

[54] **METHOD OF MAKING ELECTRICAL LEADS**

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Related U.S. Application Data

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[51] Int. Cl. **H05k 43/00**

[58] Field of Search 29/203, 630 A, 629, 628, 428, 29/429, 430; 140/102, 111; 81/9.51

[56] **References Cited**

UNITED STATES PATENTS

3,283,398 11/1966 Andrew 81/9.51 X

2,976,895 3/1961 Durham 140/102

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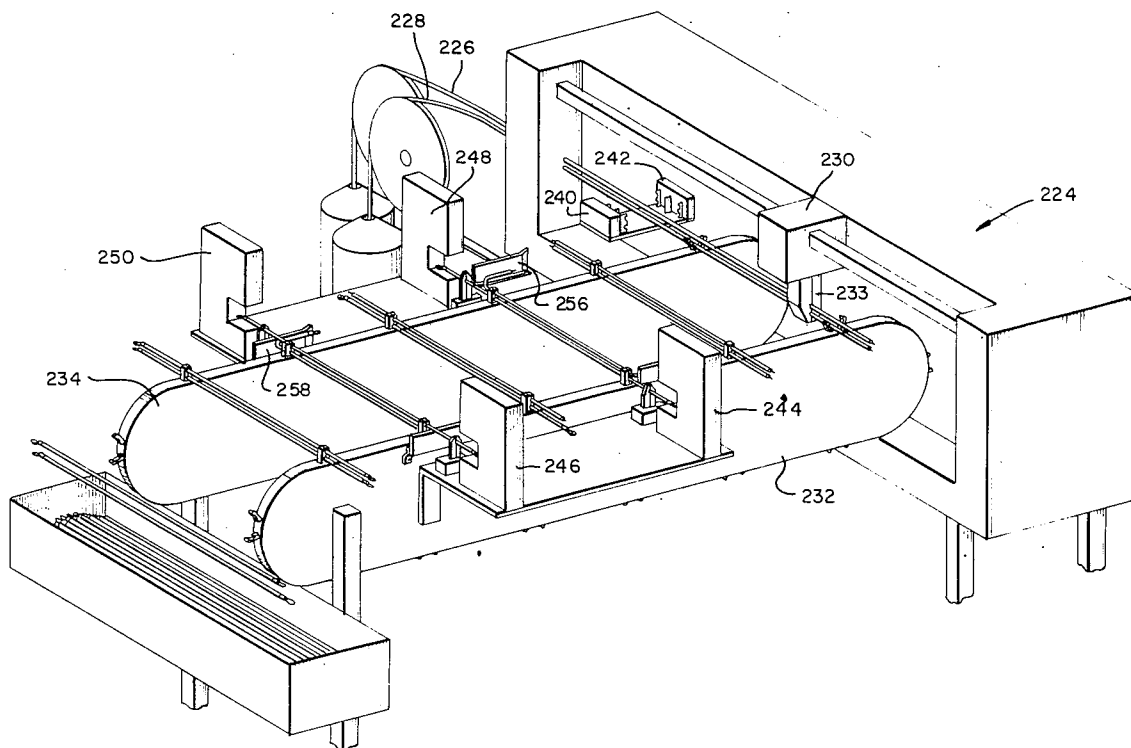
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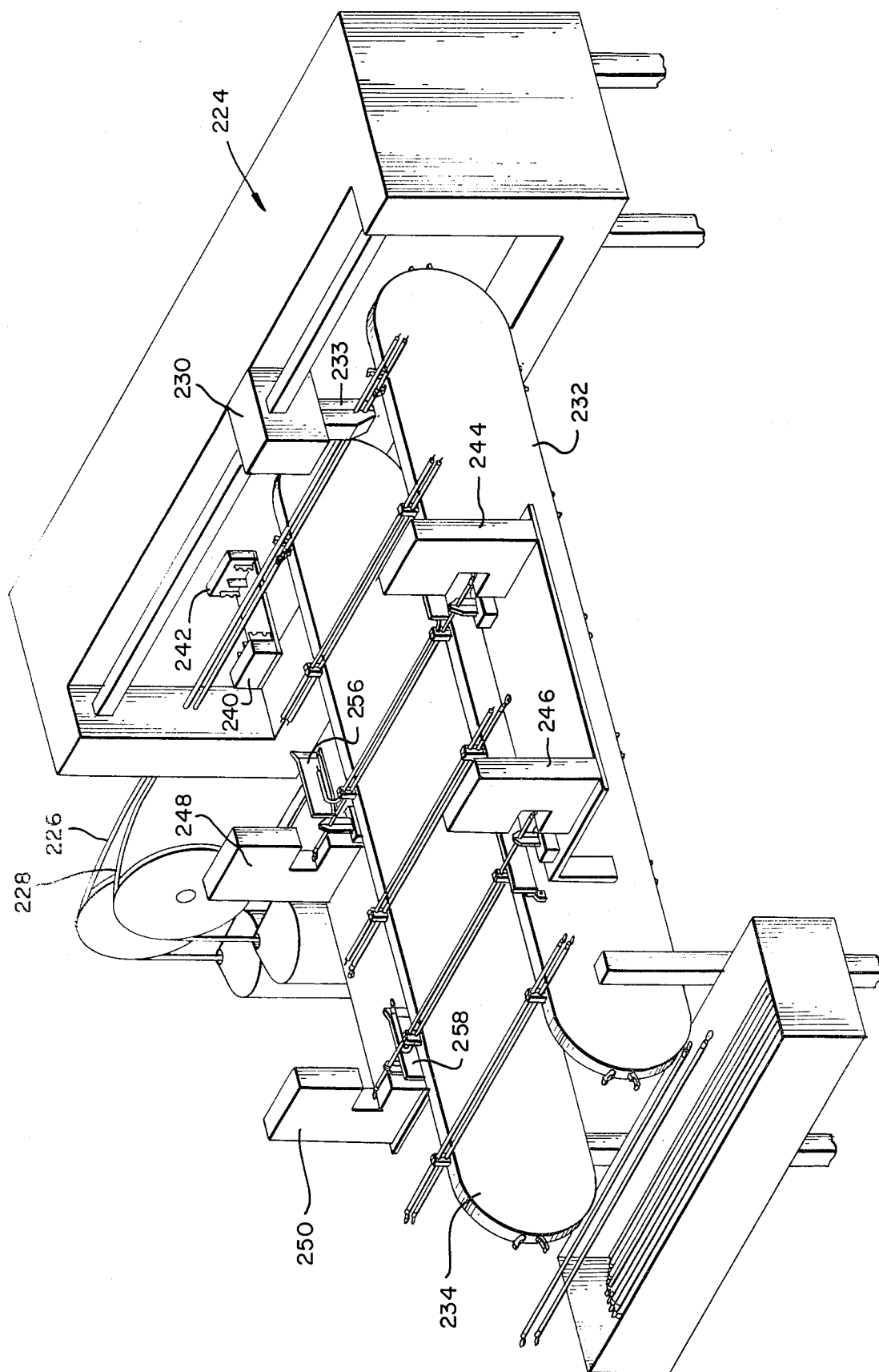
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[57] **ABSTRACT**

Method of producing electrical leads comprising steps of feeding a pair of wires to a conveyor type lead making machine having spaced apart wire grippers thereon. Wires are severed to provide two leads in the gripper at the loading station. As conveyor indexes, leads are carried towards a first terminal applicator. One lead is deflected when the lead gripper arrives at this first applicator and the other lead is presented to the applicator for termination. Lead gripper is moved by conveyor to second terminal applicator and the terminated lead is deflected, the other lead being presented to the second applicator for termination.

3 Claims, 1 Drawing Figure





METHOD OF MAKING ELECTRICAL LEADS

RELATED U.S. PATENT

This application is a division of application Ser. No. 858,666 filed Sept. 17, 1969, and now U.S. Pat. No. 3,583,055, issued June 8, 1971. The parent application is hereby incorporated by reference in its entirety.

SUMMARY OF THE INVENTION

A commonly known type of lead making machine comprises a conveyor having a plurality of wire gripper thereon, each of which is adapted to hold an individual wire. A crimping press is located beside the conveyor so that when wires are loaded in the grippers, the individual wires will be carried towards, and presented to, the crimping press for application of a terminal. U.S. Pat. No. 2,768,425 shows a conveyor type lead making machine adapted to produce electrical leads having terminals on one end thereof and U.S. Pat. No. 3,029,494 shows a conveyor type machine which have terminals on both of their ends.

The instant invention is directed to a method of producing electrical leads with a machine of the general type shown in the above identified U.S. Pats. Nos. 3,029,494 and 2,768,425 and particularly to a method which permits a substantial increase in the productivity of these conveyor type lead making machines. An object of the invention is, therefore, to increase the productivity of conveyor type lead making machines of the general type shown in U.S. Pat. Nos. 2,768,425 and 3,029,494.

The invention can be briefly described with reference to the accompanying single sheet of drawing which schematically shows a lead making machine of the general type described and claimed in U.S. Pat. No. 3,029,494. A pair of wires 226, 228 are drawn from supply reels by means of a wire feeding, cutting and stripping machine 224. The wires are grasped by jaws 233 on a reciprocating head 230 of the machine and the leading ends of the wires are delivered to a wire gripper on the righthand conveyor 232. The wires are cut and the insulation stripped from the trailing ends of the wires by blades mounted on mounting blocks 240, 242 and the trailing ends of the wires are gripped in a wire gripper on the left and conveyor 234. The conveyor is indexed to present the wires to crimping press 248, 250 which are disposed beside conveyor 234 and to crimping presses 246, 248 disposed beside conveyor 232. On each side, one wire is deflected at each crimping station and the other wire is presented to the crimping press for application of a terminal to its end. For example, as each lead gripper on the lefthand conveyor moves past the press 248, the upper wire is deflected by a deflector plate 256 and the lower wire is presented to the press 248. When each gripper subsequently moves past the crimping press 250, the lower wire, which was previously terminated, is deflected by a plate 258, and the upper wire is presented to the press for application to a terminal.

In accordance with the instant method, the productivity of a conveyor type lead making machine can be almost doubled since it is not necessary to reduce the speed of the machine when the method of the instant

invention is practiced.

What is claimed is:

1. A method of producing electrical leads, each lead comprising a length of wire having a terminal secured to at least one end thereof, said method comprising the steps of:

feeding first and second electrical conductors from two substantially endless sources along a predetermined path,

simultaneously severing said conductors in a severing zone to produce first and second electrical leads, grasping said leads adjacent to their trailing ends, and moving said leads laterally of their axes along a predetermined path past first and second terminal applying mechanisms with the trailing ends of said leads extending laterally of said path towards said applying mechanisms,

deflecting the trailing end of said second lead as said leads move past said first terminal applying mechanism and applying a terminal to the trailing end of said first lead,

deflecting the trailing end of the said first lead as said leads move past said second terminal applying mechanism and applying a terminal to the end of said second lead.

2. A method of producing electrical leads, each lead comprising a length of wire having a terminal secured to at least one end, said method comprising the steps of:

simultaneously feeding a plurality of conductors along a first predetermined path,

simultaneously severing said conductors in a severing zone to produce a plurality of electrical leads,

grasping all of said leads adjacent to their trailing ends and moving said leads laterally of their axes along a second predetermined path past a plurality of terminal applying mechanisms with the trailing ends of said leads extending laterally of said path and towards said applying mechanisms,

deflecting the trailing ends of all of said leads excepting one selected lead as said leads move past each of said applying mechanisms, said one selected lead being a different lead at each of said applying mechanisms and,

applying a terminal at each of said terminal applying mechanisms to the said one lead which is not deflected, whereby,

terminals are applied to said trailing ends of all of said leads during movement of said leads along said second path.

3. A method as set forth in claim 2 including the step of grasping the leading ends of said leads at the time the trailing ends of said leads are grasped, moving the leading ends of said leads past an additional plurality of terminal applying mechanisms while said trailing ends are being moved past said plurality of terminal applying mechanisms, deflecting the leading ends of all of said leads excepting one selected lead as said leads move past each of said additional plurality of terminal applying mechanisms said one selected lead being a different lead at each of said additional plurality of terminal applying mechanisms whereby, terminals are applied to the leading ends of all of said leads.

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