

Jan. 11, 1949.

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2,458,573

INSULATED CABLE AND ROPE SPOOLING GUIDE

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2 Sheets-Sheet 1

Fig. 1.

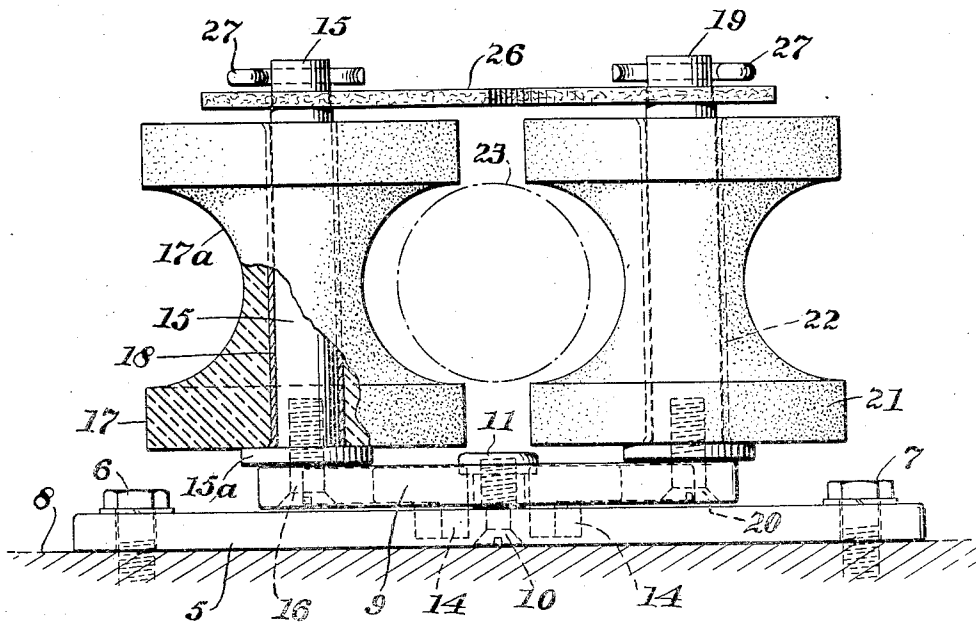
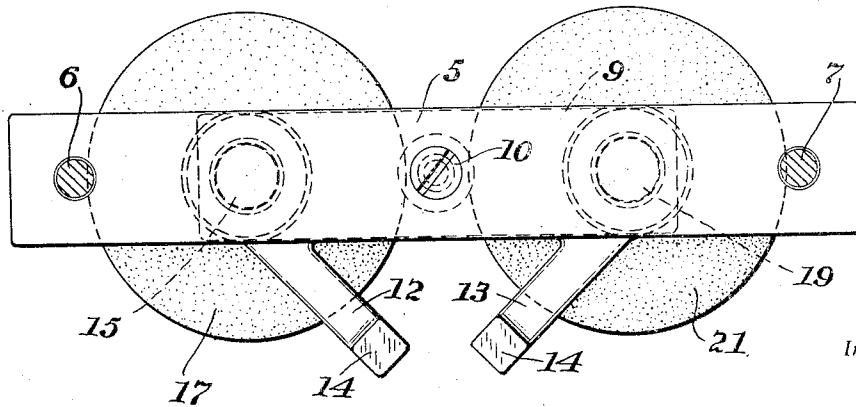


Fig. 2.



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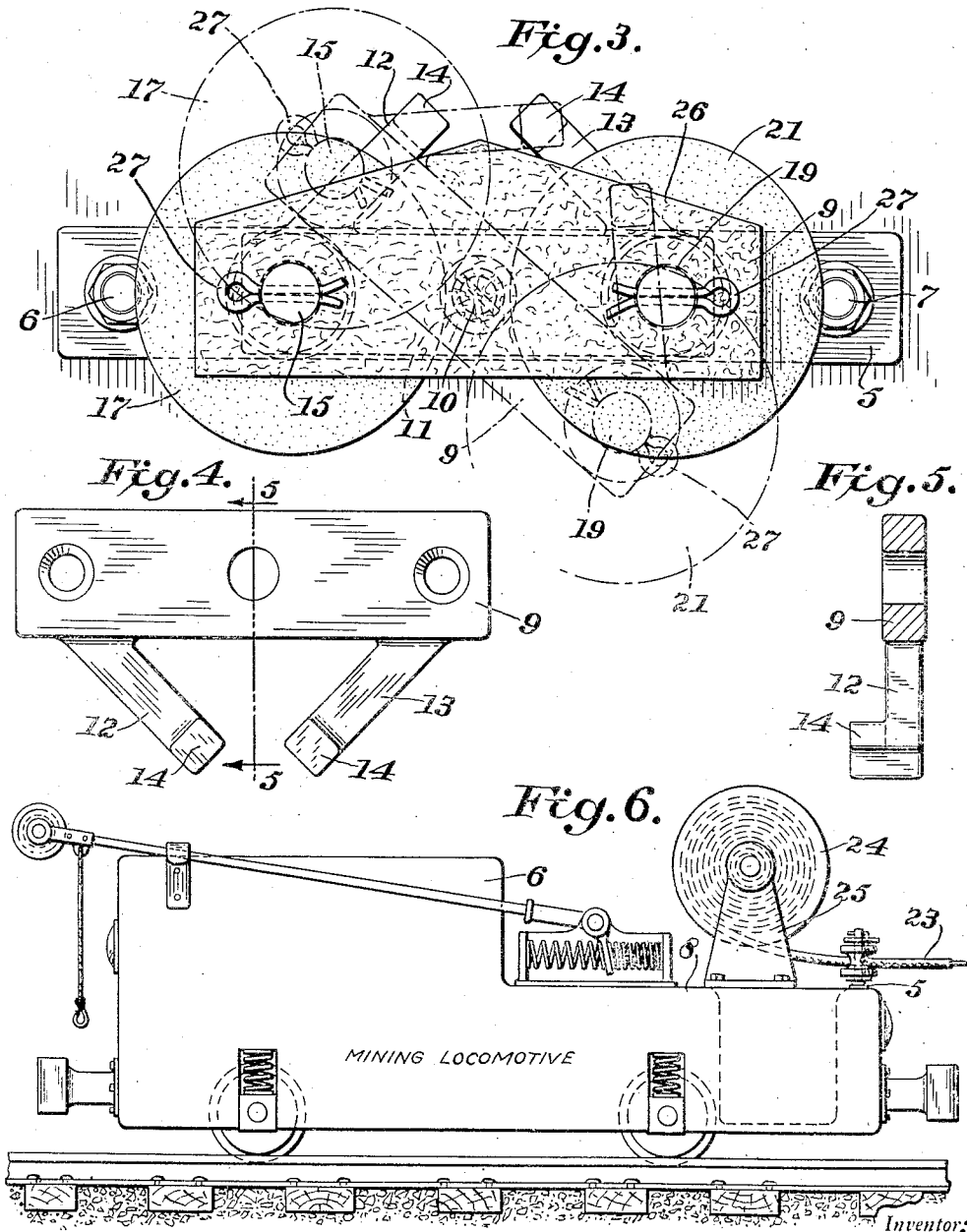
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# UNITED STATES PATENT OFFICE

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## INSULATED CABLE AND ROPE SPOOLING GUIDE

Howard Donahue, Allais, Ky.

Application June 18, 1945, Serial No. 600,208

1 Claim. (Cl. 254—190)

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This invention relates to a guide for use in spooling electrical cable and rope, and one of the objects of the invention is to provide a guide with a pair of cooperating grooved rollers constructed of wear resisting material, which is non-conducting, and a pair of upright spindles around which the rollers turn, the whole being so arranged that the cable or rope will be supported for free movement on the grooved rollers, and in the case of electrical cables, any exposed wires will not be short circuited in moving against the rollers.

Another object of the invention is the provision of a cable guide of this character, with an insulated spacer for connecting the upper ends of the stationary spindles or shafts to each other.

With the above and other objects in view, the invention consists in certain new and useful constructions, combinations, and arrangements of parts, clearly described in the specification and illustrated in the drawings, in which:

Fig. 1 is a side elevation, partly in section, of the improved cable and rope guide.

Fig. 2 is a bottom plan view thereof.

Fig. 3 is a top plan view, showing the guide in dotted lines in a turned position on its pivot.

Fig. 4 is a bottom plan view of the base.

Fig. 5 is a transverse sectional view, taken on line 5—5 of Fig. 4, looking in the direction of the arrows.

Fig. 6 is a side view of a mining locomotive, showing the improved cable guide mounted thereon in working relation to the cable reel thereof.

Referring to the accompanying drawings, which illustrate the practical application of my invention, 5 designates a stationary base bar, which is clamped by the bolts 6 and 7 to the frame of the mining locomotive 8, or to any other carrier or support.

On the stationary bar 5 a base member or bar 9 is pivotally connected by means of the screw 10, and the nut 11, which is threaded on the screw against the base bar 9, the screw 10 passing through a counter-sunk opening of the bar 5, which is located midway of the ends of the bar 5. The base bar 9 is provided with two diagonal arms 12 and 13, which are attached or integral with the bar 9, at points spaced endwise of the pivot screw 10, but which project toward each other. Each arm is provided with a lateral terminal stop 14, adapted to engage the side of

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the stationary bar 5, and thereby limit the swinging motion of the bar 9 thereon.

On one end of the bar 9 an upright spindle shaft 15 is secured by the screw 16, which is threaded through the bar 5 into the lower end of the spindle shaft 15. On this spindle shaft a collar 15a is fixed. A spool 17, having a deep groove 17a therein, and a central metal tube 18 in the bore thereof, is mounted on the spindle shaft 15.

On the other end of the pivoted bar 9 another upright spindle shaft 19 is attached by the screw 20. On this spindle shaft the grooved spool 21 is mounted, and in the center of this spool a metal tube 22 is arranged, which contacts directly with the spindle shaft 19.

The two spools 17 and 21 are mates, being of the same diameter and of the same height, and the grooves of both spools are located in the same horizontal plane, and together have a transverse or combined depth exceeding the diameter of the electrical cable 23, which is wound on the reel 24, mounted to turn in the brackets 25.

The two spools 17 and 21 are constructed of ceramic or vitreous material, so as to have high insulating qualities and to also have high resistance to wear.

To prevent the spools from being displaced upwardly from the spindle shafts, a fibre spaced plate 26 is mounted on the upper ends of the spindle shafts, and cotter pins 27 are extended through the upper shaft ends, to retain the plate 26 in place thereon.

The guide spools may be constructed of porcelain, or any suitable vitreous material, or of other insulating material.

As the cable is wound or unwound from its reel, the pivoted bar 9 will be swung back and forth, thus keeping the rollers in proper guiding relation to the section of the cable which is being wound or taken from the reel.

Should the electrical cable have some of its own insulation stripped or worn to expose the electrical wires thereof, no short circuit will be established between any of these exposed wires, when the exposed wires move in rolling contact with the grooved spools, for these spools have no conducting qualities.

It is understood that various changes in the details of construction, their combination and

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arrangement, and in the substitution of materials, may be resorted to, within the scope of the invention, as defined by the claim hereof.

Having described my invention I claim as new:

A safety roller guide for cables, comprising a stationary base member, a bar pivoted to the base member midway of its ends and provided with diagonal arms having lateral terminal stops to engage the base member, a shaft secured to each end of the bar, a ceramic spool provided with a central metal tube mounted on each shaft, a fibre plate mounted on the shafts, and cotter pins extending across said shafts to retain the fibre plate on said shafts and thereby prevent the upward displacement of the spools, said spools having deep cable receiving grooves.

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