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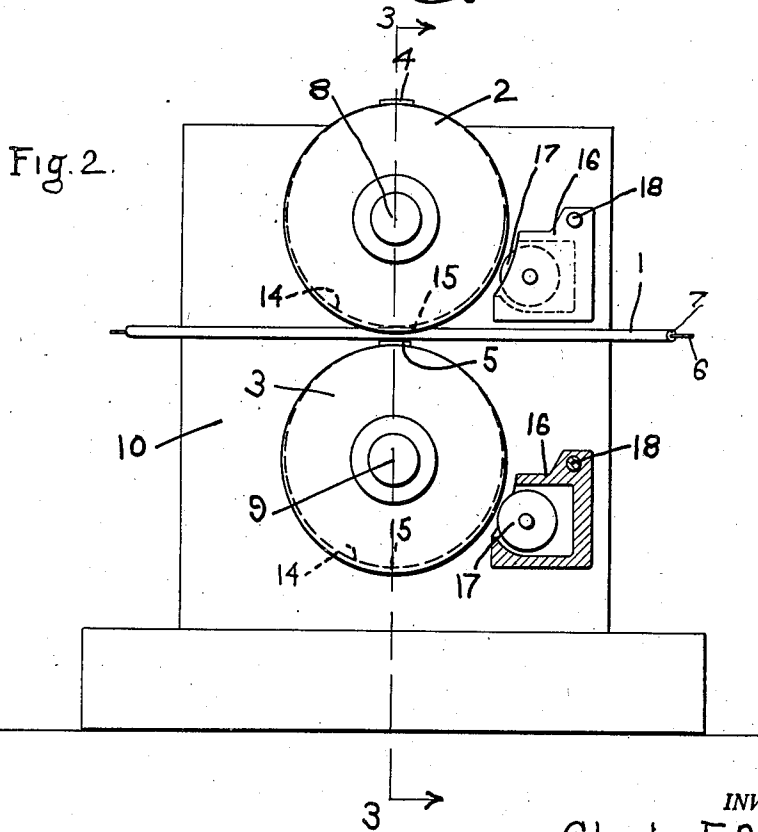
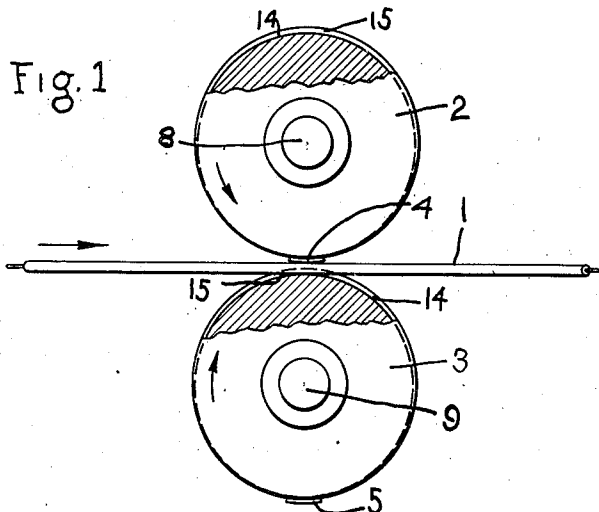
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MACHINE FOR MARKING WIRE

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MACHINE FOR MARKING WIRE

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This invention relates to a machine for marking wire such, for instance, as insulated wire or insulated cables used in connection with electrical installations, although the invention is applicable for marking wire or strands of other kinds, and also for marking rods, tubes, bars, and so forth.

In the manufacture of many appliances that involve more or less intricate electrical installations, of which airplanes may be cited as an illustration, it is customary to provide the circuit wires or cables with some identifying mark which is applied throughout the length of the wire so that any wire or cable can be readily identified at any portion of the circuit by the marking thereon.

One way in which the identifying marks have been applied to such wires or cables is by making a series of imprints on the wire or cable from one end thereof to the other, such imprints being relatively close together.

There is at the present time a demand for wire or cable in which the identifying imprints are made on both sides of the wire or cable so that whenever an operator picks up a wire or cable the imprint on one side or the other will be readily observable without the necessity of having to turn the wire around or manipulate it to bring the imprint into view.

It is, therefore, one of the objects of my present invention to provide a novel wire marking machine by which identifying marks or imprints may be rapidly and correctly made on both sides of the wire as it is fed through the machine.

My improved wire marking machine comprises two type wheels between which the wire is fed, each type wheel having on its periphery a type element for making an imprint on the wire, and another object of the invention relates to a construction whereby the type wheels make their imprints on the wire alternately and whereby each type wheel functions as a platen wheel or wire-supporting wheel while the imprint is being made on the wire by the other wheel.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

In the accompanying drawings,

Fig. 1 is a view partially in section illustrating the manner in which the imprint is made on opposite sides of the wire.

Fig. 2 is a side view of a wire-marking machine embodying my invention.

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Fig. 3 is a section on the line 3—3, Fig. 2, with the driving pulley and gear wheel shown in elevation.

Fig. 4 is a fragmentary sectional view showing a modified form of the invention.

Fig. 5 is a fragmentary view showing a section of insulated wire which has been marked by means of my improved invention.

In the drawings 1 indicates the wire or cable which is to be marked, and it is herein shown as an insulated wire having a metallic core 6 and a covering 7 of insulating material. I wish to state, however, that the machine herein illustrated is equally adapted for marking on other types of wire or strands. 2 and 3 indicate two type wheels between which the wire 1 is fed, each type wheel having on its periphery a type element for laying the imprint on the wire, these type elements being indicated at 4 and 5 respectively. Each type of element is so disposed that its printing face is at no less a radial distance from the center of the type wheel than the overall radius of said wheel. Means are provided for rotating the type wheels in unison, and the type elements 4 and 5 are so disposed on the type wheels that as the wire is fed between the type wheels the type elements 4 and 5 will alternately engage the wire.

The type elements may carry type of any desired character depending upon the character of the mark which it is desired to imprint on the wire 1.

These type wheels are shown as carried by shafts 8 and 9 which are mounted in a suitable frame 10. Any suitable means may be employed for rotating the type wheels and as herein shown the shaft 9 is provided with a driving pulley 11 by which it is rotated, and the shaft 8 is driven from the shaft 9 by means of gear wheels 12 and 13 which are mounted on the shafts 8 and 9 respectively and which mesh with each other.

Each type wheel 2 and 3 is so constructed that it provides the entire guiding support for the wire while the imprint is being made on the wire by the other wheel, each type wheel, therefore, being in the nature of a combined platen wheel and type wheel.

As herein illustrated, each type wheel is provided with a peripheral wire guiding groove 14 of a size to receive the wire 1, and each groove in each wheel is deepest at a point diametrically opposite the type element thereon and has a progressively decreasing depth in each direction from said point toward the type element.

As stated above the type elements 4 and 5 are

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so disposed on the two type wheels that they act alternately on the wire as the latter is fed between the type wheels. For instance in Fig. 1 the upper type wheel 2 is shown as in a position in which its type element 4 is in contact with the wire 1 and is making an imprint thereon. At this time the lower type wheel 3 will occupy a position in which the deepest portion 15 of its wire guiding groove 14 is at the upper side of the type wheel and is receiving, guiding and supporting the wire 1 while the type element 4 is making its imprint. In fact such deepest portion of the groove provides the entire guiding support for the wire while the type element 4 is making its printed impression. When the type wheels have made a half revolution from the position shown in Fig. 1 the type element 5 on the type wheel 3 will have arrived at a position in engagement with the wire and will be making an imprint on the underside of the wire. At this time the deepest portion 15 of the groove 14 in the upper type wheel 2 is on the underside of said type wheel and is thus receiving and providing a packing support for the wire while the type element 5 makes its imprint thereon, said deepest portion of the groove constituting the entire guide and support for the wire while such imprint is being made. When the type wheels are in an intermediate position with the type elements occupying positions ninety degrees, for instance, from that which they occupy in the drawings, then the wire will be received and guided partly by the groove in one type wheel and partly by the groove in the other.

As stated above each wire-receiving groove 14 has a progressively decreasing depth from the deepest portion 15 thereof around to the type element, each groove running out or disappearing either side of said type element.

With this construction the wire is provided on each side with a succession of imprints 20, and the imprints on each side of the wire have a staggered relation to those on the other side of the wire, as shown in Fig. 5, in which the imprints on the side of the wire towards the observer are shown in full lines and those on the side away from the observer are shown in dotted lines. Each type wheel acts as a platen wheel for supporting the wire while the imprint is being made thereon by the other type wheel. Each type wheel, therefore, acts alternately as a printing element and as a platen element, that is, each type wheel acts as a printing element during one portion of each rotation and as a platen wheel or wire-supporting wheel during another portion of each rotation.

In the illustrated embodiment of the invention, the type wheels 2 and 3 are so constructed that they constitute wire-feeding wheels as well as type wheels, by which I mean that the engagement of the wheels with the wire not only at the points where the printed impression is being made but also on the portions of the wire between the printed impressions is sufficient to cause the wire to be fed forward. It would be within my invention, however, to provide some means other than the type wheels for feeding the wire forward, but my preference is to so construct the type wheels so that they constitute wire-feeding wheels as well as marking wheels.

In Fig. 3 the type wheels 2 and 3 are of a width to accommodate a single wire, but it is within my invention to make these wheels wide enough to accommodate a plurality of wires simultaneously. A construction of this type is shown in

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Fig. 4 wherein the two type wheels 2a and 3a are each provided with four type elements 4a or 5a and with four wire-receiving grooves 14a. With this arrangement four wires 1 can be marked simultaneously.

I have illustrated a selected embodiment of my invention and do not wish to be limited to the constructional features shown.

I also desire to state that the invention is applicable for marking other articles than wire, such for instance, as tubes, rods, bars, and so forth, and the use of the invention is, therefore, not limited to marking wire. By the term "wire or other strands" as used in the claims I intend to include such materials as rods, bars, tubes, and so forth.

I claim:

1. A machine for marking wire or other strands comprising a pair of type wheels between which the wire or other strand is fed, means to rotate the type wheels, a type element mounted on the periphery of each type wheel, said type elements being so disposed on the two type wheels that they act on the wire alternately as it is fed forward, each type wheel having a wire-guiding and supporting portion disposed to provide the entire guiding and supporting means for the wire while the type element of the other type wheel is making its printed impression on the wire.

2. A machine for marking wire or other strands comprising a pair of type wheels between which the wire or other strand is fed, means to rotate the type wheels, a type element mounted on the periphery of each type wheel, said type elements being so disposed on the two type wheels that they act on the wire alternately as it is fed forward, each type wheel having a wire-guiding peripheral groove which is deepest at a point opposite the type element thereon and which has a progressively decreasing depth from said point in each direction towards the type element, the deepest portion of the groove on each type wheel providing the entire support and guiding means for the wire while the type element of the other type wheel is making its printed impression.

3. A machine for marking wire and other strands comprising a pair of combined type and platen wheels between which the strand to be marked is fed, a type element mounted on the periphery of each wheel and having its printing face at a radial distance from the center of the wheel which is no less than the overall radius of said wheel, the portion of each wheel opposite its type element being provided with a peripheral wire-receiving and guiding groove, and means to rotate said wheels, the type element and wire-receiving groove of each wheel being so disposed relative to those of the other wheel that the type elements act alternately on the wire and the latter is supported and guided entirely by the wire-receiving groove of each wheel while the type element of the other wheel is making its printed impression.

4. A machine for marking wire or other strands comprising a pair of type wheels between which the wire or other strand is fed, means to rotate the type wheels at the same surface speed, a type element mounted on the periphery of each type wheel and having its printing face at a radial distance from the center of the type wheel which is no less than the overall radius of said type wheel, said type elements being so disposed on the two type wheels that they act on the wire alternately as it is fed forward, each type wheel having a wire-guiding peripheral

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groove which is deepest at a point diametrically opposite the type element thereon and which has a progressively decreasing depth from its deepest point to said type element, the type element and the groove on each type wheel being so disposed relative to those on the other type wheel that as the wire is fed forward between the type wheels it is supported and guided entirely by the deepest portion of the groove in each type wheel as the type element of the other type wheel is making its printed impression and the portions of the wire between successive printed impressions are received in and guided by the grooves in both type wheels.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,194,245	Seward -----	Aug. 8, 1916
1,369,450	Manss -----	Feb. 22, 1921
1,956,951	Hinsky -----	May 1, 1934