

G. Ground 4—Based on Lyke, Dehkordi, Franz, Faura, and Steele

Ground 4 is simply the references of Ground 1 further combined with *Steele*. Accordingly, Ground 4 suffers from all the same deficiencies as noted above with respect to Ground 1. Claims 5, 10-11, 13-14, 15, 17, 19-20 are patentable additionally because Steele fails to show or suggest a “power converter” as specified in these claims. EX. 2020 ¶ 96.

Steele describes a programmable logic device configured to operate like a voltage aggregatorreplicator that copiesdistributes an applied input voltage for output at other pins. Simply stated, *Steele* operates by accepting an input voltage generated at an external source at the VCCO pin of a Configurable Logic Block (CFB) and replicatesmerely distributes that voltage at the input/output (I/O) pins for use into external devices. This is explained at EX. 1009 at 4:28-43, and is shown in the annotated version of FIG. 2 below where green represents a 5V level (CFB 0) and yellow represents a 3V level (CFB 1). EX 2020 ¶ 97.

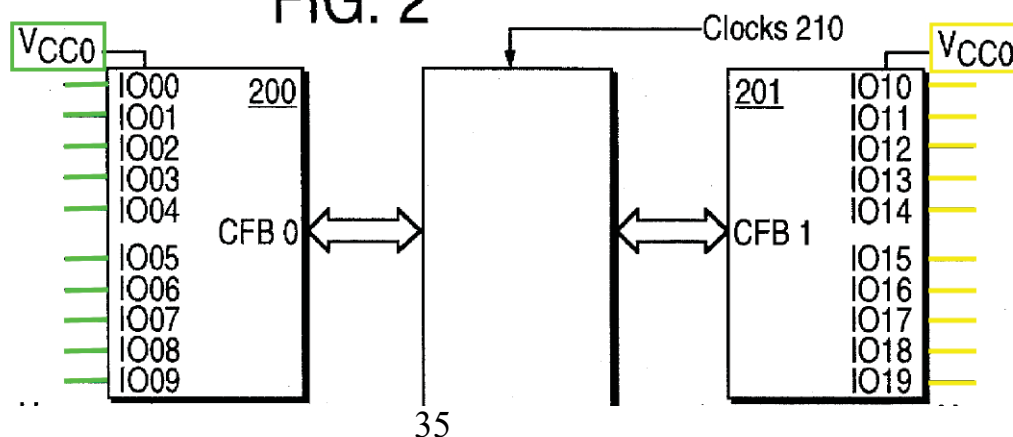
U.S. Patent

Oct. 7, 1997

Sheet 2 of 7

5,675,824

FIG. 2



Notably, Steele does not generate the applied VCCO voltage levels as required by the challenged claims of the '177 Patent. Instead, it itself, but rather merely uses them. The voltage generation of the voltage levels is done elsewhere on another external device with and those voltages being are applied to the VCCO input from that external source for the reproduction by Steele's CFB. Steele does not convert power because it does not change one voltage level to another as the claims require under Patent Owner's claim construction. Instead, Steele merely distributes the same voltage level applied VCCO at the output I/O pins. For example, IO00-IO09 have 5V outputs whereas IO10-IO19 have 3V outputs. See EX. copy-1009, 2:22-26; 4:28-43. There is no change or conversion (i.e., changing one thing to another – plain meaning). Cf. Institution Decision at 42. Merely distributing the same voltage eight times is not converting power, but rather is merely distributing the same voltage multiple times. EX 2020 ¶ 98.

This is different from the challenged claims of the '177 Patent, which require, e.g., a portion of the gates in the FPGA to operate as an ~~internal embedded~~ power converter capable of receiving an input voltage level and ~~generating each operating and reference~~ changing it to another voltage ~~needed within level~~ as the instrument controller claims require. See, e.g., '177 Patent, claim 5. EX 2020 ¶ 99.

~~Moreover,~~ Steele does not convert power but rather ~~replicates merely~~ distributes the same voltage level VCCO at the output I/O pins. For example, IO00-

IO09 have 5V outputs whereas IO10-IO19 have 3V outputs. See EX. 1009 at 2:22-26; 4:28-43. Notably the phrase “power converter” does not appear in *Steele* nor does *Steele* describe converting power in any way. EX 2020 ¶ 100.

Accordingly, *Steele* fails to teach or suggest “[a] ~~third portion of the gates in the field programmable gate array are configured to operate as an internal ... embedded power converter capable of receiving an input voltage level and generating each operating and reference voltage needed...~~”...” for at least three reasons.

~~First, the claim specifies that the gates operate on “an input voltage level and generat[e] each operating and reference voltage needed.” Thus, the plain language of the claim term specifies that one input voltage generates multiple output voltages whereas, in *Steele*, each input voltage VCCO creates only one corresponding output voltage at the IO pins that is the same level as (i.e., a copy of) the input voltage. Therefore, Petitioners fail to make out a *prima facie* case of obviousness, as this claim requirement is given no treatment in the Petition and thus must fail on this basis alone.~~

~~Second, the~~ The Petition fails to address the power conversion claim term which requires changing one voltage level to another different voltage level. Power conversion is not mentioned in the *Steele* reference. Petitioners never address what power conversion is or how it is accomplished in *Steele*. Further, such treatment and explanation are also

missing from the reference itself. The Petition thus offers nothing more than conclusory statements that are unsubstantiated by any analysis or explanation based on *Steele* and must therefore fail. [EX 2020 ¶ 101](#). See *Magnum Oil*, 829 F.3d at 1380, *infra*.

Third, no such combination would ever be made. Petitioners state that “[i]n the combined system with *Steele*, a portion of the gates in the FPGA are utilized to carry out power conversion, for the predictable benefits described above, including obviating the need for separate converter hardware apart from the existent FPGA.”

Petition at 48, emphasis added. But this statement is demonstrably wrong. As explained above, the VCCO signal that establishes the required voltage level is *not* generated by any circuitry in *Steele* instead is created externally. Petitioners admit this. See Petition at 48 (“a plurality of different voltages can be supplied to the V_{cco} pins of different functional blocks, resulting in a plurality of different voltages.”).

Emphasis added. [EX 2020 ¶ 102](#).

Thus, Petitioners *admit* the VCCO voltages must come from *somewhere outside of Steele*. Therefore, *Lyke* alone provides all the necessary reference and operating voltages specified in the claim and *Steele* provides *no added benefit whatsoever* to the proposed combination. Accordingly, *Steele* is merely a superfluous, cumulative reference that belies the motivation for making the combination of Ground 4 which appears to be offered only for the sole (impermissible) reason of alleging unpatentability. [EX 2020 ¶ 103](#).

Such a combination may therefore only be formed based on impermissible hindsight reconstruction. An appropriate obviousness inquiry *cannot involve even a “hint of hindsight.”* *Star Sci., Inc.*, 655 F.3d at 1375 (*emphasis added*).

Accordingly, Petitioners’ proposed combination of *Lyke, Dehkordi, Franz, Faura, and Steele* in Ground 4 fails to teach or suggest the limitations in independent claims 13, and 20 of a “*power converter capable of... generating ~~each operating and...~~ reference voltage*” (elements 13.6 and 20.1) or an internal embedded power converter (claim 15). Thus claims 5, 14-15, and 20 are patentable for at least this reason alone. EX 2020 ¶ 104.