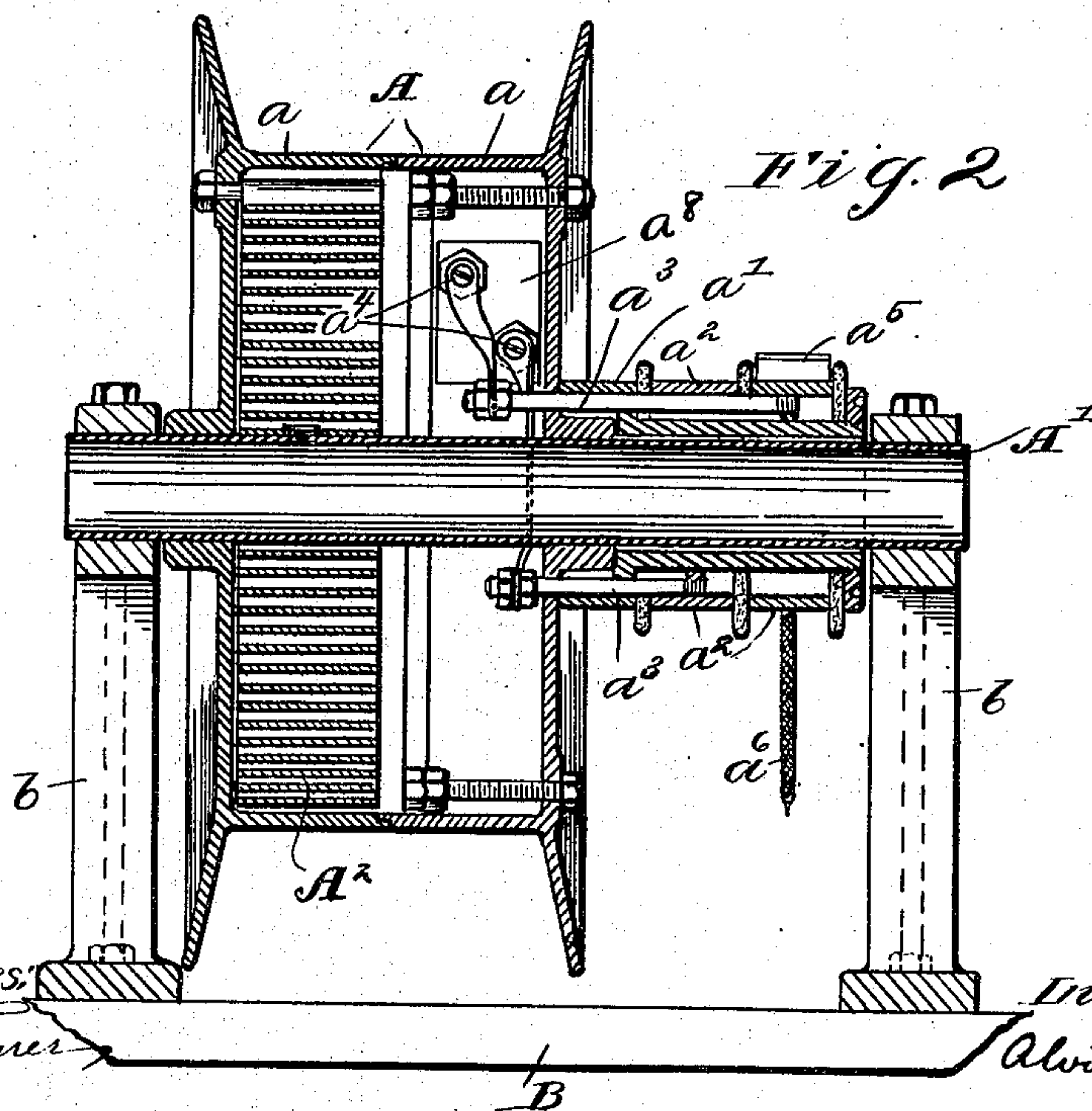
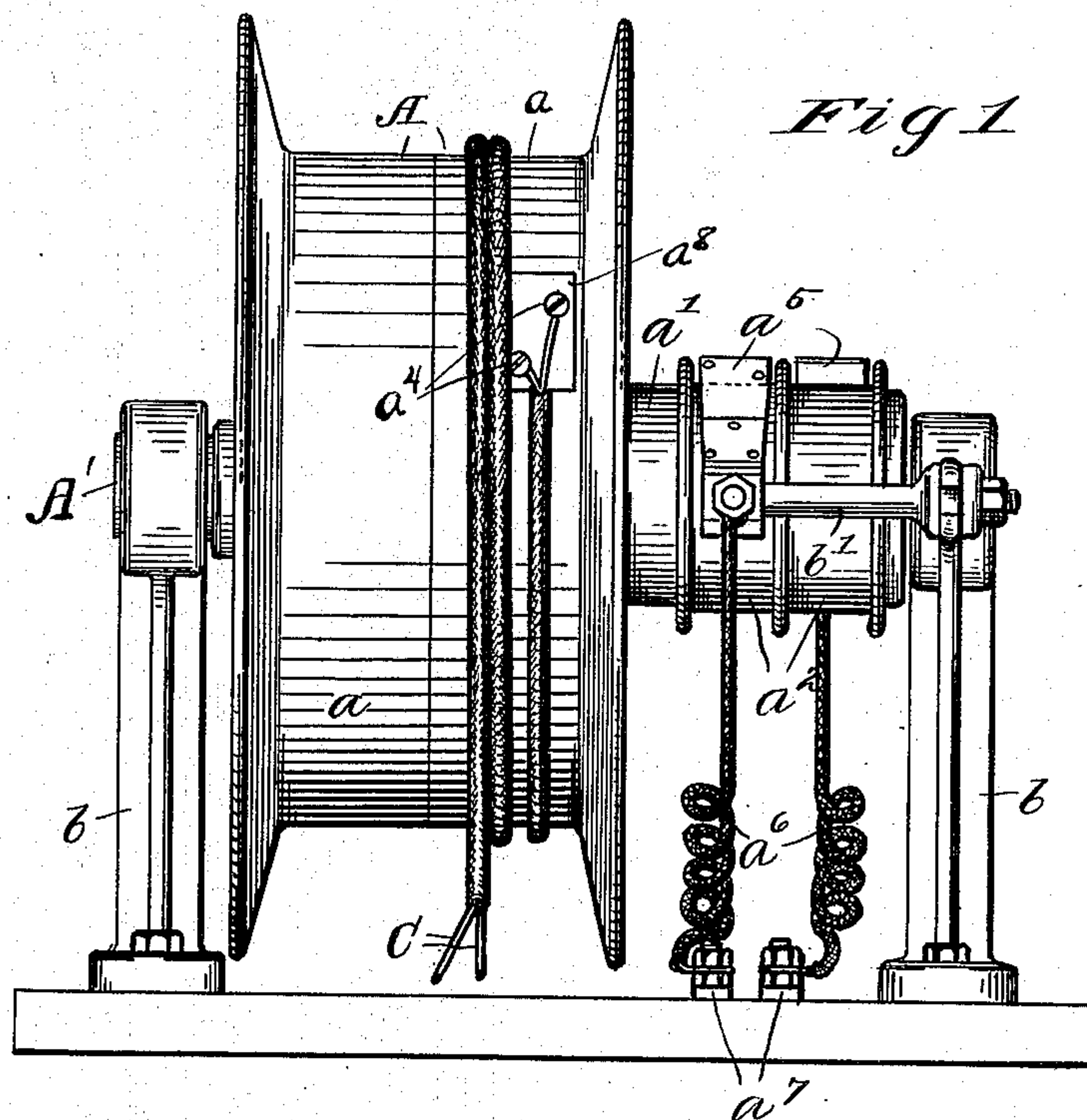


A. A. PIFER.
CABLE DRUM.

APPLICATION FILED MAR. 6, 1908.

899,613.

Patented Sept. 29, 1908.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALVIN A. PIFER, OF CLEVELAND, OHIO, ASSIGNOR TO CLEVELAND ARMATURE WORKS, OF CLEVELAND, OHIO, A PARTNERSHIP.

CABLE-DRUM.

No. 899,613.

Specification of Letters Patent.

Patented Sept. 29, 1908.

Application filed March 6, 1908. Serial No. 419,520.

To all whom it may concern:

Be it known that I, ALVIN A. PIFER, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Cable-Drums, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My present invention relates to winding drums for use in connection with movable electrically operated apparatus or machines, such drum being designed to reel up the cables forming the electrical conductors that carry the necessary current to such apparatus. Examples of the apparatus referred to are found in the electrically operated drills that are used in mines, and in the lifting magnets, or similar apparatus, largely employed about shops.

The object of the invention is the provision of a drum of the character just described that will automatically maintain the conductor cables taut and at the same time allow them to be paid out as the tool or machine with which they are connected is moved from one point to a point more removed. During all this, of course, electrical connection with the inner ends of conductors at the drum is maintained unbroken.

To the accomplishment of the above and related objects said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing: Figure 1 is a front elevation of a cable drum embodying my several improvements; and Fig. 2 is a central vertical longitudinal section through the same.

Support for the drum A which forms the prime element of the structure constituting my invention, is furnished by a horizontal shaft A', the ends of which are mounted in suitable brackets b upon a base B. The drum itself is, as usual, a hollow cylindrical structure and may be built up in any approved fashion, being composed as illus-

trated of two corresponding halves a, each forming one flanged end of the drum and the corresponding portion of the drum body. One such end is provided with a laterally extending hub portion a' upon which are mounted two rings a² of conducting material as copper, such rings being insulated from the hub and from each other. Parallel with the shaft upon which the drum is mounted are two conductors a³, the outer ends of which are respectively connected with the aforesaid rings, the inner ends of which extend into the hollow interior of the drum A and are there connected with suitable binding posts a⁴ projecting on the outer cylindrical surface of the drum, being mounted in a block a⁵ of insulating material inserted in the drum periphery. These posts afford means for attaching to the drum the inner ends of the two cables C which form, as has been described, the means for carrying current to the tool or machine, not shown, in connection with which the drum is designed to be used. The current for the conductors is supplied to the respective rings a² through oppositely disposed brushes a⁵ supported from holders or arms b' and bearing on such rings respectively. Suitable conductors a⁶ are connected with each holder and with binding posts a⁷ to which leads to the mains supplying the apparatus are in turn affixed. It will thus be seen that irrespective of whether the cables C wound upon the drum are extended their full length or are almost entirely wound upon the drum, they will at all times have electrical connection with the source of current. Normally such cables are designed to be retained wound up upon the drum by means of a coil-spring A² secured at its inner end about the shaft A' within such drum, the outer end of such spring being attached to the drum itself. As the cables are unwound the spring is coiled up more and more tightly so that upon the cables being slackened, the latter are again wound up owing to the tendency of the spring to rotate the drum until it is returned to its normal position.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In a device of the character described, the combination of a fixed shaft; a drum 5 mounted thereon and provided with a laterally extending hub; two insulated rings of conducting material mounted upon the hub of said drum; two brushes connected with a source of current and respectively bearing 10 upon said two rings; a coil spring within said drum, said spring being attached to the same and to said shaft so as to tend to rotate the former and retain it in normal position about the latter; two conductors wound upon said 15 drum and adapted to form part of an electric circuit; and conductors, parallel with said shaft, connected with said rings respectively and extending within said drum, the inner ends of said conductors being connected with 20 said conductors, respectively.

2. In a device of the character described, the combination of a fixed shaft; a drum mounted thereon and provided with a laterally extending hub; two insulated rings of

conducting material mounted upon the hub 25 of said drum; two brushes connected with a source of current and respectively bearing on said two rings; a coil-spring within said drum, said spring being attached to the same 30 and to said shaft so as to tend to rotate the former and retain it in normal position about the latter; two conductors wound upon said drum and adapted to form part of an electric circuit; an insulated block inserted in the pe- 35 riphery of said drum; binding posts in said block for the inner ends of said conductors; and other conductors, parallel with said shaft, connected with said rings, respec- 40 tively, and extending within said drum, the inner ends of said last named conductors being connected with said binding posts, respectively.

Signed by me this 2nd day of March, 1908.

ALVIN A. PIFER.

Attested by—

MARY ISRAEL,
JNO. F. OBERLIN.