USPTO, Board of Patent Interferences Decision, Fleming v. Bosch, Patent Interference 97205, 181 U.S.P.Q. 761

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Patent Office Board of Patent Interferences

Fleming

v.
Bosch and Pollmann

Decided Apr. 26, 1973

Patent Interference No. 97,205

Serial No. *524,594*

Serial No. *554,822*

Patent No. 3,796,969

[*762] HANIFIN & JANCIN, Washington, D. C., and BERNARD N. WIENER, Yorktown Heights, N. Y., for Fleming.

SPENCER & KAYE, HARVEY KAYE, and JAY M. FINKELSTEIN, all of Washington, D. C., for Bosch and Pollmann.

Before BOYS, BAILEY, and CAPELLI, Examiners of Interferences.

BOYS, Examiner of Interferences.

The invention at issue in this interference relates to a Gunn effect oscillator circuit. A semiconductor crystal of the type which produces current oscillations having a natural oscillation frequency by the Gunn effect has two electrodes placed on opposite surfaces. An input signal is applied to the crystal which causes the threshold field of said crystal to be exceeded and high frequency output oscillations to be produced. The input circuit for the oscillator comprises a circuit resonant at a frequency lower than the frequency of the output oscillations and voltage applied to the semiconductor crystal is caused to oscillate in the input circuit at a frequency lower than the frequency of the output oscillations. The issue consists of one count which reads as follows:

> In an oscillator circuit of the type which includes a body of single conductivity type semiconductor material, to which there is applied an electric field above a threshold field at which the body exhibits a negative resistance characteristic due to a change in the mobility of the conduction carriers in the body, to produce output high frequency oscillations in an output connected to the body, the improvement comprising:
>
> (a) input means connected to said body for applying an input voltage across the body which causes the threshold field for the body to be exceeded and said high frequency oscillations to be produced;
>
> (b) said input means including means connected to said body forming a driving circuit resonant at a frequency lower than the frequency of said high frequency output oscillations;
>
> (c) said negative resistance exhibited by said body when said threshold is exceeded to produce said high frequency oscillations causing the voltage in said driving circuit to resonate at said lower frequency.

The junior party, Fleming, is involved on the basis of his application Serial Number *524,594* , filed February 2, 1966. Bosch et al., the senior party, is involved on the basis of his application Serial Number *554,822* , filed June 2, 1966, accorded benefit of German application T28,781, filed June 12, 1965.

Fleming took testimony. Bosch et al. elected to rely on the filing of German application Numbers T28,781 filed June 12, 1965; T29,198 filed August 12, 1965; T29,847 filed November 25, 1965; and T29,940 filed December 4, 1965. Both parties filed briefs and were represented at final hearing. As junior party, Fleming had the burden of proving by a preponderance of the evidence.

Fleming filed a motion to amend his preliminary statement seeking to change the date alleged for the actual reduction to practice as set forth in said statement to March 5, 1965, the date previously alleged for the first drawing, first written description and disclosure to others.

The motion to amend the preliminary statement relates that the date for the reduction to practice as set forth in the original preliminary statement was selected based upon a belief that there was insufficient support for alleging the date of March 5, 1965 as the earliest date on which a reduction to practice occurred.

The record of this interference indicates that the motion to amend the preliminary statement **[*763]** was filed in July 1971, approximately one year after the filing of the original Fleming preliminary statement and approximately one month prior to the taking of testimony by Fleming. The motion is not based on any new found evidence but is filed solely on the basis that it was not clear to Fleming that there was sufficient support for alleging the date of March 5, 1965 as the earliest date on which a reduction to practice occurred. It is urged by the moving party Fleming, that no new fact or information was derived from the opening of the preliminary statements which would alter or prejudice the position of Bosch et al. vis-a-vis Fleming. It appears from this statement of Fleming that he does not believe that he must make a showing that he was not negligent in preparing the original statement and that the error could not have been avoided by the exercise of due care, and Fleming has not made such a showing.

Rule 222 provides that a motion to correct material error in a preliminary statement requires "a satisfactory showing that such action is essential to the ends of justice." This rule has been interpreted to require a showing demonstrating that the moving party was not negligent in preparing the original preliminary statement and that error could not have been avoided by the exercise of due care since the Fleming motion was filed after the preliminary statements were approved and their contents known to the parties.

The former practice mentioned in the cited case, *Winter v. Lebourg*, 157 USPQ 574 , 394 F.2d 575 , is now followed only as to amended statements filed prior to the date set for services of preliminary statements, since preliminary statements are no longer examined and approved prior to setting the motion period. Any change sought after that time is regarded as requiring a showing as provided in Rule 222 as mentioned above. Here, the motion was filed four months after the decision on Rule 231 motions and the setting of testimony times. While the showing required at that time need not be as strong as if the motion had been filed still later, or after some testimony had been taken, some showing must be made in justification of the failure to make the proposed allegation in the first instance. Fleming admits in his motion that the evidence was not originally considered adequate to prove a March 5, 1965 date of actual reduction to practice. We know of no precedent authority, and Fleming has cited none, for permitting amendment of a preliminary statement because of a change of opinion as to the sufficiency of the same evidence which was originally available.

The circumstances here indicate negligence and lack of due care by Fleming in the preparation of his original preliminary statement and a lack of diligence in discovery of the alleged error. The fact that Fleming gained no new knowledge from the preliminary statement of Bosch et al. appears irrelevant in view of the above considerations.

Accordingly, we are of the opinion that Fleming should have made a showing as required by Rule 222 but which he failed to do. Since the record indicates that Fleming has been negligent and has failed to exercise due care in preparing the preliminary statement, and has not been diligent in discovery of the alleged error, the motion by Fleming

to amend the preliminary statement to change the date of actual reduction to March 5, 1965 is denied.

The junior party Fleming filed a motion to dissolve the interference on the ground that the party Bosch et al. cannot make the claim forming the interference count. This motion was denied by the Primary Examiner who ruled that Figure 10 of the party Bosch et al. discloses an input resonant circuit having a frequency less than the frequency of the free oscillations of the Gunn device and that the limitation of paragraph c of the count would obviously be an inherent result of the parameters set forth in paragraph b, which recites that the input resonant circuit has a frequency less than the frequency of the free oscillations of the Gunn device.

It is argued by Fleming, that the resonant circuit of Figure 10 of Bosch et al., U. S. application S.N. *554,822* , cannot be considered to resonate at a lower frequency than the output oscillations of the Gunn effect body. It is urged that when Figure 10 of Bosch et al. is operating, the output frequency from the Gunn effect element becomes the same frequency as the applied frequency of the resonant circuit.

Page 18 of the Bosch et al. disclosure teaches that the period T_{pr} of free oscillation of the Gunn effect element is less than the period T_s of the resonant circuit, Figure 10. Since the period of a waveform is the reciprocal of its frequency, the frequency of the resonant circuit is less than the frequency of free oscillation of the Gunn effect element. Accordingly, the argument by Fleming that the resonant circuit of Figure 10 of Bosch et al. cannot be considered to resonate at a lower frequency than the output oscillations of the Gunn effect body appears to be contrary to the disclosure of Bosch et al.

The Bosch et al. circuit of Figure 10 includes substantially the same structure as disclosed in Fleming Figure 1, upon which the count of this interference reads. The common structure includes a resonant circuit connected to a Gunn effect semiconductor element which has a load impedance connected thereacross. A voltage source applies a voltage to the resonant circuit and to the Gunn effect element.

[*764] The above showing of common structure indicates that Bosch et al. and Fleming have virtually the same circuit. In view of the fact that the circuit of Bosch et al. is virtually the same as the circuit of Fleming and that the function of each circuit is to produce Gunn effect oscillations across a load impedance, the theory of operation, function, and results attributable to the apparatus of Fleming are also attributable to the apparatus of Gunn et al. Accordingly, the function of paragraph c of the count defining a frequency in the drive circuit lower than the frequency of the output oscillations finds support in the disclosure of Bosch et al. and the allegation that the output frequency from the Gunn effect element becomes the same as the frequency of the resonant circuit is not persuasive.

Expert testimony of Dr. Norman Braslau was offered on behalf of Fleming to support Fleming's premise that the Bosch et al. application does not support the invention of the count in this interference. Review of the testimony by Dr. Braslau reveals that nowhere does he state unequivocally that the disclosure of Bosch et al. does not support the language of the count in this interference. Additionally, responses by Dr. Braslau are qualified and conditional, including language such as "it would be possible," "this would depend on," and "substantially the same frequency" taken from response to questions 118, 122, and 129 respectively. Testimony wherein output and resonant circuit frequencies are compared in the Bosch et al. circuit is qualified in that it refers to fundamental frequencies to the exclusion of component frequencies.

The Braslau testimony is not persuasive support for the Fleming premise that the Bosch et al. application does not provide disclosure of the invention of the count because of its qualified and conditional nature. Accordingly, in view of the breadth of the count, the disclosure in Bosch et al. that the frequency of the resonant circuit is less than the frequency of free oscillation of the Gunn effect element in Figure 10, the similarity of the circuit structure of the Bosch et al. and Fleming apparatus, and the qualified and conditional nature of the testimony given by Dr. Norman Braslau, the party Bosch et al. is entitled to make the count. We do not find that the Primary Examiner was in error in holding that Bosch et al. is entitled to make the count.

Fleming alleges in his preliminary statement conception of the invention as defined in the count on or about March 5, 1965 and an actual reduction to practice on or about November 22, 1965. Active exercise of reasonable diligence toward reducing the invention to practice is alleged to have begun March 5, 1965, approximately three months prior to the June 12, 1965 date of entry of Bosch et al. into the field.

As evidence of conception, reduction to practice, and reasonable diligence, Fleming relies on exhibits, and testimony by himself and an associate at International Business Machines Corporation, James W. Crowe.

If he is to prevail, Fleming must establish reasonable diligence from just prior to entry into the field by Bosch et al. on June 12, 1965 to the alleged date of actual reduction to practice on or about November 22, 1965.

In his testimony, Fleming indicated that Pages 95-99 of Exhibit 15 relate to work performed between April 8, 1965 and July 26, 1965 involving the lapping, designing, heat sinking and evaluation of Gunn effect samples. On Page 394 of the testimony Fleming testified that between October 27, 1965 and November 22, 1965 he was working on Gunn effect technology. This involved work on Gunn effect samples, and on a cavity which was operated with said samples.

It is well established that the party chargeable with diligence must account for the entire critical period, Rivise and Caesar, "Interference Law and Practice," 1940, 193. Periods of six weeks or less of inactivity have been held as showing a lack of reasonable diligence, *Hull v. Davenport*, *24 CCPA 1194* , *1937 C.D. 588* , 33 USPQ 506 ; and *Ireland v. Smith*, *25 CCPA 1258* , *1938 C.D. 672* , 37 USPQ 807 . In his testimony, Fleming fails to indicate that any activity was being conducted to reduce the invention to practice during the two month period from July 29, 1965 to September 30, 1965. Said period is totally unaccounted for and it represents a significant length of time during the five to six month critical period in which reasonable diligence has not been established.

The testimony of Fleming to the effect that work involving lapping, designing, heat sinking and evaluation of Gunn effect samples was carried on from prior to the June 12, 1965 date of entry into the field by Bosch et al. to July 26, 1965 is not deemed adequate to establish reasonable diligence during the period from June 12, 1965 to July 26, 1965. This work during the six week period was directed toward improvements on the Gunn effect sample itself and was not directed toward reducing the Gunn effect oscillator of the count in issue to practice. The work did not involve the construction and testing of the overall combination of a Gunn effect oscillator wherein the voltage in the driving circuit is caused to oscillate at a frequency lower than the high frequency oscillations produced by the Gunn effect element but merely involved efforts directed toward improvement of Gunn effect elements. It is clear that the work performed on the Gunn effect samples was not required to **[*765]** reduce to practice the Gunn effect oscillator since it appears from the testimony that Gunn effect samples were in use prior to the above six week period.

Additionally, the testimony of Fleming indicating that during the period October 27, 1965 to November 22, 1965 he was working on Gunn effect samples and on a cavity which was operated with said samples is not adequate to establish reasonable diligence during said period. As indicated earlier, work directed to improvements of Gunn effect samples generally did not constitute reasonable diligence in reducing a particular Gunn effect oscillator combination to practice where Gunn effect samples were already available in the field for construction of such oscillators. Additionally, it has not been established that the work on the cavity operated with the samples was required in order to reduce the oscillator of the count in issue to practice.

Review of the Fleming testimony indicates that within the critical period of from five to six months of required diligence by Fleming, there are three periods ranging from three weeks to two months within which reasonable diligence has not been established. Fleming has failed to account for the entire critical period in accordance with the requirement noted earlier in § 193, Rivise and Caesar, and therefore has failed to establish evidence indicating reasonable diligence through the critical period from just prior to June 12, 1965 to November 22, 1965. In view of the above, it is not necessary to consider the supporting testimony of James W. Crowe, or whether Fleming has proven conception on March 5, 1965 and an actual reduction to practice on November 22, 1965. Since the testimony given by Fleming himself indicates a lack of reasonable diligence in reducing the invention to practice, Bosch et al., the senior party, is entitled to prevail.

Priority of invention of the subject matter involved is hereby awarded to Berthold Bosch and Horst Pollmann, the senior party.