

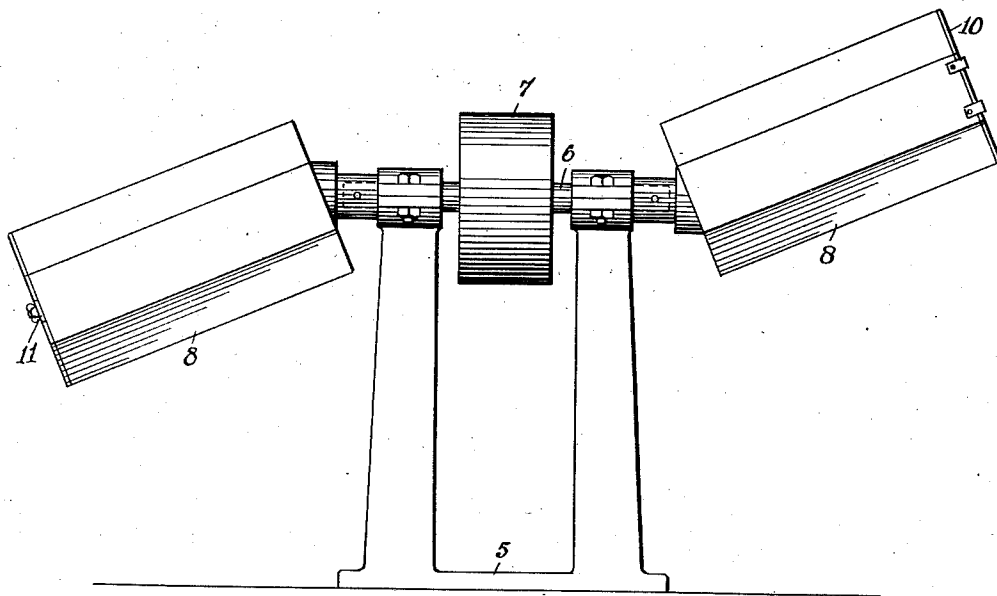
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PROCESS OF COATING ARC WELDING ELECTRODES

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PROCESS OF COATING ARC WELDING ELECTRODES

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This invention relates to a process of coating arc welding electrodes.

Heretofore coatings, such for example as may be generically termed weld-regulating substances, have been applied by dipping electrodes into the material and thereafter allowing the adhering material to dry on the electrodes while they are supported or held in a vertical or substantially vertical position. Peculiar to the above prior practice are certain inherent disadvantages, among which the following are of a particular serious nature: First, due to the consistency of the coating material, which is substantially that of a sticky mass, it will flow or move down the electrodes during drying with the result that the coating, when dry, will be substantially thicker at the lower end of the electrodes than at the upper ends thereof, the unevenness of such coating tending to produce lack of uniformity in welding, as is well recognized by those skilled in the art. Second, considerable time is required per unit weight of electrodes in carrying out the coating process according to the prior practice. Third, an excessive and wasteful amount of coating material for a given unit weight of electrodes has been necessary. Fourth, the labor cost of coating, according to prior practice, has been high.

The object of this invention is to overcome the above objections, and to this end the present method resides in tumbling the electrodes one upon another, in the presence of a coating material, while in a parallel or substantially parallel axial relation, and further contemplates a longitudinal shifting of the electrodes with respect to each other during the tumbling operation so as to produce a uniformly thick coating on each electrode throughout the length thereof; all of which results in a substantial saving, as compared with prior practice, in time, material and labor cost.

Other objects and advantages of the invention will become apparent from the following description, taken in connection with the accompanying drawing, which is a view in elevation showing a tumbling apparatus

particularly adapted for use in carrying out the present process.

The tumbling apparatus herein shown includes a suitable frame 5, in the vertical standards of which is journaled a shaft 6, to which is connected a drive pulley 7, through which the shaft may be rotated from a suitable source of power, not shown, at a suitable speed, say, thirty revolutions per minute.

Secured to each end of the shaft 6, is a suitable receptacle or tumbling barrel 8 which is shown as hexagonal in cross section. These barrels are secured to the shaft 6 at a relatively small angle thereto, so that their contents will be subjected to a shifting action longitudinally of their axes while such contents is subjected to a rolling action in directions generally transversely of the barrels. For the coating of electrodes which are fourteen inches long, barrels each having a length of twenty inches and a diameter of ten inches have been found satisfactory in carrying out the present invention.

The outer end of each barrel is provided with a suitable closure, such as a door 10, which is held in closed position by a suitable fastener 11, the doors being so constructed as to enable them to be easily opened to permit the electrodes to be introduced into the barrels and removed therefrom.

According to this invention, the electrodes to be coated are placed in the barrels, together with the coating material, in a parallel relation to each other and to the axes of the barrels, the amount of coating material employed during each tumbling operation being suitably proportioned to the number of electrodes to be coated. After introducing the electrodes, together with the coating material, into the barrels, the doors are closed and locked in closed positions, whereupon the barrels are rotated about the axis of the shaft 6 with the result that the electrodes, which are maintained in a substantial parallel relation during the tumbling operation, are rolled one over the other in the presence of the coating material and are at the same time subjected to longitudinal displacement, back and forth, with respect to

each other without being disturbed in so far as parallelism with respect to each other is concerned.

5 The rolling action, to which the electrodes are subjected in the presence of the coating material, causes such material to adhere to the periphery of each electrode, and the longitudinal displacement of these electrodes during the time that they are rolled one
10 over the other effects a uniform distribution thereon of the coating material, with the result that a coating of uniform thickness is applied to each electrode throughout its length.

15 Aside from the fact that the process embodying this invention results in a more uniform coating than has been obtained according to prior practice, it has been found that upon completion of the coating operation
20 the electrodes when removed from the tumbling barrels are in such a condition that they may be readily handled and packed for shipment; that the time required for carrying out such coating operation is reduced from
25 eight hours, required according to prior practice, per unit electrode weight of 2,000 lbs. to a period of two hours, and that a saving of more than 71% in the cost of coating material alone is effected.

30 It will be understood that certain changes may be resorted to with regard to the process herein described and the apparatus employed in the carrying out of that process without departing from the spirit of the invention or
35 the scope of the following claim.

What is claimed is:

A process of coating arc welding electrodes with a frangible coating which consists in
40 tumbling the electrodes one upon the other in the presence of a coating material, while maintaining the electrodes substantially parallel, and alternately inclining the electrodes in opposite directions during the tumbling, whereby said electrodes are caused to shift
45 longitudinally over one another with a gentle sliding movement under the influence of gravity alone.

In testimony whereof, I have affixed my signature to this specification.

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SIGMUND S. STEWART.

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