

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRADLEY A. WARNER and ANDREW S. DODD

Appeal No. 94-2964
Application 08/122,167¹

ON BRIEF

Before CALVERT, ABRAMS and STAAB, Administrative Patent Judges.
CALVERT, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 to 4, all the claims in the application.

The subject matter in issue concerns a cable carrying optical fibers which, although it is made of dielectric material,

¹ Application for patent filed September 17, 1993. According to applicants, this application is a continuation of Application 07/953,366 filed September 30, 1992.

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dielectric because, according to the patent (col. 1, lines 38-42):

An all-dielectric optical transmission cable is desirable since it can be utilized in aerial applications in proximity to existing high voltage lines without the induced voltage problem which would be presented if the cable utilized a messenger with a metallic wire.

Moreover, as disclosed at col. 2, lines 56-66:

As will be apparent, the optical transmission cable construction beneath web 24 is conventional. However, the construction of the support messenger thereabove is believed to be novel and to provide for an all-dielectric figure-eight optical transmission cable which has not heretofore been possible. An all-dielectric optical transmission cable is attractive to, among others, electrical power companies since it can be strung-up in conjunction with existing line structures without induced voltage problems inherent in a cable with a metallic messenger wire.

The Rippingale article concerns the location of buried fiber optic cables. It discloses that such cables may be located, while still maintaining them nonconductive and thereby safe from lightning, by, inter alia, mixing powdered ferrite into the plastic of the conduit.

In the final rejection, the examiner takes the position that in view of Rippingale it would have been obvious to one of ordinary skill in the art to "combine the magnetically detectable

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dielectric conduit of Rippingale's device with the cable of Keith."³ Appellants argue in their brief (page 2) that:

Rippingale's magnetic locatable material is not disclosed to be useful for the aerial load-bearing function of Keith, and the magnetic field which is the stated function of the Rippingale material could cause interference with the electric transmission lines of the Keith environment.

Conversely, the aerial load-bearing function of the Keith's rod is not needed in the buried cable environment of Rippingale.

In response, the examiner states that Keith's and Rippingale's devices are in the same environment, and that (answer, page 5):

Furthermore, appellant's [sic] fails to realize that the Rippingale reference uses the dielectric material in the conduit which produces a detectable magnetic field. Therefore, it does not matter whether Rippingale's reference is a buried cable or an aerial cable.

Opinion

It is well settled that:

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so.

³ Since claim 1 calls for the magnetically detectable dielectric material to be "contained within the first tube," presumably the examiner means it would have been obvious to utilize such material as Keith's messenger 22.

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ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984) (original emphasis; footnotes omitted). Applying this criterion to the present case, the question becomes: What incentive or suggestion would one of ordinary skill in the art have found in the Keith and/or Rippingale references to utilize the ferrite disclosed by Rippingale in the plastic messenger rod 22 of Keith? Considering these two references as a whole, we find none. Contrary to the examiner's statement, the cables disclosed by Keith and Rippingale are not utilized in the same environment, but rather the Keith cable is disclosed for use in aerial applications, whereas Rippingale is concerned with cables buried underground. Why then, would one take a feature disclosed by Rippingale as being useful for locating a cable which is under the ground and incorporate it in the aerial cable of Keith? Not only would such a feature serve no purpose in the Keith cable, it also might cause undesirable results, as noted in appellants' brief (quoted supra). We can perceive no reason to combine the references in the manner proposed by the examiner.

Accordingly, we find that a prima facie case of obviousness has not been made out, and will not sustain the rejection of claims 1 to 4.

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Rejection under 37 CFR 1.196(b)

Pursuant to 37 CFR 1.196(b), claim 1 is rejected under 35 USC 103 as unpatentable over Barrett in view of Rippingale.

Barrett discloses a cable consisting of a first tube 16 and second tube 24 connected by web 25, all of which are made of polyethylene. First tube 16 contains copper wire conductors 12 inside a polyethylene tube 15, while second tube 24 contains light waveguides 19. In column 1, lines 16 to 38, the patent discloses:

More recently, it has been proposed that buried cables holding current carrying conductors may be located by detection of magnetic fields which are generated by electric currents in the current carrying conductors.

It is also known that, particularly in certain areas, light waveguides may be damaged due to melting and crushing forces caused by lightning strikes on the cable. To reduce the possibility of lightning induced damage, dielectric cables may be provided.

Apparently, the prior art does not provide a cable which combines the advantages of a cable having light waveguides in a dielectric environment and the advantage of current carrying conductors.

* * * * *

This apparent gap in the prior art is filled by the present invention, which calls for a web extending between a first tube and a second tube, the first tube containing a plurality of current carrying electrical conductors and the second tube containing a plurality of light waveguides.

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As discussed previously, the Rippingale article suggests mixing powdered ferrite into the plastic conduit of a fiber optic cable in order to locate it in the ground. In view of this teaching, it would have been obvious to one of ordinary skill in the art to mix powdered ferrite into any or all of the polyethylene conduits 15, 16, 23 and 24 of Barrett, in order to enhance the detectability of the cable when buried.⁴ Since Barrett indicates that his cable is detected by magnetic fields generated by electric currents in the conductors (12) (col. 1, lines 18-20), the inclusion of ferrite would have the obvious advantage of allowing the cable to be detected at those times when the conductors were not carrying any current. Moreover, we consider that the use of ferrite in the Barrett cable would be particularly suggested by Rippingale's statement at page 44 that using powdered ferrite "does not preclude using other locating means as well" and "will not interfere with ... a conventional wire ... placed above the [fiber optic] cable in a trench."

Summary

The examiner's decision to reject claims 1 to 4 is reversed. Claim 1 is rejected pursuant to 37 CFR 1.196(b).

⁴ Note that mixing ferrite into conduit 15 would meet the limitation of claim 1 that the magnetically detectable dielectric material is "contained within" the first tube (16).

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