

Oct. 25, 1966

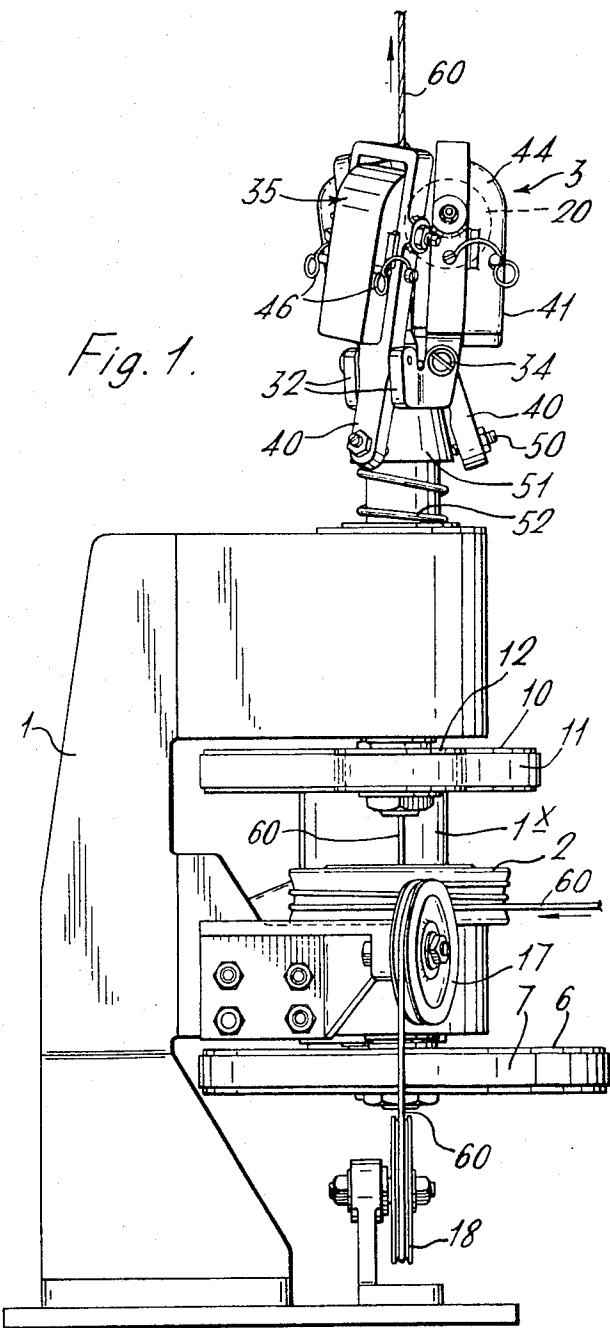
D. A. M. WILCOCKS

3,280,729

APPARATUS FOR MARKING ELECTRIC CABLES AND THE LIKE

Filed Aug. 3, 1963

3 Sheets-Sheet 1



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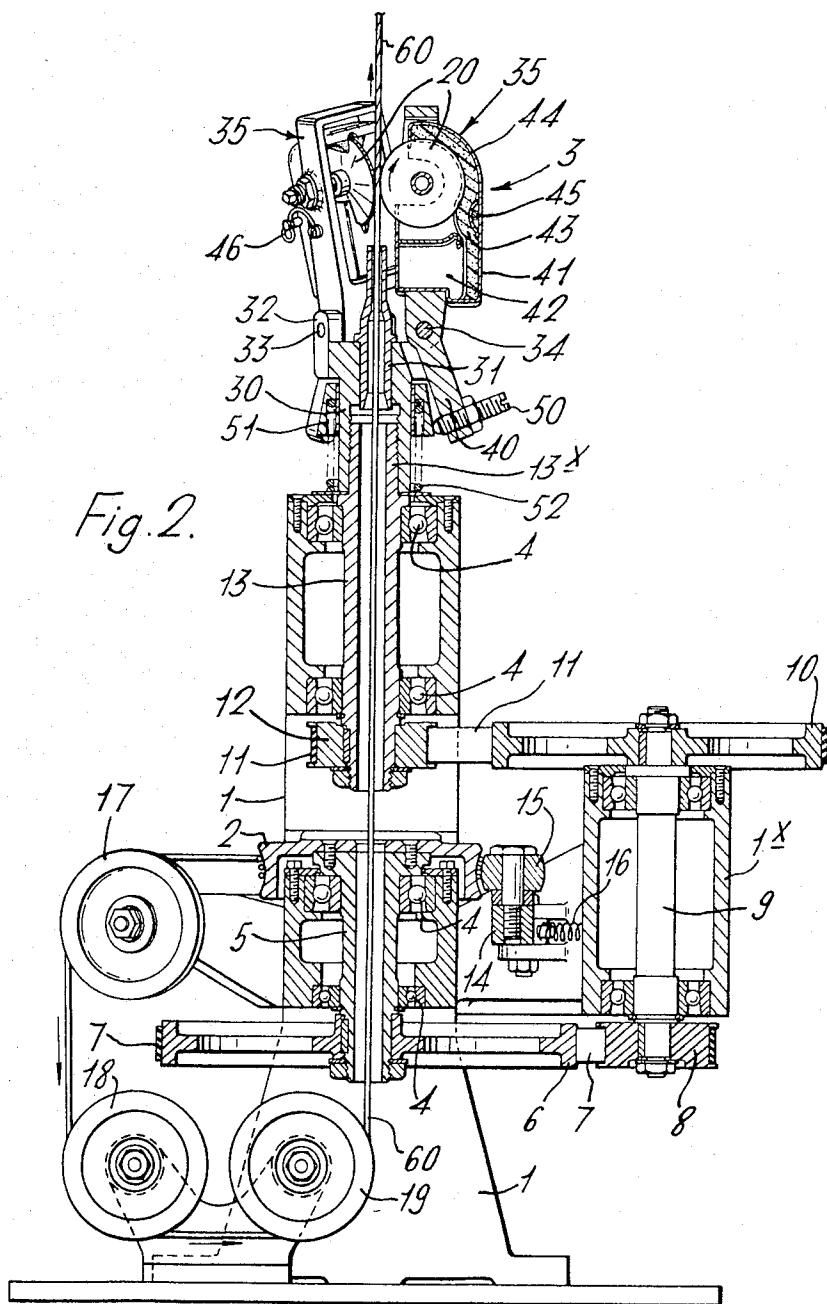
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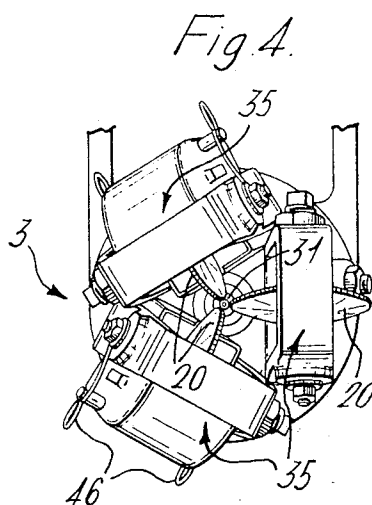
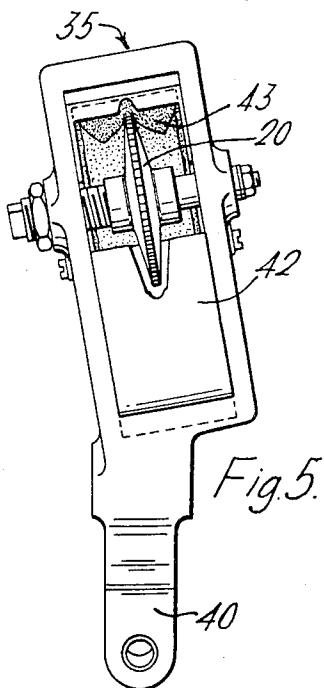
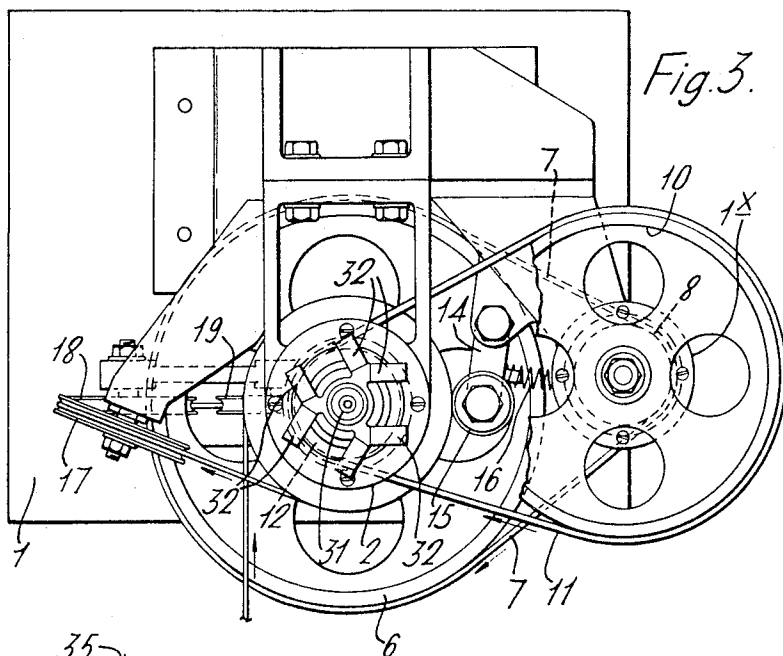
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APPARATUS FOR MARKING ELECTRIC CABLES AND THE LIKE

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Filed Aug. 3, 1965, Ser. No. 476,900

Claims priority, application Great Britain, Aug. 4, 1964,
30,431/64

7 Claims. (Cl. 101—37)

This invention relates to apparatus for marking electric cables and like articles of continuous length. For convenience reference will hereinafter be made simply to "cables."

The object of this invention is to provide improved apparatus which is especially suitable for marking cables for identification purposes immediately prior to the use thereof.

According to this invention there is provided an apparatus for marking cables comprising a marking head assembly with means for feeding cable to be marked thereto, such assembly comprising a plurality of inking wheels which mutually provide backing members for each other and each of which is contained in a unit including an ink chamber with a wick for feeding ink from such chamber to the periphery of the wheel.

An apparatus in accordance with one embodiment of this invention will now be described in some detail by way of example. From this description and the appended claims preferred features of the invention will become apparent.

In the accompanying drawings:

FIGURE 1 shows the apparatus in side elevations,

FIGURE 2 is a part vertical section part front elevation of the apparatus,

FIGURE 3 is a plan view of the apparatus with the inking wheel units of the marking head assembly removed,

FIGURE 4 is a plan view, drawn on an enlarged scale, of the marking head assembly, and

FIGURE 5 is a part sectional part elevational view, drawn on a still larger scale, of a single inking wheel unit.

The apparatus shown in the drawings comprises a support pedestal 1 having coaxially mounted therein one above the other a main drive wheel 2 and a marking head assembly 3, suitably disposed ball races 4 enabling both to rotate freely. The main drive wheel 2 is disposed horizontally and is mounted on the upper end of a vertical hollow shaft 5 on the other end of which is fixed a first pulley 6. This first pulley 6 is drivingly connected by means of a power drive belt 7 with a second pulley 8 carried at the lower end of a second vertical but not hollow, shaft 9 rotatably mounted in a bracket 1* included in the pedestal 1 to one side of the main drive wheel 2. A third pulley 10 is mounted on the upper end of the second shaft 9 above the level of the main drive wheel 2, and this third pulley 10 is drivingly connected, also by means of a power drive belt 11, to a fourth pulley 12 fixedly carried on the lower end of a vertical hollow shaft 13 included in the marking head assembly 3. The sizes of the several pulleys are chosen so that the marking head assembly will rotate at a required speed in relation to the main drive wheel.

Also mounted on the pulley bracket 1* is an arm 14 carrying a jockey wheel 15, the edge of which is resiliently pressed by a compression spring 16 against the side of the main drive wheel 2.

Cable 60 to be marked is fed between the main drive wheel 2 and the jockey wheel 15 and then wrapped twice

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round the main drive wheel. It is then taken over appropriately disposed wheels, for example the three wheels 17, 18 and 19 freely mounted on the support pedestal 1 so that the cable can be led centrally up the hollow shaft 5 on which the main drive wheel 2 is mounted. Finally, the cable is passed up through the hollow shaft 13 included in the marking head assembly and between the marking wheels 20 thereof as will be explained in more detail hereinafter. In effect cable 60 is drawn through the whole apparatus, the cable wrapped around the main drive wheel driving the latter which in turn imparts drive to the marking head assembly.

Preferably the main drive wheel 2 is one foot in circumference so that the rotation thereof can be used to operate a counted measuring the length of cable passed through the apparatus.

The upper end of the hollow shaft 13 of the marking head assembly forms a spigot 13* on which the remainder of the assembly is mounted. The latter includes at its lower end an inverted cup-shaped portion 30 which fits over and is secured to said spigot, and has secured in its upper end a nozzle 31 which is disposed in co-extending relationship with the spigot. At equally spaced points the cup-shaped portion is provided with outwardly extending lugs 32 having therein horizontal bores 33 for the reception of pins 34 on which inking wheel units 35 are pivotally mounted. The inking wheel units 35 are mounted so that they pivot radically with respect to a cable 60 to be marked. In other words the inking wheels engage the cable at equally spaced points around it, and it will be appreciated that by this arrangement it is not necessary to provide special backing rollers or like means against which cable is pressed by the inking wheels.

Each inking wheel unit 35 comprises a leg part 40, through the upper part of which a pivot pin 34 as aforesaid passes, and a hollow ink carrier body part 41 mounted on the top of the leg part. The lower portion of the body part forms a chamber or repository 42 for ink into which dips a wick or carrier means 43 extending up out of such lower portion and into the upper shroud portion of the body part. An inking wheel 20 is rotatably mounted in the upper portion and projects from the inner face thereof on one side and engages the wick 43 on the other side. The outer face 44 of the upper portion is appropriately curved so that it, and therefore the wick 43 inside it, curves around the perimeter of the wheel 20. To prevent the wick being rucked or pushed downwardly by rotation of the inking wheel, the wick is firmly held in position by a spring or the like element 45. The wick is preferably made of a very durable material such as, for example, a foamed synthetic plastics material.

The ink chamber and wick enclosing part may form a detachable member which can be interchanged with a like member when it is desired to change the colour of ink to be used, one member having been removed in FIGURE 4. Clips 46 are provided to hold such detachable member in position.

With this arrangement an inking wheel 20 is in permanent contact with a wick 43 soaked in ink so that the wheel commences marking immediately it is rotated. The provision of the wick obviates the need for ink to be thrown upon to the surface of the inking wheel. Such surface is of course preferably knurled or otherwise roughened.

Inking wheels 20 may be set so that they engage a cable being marked at an angle thereto or so that they run longitudinally thereof. The first arrangement results in a spiral mark or stripe, and the second arrangement in a longitudinal mark or stripe. With the second arrangement the marking head assembly would not rotate,

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the drive from the pulley 10 to the pulley 12 being disconnected.

To enable the inclination of the inking wheel units to be varied to suit cables of different diameters, the leg part 40 of each unit has in the lower part an adjustment screw 50 the inner end of which engages an upwardly tapering collar 51 provided on the outside of the cup-shaped portion 30 of the marking head assembly. The collar 51 is in actual fact slidable up and down on the cup-shaped portion 30, being urged upwardly by a compression spring 52 also provided around the cup-shaped portion. If the collar 51 is pushed down initially the inking wheel units 35 will rock outwardly allowing the cable to pass freely between the inking wheels 20. When the collar 51 is released the inking wheel units 35 will automatically adjust their position in accordance with the diameter of the cable.

It may be arranged that the ink chambers are replenished automatically from a reservoir which rotates with the marking head assembly.

I claim:

1. An apparatus for marking cables comprising a support having a marking head assembly associated therewith, said assembly including relatively spaced means for feeding cable to be marked thereby, said assembly also having at least three equally spaced unitary pivotally mounted inking means, inking wheels carried by said inking means for appropriately striping a cable passed in juxtaposition thereto, an ink carrier body means associated with each of said pivotally mounted inking means, said body means including a repository for an inking fluid and shroud means in proximity thereto, said shroud means including means adapted to supply ink to a substantial area of each of said inking wheels and means for adjusting said unitary pivotally mounted inking means to accommodate cables of varying diameters as they pass between said inking wheels.

2. An apparatus for marking cables as claimed in claim

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1, wherein the means for adjusting said pivotally mounted the pivotally mounted inking means.

3. An apparatus for marking cables as claimed in claim 1, wherein the means for adjusting said pivotally mounted inking means comprises spring-urged means slidably mounted in a plane normal to the pivot point of said inking means.

4. An apparatus for marking cables as claimed in claim 3, wherein said spring-urged means includes an upwardly tapering collar.

5. An apparatus for marking cables as claimed in claim 1, wherein the ink carrier body means includes means associated therewith for applying pressure to a predetermined area of the means for supplying ink to said inking wheel to thereby retain said ink supply means in a substantially fixed position relative to the inking wheel.

6. An apparatus for marking cables as claimed in claim 1, wherein the relatively spaced means for feeding cable to the marking head assembly comprises a main drive wheel disposed coaxially of the assembly and plural guide means mounted in planes normal thereto.

7. An apparatus for marking cables as claimed in claim 6, wherein the main drive wheel is drivingly-connected through pulley gear means to the marking head assembly.

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W. McCARTHY, *Assistant Examiner.*

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,280,729

October 25, 1966

Douglas A. M. Wilcocks

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 3, line 38, beginning with "2. An apparatus" strike out all to and including "inking means." in column 4, line 2 and insert instead

2. An apparatus for marking cables as claimed in claim 1, wherein the ink carrier body means is detachable from the pivotally mounted inking means.

Signed and sealed this 22nd day of October 1968.

(SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer

EDWARD J. BRENNER

Commissioner of Patents