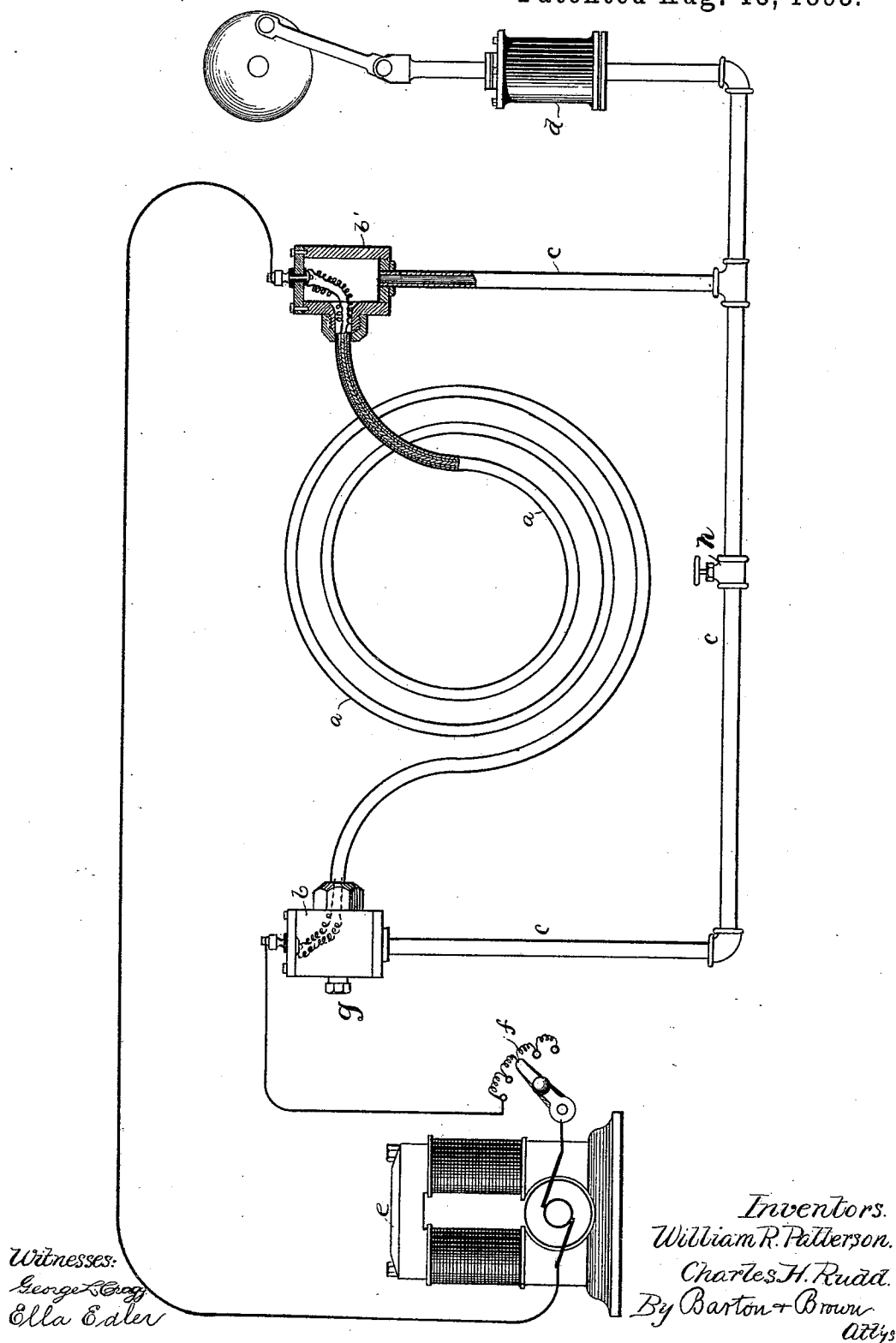


(No Model.)

W. R. PATTERSON & C. H. RUDD.
ART OF DRYING ELECTRIC CABLES.

No. 544,373.

Patented Aug. 13, 1895.



UNITED STATES PATENT OFFICE.

WILLIAM R. PATTERSON, OF CHICAGO, AND CHARLES H. RUDD, OF EVANSTON, ASSIGNORS TO THE WESTERN ELECTRIC COMPANY, OF CHICAGO, ILLINOIS.

ART OF DRYING ELECTRIC CABLES.

SPECIFICATION forming part of Letters Patent No. 544,373, dated August 13, 1895.

Application filed September 30, 1891. Serial No. 407,229. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM R. PATTERSON, residing at Chicago, and CHARLES H. RUDD, residing at Evanston, in the county of Cook and State of Illinois, citizens of the United States, have invented a certain new and useful Improvement in the Art of Drying Electrical Cables, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

Our invention relates to drying the cores of electric cables, more particularly that class of electric cables in which conductors are insulated by a covering of fibrous material, especially when inclosed in a protecting pipe or tube. Its object is to effect a more complete desiccation of the insulating material with greater facility and in less time than has heretofore been possible.

Our invention consists in sending through the conductors of the core, after it has been drawn into its protecting-pipe, an electric current of such volume as to heat the core sufficiently to expel the moisture from the insulating material, and in removing the vapor thus formed either by maintaining a vacuum in the pipe or by forcing a current of dry gas through the pipe.

Heretofore it has been usual to expose the core to a high temperature in an oven for a considerable time. This process necessitates several handlings of the core and the maintenance of an oven, and its effect is to dry the layers which lie nearest the surface of the core most thoroughly, since the heat must travel from without toward the center of the core.

In our invention the result is attained with much less trouble and expense and the work is done more efficiently, since the heat is produced at exactly the point at which it is desired, and its production in any particular portion of the core may be regulated to any amount.

Our invention is particularly useful in drying the cores of cables which have been placed, as when drawn into ducts or conduits.

The core may be thoroughly dried without removing the cable from the duct.

The apparatus for carrying out our invention is illustrated in the accompanying drawing.

a of the drawing is a coil of cable. Each end of the pipe containing the core is connected to a small chamber *b*, which is shown in section at *b'*. These chambers are connected to the suction-pipe *c* of a vacuum-pump *d*. Insulated conductors extend through the walls of both chambers and are connected inside the chambers to the ends of the conductors of the cable. These conductors are connected to the two poles of a dynamo *e*. The circuit from chamber *b* extends through a variable resistance *f*, whereby the amount of current traversing the conductors of the cable may be varied.

When it is desired to remove the vapor formed without maintaining a vacuum in pipe *a*, a compression-pump may be employed at *d* to force a current of dry air or other gas through the pipe *a*, and an opening *g* may be provided in one chamber, as *b*, to allow the escape of the air or gas, the valve *h* being closed.

When drying a cable having more than one conductor we find it preferable to send a current through all the conductors of the cable grouped in parallel, since the least strain is then produced upon insulation between neighboring conductors; but we do not choose to confine ourselves to any particular manner of grouping the conductors.

We do not desire to limit ourselves to the employment of this method of drying cores after they have been drawn into their protecting-pipes. We have sometimes inclosed the core in a chamber, simultaneously sending a current through the core and maintaining a vacuum or a flow of gas in the chamber.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The herein described method of removing moisture from the cores of cables, which consists in placing a core in a sheath or cham-

ber passing through the conductors of the
core a current of electricity of a quantity
sufficient to heat said conductors to a temper-
ature which will vaporize the moisture con-
tained in the core without carbonizing the
insulation, and simultaneously maintaining
a vacuum in the sheath or chamber surround-
ing the core.

In witness whereof we hereunto subscribe
our names this 8th day of August, A. D. 1891.

WILLIAM R. PATTERSON.
CHARLES H. RUDD.

Witnesses:

FRANK R. MCBERTY,
GEORGE L. CRAGG.