Effective Patent Prosecution Techniques: Drafting And Amending Patent Claims In Preparation For Litigation

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I. Think about § 101

In re Bilski, 88 USPQ2d 1385 (Fed. Cir. 2008)(en banc)

In essence, the claim is for a method of hedging risk in the field of commodities trading. For example, coal power plants (i.e., the "consumers") purchase coal to produce electricity and are averse to the risk of a spike in demand for coal since such a spike would increase the price and their costs. Conversely, coal mining companies (i.e., the "market participants") are averse to the risk of a sudden drop in demand for coal since such a drop would reduce their sales and depress prices. The claimed method

envisions an intermediary, the "commodity provider," that sells coal to the power plants at a fixed price, thus isolating the power plants from the possibility of a spike in demand increasing the price of coal above the fixed price. The same provider buys coal from mining companies at a second fixed price, thereby isolating the mining companies from the possibility that a drop in demand would lower prices below that fixed price. And the provider has thus hedged its risk; if demand and prices skyrocket, it has sold coal at a disadvantageous price but has bought coal at an advantageous price, and vice versa if demand and prices fall.

A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Importantly, however, the claim is not limited to transactions involving actual commodities, and the application discloses that the recited transactions may simply involve options, i.e., rights to purchase or sell the commodity at a particular price within a particular timeframe. See J.A. at 86-87.

“Machine or transformation” is in

The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article. Certain considerations are applicable to analysis under either branch. First, the use of a specific machine or transformation of an article must impose meaningful limits on the claim’s scope to impart patent-eligibility. Second, the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity.

We leave to future cases the elaboration of the precise contours of machine implementation, as well as the answers to particular questions, such as whether or when recitation of a computer suffices to tie a process claim to a particular machine.

“Useful, concrete and tangible result” test is out

“Freeman –Walter-Abele” test is out

“Technological arts” test is out

There still is no “business method exception,” so business method patents are possible, if the “machine or transformation” test is satisfied.

<u>In re Comiskey</u> did not bar any claim reciting a mental process that lacks significant “physical steps.”

A claim that recites "physical steps" but neither recites a particular machine or apparatus, nor transforms any article into a different state or thing, is not drawn to patent-eligible subject matter.

A claim that purportedly lacks any "physical steps" but is still tied to a machine or achieves an eligible transformation passes muster under § 101.

II. Think about § 112

Written description (§ 112(1))

Enablement (§ 112(1))

Indefiniteness (§ 112(2))

Amtel Corp. v. Information Storage Devices, Inc., 198 F. 3d. 1374, 53 USPQ2d 1225 (Fed. Cir. 1999)

Issue: Whether there was sufficient structure corresponding to "high voltage generating means" in the claims.

Specification: The high voltage generator circuit was shown as black boxes in the drawings, with no detail as to what electronic components were used in the circuit. However, the specification stated that "known circuit techniques are used to implement high voltage circuit 34," and referenced an article entitled On Chip High Voltage Generation in NMOS Integrated Circuits Using An Improved Voltage Multiplier Technique (The "Dickson" article)

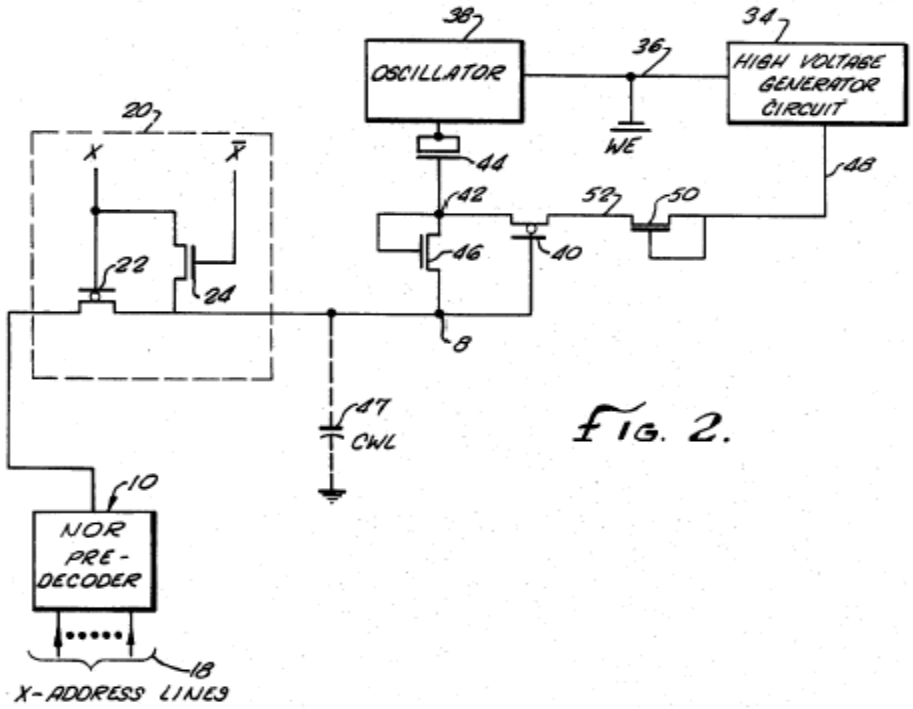


FIG. 2.

<u>Held</u>: Summary judgment invalidating the patent for indefiniteness was improper.

Budde v. Harley-Davidson, Inc., 250 F. 3d. 1369, 58 USPQ2d 1801 (Fed. Cir. 2001)

Claim element at issue: A status sensing means for measuring...vacuum in the intake manifold.

Specification: "Vacuum sensors are commercially available units which produce analog signals for the control unit". Fig. 3 had a box labeled "vacuum sensor".

Held: Vacuum sensors were well-known in the art. The claim was not invalid for lack of written description.

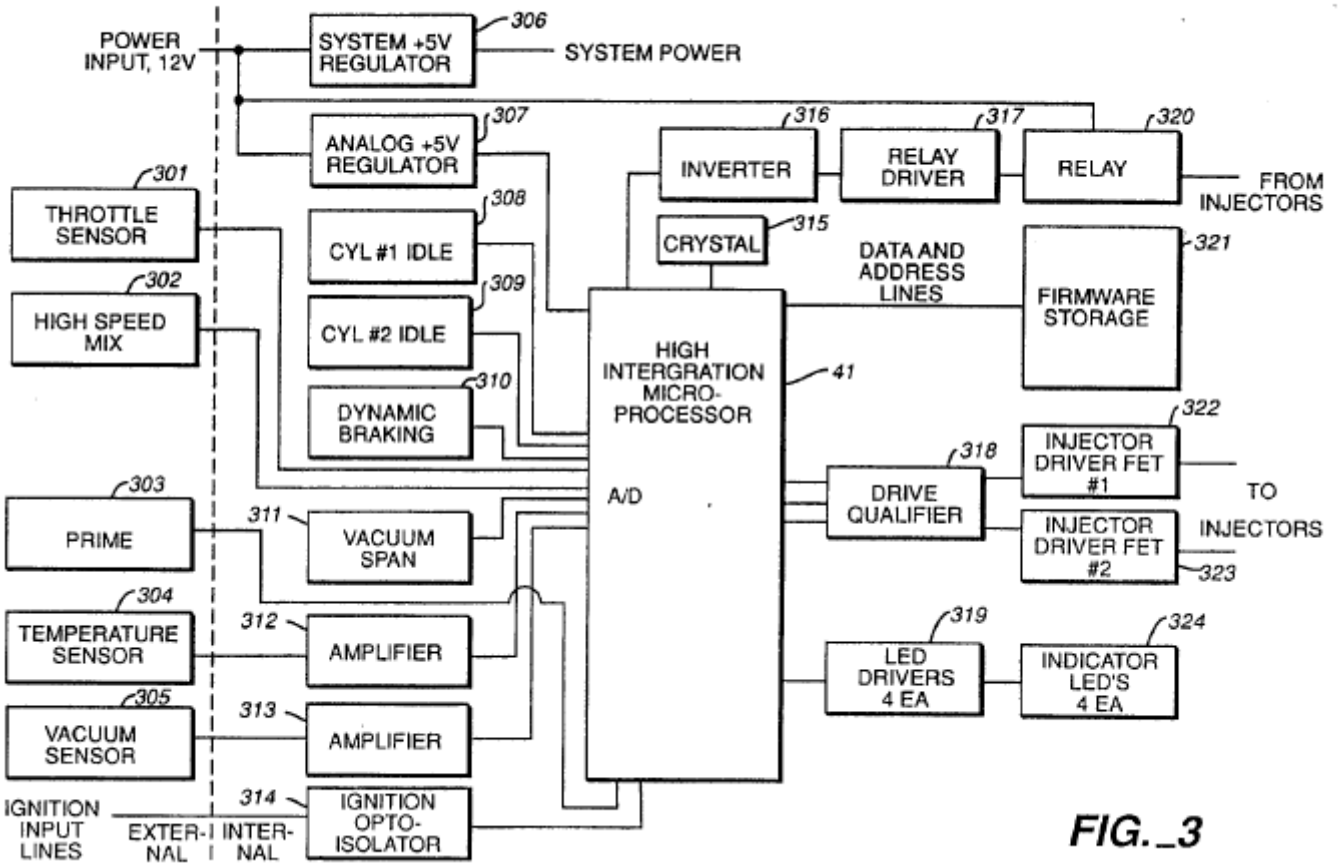


FIG._3

U.S. Patent Sep. 11, 1990 Sheet 5 of 7 4,955,348

Automotive Technologies Int'l., Inc. v. BMW et al., 501 F.3d 1274 (Fed. Cir. 2007)

Patent: **Crash sensing devices for automobile air bags.**

Claim 1: **A side impact crash sensor for a vehicle having front and rear wheels, said sensor comprising:**

(a) a housing;

(b) a mass within said housing movable relative to said housing in response to accelerations of said housing;

(c) means responsive to the motion of said mass upon acceleration of said housing in excess of a predetermined threshold value, for initiating an occupant protection apparatus; and

(d) means for mounting said housing onto at least one of a side door of the vehicle and a side of the vehicle between the centers of the front and rear wheels, in such a position and a direction as to sense an impact into the side of said vehicle.

<u>Specification</u>: Mechanical sensors were described in detail.

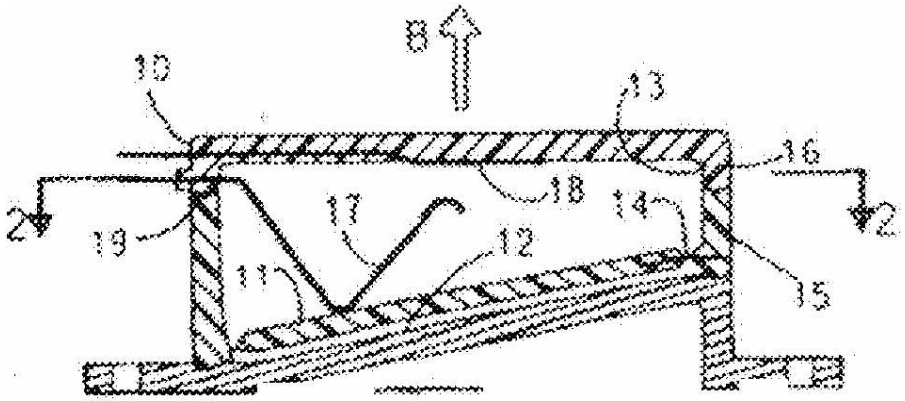


FIG. 1

Mechanical sensors were described in detail. Electronic sensors were also described.

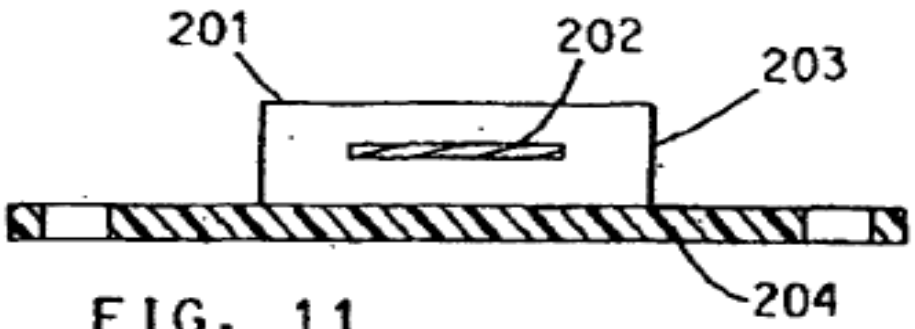


FIG. 11

Specification:

Fig. 11 is a conceptional view of an electronic sensor assembly 201 built according to the teachings of this invention. This sensor contains a sensing mass 202 which moves relative to housing 203 in response to the acceleration of housing 203 which accompanies a side impact crash. The motion of the sensing mass 202 can be sensed by a variety of technologies using, for example, optics, resistance change, capacitance change or magnetic reluctance change. Output from the sensing circuitry can be further processed to achieve a variety of sensor response characteristics as desired by the sensor designer.

The claim language "means responsive to the motion of said mass upon acceleration of said housing..." covers mechanical switch assemblies and electronic switch assemblies.

<u>Defendants</u>: The only clearly linked structure identified in the specification is a mechanical switch assembly.

<u>Held</u>: The claims are invalid for lack of enablement.
The claims were construed to cover both mechanical and electronic sensors. That full scope must be enabled, and electronic sensors were not enabled.

The general description (above) fails to provide a structural description of how a person having ordinary skill in the art would make or use an electronic side impact sensor. There is no discussion of the circuitry involved that would provide more detail on how the sensor operates. The mere boxed figure of the electronic sensor and the few lines of description fail to apprise one of ordinary skill how to make and use the electronic sensor.

The novel aspect of this invention is using a velocity-type sensor for side impact sensing. According to plaintiff, using inertial or acceleration sensors to sense side impact represented a "breakthrough" in side impact crash sensing.

Given that the novel aspect of the invention is side impact sensors, it is insufficient to merely state that known technologies can be used to create an electronic sensor. Moreover, side impact sensing was considered a new field, and ATI did not know of any electronic sensor used to sense side impact crashes at the time of the patent. Moreover, there was expert testimony that a great deal of experimentation would have been necessary to make an electronic sensor after reading the patent.

Biomedino LLC v. Waters Technologies Corporation, 490 F.3d 946, 83 USPQ2d 1118 (Fed. Cir. 2007)

The Patent: A chemical process that recited the claim element "control means for automatically operating said valves."

Specification: The only references in the specification to the "control means" are a box labeled "control" in Fig. 6 and a statement that the regeneration process of the invention "may be controlled automatically by known differential pressure, valving and control equipment."

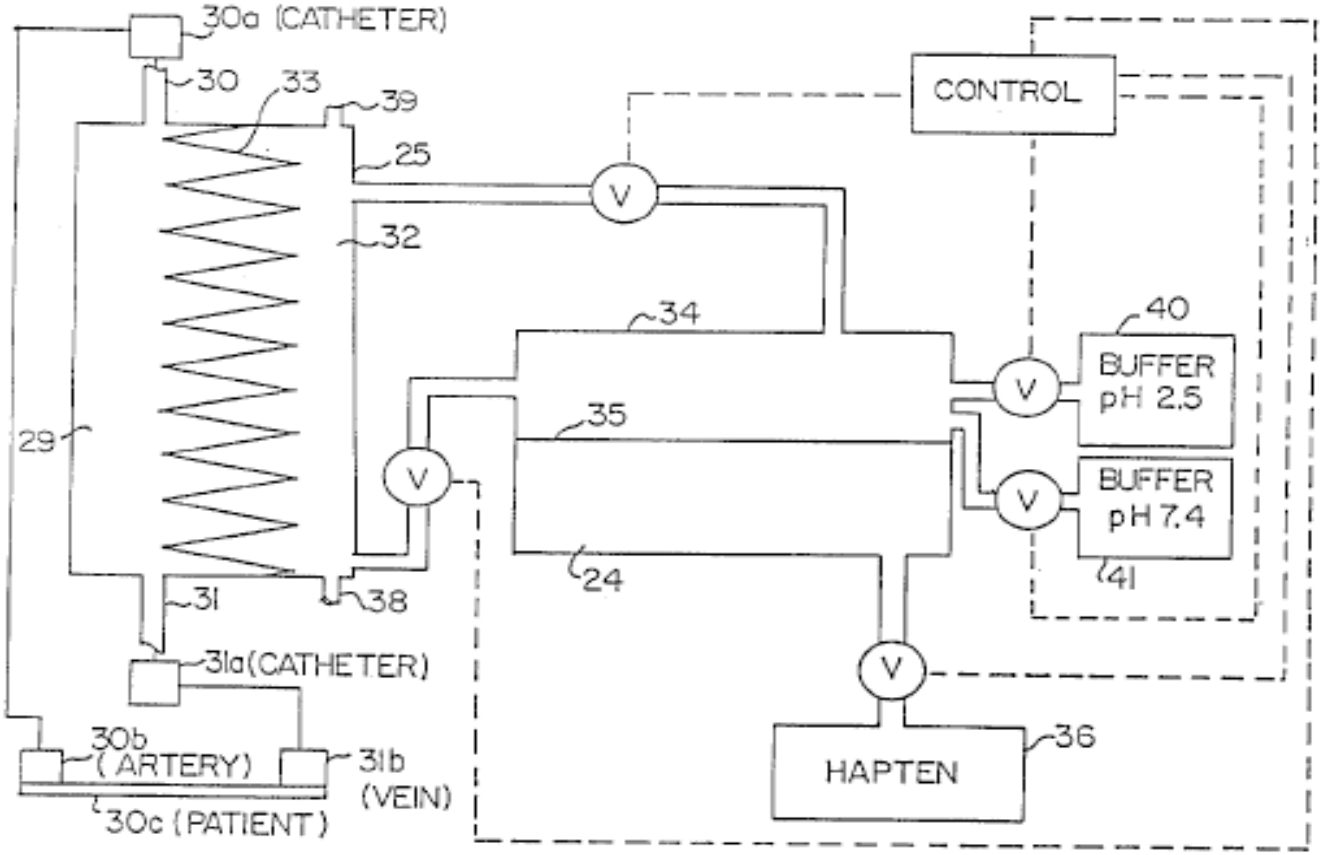

30a (CATHETER)
30
33
39
25
32
34
40
CONTROL
V
BUFFER
pH 2.5
BUFFER
pH 7.4
35
29
24
41
31
38
31a(CATHETER)
30b
(ARTERY)
31b
(VEIN)
30c (PATIENT)
HAPTEN
36

FIG. 6

Held: Claims are invalid for indefiniteness.

"The inquiry is whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether that person would be capable of implementing a structure...Accordingly, a bare statement that known techniques or methods can be used does not disclose structure. To conclude otherwise would vitiate the language of the statute requiring "corresponding structure, material, or acts described in the specification."

Maurice Mitchell Innovations v. Intel Corp.,249 Fed. Appx. 184 (Fed. Cir. 2007) (nonprecedential)

Patent: Microcomputer with bi-memory architecture.

Claim Limitation In Issue: Means for causing said first and second switch means to remain in said nonsignal-conducting state upon application of power to said CPU power circuit and to assume a signal-conductive state upon receipt of an appropriate signal from said CPU.

Held: Invalid. There is no specific structure disclosed to carry out the "means for causing" function. The specification discloses the MCS6520 peripheral interface adapter, but that is a complex integrated circuit containing numerous individual circuits which functions as an interface between a microprocessor and peripheral devices such as printers, etc.

Mitchell contends that the MCS6520 contains tri-state circuitry or tri-state drivers and that a person of ordinary skill in the art would understand the tri-state structure in the MCS6520 to be capable of performing "means for causing" function.

While the MCS6520 may contain tri-state or driver-type circuits, the specification does not identify the tri-state circuits in the MCS6520 as the structure to carry out the "means for causing" limitation. The mere mention of a complicated integrated circuit, comprised of hundreds if not thousands of circuits, is much too broad to sufficiently indicate the precise "means for causing" structure to a person of ordinary skill in the art. The MCS6520 is both too broad and not linked to the "means for causing" limitation.

Monsanto Co. v. Syngenta Seeds, Inc., 503 F.3d 1352 (Fed. Cir. 2007)

Patent: Technology for producing transgenic corn that is resistant to glyphosate, a nonselective herbicide.

Claim 1: A chimeric plant gene which comprises:

(a) a promoter sequence which functions in plant cells;

(b) a coding sequence which causes the production of RNA, encoding a chloroplast transit peptide/5-enolpyruvylshikimate-e-phosphate synthase fusion polypeptide, which chloroplast transit peptide permits the

fusion polypeptide, which chloroplast transit peptide permits the fusion polypeptide to be imported into a chloroplast of a plant cell; and

(c) a 3'non-translated region which encoded a polyadenylation signal which functions in plant cells to cause the addition to polyadenylate nucleotides to the 3'end of the RNA;

the promoter being heterologous with respect to the coding sequence and adapted to cause sufficient expression of the fusion polypeptide to enhance the glyphosate resistance of a plant cell transformed with the gene.

Held: Claim 1 requires the claimed gene to function in plant cells, including both dicots and monocots. However, the patent application was filed before transformation of monocot cells was possible. Therefore, those skilled in the art could not transform a monocot plant cell as of the filing date of the patent application. The claim requires transformation of the plant cell. Without the ability to transform a monocot cell, one skilled in the art could not determine whether a plant gene could carry out the claimed functions and thus fall within the scope of the claim.

Halliburton Energy Services, Inc. v. M-I LLC, 514 F.3d 1244, 85 USPQ2d 1654 (Fed. Cir. 2008)

Patent: **Oil field drilling fluids that are "fragile gels."**

Claim 1: **A method for conducting a drilling operation in a subterranean formation using a fragile gel drilling fluid comprising:**

(a) an invert emulsion base;
(b) one or more thinners;
(c) one or more emulsifiers; and
(d) one or more weighting agents, wherein said operation includes running casing in a borehole.

Specification:

A "fragile gel" as used herein is a "gel" that is easily disrupted or thinned, and that liquifies or becomes less gel-like and more liquid-like under stress, such as caused by moving the fluid, but which quickly returns to a gel when the movement or other stress is alleviated or removed, such as when circulation of the fluid is stopped, as for example when drilling is stopped. The "fragileness" of the "fragile gels" of the present invention contributes to the unique and surprising behavior and advantages of the present invention. The gels are so "fragile" that it is believed that they may be disrupted by a mere pressure wave or a compression wave

during drilling. They seem to break instantaneously when disturbed, reversing from a gel back into a liquid form with minimum pressure, force and time and with less pressure, force and time than known to be required to convert prior art fluids from a gel-like state into a flowable state.

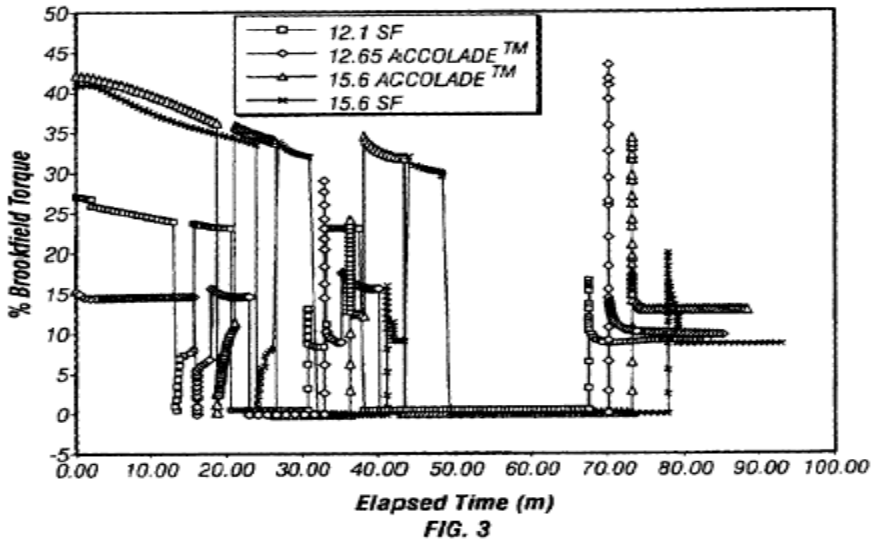


FIG. 3

In one well, ACCOLADE™, a fluid having the features or characteristics of the invention, and commercially available from Halliburton Energy Services, Inc. in Houston...was used.

Halliburton's Proposed Definition of "Fragile Gel":

Fragile gels are those that easily transition to a liquid state upon the introduction of force and return to a gel when the force is removed, and those that are capable of suspending drill cuttings and weighting materials at rest.

Held: The claims are invalid for indefiniteness, because the specification does not adequately describe fragile gels. Halliburton's failure to distinguish the fragileness of the drilling fuel's fluids of the invention from the close prior art (the 12.1 SF fluid that exhibited the L-shaped curved behavior) is fatal... Even if the '832 patent distinguished "fragile gels" of the invention from those of the prior art, it did not place any limit on the scope of what was invented beyond the prior art.

Sitrick v. Dreamworks, *LLC*, 515 F.3d 993, 85 USPQ2d 1826 (Fed. Cir. 2008)

Patent:

Integration of a user's audio signal or visual image into a pre-existing video game or movie.

Specification:

Integration for video games is described in detail, but sound integration into movies is not.

Held: Because the asserted claims are broad enough to cover both movies and video games, the patents must enable both embodiments. Even if the claims are enabled with respect to video games – an issue we need not decide – the claims are not enabled if the patents do not also enable for movies. The patents identify a controller and describe how to implement it for use with video games, but do not teach how to implement the "intercept logic function" of controller 260C in context of movies.

Allvoice Computing PLC v. Nuance Communications Inc., 84 USPQ 2d 1886, 504 F.3d 1236 (2007)

Patent: **Speech recognition by a computer**

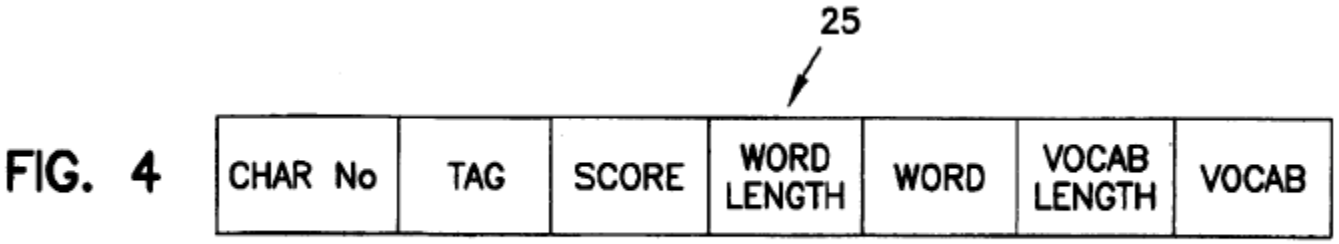
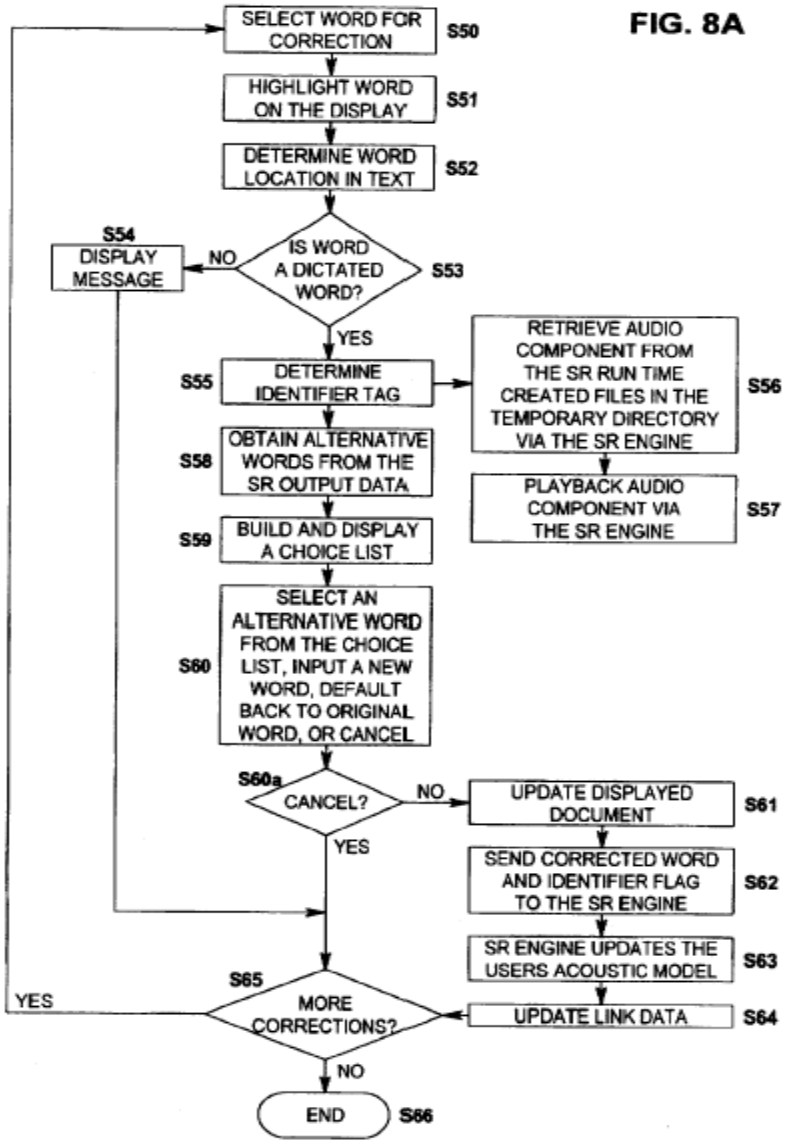


FIG. 4

FIG. 8A


SELECT WORD FOR CORRECTION
S50
HIGHLIGHT WORD ON THE DISPLAY
S51
DETERMINE WORD LOCATION IN TEXT
S52
IS WORD A DICTATED WORD?
S53
NO
S54
DISPLAY MESSAGE
YES
DETERMINE IDENTIFIER TAG
S55
RETRIEVE AUDIO COMPONENT FROM THE SR RUN TIME CREATED FILES IN THE TEMPORARY DIRECTORY VIA THE SR ENGINE
S56
PLAYBACK AUDIO COMPONENT VIA THE SR ENGINE
S57
OBTAIN ALTERNATIVE WORDS FROM THE SR OUTPUT DATA
S58
BUILD AND DISPLAY A CHOICE LIST
S59
SELECT AN ALTERNATIVE WORD FROM THE CHOICE LIST, INPUT A NEW WORD, DEFAULT BACK TO ORIGINAL WORD, OR CANCEL
S60
CANCEL?
S60a
NO
UPDATE DISPLAYED DOCUMENT
S61
YES
SEND CORRECTED WORD AND IDENTIFIER FLAG TO THE SR ENGINE
S62
SR ENGINE UPDATES THE USERS ACOUSTIC MODEL
S63
MORE CORRECTIONS?
S65
YES
UPDATE LINK DATA
S64
NO
END
S66

Held: The claims are not indefinite.

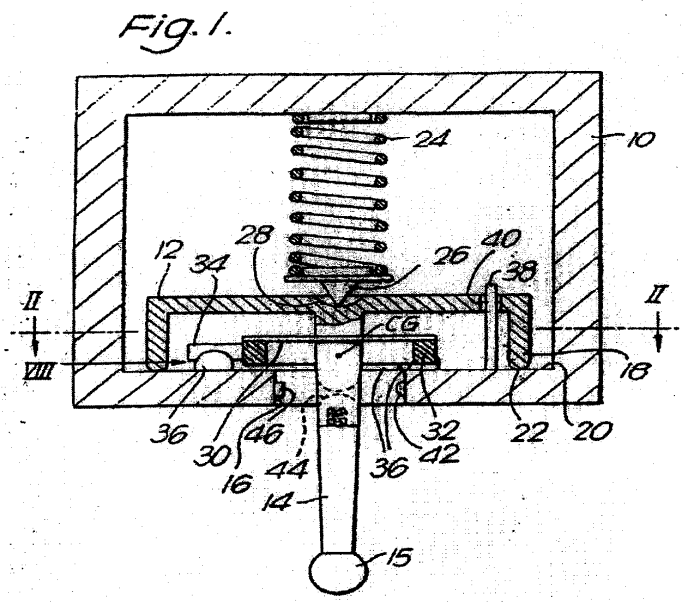
To the contrary, the specification contains sufficient algorithmic structure to give meaning to claims 51 and 67. Claim definiteness, as discussed earlier, depends on the skill level of a person of ordinary skill in the art. Miles Labs., Inc., 997 F.2d at 875. In software cases, therefore, algorithms in the specification need only disclose adequate defining structure to render the bounds of the claim understandable to one of ordinary skill in the art.

III. Think about claim construction

A. Avoid having the specification read into the claims

1. Be careful giving words special meanings

Renishaw v. Marposs, 158 F.3d 1243, 48 USPQ2d 1117 (Fed. Cir. 1998)



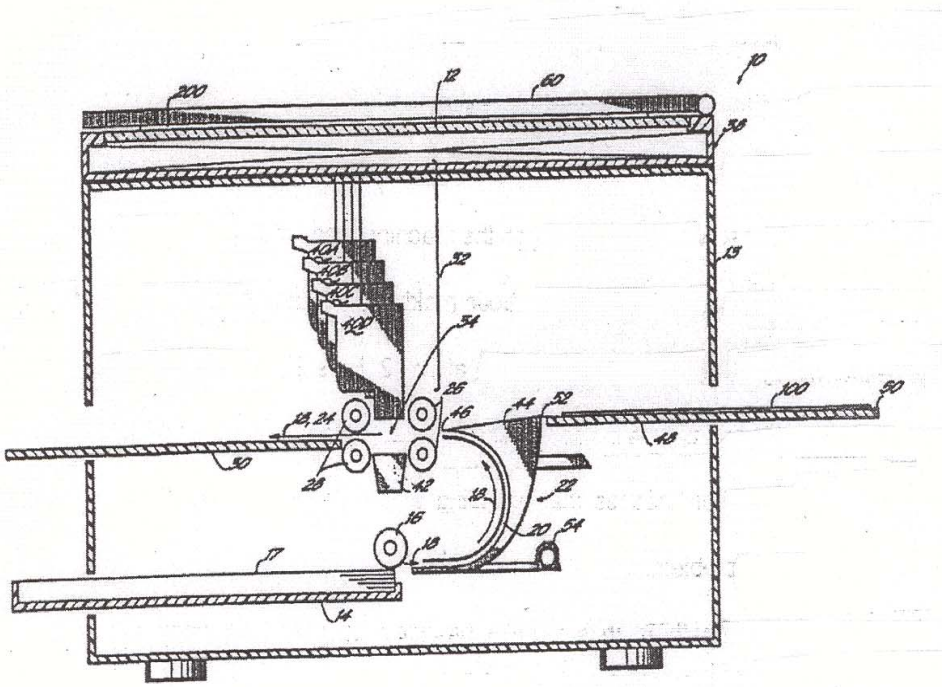
Patent: Touch probe that generates a trigger signal "when" a sensing tip contacts an object and a stylus holder is deflected.

Accused Device: When the stylus contacts an object, the stylus holder does not immediately move up toward a micro switch. It first rotates inside a conical seat. When it hits a shelf, the stylus holder tips upward and hits the micro switch.

Issue: Does "when" cover slightly delayed triggers?

Held: No Infringement. "When" defined by description in the specification. To the extent that these passages refer to the preferred embodiment, they cannot be read into the claims without some hook. The claim term "when" is that hook. Each of the passages above show that the patentee wanted "when" to mean as soon as possible after contact.

Guttman, Inc. v. Kopykake Enterprises, Inc., 302 F.3d 1352, 64 USPQ2d 1302 (Fed. Cir. 2002)



Patent: Method of copying an image onto an edible substrate that can be placed on a cake.

Claim: Passing an edible web along an elongated, non-tortuous copy path…

Argued: A non-tortuous copy path is free of "tortuous bends."

Dictionary: "Tortuous" means "marked by repeated twists, bends or turns."

Specification: A tortuous bend is one that an edible substrate sheet "would not likely survive."

Held: The claim language should not be limited to substantially straight copy paths. The inventor clearly contemplated using the invention in machines with curved, but non-tortuous, copy paths.

2. Use words that have an ordinary meaning

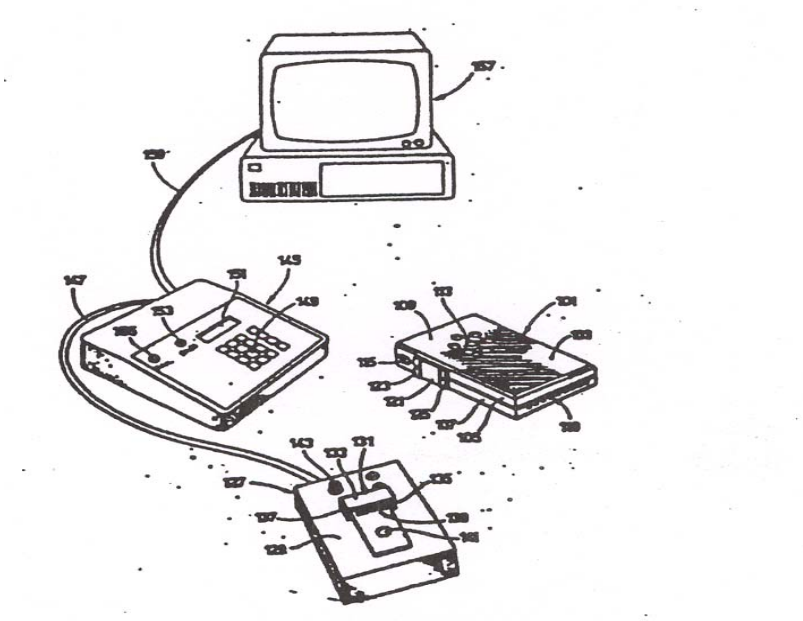
Oakley, Inc. v. Sunglass Hut Int'l., 316 F.3d 1331, 65 USPQ2d 1321 (Fed. Cir. 2003)

"Vivid colored appearance" in a claim for sunglasses could not be defined, so ranges from the specification were read into the claims.

3. Do not over-emphasize unclaimed components or features

Innovad Inc. v. Microsoft Corp., 260 F.3d 1326, 59 USPQ2d 1676 (Fed. Cir. 2001)

Automatic telephone dialer system



Claim: 22. A telephone dialer system, comprising:

[a] a case having at least one surface for substantially enclosing a small volume;

[b] reprogrammable memory means disposed within said case for storing a selected sequence of digits during a programming mode, said digits constituting at least one telephone number;

[c] signal means disposed within said case electrically coupled to said reprogrammable memory means for producing a sequence of dual tone modulated frequency signals corresponding to said at least one telephone number stored in said reprogrammable memory means during a dialing mode;

[d] an audio frequency output means electrically coupled to said signal means for producing a sequence of audio frequency signals corresponding to said sequence of dual tone modulated frequency signals produced by said signal means during said dialing mode;

[e] at least one battery disposed within said case, electrically coupled and providing power to said reprogrammable memory means, said signal means, and said audio frequency output means;

[f] a single, bi-state switch operable from exterior of said case for activating said signal means to produce said sequence of dual tone modulated frequency signals during said dialing mode corresponding to said digits in said reprogrammable memory means;

[g] programming means for programming said reprogrammable memory means with said at least telephone number during said programming mode; and

[h] means for releasably electrically coupling said reprogrammable memory means and said programming means only during said programming mode.

Specification: A single, bi-state switch on the outside of the case activates the signal.

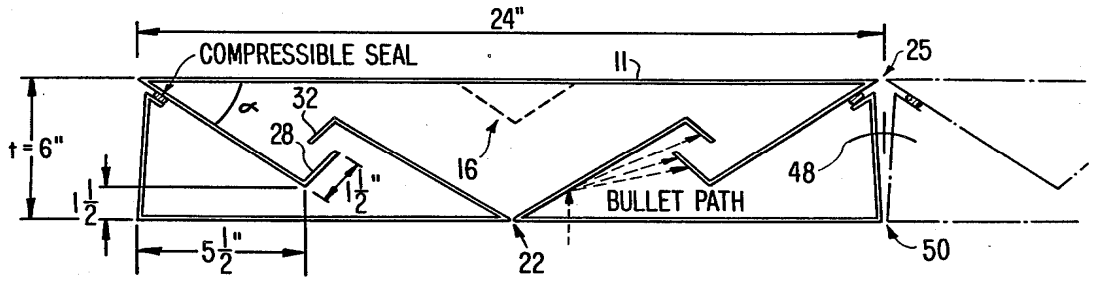
Accused Device: An integral, numeric keypad.

Held: No infringement. One reason is that claim elements [a]-[f] do NOT include a keypad, because the specification excludes that from the scope of the claims.

B. Use dependent claims

<u>Phillips v. AWH Corp.</u>, 363 F.3d 1207, 70 USPQ2d 1417 (Fed. Cir. 2004) (by Judge Lourie, joined by Judge Newman, dissent in part by Judge Dyk) (vacated and withdrawn, for *en banc* consideration on July 21, 2004); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321, 75 USPQ2d 1321, 1332 (Fed. Cir. 2005)(*en banc*)

<u>Patent</u>: Steel shell modules for prisoner detention facilities.



Claim 1: Building modules…and further means disposed inside the shell for increasing its load bearing capacity comprising:internal steel baffles extending inwardly from the steel shell walls.

Issue: What is a "baffle?"

Stipulation: The parties stipulated that the term meant "means for obstructing, impeding or checking the flow of something."

District Court: "Baffles" extend inward from the shell walls at oblique or acute angles, and "baffles" form an intermediate interlocking barrier in the interior of the wall module.

<u>CAFC Panel Decision</u>: "Baffle" is not in means plus function language. From the specification's explicit descriptions of the invention, we conclude that the patentee regarded his invention as panels providing impact or projectile resistance, and that the baffles must be oriented at angles other than 90°. Baffles directed at 90° cannot deflect projectiles as described in the '798 patent, and in any event, are disclosed in the prior art…because we so construe the '798 patent, and because AWH does not use acute or obtuse angles in its panels, we affirm the District Court's judgment of noninfringement.

<u>Panel Dissent</u>: The majority decision effectively limits the claims to the preferred embodiment. There is no suggestion that the patentee, acting as his own lexicographer, gave a special meaning to the term baffles. The specification contains no language clearly limiting the claims to a specific structure. Impact resistance is only one of several objectives of the invention, and baffles that are oriented at 90° would still achieve the load bearing and thermal-acoustical isolation objectives taught in the specification. Moreover, the fact that a feature of the invention may have been described in the prior art hardly raises serious questions of invalidity. Here, there was no effort to distinguish the prior art on the basis that prior art baffles were oriented at 90° angles.

<u>CAFC *en banc* Decision</u>: The principle question is the extent to which we should resort to and rely on a patent's specification in seeking to ascertain the proper scope of its claims.

Quite apart from the written description or the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms. Other claims, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of the claim term. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms. For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.

However, the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.

The specification necessarily informs the proper construction of the claims. The specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor.

The patent's prosecution history should also be considered. Yet because the prosecution history represents an ongoing negotiation between the PTO and the application, rather

than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.

The district courts are authorized to rely on extrinsic evidence. However, while extrinsic evidence can shed useful light on the relevant art, it is less significant than the intrinsic evidence in determining the legally operative meaning of claim language. *Texas Digital* placed too much reliance on extrinsic sources, such as dictionaries, treatises and encyclopedias, and too little on intrinsic sources, in particular the specification and prosecution history.

To avoid importing limitations from the specification into the claims, it is important to keep in mind that the purposes of the specification are to teach and enable those of skill in the art to make and use the invention and to provide a best mode for doing so. Much of the time, upon reading the specification in that context, it will become clear whether the patentee is setting out specification examples of the invention to accomplish those goals, or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive. The manner in which the patentee uses a term within the specification and claims usually will make the distinction apparent.

In this case, dependent claim 2 states that the baffles may be "oriented with the panel sections disposed at angles for deflecting projectiles such as bullets able to penetrate the steel plates." The inclusion of such a specific limitation on the term "baffles" in claim 2 makes it likely that the patentee did not contemplate that the term "baffles" in claim 1 already contained that limitation.

The fact that the written description sets forth multiple objectives to be served by the baffles recited in the claims, confirms that the term "baffles" should not be read restrictively to require that the baffles in each case serve all of the recited functions.

While we have acknowledged the maxim that claims should be construed to preserve their validity, we have not applied that principle broadly, and we have certainly not endorsed a regime in which a validity analysis is a regular component of claim construction. Instead, we have limited the maxim to cases in which the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous.

C. Be consistent

Apparatus comprising:
at least one component X,
a plurality of components Y, and
a component Z.

D. Think about competitive advantage
1. Invention disclosure
2. Prototypes
3. Sales brochures

IV. Think about the doctrine of equivalents

Is it always best to file very broad claims?

If a component is in the original claim, equivalent components can be covered.

If a component is added by amendment or narrowed for patentability purposes, equivalent components are probably not covered.

V. Think about prosecution history estoppel

A. Only one reason for patentability

B. Consider more independent claims

Honeywell v. Hamilton Sunstrand, 370 F.3d 1131 (Fed. Cir. 2004)

Estoppel can apply when an independent claim is amended to include a dependent claim.

C. Be accurate in remarks

Amhil Enterprises Ltd. v.Wawa Inc., 81 F.3d 1554, 38 USPQ2d 1471 (Fed. Cir. 1996)

"Substantially vertical face" interpreted as being a "vertical face" because patentee used the phrases interchangeably during prosecution.