

No. 705,112.

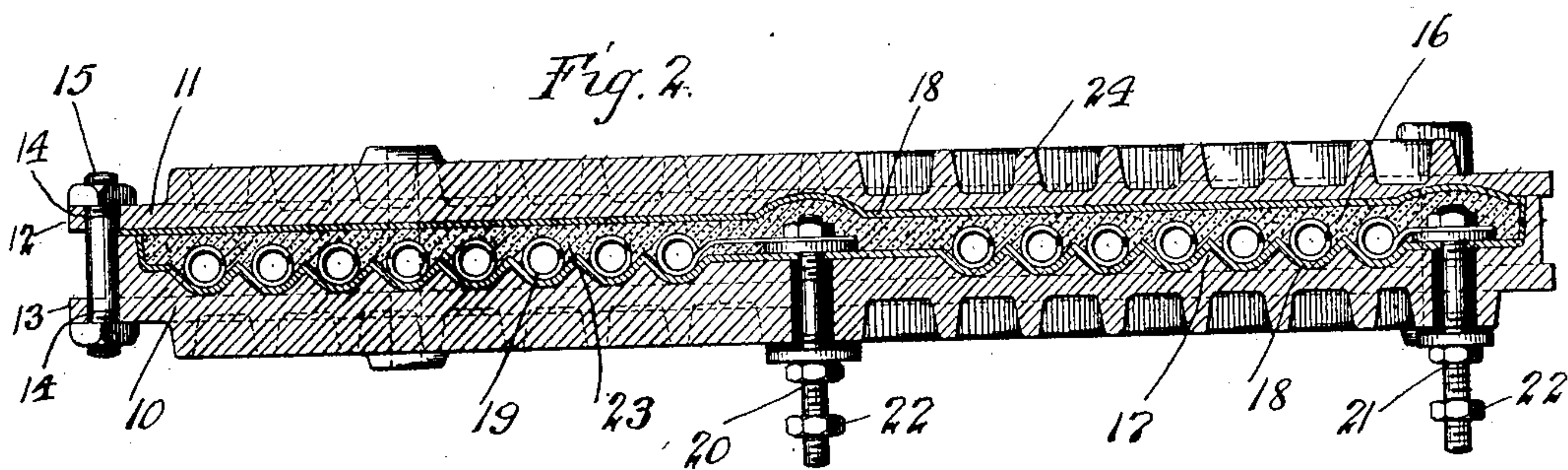
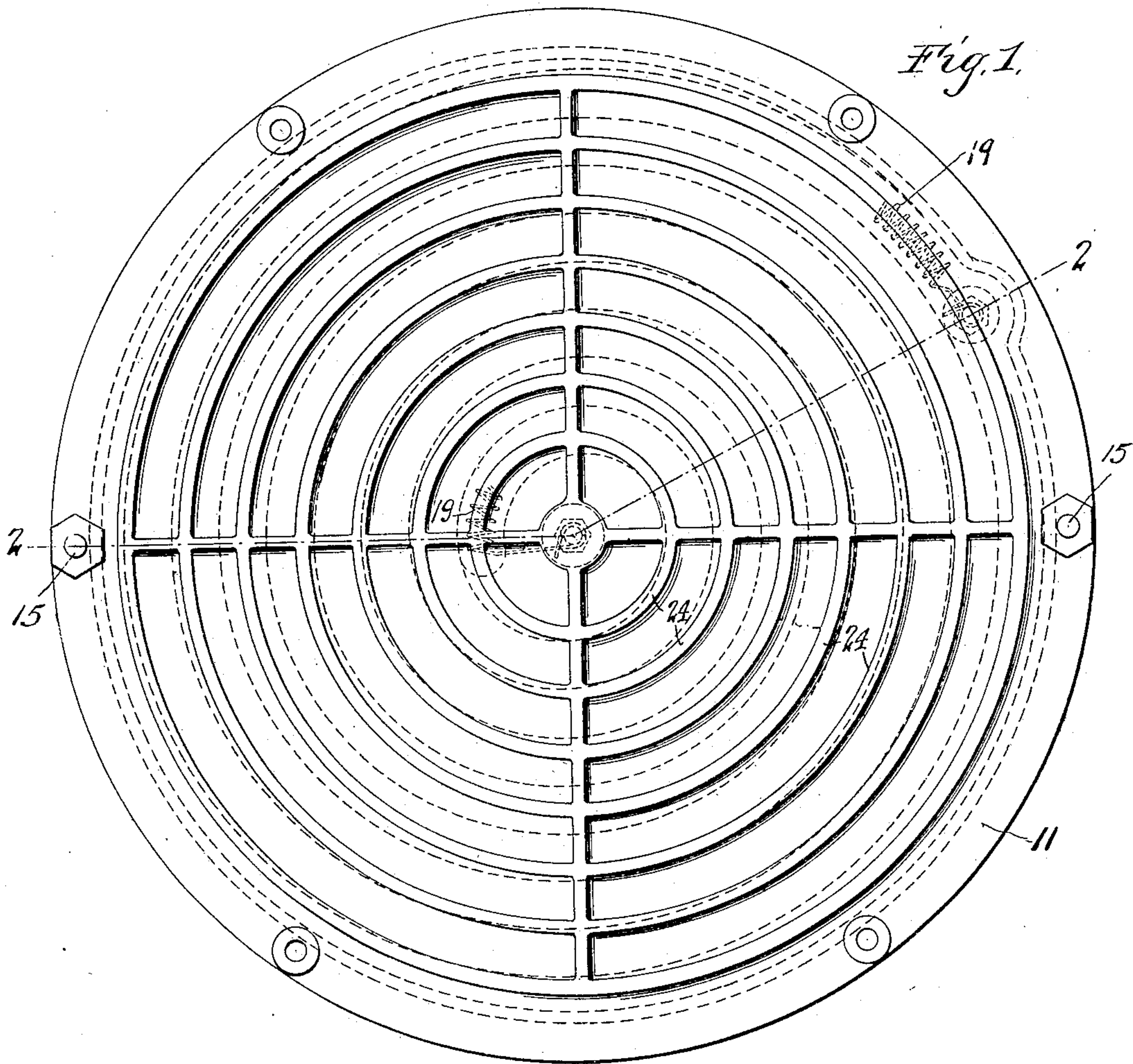
Patented July 22, 1902.

J. A. MOSHER.

RHEOSTAT.

(Application filed Aug. 18, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

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RHEOSTAT.

SPECIFICATION forming part of Letters Patent No. 705,112, dated July 22, 1902.

Application filed August 16, 1901. Serial No. 72,300. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. MOSHER, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Rheostats, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

10 This invention relates to improvements in rheostats, and has for its object to provide a device of the kind which will be simple in construction and inexpensive to manufacture; and it consists in certain novel features of construction to be hereinafter fully described, and particularly pointed out in the appended claims.

The invention is illustrated in the accompanying drawings, in which—

20 Figure 1 is a plan of the rheostat, the wiring being shown in dotted lines; and Fig. 2 is a section on the line 2 2 of Fig. 1.

25 The casing of the rheostat consists of two members or plates 10 11, preferably circular in form and provided with peripheral flanges 12 13, having apertures 14, through which suitable bolts 15 are passed for securing the two plates together. One of the plates, as 10, is provided with a depression or pocket 16, which when the plate 11 is secured in position forms a chamber wherein is located the rheostat-coil, as will be hereinafter explained, and the bottom of the depression 16 has a spiral groove 17, beginning near the axis of the plate 10 and terminating near the wall of the depression.

35 The inner face of the plate 11 and the walls of the depression 16, including the spiral groove 17, are coated with porcelain or other desirable insulating material, as at 18, so as to insulate the rheostat-coil 19, seated in the groove 17, from both plates.

45 The inner end of the spirally-wound resistance-wire is connected to a binding-post 20, passing through the center of the plate 10, and the outer end is led to a similar binding-post 21, located at the termination of the spiral groove 17 near the wall of the depression 16.

The apertures through which the binding-posts 20 21 pass are provided with a coating of suitable material for insulating the same from the plate 10 and are also provided with binding-nuts 22 for clamping the conducting wires (not shown) to the rheostat.

55 The chamber provided by the depression 16 between the two plates 10 11 is filled with cement, as at 23, or any other suitable non-conducting refractory material which covers and submerges the resistance-coil, thereby reducing to a minimum absorption of heat by the casing-plates 10 11. Such heat as may be absorbed by the said plates will be readily radiated by the concentric flanges or ribs 24, with which each is provided on its outer face.

65 In assembling the parts, the plates having been given the coating of porcelain, the resistance-coil is placed in the spiral groove in the bottom of the depression in the plate 10 and the ends thereof connected to the binding-posts 20 21. The depression is then filled with cement, embedding the coil 19, and finally the top plate 11 is clamped to the base-plate 10 by the bolts 15.

75 The device has the advantages over those heretofore in use of simplicity of construction, compactness of form, high efficiency relatively as to its size, and perfect reliability.

80 While I have shown the resistance-coil as being spirally wound and prefer that form, I do not limit myself to it; neither do I regard the lining of the plate 11 with porcelain as essential.

85 The device, as shown in the drawings, may be used separately as a complete rheostat, or it may serve as one of a plurality of similar elements.

I claim as my invention—

90 1. In a rheostat, in combination, a plate having one face spirally grooved, a refractory lining for the groove, an electric conductor seated in the groove, a binding-post to which each end of the conductor is connected, a filling of non-conducting refractory material covering and submerging the conductor, and a covering-plate secured to the first-named plate.

2. In a rheostat, in combination, a plate having one face spirally grooved, a refractory lining for the groove, a spirally-wound electric conductor seated in the groove, a binding-post to which each end of the conductor is connected, a filling of non-conducting refractory material covering and submerging the conductor, and a covering-plate secured to the first-named plate.

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