

(No Model.)

J. ZENGERLE.

MACHINE FOR COVERING WIRE WITH METAL.

No. 320,321.

Patented June 16, 1885.

Fig. 1.

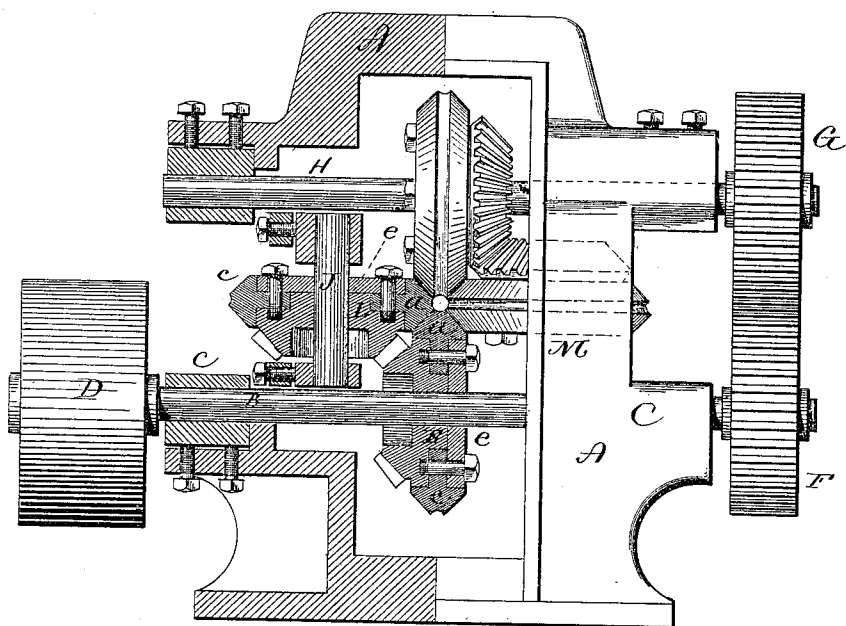


Fig. 2.

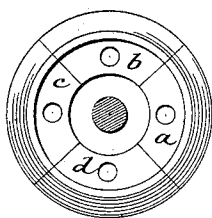


Fig. 3.

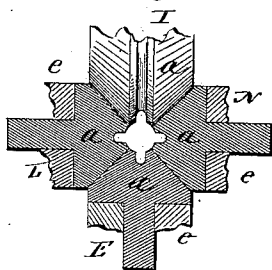
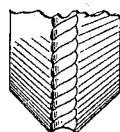


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH ZENGERLE, OF ANSONIA, CONNECTICUT.

MACHINE FOR COVERING WIRE WITH METAL.

SPECIFICATION forming part of Letters Patent No. 320,321, dated June 16, 1885.

Application filed March 30, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ZENGERLE, of Ansonia, in the county of New Haven and State of Connecticut, have invented a new Improvement in Machines for Covering Wire with Metal; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, an elevation, half in section; Fig. 2, a top view of the segments of one roll, showing the clamping-plate removed; Fig. 3, a central section through one segment of each roll, showing them at their point of contact enlarged; Fig. 4, a portion of one segment detached, showing a modified form of the groove.

This invention relates to a machine to be employed in covering wire with metal—as for electrical purposes, such as telegraph and telephone lines—and particularly to that class of wire in which the wire is first covered with an insulating material, and then a covering of lead or other metal applied over the insulation, and in which such covering is applied in the shape of strips or tubes, the said strips or tubes rolled down upon the wire. In rolls for thus rolling down the metal covering the periphery of each in transverse section corresponds to one-fourth of the transverse section of the wire, the rolls being adapted to run so closely together that the space between the peripheries of the four rolls will correspond to the external surface of the covering to be produced. The shape of the covered wire and its size may vary to a considerable extent; but when the machine is once set up for one size of wire it is only adapted to that particular size and shape, and for each particular size or shape an independent machine is required.

The object of my invention is to construct the rolls so that their working-surfaces may be interchangeable to present any desirable shape or size.

To this end my invention consists in constructing the working-surfaces of the rolls in segments, and the bodies of the rolls adapted to receive and support said segments, so that the said segments of each roll will form a complete periphery in transverse section corre-

sponding to the shape of the wire to be produced, said sections being made removable and interchangeable with other segments to present a different shape or size of working-surface.

A represents the frame of the machine; B, the principal driving-shaft, supported in bearings C, and to which power is applied through a pulley, D, or otherwise. The driving-shaft B carries the body E of one roll, and also carries a spur-gear, F, which works into a corresponding spur-gear, G, on a shaft, H, parallel to the shaft B, which in its turn carries a like roll-body, I, the two rolls I and E being in the same plane, but one above the other.

At the left of the two rolls E I is a vertical shaft, J, arranged in suitable bearings and carrying the body L of the third roll. On the opposite or right-hand side is a second vertical shaft, M, carrying a like roll-body, N. The two bodies E L of the rolls are each constructed with a corresponding bevel-gear, so that the body L will receive its rotation from the body E. The bodies N and I are also provided with corresponding bevel-gears, so that the body N receives its rotation from the shaft H, and so that the four rolls will revolve in the same direction. The peripheries or working-surfaces of the rolls are constructed in segments—say four—*a b c d*. (See Figs. 2 and 3.) In the periphery of each a groove is formed, corresponding to one-fourth of the circumference of the wire to be produced, as shown in Fig. 1. This wire is round, as seen in Fig. 3. It is of a round body, with a rib projecting at four points. The several segments are fitted to the respective bodies and secured by a clamping-plate, *e*, through which the bolts extend into the body of the roll. The peripheries of the segments at each side of the groove are cut at an angle of forty-five degrees, so that the four rolls come together, as seen in Figs. 1 and 3. One set of segments may have one style of groove, say round, as seen in Fig. 1, or for the ribs, as seen in Fig. 3, or so as to present a twisted appearance, as seen in Fig. 4. Whatever style is required, that particular style of segments are introduced to the machine, and when the work with one set of segments has been performed another may be introduced for another style of wire, and so on, without materially deranging the machine, it only being necessary to remove the bolts, release the

segments, then introduce others, and secure them as before. By this construction of machine the number of machines necessary for this kind of work in a shop is very much reduced, correspondingly reducing the cost of manufacture.

While the machine is designed specially for covering wire, it may be used to advantage in rolling or finishing the surfaces of rods for various purposes. I do not therefore wish to be understood as limiting my invention to any particular purpose.

I claim—

The herein-described improvement in rolls

for covering wire with metal and analogous purposes, consisting of the four rolls, each composed of a body fixed to its particular shaft, and several segments for each body, the said segments forming a complete periphery and removably secured to the body of the roll, the peripheries of the said rolls each having a groove which, combined, are in shape of the transverse section of the finished wire, substantially as described.

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Witnesses:

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