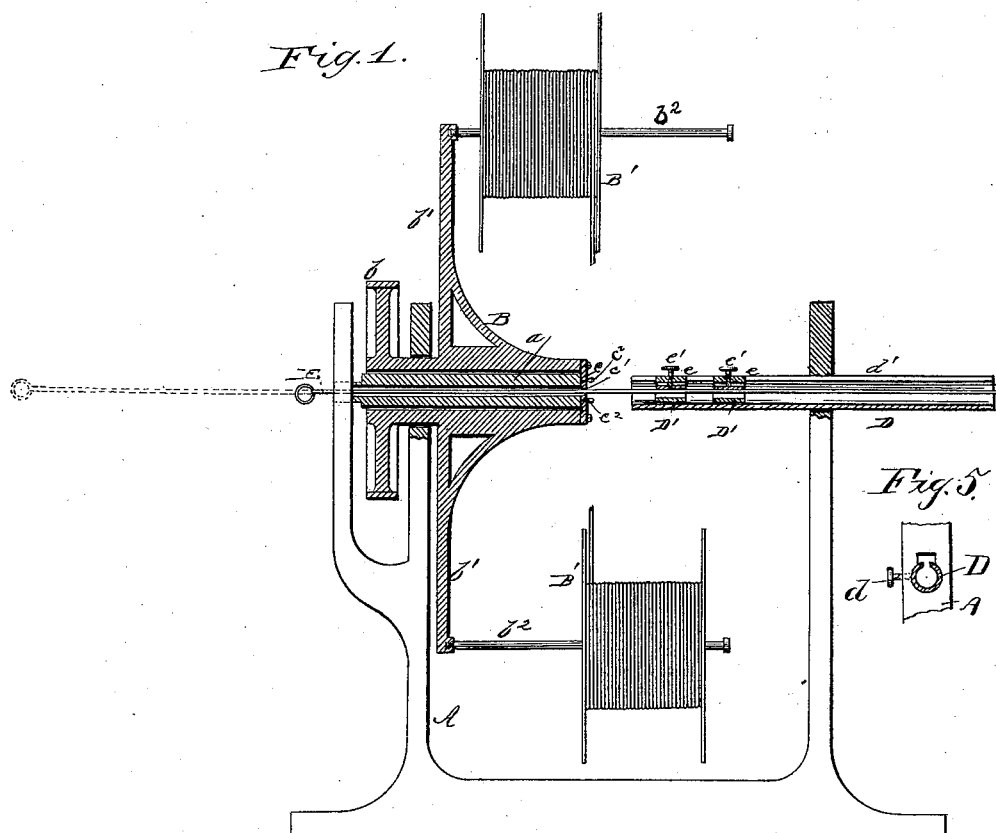
(No Model.)

W. KLEESE.

MACHINE FOR FORMING WIRE COILS.

No. 347,720.

Patented Aug. 17, 1886.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILSON KLEESE, OF OTTAWA, ILLINOIS, ASSIGNOR OF ONE-HALF TO MARSHALL B. MITCHELL, GEORGE BEATTY, AND SIDNEY R. BLANCHARD, ALL OF SAME PLACE.

## MACHINE FOR FORMING WIRE COILS.

SPECIFICATION forming part of Letters Patent No. 347,720, dated August 17, 1886.

Application filed August 22, 1885. Serial No. 175,078. (No model.)

*To all whom it may concern:*

Be it known that I, WILSON KLEESE, a citizen of the United States, residing at Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Machines for Forming Wire Coils, of which the following is a specification, to wit:

This invention relates to machines for forming wire coils; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as will be hereinafter more fully described and claimed.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a central vertical section of my coiling-machine. Fig. 2 is both a plan and longitudinal section, enlarged, of the slotted tube and clamp. Fig. 3 is an enlarged section of the hub of the spool-wheel, and Fig. 4 is a view representing the manner of coiling the wires. Fig. 5 is a cross-section of the tube D, showing the means of clamping it in place.

A represents the main frame or bed of the machine, in one end of which is secured a stationary hollow axle or spindle, *a*, on which is journaled the reel-hub B, having a driving-pulley, *b*, on one end, and one or more arms, *b'*, on the other, which are provided with projecting spindles *b''*, on which are carried the spools of wire B', as in Fig. 1. The inner end of the hub B is provided with a plate, *c*, which covers the end of the axle, and is removably secured by screws or similar devices, in order that it may be removed and replaced by another at any time. This plate *c* is formed with a central hole, *c'*, which will be presently explained, and carries one or more eyes, *c''*, to guide the wire from the spools during the operation of the machine.

In the opposite end of the machine is secured a hollow guide-tube, D, which is set to and from the hollow axle and reel-frame, and secured at the desired point by a set-screw, *d*, in the frame. This guide-tube is aligned with

the axle, as shown, and is formed with a longitudinal slot, *d'*, on one side.

In the hollow guide-tube D are placed one or more slides, D', each formed with a projection, *e*, which runs in the slot in the tube, to prevent the slide from turning, and each is also provided with a clamping-screw, *e'*.

When the coil is to be formed from a single wire, a forming rod or core, E, is passed through the hollow axle and the hole in the removable plate *c*, and its end entered in one of the clamping-slides D'. The end of the rim is then drawn off the spool, passed through one of the eyes *c''*, and its end secured upon the core-rod by the clamping-screw *e'*. The machines being then started, the wire is drawn off the spool and coiled closely upon the core-rod, which is prevented from turning by the sliding clamp D', while the continual coiling of the wire pushes this clamp, the rod, and the formed coil along as fast as the coil is formed, as will be at once understood. When the clamp reaches the end of the slotted guide-tube, or the core-rod is drawn into the machine to its full extent, the machine is stopped, the clamp loosened, and it and the core-rod drawn back to their first position, when the devices are again secured and the coiling resumed, forming a continuous coil of the desired length.

When the coil is to be formed of two or more wires, it is of sufficient stiffness to support itself and slide through the guide-tube without the use of the long core-rod E. In this case I use a plate, *c*, having a central core, E', of the desired size, projecting from its face. The guide-tube is set nearly up to the reel, and the wires drawn through the guide-eyes and secured in the second of the two clamps. The machine being then started up, the wires are coiled about the short core-stud E', and as they are coiled the completed portion is pushed off, as before described. When the clamp has reached the rear end of the slotted guide, the first clamp is slid forward and engaged with the coil near the inner end of the guide, after which the second clamp or slide is brought up to that point, and the coil is formed of con-

tinuous and indefinite length without the necessity of stopping the machine to change the clamps and core-rod, as in the first instance. It will thus be seen that the two clamps are used in order that one may be slid up and secured in a new position while the other is holding the coil, and thus the necessary alteration in the points of holding the coil is made without stopping the machine.

The machine is very simple, and forms with great rapidity a continuous coil of one or more wires, limited only by the quantity of wire contained on the spools.

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

1. In a machine for coiling wire, the combination, with a revolving spool-carrier and a core or former upon which the coil is formed, of a slotted guide-tube and a sliding clamp therein for holding the end of the coil, substantially as and for the purpose set forth.

2. In a machine for coiling wire, the combi-

nation, with the revolving spool-carrier having a removable guide-plate formed with a central opening and provided with guide-eyes for the wire, and a core-rod free to slide through said plate, of a longitudinally-slotted guide-tube and a clamp therein to receive the wire and core, said clamp being free to slide endwise, but held from turning, substantially as and for the purpose set forth.

3. The main frame A, axle *a*, reel-hub B, and the removable former or core-plate, *c*, in combination with the adjustable slotted guide-tube D and the sliding clamp D', provided with the guide projection *e* and screw *e'*, all constructed and arranged to operate substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILSON KLEESE.

Witnesses:

A. W. HOBERT,  
HORACE HULL.