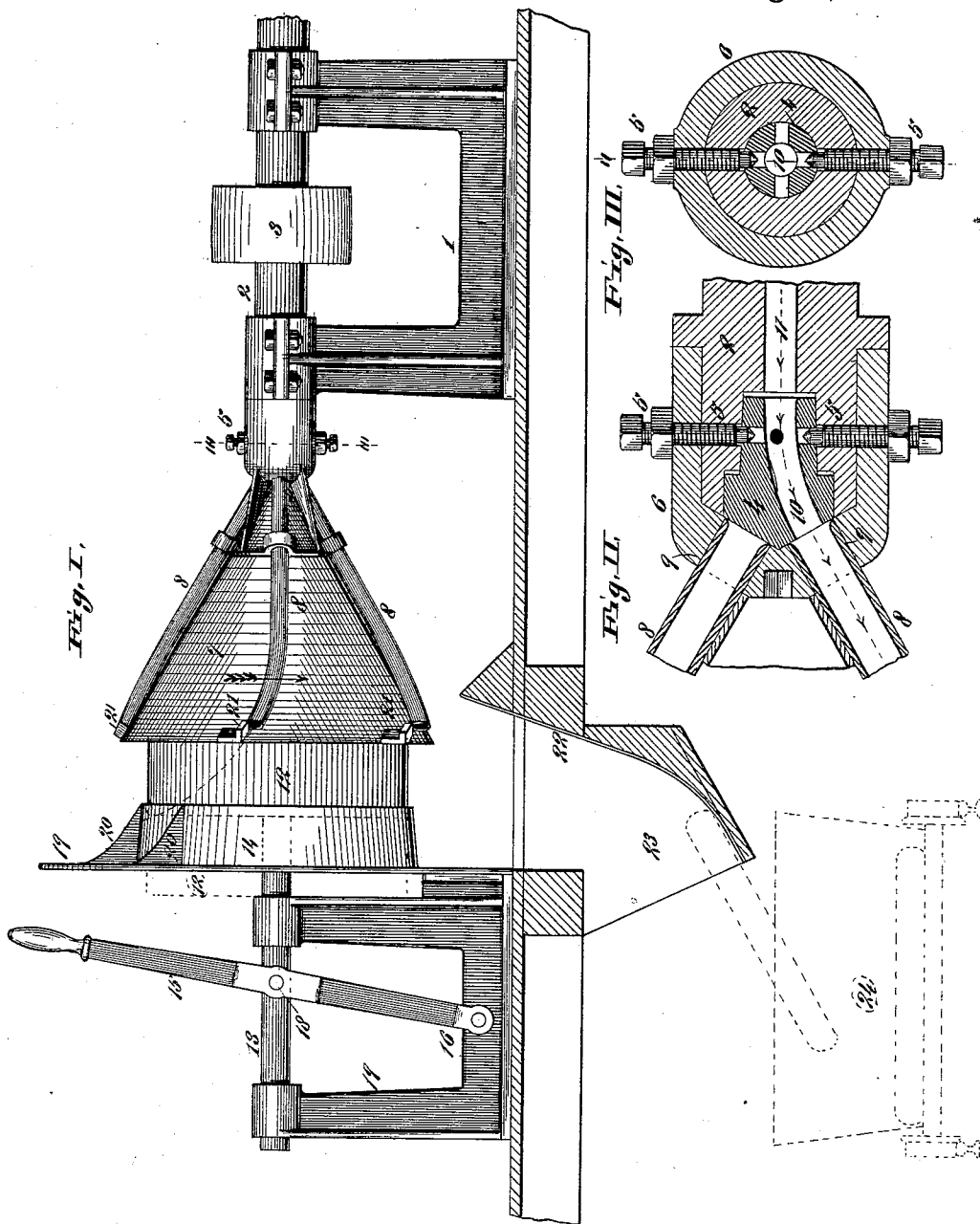


(No Model.)

W. EDENBORN.
MACHINE FOR COILING WIRE.

No. 480,565.

Patented Aug. 9, 1892.



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UNITED STATES PATENT OFFICE.

WILLIAM EDENBORN, OF ST. LOUIS, MISSOURI.

MACHINE FOR COILING WIRE.

SPECIFICATION forming part of Letters Patent No. 480,565, dated August 9, 1892.

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To all whom it may concern:

Be it known that I, WILLIAM EDENBORN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Coiling Wire, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a cheap, durable, and effectual machine for forming wire into coils as it comes from the rolls; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side view of my improved machine. Fig. II is an enlarged detail longitudinal section taken on line II II, Fig. III. Fig. III is an enlarged transverse section taken on line III III, Fig. I.

Referring to the drawings, 1 represents a frame, in which a hollow shaft or spindle 2 is journaled and which is provided with a suitable driving-pulley 3. The wire as it comes from the forming-rolls enters and passes through the spindle 2. In the end of the spindle 2 is formed a socket of larger diameter than the central bore 11 of the spindle 2, and in this socket is a valve-bushing 4, (see Fig. II,) preferably held in place by screws 5, passing transversely through the spindle.

6 represents a cap fitting over the end of the spindle and inclosing the valve-bushing 4. This cap may be held in place by the screws 5, as shown. Projecting from the cap 6 is a cone 7.

8 represents tubes removably mounted on the cone and the inner ends of which fit in sockets 9 in the cap 6. There are preferably four of these tubes. The valve 4 has an opening 10, which is curved outward from its inner end, so as to match with the central opening 11 of the spindle and with the openings of the tubes 8, as shown in Fig. II. The bushing 4 may be turned so that the opening 10 will be brought in front of either one of the tubes 8. This is done by turning outward on the screws 5, then adjusting the bushing, and then seating the screws again. At the end of the cone 7 is a cylinder 12, supported on a shaft 13 and adapted to be moved within a ring or stop 14

through means of a lever 15, pivoted at 16 to a frame 17, which supports the shaft 13 and to which the lever is connected at 18. The ring 14 has a flange 19, and upon its upper surface are inclined wings or flanges 20.

21 represents brackets secured to the cone 7 at the ends of the tubes 8 and against which the wires bear as they leave the tubes to protect the latter from wear. The wall of the opening 10 of the bushing 4 is preferably chilled.

The operation of the machine is as follows: The wire being fed into the spindle 2 from the forming-rolls passes through the spindle, through the valve-bushing 4, and through the tube 8, with which the opening of the valve communicates. Power is imparted to the cone 7 by a belt applied to the pulley 3 and the cone is turned in the direction of the arrow, Fig. I. This causes the wire as it is fed through the spindle and tubes to be coiled upon the cylinder 12, and as a tube becomes worn or overheated (the wire being coiled while in a hot condition) the valve 4 may be turned to bring its opening 10 opposite another tube, when the wire will be fed through this latter tube. When a coil of sufficient size has been formed, the upper end of the lever 15 is moved away from the cylinder 12, which pulls the cylinder within the ring 14, as shown by dotted lines in Fig. I, and the coil drops upon an incline 22 and falls through an opening 23 into a suitable receptacle 24. As the cylinder is drawn within the ring the inclines 20 prevent the wire from being forced onto the ring.

A machine thus constructed is exceedingly cheap and durable and not likely to get out of order.

I have shown the spindle 2, the tubes 8, and the cone 7 arranged in a horizontal position; but it is evident that they might be placed in a vertical position, when the wire-receiving form or cylinder might be dispensed with and the wire coiled on the floor or ground.

I claim as my invention—

1. In a wire-coiling machine, the combination, with a hollow spindle and the adjustable bushing mounted therein and having an opening for the passage of the wire, of a cap fitting over the end of said spindle and bushing and

having the sockets 9 and the removable tubes 8 fitting in said sockets, substantially as set forth.

2. In a wire-coiling machine, the combination, with a hollow spindle and the adjustable bushing mounted in the end thereof and having the opening 10, of the cap 6, fitting over the end of said spindle and bushing and having the sockets 9, the removable tubes 8, fitting in said sockets, and screws passing through said cap and spindle and into said bushing, substantially as set forth.

3. In a wire-coiling machine, the combination, with a hollow spindle and an adjustable perforated bushing mounted therein, of the cap 6, secured to the end of said spindle over said bushing and having the sockets 9, a cone projecting from the end of said cap, and the tubes 8, seated in said sockets 9 and removably secured to said cone, substantially as set forth.

4. In a wire-coiling machine, the combination of a spindle having the passage or bore 11 and a socket in its extreme end of larger diameter than said bore 11, an adjustable bushing fitting in said socket and having the passage 10, and a cap fitting over said bushing and the end of said spindle and carrying the tubes 8, substantially as set forth.

5. In a wire-coiling machine, the combination of a hollow spindle, an adjustable bushing located in the end of the spindle and hav-

ing an opening for the passage of the wire, screws 5 for holding the bushing to its adjustment, a cone, tubes carried by the cone and through which the wire passes from the bushing, a shiftable cylinder, upon which the wire is coiled, and a stop arranged to crowd the coil from the cylinder, substantially as and for the purpose set forth.

6. In a wire-coiling machine, the combination of a hollow spindle, tubes communicating with the spindle and through which the wires pass, a cone to which the tubes are secured, and brackets 21, secured to the cone at its large end, substantially as and for the purpose set forth.

7. In a wire-coiling machine, the combination of a revolvably-supported hollow spindle, a cone carried by the spindle, and short brackets 21, secured to the periphery of the base of the cone, substantially as and for the purpose set forth.

8. In a wire-coiling machine, the combination of a hollow spindle, a cone carried by the spindle, tubes 8 on the periphery of the cone leading from the hollow spindle, and short brackets 21, adjacent to the ends of the tubes 8 at the large end of the cone, substantially as set forth.

WM. EDENBORN.

In presence of—
THOS. KNIGHT,
E. S. KNIGHT.