

# United States Court of Appeals for the Federal Circuit

03-1251

COMBINED SYSTEMS, INC.,

Plaintiff-Appellant,

v.

DEFENSE TECHNOLOGY CORPORATION OF AMERICA  
and FEDERAL LABORATORIES, INC.,

Defendants-Appellees.

Lance C. Venable, Ellis & Venable. P.C., of Phoenix, Arizona, argued for plaintiff-appellant.

Jay R. Campbell, Renner, Otto, Boisselle & Sklar LLP, of Cleveland, Ohio, argued for defendants-appellees. With him on the brief was Donald L. Otto.

Appealed from: United States District Court for the Southern District of New York

Judge Denise Cote

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DECIDED: November 20, 2003

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Before MAYER, Chief Judge, MICHEL and BRYSON, Circuit Judges.MICHEL, Circuit Judge.

Combined Systems, Inc. (“CSI”) appeals from the order of the United States District Court for the Southern District of New York granting the motion for summary judgment of noninfringement of Defense Technology Corporation of America and Federal Laboratories, Inc. (together, “DTCA”). Combined Sys., Inc. v. Def. Tech. Corp., No. 01 CIV. 7833 (S.D.N.Y. Nov. 18, 2002) (“Nov. 18 Op. and Order”). Because the district court correctly construed the disputed terms of the asserted claim and its methodology in reaching its construction was consistent with our case law, we affirm.

## BACKGROUND

CSI and DTCA compete in the manufacture and sale of low-lethality anti-personnel munitions -- shotgun projectiles designed for use by law enforcement, corrections, and military personnel, for example, to distract or incapacitate individuals without causing serious injury or death. CSI owns U.S. Patent No. 6,202,562 B1 (“562 patent”), issued March 20, 2001 to Michael Brunn and Jacob Kravel and entitled “Method of Preparing a Low Lethality Projectile for Flight.”

On August 21, 2001, CSI sued DTCA alleging that DTCA's manufacture of its "Drag Stabilized Bean Bag Round" or "23DS" projectile infringes the '562 method patent. Following briefing and argument, the district court construed the disputed limitations of claim 1, the only claim of the '562 patent, which reads as follows:

1. A method of shaping a projectile so as to have a specified low lethality consequence upon impact against an individual, said shaping method comprising the steps of
  - using an empty 12 gauge shotgun shell having a cylindrical wall bounding a projectile compartment and a front edge and a rear edge at opposite ends of said cylindrical wall respectively bounding a front and a rear opening into said projectile compartment,
  - closing said rear opening of said 12 gauge cartridge shell with projectile-propelling explosive means,
  - using preliminarily an unfilled tubular sock-like projectile body of fabric construction material having a closed front end and a rear edge bounding a rear opening thereinto,
  - filling through said rear opening of said tubular sock-like projectile body a selected amount of lead shot to assume a position therein against said closed end,
  - forming folds in said tubular sock-like projectile body immediately forward of said rear opening thereof.
  - inserting said formed folds of said tubular sock-like projectile body into said projectile compartment front opening.
  - urging in movement said lead shot-filled closed front end of said tubular sock-like projectile body fully into said projectile compartment to an extent causing said formed folds thereof into firm contact against a said closed 12 gauge shotgun shell end and said lead shot-filled closed front end to expand radially into contact with said 12 gauge shotgun shell cylindrical wall so as to assume said cylindrical shape thereof characterized by a blunt front end, and
  - igniting said projectile-propelling means, whereby said tubular sock-like projectile body exits from said 12 gauge shotgun shell projectile compartment in said blunt-ended cylindrical shape against a force of air resistance to flight exerted against a front thereof and pushed by a force urging said shape in flight exerted against a rear thereof such that said blunt-ended cylindrical shape is maintained during flight and at impact to thereby contribute to a low lethality consequence.

'562 patent, col. 4, ll. 10-44 (formatting and emphasis added). The limitations at issue in this appeal are the "forming folds" and "inserting said formed folds" limitations.

The district court construed the "forming folds" limitation to require "the deliberate and systematic creation of folds." Combined Sys., Inc. v. Def. Tech. Corp., No. 01 CIV. 7833 (S.D.N.Y. Apr. 19, 2002) ("Apr. 19 Op."). According to the court, "[t]he 'forming folds' clause does not refer to any gathers in the material that incidentally occur when a string is pulled to close the [projectile]

compartment” and it “cannot be read as the gathering of material that occurs incidental to securing the shot in a compartment of the projectile, a gathering that may or may not form ‘folds.’” Id. Additionally, the court held that “the folds referenced in the claim are formed prior to -- not during -- insertion in the empty shotgun shell[.]” citing “the ordinary meaning” of the “inserting said formed folds” limitation. Id.

Subsequently, DTCA filed a motion for summary judgment of noninfringement. Applying the above-described construction, the district court granted the motion. Nov. 18 Op. and Order, at 17. It noted that, like the projectile “shaped” by the claimed method, the accused product is a “low lethality anti-personnel projectile[,] . . . also constructed from a tubular product that has been filled with lead shot and tied off to create a compartment containing the shot and an open end.” Id. at 3. However, after viewing CSI’s evidence on infringement -- a videotape of DTCA’s manufacturing process -- the court found that “to the extent any ‘folds’ are ever formed [in the DTCA process], they are created as part of the process of insertion [of the projectile into the shell] and not prior to it.” Id. at 8. It further found that “folds are not formed in any systematic or deliberate manner.” Id. at 9. In sum, according to the district court, CSI “has not presented evidence that [DTCA] systematically form[s] folds in the projectile or . . . do[es] so prior to the insertion of the projectile into the shotgun shell[.]” and did not, therefore, raise a question of fact as to literal infringement. Id.[1]

CSI timely appealed the grant of summary judgment. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

We review de novo a district court’s grant of summary judgment. Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315 (Fed. Cir. 1998). Summary judgment is appropriate if, drawing all factual inferences in favor of the non-movant, there is no genuine issue of material fact and the movant is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986).

Analysis of infringement involves two steps. Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 988 (Fed. Cir. 1999). First, the trial court determines the scope and meaning of the asserted claims. Markman v. Westview Instruments, Inc., 517 U.S. 370, 372-74 (1996). The trial court's claim construction is an issue of law reviewed without deference. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). Second, the claims as construed by the court are compared to the allegedly infringing device. Johnson, 175 F.3d at 988. We affirm a district court's summary judgment of non-infringement only if, "after viewing the alleged facts in the light most favorable to the non-movant, there is no genuine issue whether the accused device is encompassed by the claims." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1304 (Fed. Cir. 1999).

CSI does not challenge the district court's conclusion that, as a matter of law, claim 1, as construed, is not infringed literally or under the doctrine of equivalents. Accordingly, the only issue on appeal is whether the district court correctly construed the claim.

## I.

The language of the claim defines the boundary of its scope. Teleflex, Inc. v. Ficoso N. Am. Corp., 299 F.3d 1313, 1324 (Fed. Cir. 2002). Accordingly, "the claim construction inquiry . . . begins and ends in all cases with the actual words of the claim." Id. (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998)). Claim terms must be construed as they would be understood by a person of ordinary skill in the art to which the invention pertains. Specialty Composites v. Cabot Corp., 845 F.2d 981, 986 (Fed. Cir. 1988).

"The words used in the claim[ ] are interpreted in light of the intrinsic evidence of record, including the written description, the drawings, and the prosecution history, if in evidence." Teleflex, 299 F.3d at 1324. "In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art." Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298 (Fed.

Cir. 2003).

## II.

Claim 1 recites a “method of shaping a projectile so as to have a specified low lethality consequence upon impact against an individual,” including the step of “filling through [the] rear opening of [a] tubular sock-like projectile body a selected amount of lead shot to assume a position therein against [its] closed end . . . .” ’562 patent, col. 4, ll. 21-24. It further recites the steps of “forming folds in said tubular sock-like projectile body immediately forward of said rear opening thereof,” and “inserting said formed folds of said tubular sock-like projectile body into [the front opening of the] projectile compartment” of “an empty 12 gauge shotgun shell . . . .” ’562 patent, col. 4, ll. 13-14, 24-28 (emphasis added).

The district court relied in part on the American Heritage Dictionary definition of “fold,” namely “[t]o bend over or double up so that one part lies on another part,” which, according to the court, “when combined with the gerund ‘forming,’ requires the deliberate and systematic creation of folds.” Apr. 19 Op. This “ordinary meaning[,]” the court stated, “is reinforced by the claim’s introductory phrase: ‘method of shaping.’” Id. The court then looked to the specification “to determine whether the patentee has given the phrase ‘forming folds in said . . . body’ an unaccustomed meaning.” Id. The court noted that the specification uses “variations of the term ‘fold’” in connection with both the prior art and the “patented invention” and stated that such uses, as well as the figures in the patent, are “consistent with” the “deliberate and systematic” construction. Id.

CSI argues that the district court erred in construing the “forming folds” limitation to require the “deliberate and systematic creation of folds.” It contends that the “forming folds” limitation should be construed to mean “the step of forming folds (creases) by closing the opening of the body compartment of the sock-like projectile body, and may, if desired, include forming additional folds (creases) in the tail before, during or after insertion of the projectile into the projectile compartment.” CSI further argues that the district court incorrectly construed claim 1 to require that the “referenced folds” be “formed prior to, not during, the insertion [of the projectile] in the empty shotgun shell.”

Specifically, CSI contends that the district court's resort, at least in the first instance, to the dictionary definition of "fold" was improper. It also argues that the district court erred in relying on the dictionary definition for the verb form of "fold" when "folds" is used in the claim as a noun, that the written description's uses of the term "fold" are "unrelated" to the claim language and that the district court improperly relied on (1) "the figures in the preferred embodiment" (2) "in view of extrinsic evidence to support a previously flawed conclusion that any folds must be formed deliberately and systematically."<sup>[2]</sup> We conclude, based on our examination of the relevant evidence, that the claim construction and hence the grant of summary judgment was correct.

### Claim Language

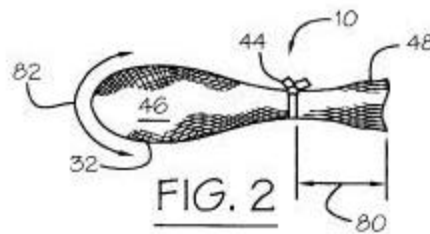
The claim recites a "shaping method comprising . . . using an empty 12 gauge shotgun shell having a cylindrical wall bounding a projectile compartment[,] placing "a selected amount of lead shot" into a "tubular sock-like projectile body" through its rear opening, "forming folds in said tubular sock-like projectile body immediately forward of said rear opening thereof," and "inserting said formed folds of said tubular sock-like projectile body into said projectile compartment front opening . . . ." The claim language thus indicates that the "folds" are formed in the "tail" end -- as opposed to the lead shot-filled end -- of the projectile. Also, the affirmative recitation of "forming folds . . ." as a step in the claimed process is consistent with the district court's construction -- at least its determination that the claim requires the "deliberate" forming of "folds."

Furthermore, plainly as a matter of grammar, the recitation of "inserting said formed folds . . . into said projectile compartment" forecloses -- at least in the absence of compelling evidence to the contrary in the written description or prosecution history -- a construction permitting the "folds" to be formed after or during insertion of the projectile into the projectile compartment in the shotgun shell. Cf. Interactive Gift Express, Inc. v. CompuServe Inc., 256 F.3d 1323, 1343 (Fed. Cir. 2001) (holding that a method claim not reciting an order of steps is not construed to require one, unless the "the method steps implicitly require that they be performed in the order written"). For example, a method claim reciting introducing acetic acid into groundwater and "introducing a turbulent flow of an aqueous

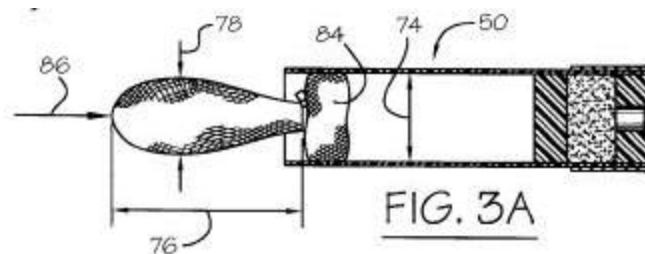
solution of ferrous ion into said groundwater region, for mixing with said acidified groundwater” requires the acetic acid introduction step to occur before the “turbulent flow” introduction step. Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc., 152 F.3d 1368, 1376 (Fed. Cir. 1998) (emphasis added) (“[I]n order for the aqueous solution to mix with the acidified groundwater, the acid must have already mixed with the groundwater to form acidified groundwater.”). Similarly, for the “formed folds” to be inserted into projectile compartment, they must already have been formed.

### Written Description and Drawings

The written description describes the placement of the lead shot in the “tubular sock-like body” and, referring to FIG. 2:



describes the “complet[ion]” of “the construction of the projectile 10” “by a tie or the like, as at 44, which delineates the lead shot-filled body 46 from a length portion or tail 48 of the fabric construction material 32.” ’562 patent, col. 2, ll. 54-60. After next describing the construction of the “projectile compartment” (in the shotgun shell) and the preferred dimensions of the projectile, the written description, referring to FIG. 3A and FIG. 3B:





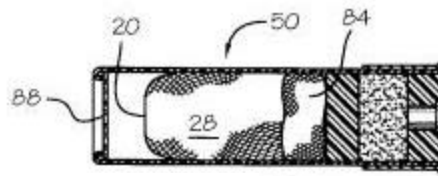


FIG. 3B

describes the insertion of the “FIG. 2 constructed projectile 10” into the projectile compartment, as follows:

The bulk of the FIG. 2 constructed projectile 10 is then manually stuffed through the front opening 58 into the compartment 54 which, not only of course properly positions the projectile 10 for firing, but also reshapes the projectile 10 so it can qualify for low lethality end use . . . .

In the loading of the projectile 10 into the cartridge compartment 54, the tail 48 is folded into a resulting bulk, as at 84, and in this folded configuration is urged in movement 86 into the compartment 54, as illustrated in FIG. 3A. Continuing to apply the force 86, the lead-filled projectile front 34 is worked fully into the compartment 54, as illustrated in FIG. 3B, aided by rotational twists of the projectile front end 34 in addition to the longitudinally directed force 86.

'562 patent, col. 3, ll. 18-35 (emphasis added). The rest of the written description does not otherwise use the term “fold” or any variation thereof in connection with the claimed invention, nor does it include any other description corresponding to the “forming folds” limitation in the claim. It does, however, use variations of the word “fold” in discussing the prior art:

A known projectile which currently is a low lethality munition of choice consists of a flat bag which is folded in half to fit within a 12 gauge shotgun shell, and after exiting from the muzzle is supposed to unfold into a flat bag shape and impact in this flat bag shape upon a target. As such the kinetic energy is distributed over the area of the bag instead of at a point as in regular ammunition. As a consequence there is less of a possibility of an undesirable penetration while permitting the delivery of a desirable incapacitating impact.

The shape of the above described projectile at impact is not always predictable based solely on its construction as a bag, because the bag can be flat at impact only if it unfolds after exiting from the muzzle. However, on numerous occasions in practice it does not unfold and contacts a target with its folded together side edges and thus, with a shape that can, and often does, inflict serious injury.

'562 patent, col. 1, ll.16-31 (emphasis added). As noted above, the district court concluded, without much explication, that “[a]ll of these uses of fold are consistent with the ordinary meaning of the phrase ‘forming folds’ as the systematic bending over or doubling up of fabric.” Apr. 19 Op. Whether so, and even if the written description’s uses of “fold” are, as CSI contends, “unrelated” to the “forming folds” limitation in the claim, the district court’s grant of summary judgment was correct.

As discussed above, the language of the claim itself compels the conclusion that the claim requires the “folds” to be formed before the projectile is inserted into the projectile compartment of the shotgun shell.<sup>[3]</sup> CSI does not contend that DTCA forms “folds” before inserting its projectile into its shell other than when DTCA ties off the projectile to close the lead shot-containing portion. Thus, the only remaining issue is whether the “forming folds” limitation was properly construed to exclude the “gathers in the material that incidentally occur when a string is pulled to close the compartment.” See Apr. 19 Op. We conclude that it was.

As noted above, the claim affirmatively recites “forming folds . . .” as a distinct step in the claimed method. Thus, the language of the claim is consistent with the district court’s “deliberate and systematic” construction. Further, according to the claim, the “folds” are formed “immediately forward of [the] rear opening” of the “tubular sock-like projectile body . . . .” When these claim limitations are read in the context of the entire specification, it becomes apparent that the district court’s construction -- at least to the extent it required the deliberate forming of folds in the tail of the projectile -- is correct.<sup>[4]</sup>

Specifically, the written description, in the only language that, at least on its face, corresponds with the claimed “forming folds . . .” step states: “the tail . . . is folded into a resulting bulk . . . and in this folded configuration is urged in movement . . . into the compartment . . . .” ’562 patent, col. 3, ll. 28-30. Further, neither in its discussion of “complet[ing]” the “construction of the projectile . . . by a tie or the like[,]” nor in the associated figure (FIG. 2) of the patent, does the description make any reference to any folds, bends, creases or the like formed as a result of or in association with the closing of the compartment,<sup>[5]</sup> and CSI produced no expert testimony or other extrinsic evidence that fold-forming

would inherently result therefrom. To summarize, all of the intrinsic evidence is consistent with a construction requiring the deliberate forming of folds in the tail section of the projectile. Because CSI does not contest the district court's conclusion, as a matter of law, that DTCA's process does not include this step, we affirm the grant of summary judgment.

### III.

As noted above, CSI also assigns error to the methodology by which the district court used the dictionary in its claim construction analysis, including its "place[ment of] primary importance on the extrinsic evidence before consideration of the intrinsic evidence." Had the district court relied exclusively on the dictionary definition or allowed it to overcome clear language in the patent itself, its methodology (although not necessarily its conclusion) would have been clearly wrong. As we have previously noted:

[A] common meaning, such as one expressed in a relevant dictionary, that flies in the face of the patent disclosure is undeserving of fealty. As one of our predecessor courts stated . . . : Indiscriminate reliance on definitions found in dictionaries can often produce absurd results . . . . One need not arbitrarily pick and choose from the various accepted definitions of a word to decide which meaning was intended as the word is used in a given claim. The subject matter, the context, etc., will more often than not lead to the correct conclusion.

Renishaw PLC, 158 F.3d at 1250 (citation omitted) (emphasis added). The district court, however, did not rely solely on the dictionary definition; rather, it reviewed and considered the written description and the figures of the patent. In addition, it did not allow a dictionary meaning to overcome clear language in the patent. Its opinion on claim construction, though, suggests it may have read some isolated statements in certain recent opinions too rigidly and in isolation from the entire body of our claim construction jurisprudence.

Specifically, after discussing the dictionary definition of "fold," and before reviewing pertinent portions of the written description, the district court stated: "Even when the ordinary meaning of a term appears to be clear from the claim language, however, it is necessary to read the claim in the context of the specification to determine whether the patentee has given the phrase 'forming folds in said . . . body'

an unaccustomed meaning.” Apr. 19 Op. If, which we doubt, this language indicates that the district court believed that our cases permit consulting the specification solely for the limited purpose of determining whether it contradicts the dictionary meaning of a claim term,<sup>[6]</sup> such a view is not supported by our case law, read as a whole. As we have recently stated, “[t]he written description must be examined in every case, because it is relevant not only to aid in the claim construction analysis, but also to determine if the presumption of ordinary and customary meaning is rebutted.” Brookhill-Wilk, 334 F.3d at 1298. Thus use of the specification to “determine if the presumption of ordinary and customary meaning is rebutted” is no more important than examining it “to aid in the claim construction analysis . . . .”

### CONCLUSION

Regardless of how it described its approach, we conclude that the district court conducted the proper analysis using correct methodology and sources and reached the correct construction. Accordingly, we

### AFFIRM.

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<sup>[1]</sup> The district court similarly held CSI’s evidence insufficient to raise a genuine issue of material fact as to infringement under the doctrine of equivalents. Nov. 18 Op. and Order, at 11-12. CSI does not specifically challenge that determination.

<sup>[2]</sup> CSI contends that DTCA performs the “forming folds” step when it (1) ties off its projectile after filling the closed end with lead shot, dividing the projectile into a closed (filled) compartment and a tail end, and/or (2) inserts the shot-containing projectile, tail end first, into the shotgun shell. Under the first alternative, the “folds” are creases, gathers, or bends formed when the fabric of the projectile is cinched together by the tie. Under the second, the “folds” are formed in the tail section of the DTCA projectile when the projectile is urged, tail end first, against the inside of the closed end of the shotgun shell.

<sup>[3]</sup> To the extent that CSI contends that this conclusion is undermined by the language in the written description that states: “In the loading of the projectile 10 into the cartridge compartment 54,

the tail is folded into a resulting bulk, as at 84” (’562 patent, col. 3, ll. 27-28 (emphasis added)), it is incorrect. First, the language CSI relies upon is itself immediately followed by language (“and in this folded configuration is urged in movement into the compartment 54, as illustrated in FIG. 3A” (emphasis added)) inconsistent with CSI’s position and consistent with the district court’s construction. Second, the claim language clearly requires that “said formed folds” be “formed” before they are “insert[ed] . . . into said projectile compartment . . . .” Thus, “even if . . . a disclosure” of forming folds during insertion into the compartment “existed, [this] embodiment[ ] would not be covered by the language selected by the claim drafter.” Oak Tech., Inc. v. International Trade Comm’n, 248 F.3d 1316, 1329 (Fed. Cir. 2001).

[4] Contrary to CSI’s contention, the prosecution history of the ’562 patent does not undercut the district court’s construction. The U.S. Patent and Trademark Office (“PTO”) allowed claim 1 on first action, and issued the following examiner’s statement of reasons for allowance: “Although the prior art it [sic] pertinent, it does not disclose a method of preparing a low lethality projectile wherein an empty 12 gauge cartridge is loaded with a shot filled tubular sock-like projectile where the open end is closed by forming folds in the material” (emphasis added). According to CSI, the examiner’s statement “unmistakably supports [its] contention that at least one embodiment of the claimed invention could include the ‘folds’ as the securing means for the lead shot[,]” and because the district court’s construction does not cover this embodiment, it is incorrect. We disagree. Nothing in the specification can be fairly read as disclosing an embodiment that includes closing the open end of the projectile “by forming folds in the material.” Accordingly, the examiner’s statement is, as the district court recognized, ambiguous.

[5] To the extent the drawings show “folds,” they are shown formed in the tail section of the projectile (’562 patent, FIGS. 3A, 3B, and 4), i.e., behind, and not resulting from, the tie.

[6] We note also here that when we, the district courts, and parties refer to the “ordinary meaning” of a claim term, such references are “short-hand” for the appropriate connotation under the law: the meaning, to a person of ordinary skill in the art. E.g., Teleflex, 299 F.3d at 1325 (“[T]he ordinary meaning must be determined from the standpoint of a person of ordinary skill in the relevant art.”).