

J. M. CONNEL.
Telegraph Cable.

No. 23,351.

Patented March 29, 1859.

Fig: 1.

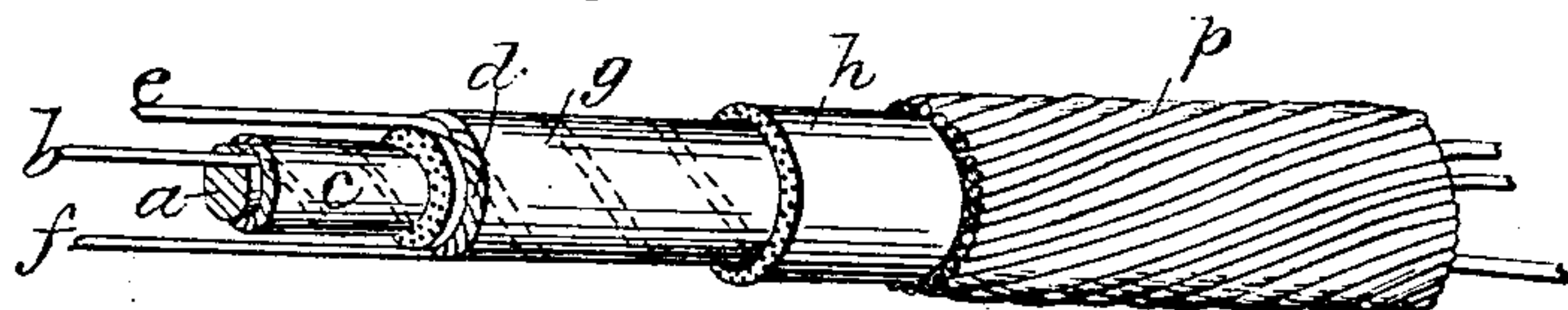
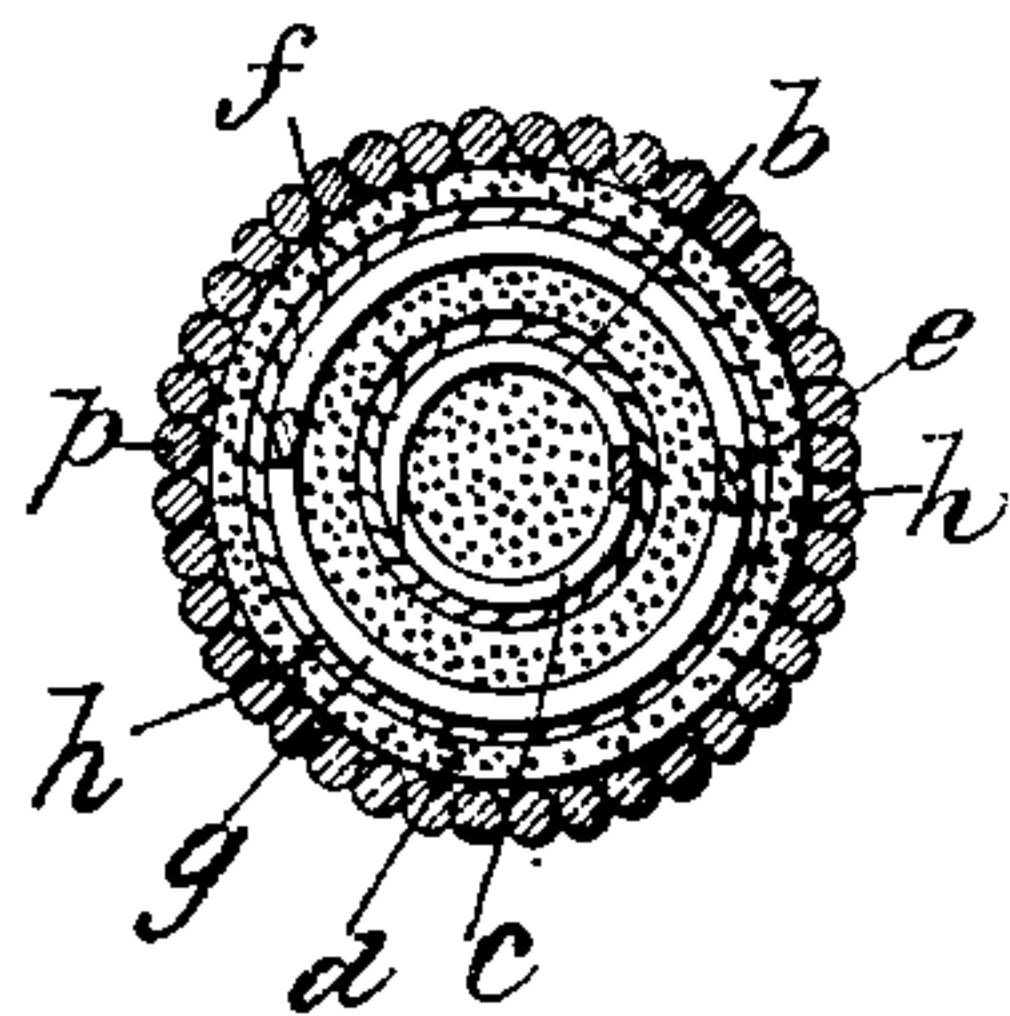


Fig: 2.



Witnesses
Geo Patten

Jas H. Clarys

Inventor.

J. M. Connel

UNITED STATES PATENT OFFICE.

JAMES M. CONNEL, OF NEWARK, OHIO.

IMPROVED SUBMARINE-TELEGRAPH CABLE.

Specification forming part of Letters Patent No. **23,351**, dated March 29, 1859.

To all whom it may concern:

Be it known that I, JAMES M. CONNEL, of Newark, in the county of Licking and State of Ohio, have invented a new and useful Improvement in Submarine-Telegraph Cables; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, forming part of this specification, in the several figures of which similar characters of reference denote the same part.

Figure 1 shows the manner of making up the cable. Fig. 2 is a cross-section drawn on enlarged scale.

This invention consists in a peculiar construction for the employment of several conducting-wires in one cable, the details of construction being as follows:

In the drawings, *a* is the central core of gutta-percha or other flexible material. Around this core the conducting-wire *b* is wound spirally. Upon this is placed a covering, *c*, of oiled silk or other suitable material which will prevent the wire *b* from becoming embedded in the insulating-covering *d* with which it is wrapped.

Upon the insulating-covering *d* are wound

other conducting-wires, *e* and *f*, also spirally; and these last have, in their turn, an oiled-silk casing, *g*, above which is an insulating-covering, *h*. Upon this last covering other wires may be wound, if desired, or the ordinary wire protection, *p*, may be wound thereon.

By this construction the conducting-wire will not be liable to rupture from any cause, and will not become firmly embedded in the core and insulating-covering, thus permitting sufficient freedom of motion between the several parts of the cable to prevent the rupture of any of the conducting-wires.

I claim—

The introduction of the smooth-surfaced wrapping between the coil and the insulating-covering, and the employment of this last covering as a core for other wires, substantially as described.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

J. M. CONNEL.

Witnesses:

GEO. PATTEN,

JOHN S. HOLLINGSHEAD.