

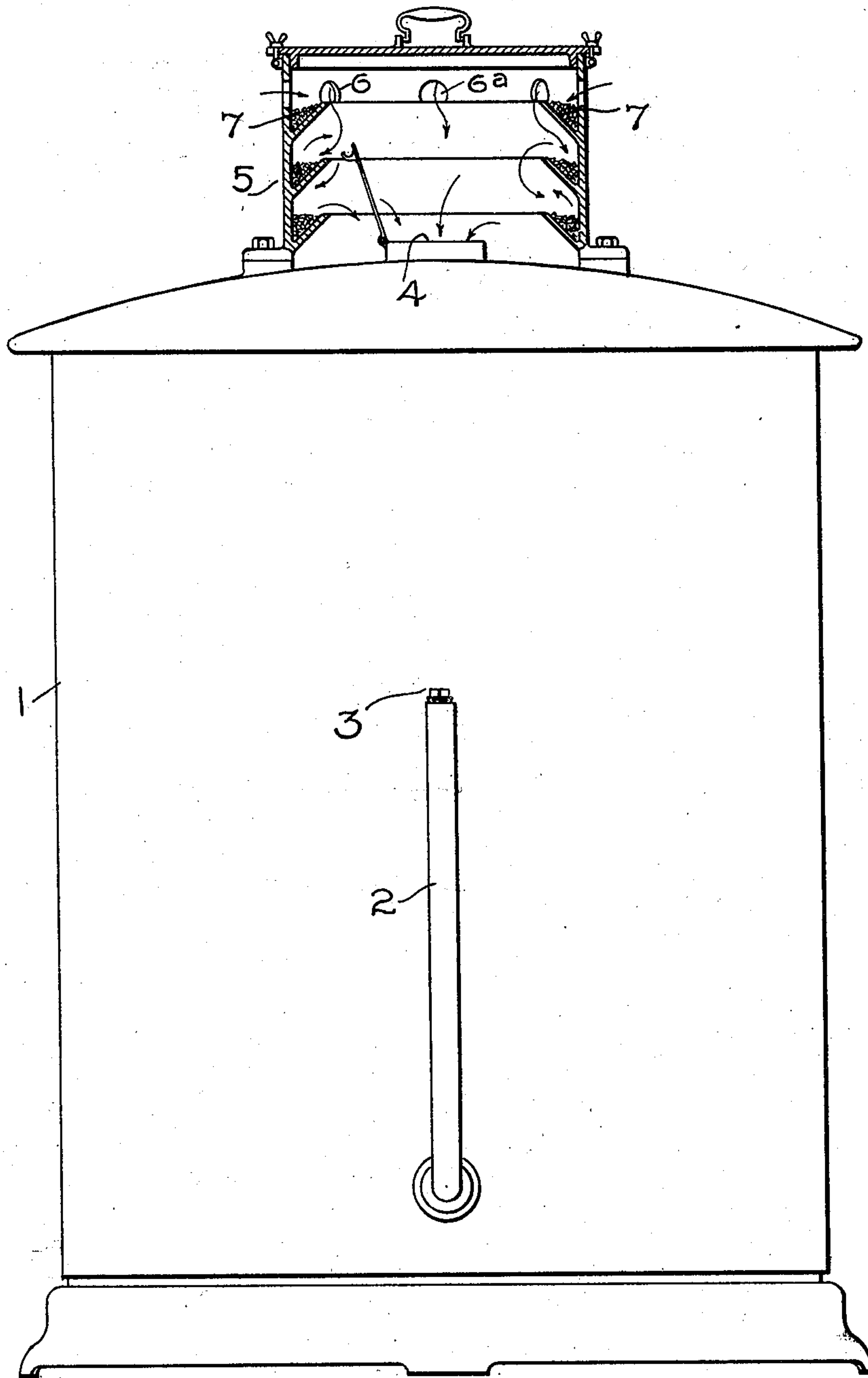
No. 691,793.

Patented Jan. 28, 1902.

W. S. MOODY.
INSULATION.

(Application filed July 28, 1899.)

(No Model.)



Witnesses.
Edward Williams, Jr.
A. F. Macdonald.

Inventor.
Walter S. Moody.
by *Albert G. Davis*
Atty.

UNITED STATES PATENT OFFICE.

WALTER S. MOODY, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE
GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

INSULATION.

SPECIFICATION forming part of Letters Patent No. 691,793, dated January 28, 1902.

Application filed July 28, 1899. Serial No. 725,364. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. MOODY, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Electrical Apparatus, (Case No. 1,145,) of which the following is a specification.

My present invention relates to improved means for insulating the various parts of electrical apparatus or devices. It is a common practice where high insulating power is desired in various types of electrical apparatus to employ a body of oil to separate the current-carrying electric conductors or any electrically-charged part of the apparatus from the bodies which support it. I have discovered that the insulating properties of such oils are greatly increased if robbed of the small amount of water they contain. The aqueous matter may be extracted by filtering the oil through chlorid of calcium or some other strongly-deliquescent salt or substance which has a strong affinity for water which will not be taken into solution by the oil or which, if taken into solution in any percentage, will not affect its insulating properties. I may employ such dry oil for electric insulation wherever high insulating power may be desired, and I prefer where the application is made to carefully exclude moisture or moist air from the oil, which would gradually reduce it to the condition before the moisture was extracted and lower its insulating properties. In all cases therefore where free or limited access of air is essential to the operation of the apparatus I provide means for drying the air before it comes in contact with the oil by causing it to first flow over or through some suitable substance, such as chlorid of calcium, which has a strong affinity for water.

In the accompanying drawing, which illustrates an application of this character, I have shown a transformer in which the electric and magnetic parts are housed within a casing provided at all openings to the atmosphere with chambers or ducts, which, while permitting air to be forced out from the transformer when heated after being put into operation, insures that the reëntering air shall be de-

nuded of moisture before reaching the oil within the inclosure.

1 represents the transformer-casing, which may be of usual or any approved construction adapted to house the transformer and form a receptacle for the oil insulation. The filling-tube 2, employed for conveniently introducing the oil, is provided with a screw-cap 3 for sealing the opening. An opening in the top of the transformer, as indicated at 4, may be provided to permit free expansion of the air within the casing when the transformer heats, the casing being sealed air-tight at all joints. Over this opening I provide a cap 5, closed except for definitely-located vents 6 6^a, &c., which are placed in such relation to shelves containing the drier, such as indicated at 7, that the air will be forced to traverse a bed of this material before gaining access to the interior of the transformer-casing.

While I have exemplified the application of my invention to a transformer, it will of course be understood that it is applicable in any case in which oil insulation of high power is desirable.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An electric translating device housed within a casing and insulated by oil freed from watery impurities, in combination with a drying material in juxtaposition to its openings to the atmosphere to prevent entrance of moisture.

2. In an electric transformer, the combination with a casing for a fluid, of means for allowing the entrance of air through a drying material.

3. An electric translating apparatus, a body of oil in which said apparatus is immersed, a casing for the oil and apparatus, said casing being provided with vents to permit free expansion when the apparatus becomes heated, and a dehydrating agent in the vents to prevent the entrance of moist air into the casing.

In witness whereof I have hereunto set my hand this 26th day of July, 1899.

WALTER S. MOODY.

Witnesses:

BENJAMIN B. HULL,
MABEL E. JACOBSON.