

(No Model.)

A. E. DOLBEAR.

ELECTRIC CABLE.

No. 373,394.

Patented Nov. 15, 1887.

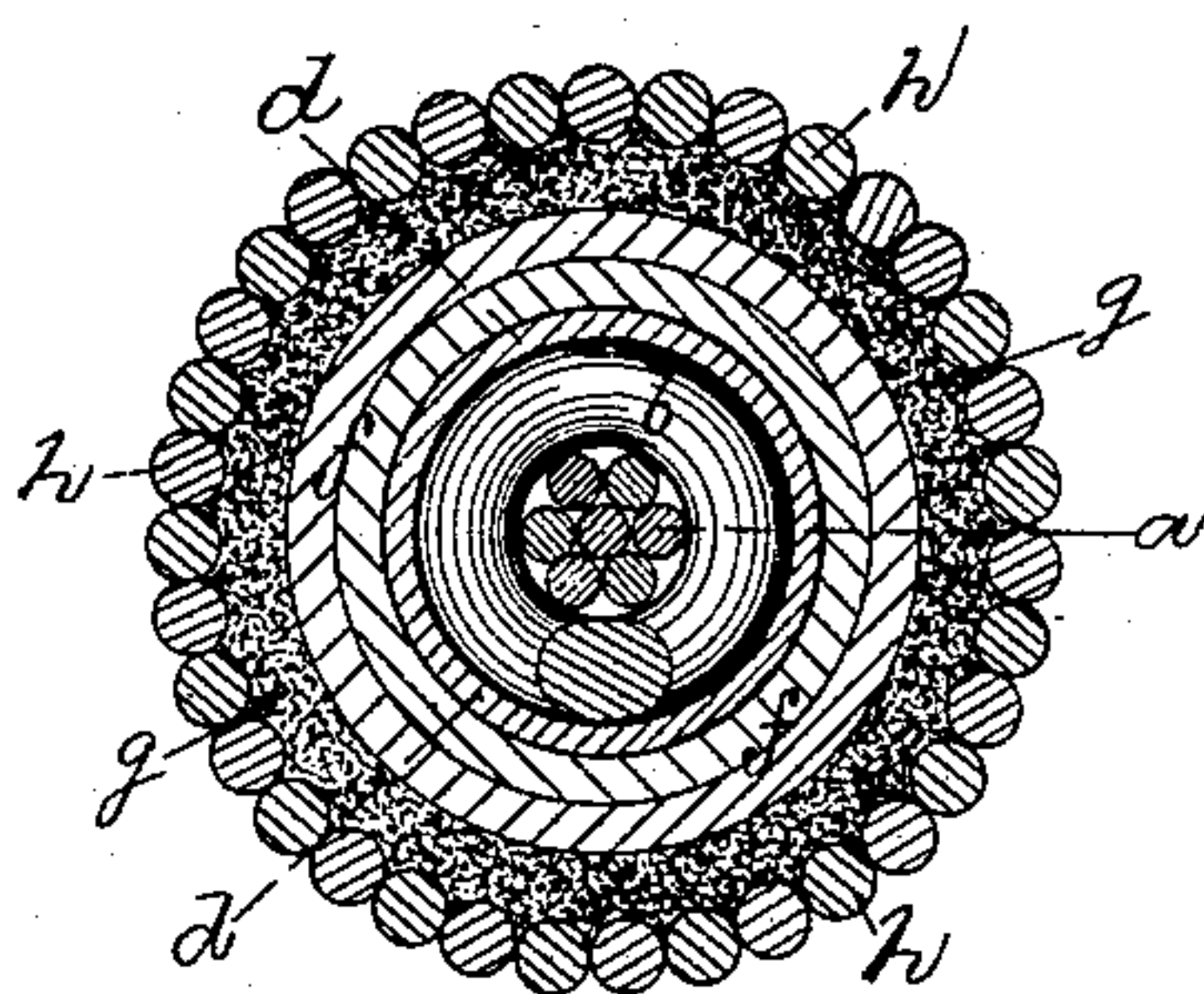


Fig. 1.

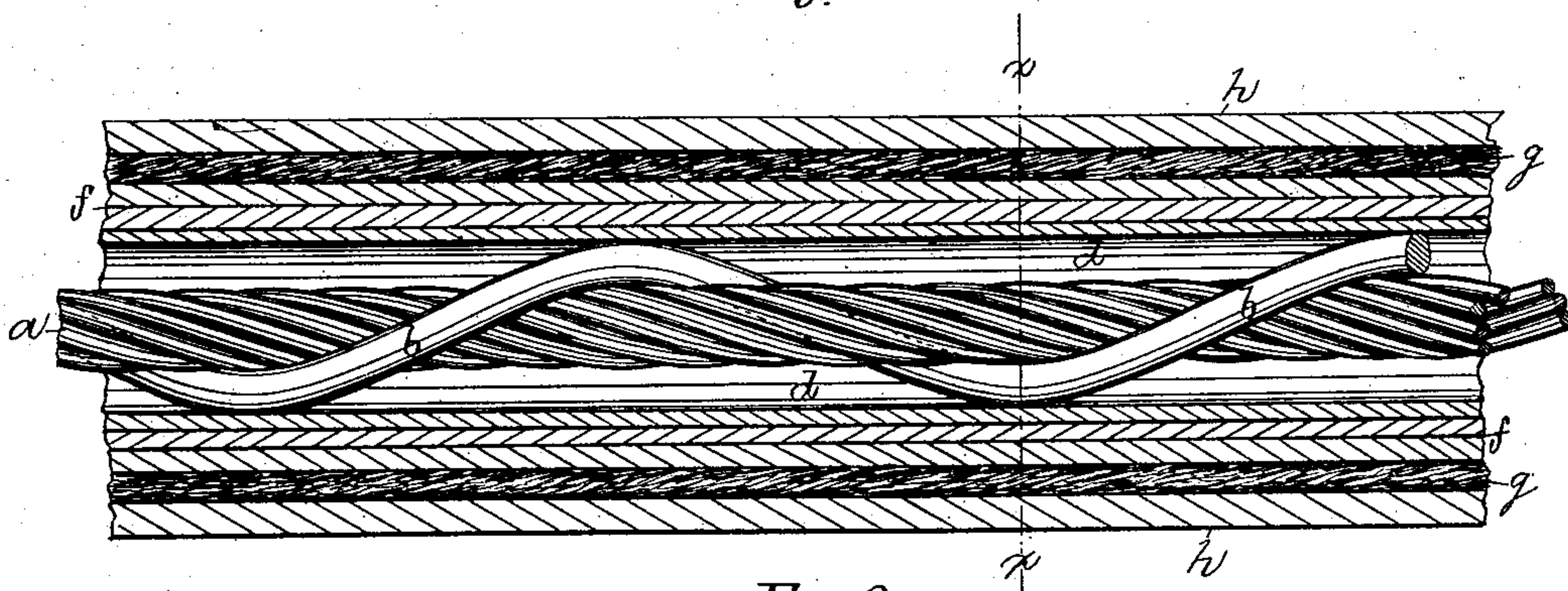


Fig. 2.

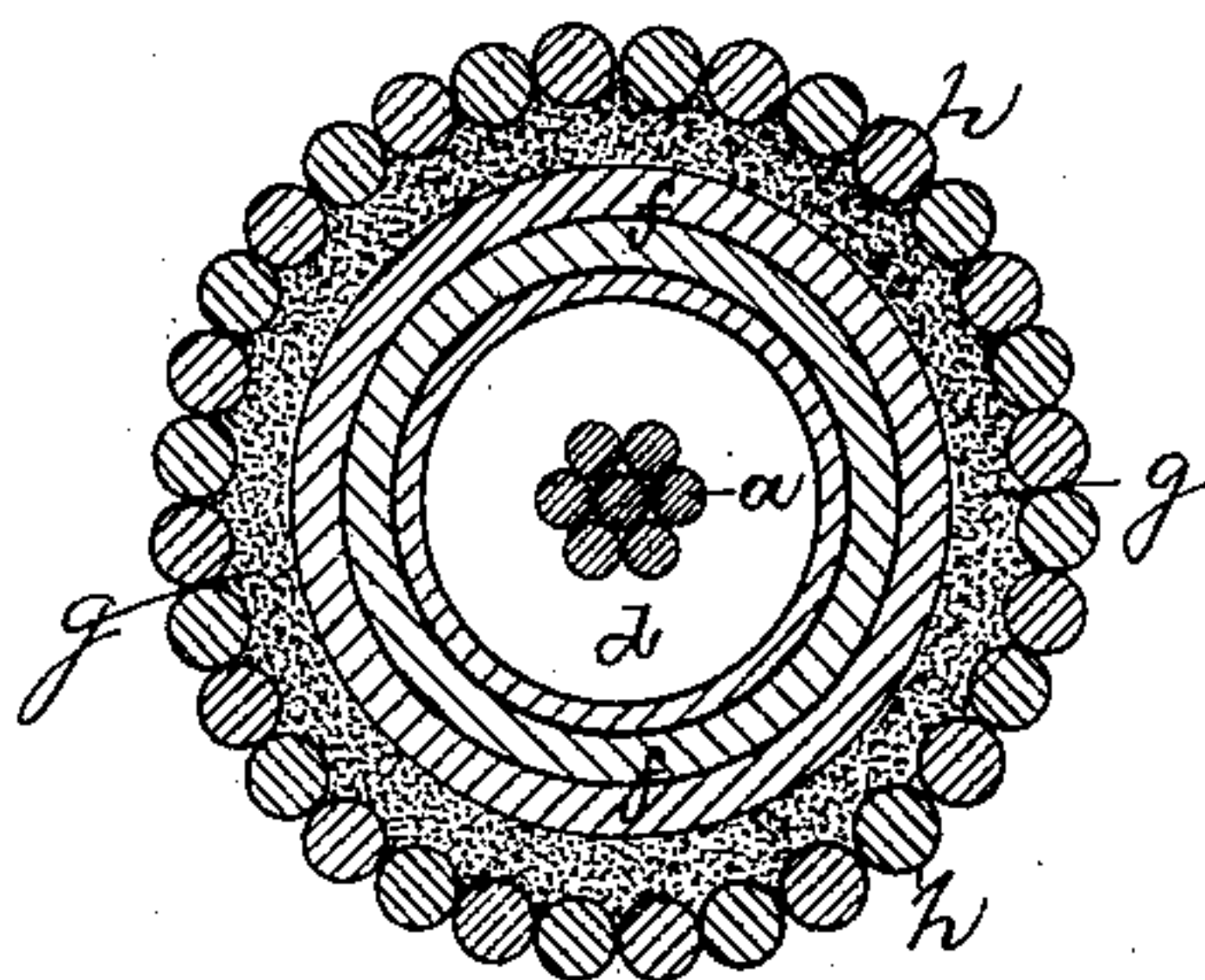


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

AMOS EMERSON DOLBEAR, OF SOMERVILLE, ASSIGNOR OF ONE-HALF TO
FRANCIS M. HOLMES, OF BOSTON, MASSACHUSETTS.

ELECTRIC CABLE.

SPECIFICATION forming part of Letters Patent No. 373,394, dated November 15, 1887.

Application filed July 19, 1882. Serial No. 67,146. (No model.) Patented in England March 21, 1882, No. 1,368,1

To all whom it may concern:

Be it known that I, AMOS EMERSON DOLBEAR, of Somerville, in the county of Middlesex and State of Massachusetts, have invented
5 an Improvement in Electric Cables, (for which I have obtained a Patent in Great Britain, No. 1,368, bearing date March 21, 1882,) of which the following is a specification, reference being had to the accompanying drawings, in
10 which—

Figure 1 is a cross section of my cable on line $x x$ of Fig. 2, which is a central longitudinal section of the same. Fig. 3 is a diagram for illustration.

15 My invention is an electric cable which is made up of a flexible armored sheath and a conductor so secured within it that there is an air-space between the outer surface of the conductor and the inner surface of the sheath.

20 The compound sheath which forms part of my cable is made up of an inner tube of flexible material, a cushion incasing the tube, and an armor incasing the cushion, and the best way now known to me of making this compound tube is that shown in the drawings, where the inner tube is marked d , and is made up
25 of paper rendered water-proof in various ways too well known to require description. This tube d is incased in gutta-percha, f , and the tube formed by the gutta-percha covering is wound with tarred twine g , and the whole is incased in the armor h , consisting of a number of wires, which are secured in place in
30 various ways well known to all skilled in the art. The tube d , from which the sheath is built up, is usually composed of several thicknesses of paper cemented together by rubber cement, whereby the tube is rendered sufficiently tough and flexible to readily conform
35 to bends in the cable. The internal diameter of the tube d depends in every case upon the diameter of the conductor a , which it is de-

signed to contain, and is always enough greater than the external diameter of the conductor a to afford an air-space between the outer surface of the conductor and the inner surface of tube d . This air space is essential to my invention, the object of which is to produce a flexible armored cable with its conductor lying in but not filling its hollow core.

While the best form of cable would be that shown in Fig. 3, where there is no contact at all between the conductor and its sheath, it is practically impossible to construct cables in this way, and I consequently separate my conductor a for the inner surface of tube d by means of the spiral cord b , which is a very excellent bearing for the conductor, although it is not the only one which can be used in practice, as will be plain without further description.

I am aware of United States Patents No. 242,658, to Lamb, No. 249,008, to Coddington, No. 253,029, to French, and English Letters Patent No. 2,326 of 1858, and No. 3,099 of 1876, and
65 disclaim all that is shown in them, my cable differing radically from the things shown in these patents in that it is a flexible armored cable with a hollow core in which is a conductor which does not fill the core, space being
70 left between the outer surface of the conductor and the inner surface of the core.

What I claim is—

The improved electric cable herein described, made up of a sheath which is both
75 armored and flexible, and a conductor between whose outer surface and the inner surface of the sheath is a space, substantially as and for the purpose set forth.

AMOS EMERSON DOLBEAR.

Witnesses:

G. B. MAYNADIER,
J. R. SNOW.