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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FULVIO SOLDAINI

Appeal 2015-001768
Application 13/386,254
Technology Center 2800

Before ST. JOHN COURTENAY III, CARLA M. KRIVAK, and JOYCE CRAIG, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held on November 10, 2016.

We Affirm.

Invention

The invention on appeal relates to a system for recovering energy in apparatuses for the handling of loads. (Title).

Representative Claim

1. A system for recovering energy in apparatuses for the handling of loads, the system comprising:

[L1] an electric motor means for moving a load vertically, wherein said electric motor means uses electric energy whose level is less or more than a preset value based on an operative state of said electric motor means;

[L2] a sensing means for sensing a quantity of electric energy instant-by-instant used by said electric motor means; and

[L3] at least one electric generator for converting rotation of an output shaft of said electric motor means into electric energy, said sensing means driving activation of said at least one electric generator when the electric energy used by said electric motor means is less than said preset value and said sensing means driving the deactivation of said at least one electric generator when the electric energy used by said electric motor means is greater than said preset value.

(Bracketed matter added regarding the contested limitations, labeled as L1–L3.)

Rejections

A. Claims 1, 3–5, and 8 are rejected under 35 U.S.C. § 103(a) over the teachings and suggestions of Tajima et al. (US 6,474,447 B2; issued Nov. 5, 2002) (hereinafter "Tajima").

B. Claims 2, 6, 7, 9, 10, and 11 are rejected under 35 U.S.C. § 103(a) over the combined teachings and suggestions of Tajima and Roesel, Jr. (US 5,838,085; issued Nov. 17, 1998) (hereinafter "Roesel").

C. Claims 12–20 are rejected under 35 U.S.C. § 103(a) over the combined teachings and suggestions of Tajima and Langley, Jr. (US 4,370,559; issued Jan. 25, 1983) (hereinafter "Langley").

ANALYSIS

We have considered all of Appellant's arguments and any evidence presented. We find Appellant's arguments unpersuasive for the reasons discussed *infra*. We adopt as our own: (1) the findings and legal conclusions set forth by the Examiner in the action from which this appeal is taken, and (2) the findings, legal conclusions, and explanations set forth in the Answer in response to Appellant's arguments (Ans. 7–17).

We consider Appellant's arguments *seriatim*, as they are presented in the Appeal Brief, pages 9–29; however, we address Appellant's arguments only to the extent that such arguments are directed to limitations actually *claimed*. To the extent Appellant has not advanced separate, substantive arguments for particular claim limitations, such arguments are considered waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Regarding rejection A, we address separately argued claims 1, 3, 4, 5, and 8. Regarding rejection B, we address separately argued claims 2, 6, 7, 9, 10, and 11. Regarding rejection C, we address separately argued claims 12–20. Rather than reproduce large portions of the record, we highlight and address specific findings and arguments for emphasis in our analysis below.[1]

[1] Rather than reproduce the arguments in their entirety as advanced in the Briefs, we refer by reference to the pertinent pages of the Appeal Brief filed on August 13, 2014, and the Reply Brief filed on Oct. 30, 2014. Likewise, we refer to the pertinent pages of the Final Rejection, mailed on November 14, 2013, and the Examiner's Answer, mailed on September 4, 2014,

Rejection A of claims 1, 3–5, and 8 under 35 U.S.C. § 103(a)

Rejection A of claim 1 under 35 U.S.C. § 103(a)

Issue: Under 35 U.S.C. § 103(a), did the Examiner err in finding the cited Tajima reference would have taught or suggested the following contested limitations L1–L3:

> [L1] an electric motor means for moving a load vertically, wherein said electric motor means uses electric energy whose level is less or more than a preset value based on an operative state of said electric motor means;
>
> [L2] a sensing means for sensing a quantity of electric energy instant-by-instant used by said electric motor means; and
>
> [L3] at least one electric generator for converting rotation of an output shaft of said electric motor means into electric energy, said sensing means driving activation of said at least one electric generator when the electric energy used by said electric motor means is less than said preset value and said sensing means driving the deactivation of said at least one electric generator when the electric energy used by said electric motor means is greater than said preset value

within the meaning of claim 1?[2]

Regarding contested **limitation L1**, we agree with the Examiner that Tajima teaches an electric motor means (Fig. 1, 2) for moving a load vertically, as claimed. (Final Act. 3). Appellant does not advance a substantive argument for limitation L1; instead, Appellant merely recites the

[2] We give the contested claim limitations the broadest reasonable interpretation consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

claim language and asserts it is not taught or suggested by Tajima. (App. Br. 10). As such, we find unpersuasive Appellant's allegation that limitation L1 is not taught by Tajima.[3]

Regarding contested **limitation L2**, we agree with the Examiner that Tajima teaches "a sensing means for sensing a quantity of electric energy instant-by-instant, [as] used by said electric motor means," as claimed. (Final Act. 3, relying on "current detecting apparatus 12 [that] is provided between the motor 2 and the inverter 15." (Tajima, col. 2, ll. 1–3; Fig. 1)).

Although Appellant contends the current detecting apparatus of Tajima "is provided for a completely different purpose" (App. Br. 10), "neither the particular motivation nor the avowed purpose of the [Appellant] controls" in an obviousness analysis. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007).

Regarding contested **limitation L3,** the Examiner finds Tajima "does not explicitly state the system comprises an electric generator." (Final Act. 3). However, the Examiner takes official notice:

> [i]t would have been obvious to a person of ordinary skill in the art at the time the invention was made the charging of the power storage apparatus through 'regenerative power produced when an elevator is driven' involves the use of an electric generator, for reasons that are well-known and expected in the art.

(*Id.*).

We find Appellant has not adequately traversed the taking of official

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[3] *See In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) ("[W]e hold that the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art.").

notice by the Examiner regarding **limitation L3** (electric generator). (*Id.*). In particular, Appellant has not specifically identified the supposed error in the Examiner's action, *which would include stating in the record why the noticed fact is not considered to be common knowledge or well-known in the art*. *See* MPEP § 2144.03.[4] Because Appellant has not met his burden of production, on this record, we are not persuaded the Examiner erred. Absent any contrary objective evidence in the record proffered by Appellant, we find the claimed "electric generator" is a familiar element that would have merely produced an expected, predictable result, and therefore would have been obvious to an artisan possessing an ordinary level of skill at the time of the invention. *See KSR*, 550 U.S. at 416. We further agree with the Examiner that the claimed "electric generator" is at least suggested by the regenerative system of Tajima, as described in col. 4, ll. 5–6: wherein the "power storage apparatus 21 may be charged by using regenerative power produced when an elevator is driven in a regenerative operation mode." (*See* Final Act. 3). In reviewing the record, we are of the view that an electric generator would have been obvious to an artisan at the time of the invention, as a practical means to implement the described regenerative power system of Tajima. Moreover, we find using Tajima's current detecting apparatus 12 as a "sensing" element to drive:

> activation of said at least one electric generator when the electric energy used by said electric motor means is less than said preset value and said sensing means driving the deactivation of said at least one electric generator when the electric energy used by said electric motor means is greater than said preset value[,]

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[4] We note the Examiner may take notice of facts or common knowledge in the art which are capable of such instant and unquestionable demonstration as to defy dispute. *In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970).

as recited in claim 1, would merely have realized a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417. We agree with the Examiner that the claimed "preset" values of electric energy to activate and deactivate the electric generator are at least suggested by Tajima's description (col. 5, ll. 3–13), which references Figure 2, step S205. Referring to Figure 2, Tajima describes: "At this S205, the charge/discharge control circuit 22 judges as to whether or not the bus line voltage VB is equal to or higher than a target voltage" (i.e., a "preset" value). (Tajima, col. 5, ll. 8–10).

Therefore, on this record, Appellant has not persuaded us the Examiner erred. We find a preponderance of the evidence supports the Examiner's underlying factual findings and legal conclusion of obviousness for claim 1. Accordingly, we sustain rejection A of independent claim 1.

Rejection A of Claim 3

Claim 3 recites: "A system according to claim 1, wherein said load is connected to a first end of a cable which is connected, on an opposite end, with a counter-load, and is vertically moved by said electric motor means though a pulley or another element for moving the cable."

Regarding rejection A of claim 3, Appellant contends, *inter alia*, "[t]here is no teaching or suggestion in Tajima et al. as to a load that is pulled through a pulley and the advantages associated with using a pulley as featured in the present invention." (App. Br. 12).

The Examiner finds (Final Act. 4):

> Although Tajima et al. shows a cable effected by electric motor means, there is no specific reference to the cable passing through a pulley. Official Notice is taken that both the concept and advantages of a pulley and cable system are well known and expected in the art.

> It would have been obvious to have used a pulley to guide the cable as it moved the load vertically thereby forestalling premature wear on the cable.

Similar to our discussion above regarding claim 1, we find Appellant has not adequately traversed the taking of official notice by specifically identifying the supposed error in the Examiner's action, *which would include stating in the record why the noticed fact is not considered to be common knowledge or well-known in the art*. *See* MPEP § 2144.03. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection A of claim 3.

Rejection A of Claim 4

Claim 4 recites: "A system according to claim 1, further comprising a change-pole switch connected with said at least one electric generator."

Regarding rejection A of claim 4, Appellant premises his argument regarding the *change-pole switch* on an assertion "[t]here is no electric generator disclosed in Tajima et al. as featured in the present invention . . . [because] [t]here is no teaching or suggestion in Tajima et al. as to the specific structure that is used to carry out a regenerative operation." (App. Br. 13). However, we have fully addressed the obviousness of the use of an electric generator to implement a regenerative operation in Tajima in our discussion above regarding claim 1. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection A of claim 4.

Rejection A of Claim 5

Claim 5 recites: "A system according to claim 1, further comprising a preset amount of batteries connected with an electric output of said at least one electric generator."

Appellant again premises his argument regarding claim 5 on the absence of an electric generator in Tajima: "there is no teaching or suggestion in Tajima et al. as to a preset amount of batteries connected with an electric output of at least one *electric generator* as recited in claim 5." (App. Br. 14). However, we have fully addressed the obviousness of the use of an electric generator to implement a regenerative operation in Tajima in our discussion above regarding claim 1. We also find Tajima's Figure 1 expressly depicts "a preset amount of batteries" (claim 5) as battery element 21. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection A of claim 5.

Rejection A of Claim 8

Claim 8 recites: "A system according to claim 1, wherein said sensing means senses electric current used by the electric motor means."

Regarding rejection A of claim 8, Appellant contends, *inter alia*: that:

> Tajima et al. only discloses that an inverter control circuit 13 that receives feedback from a current detecting apparatus 12 to control the speed of an elevator. There is no teaching or suggestion that the current detecting apparatus 12 of Tajima et al. activates or deactivates at least one electric generator as featured in the present invention.

(App. Br. 14–15).

As discussed above regarding claim 1, and as found by the Examiner (Final Act. 3), we find the claimed "sensing means" is taught by Tajima's "current detecting apparatus 12 [that] is provided between the motor 2 and the inverter 15." (Col. 2, ll. 1–3). Appellant again premises his argument regarding claim 8 on the *absence of an electric generator* in Tajima, which we have fully addressed above in our discussion regarding claim 1.

Therefore, Appellant has not persuaded us the Examiner erred regarding rejection A of claim 8.

Rejection B of claims 2, 6, 7, 9, 10 and 11 under 35 U.S.C. § 103(a)

Rejection B of claim 2

Regarding rejection B of claim 2, Appellant contends, *inter alia*:

> The final rejection relies on the teachings of Roesel Jr. et al. to suggest it would be obvious to provide a connecting means that is driven by a sensing means to connect or disconnect a shaft of at least one electric generator and an output shaft of an electric motor means based on electric energy used by an electric motor means as featured in the present invention. Although Roesel Jr. et al. may disclose a clutch 124 that connects an engine to a rotor shaft 73A to start an engine, there is no teaching or suggestion in Roesel Jr. et al. as to the clutch connecting a shaft of at least one electric generator and an output shaft of an electric motor means as featured in the present invention.

(App. Br. 16).

The Examiner disagrees: "Figure 5B of Roesel Jr. et al. shows connecting means, that being a clutch (124) connecting shaft (123) with output shaft (73A)." (Ans. 8). The Examiner finds an artisan would have been motivated "to modify the system shown by Tajima et al. by providing a clutch as the connecting means between the electric motor and electric generator as shown by Roesel Jr. et al. as an easy and reliable means of engagement and disengagement." (Final Act. 5). We find the Examiner sets forth sufficient "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Therefore, Appellant has not persuaded us the Examiner erred regarding rejection B of claim 2.

Rejection B of claim 6

Claim 6 recites: "A system according to claim 1, further comprising *another electric generator*, said at least one electric generator and said another electric generator being connected with two respective shafts of the electric motor means by two corresponding connecting means." (Emphasis added).

Regarding rejection B of claim 6, Appellant contends, *inter alia*, "Tajima et al. does not disclose a single electric generator, let alone *two electric generators* as recited in claim 6." (App. Br. 17) (emphasis added).

We have fully addressed the obviousness of the use of an electric generator to implement a regenerative operation in Tajima in our discussion above regarding claim 1. Regarding the (second) contested "another electric generator" (claim 6), our reviewing courts guide that claiming a mere plurality of prior art elements is not an unobvious distinction over the prior art of record, because using plural elements would have produced a predictable result under § 103. "A mere duplication of parts is not invention." *In re Marcum*, 47 F.2d 377, 378 (CCPA 1931) (citing *Topliff v. Topliff*, 145 U.S. 156, 163 (1892)).[5] *See also KSR*, 550 U.S. at 417 (i.e., "the predictable use of prior art elements according to their established functions.").

This reasoning is applicable here. Thus, we conclude claiming a mere plurality of electric generators mechanically coupled as recited in claim 6 is not an unobvious distinction over the prior art of record.

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[5] *See also* MPEP 2144.04(VI)(B)("REVERSAL, DUPLICATION, OR REARRANGEMENT OF PARTS").

Therefore, Appellant has not persuaded us the Examiner erred regarding rejection B of claim 6.

Rejection B of claim 7

Claim 7 recites: "A system according to claim 2, wherein said connecting means is an electric clutch."

Regarding rejection B of claim 7, Appellant contends, *inter alia*:

> Although Roesel Jr. et al. discloses an electrically operable clutch 124, Tajima et al. and Roesel Jr. et al. do not provide any teaching or suggestion as to an electric clutch that is driven by a sensing means in order to connect a shaft of at least one electric generator and an output shaft of an electric motor means to each other when the electric energy used by the electric motor means is less than a preset value and to disconnect the shaft of the at least one electric generator and the output shaft from each other when the electric energy used by the electric motor means is less than the preset value as recited in claim 7.

(App. Br. 18).

We note Appellant admits "Roesel Jr. et al. discloses an electrically operable clutch 124 . . . ." (App. Br. 18).[6] The remaining argued limitations are not recited in claim 7, but have been fully addressed above regarding the previous claims. Therefore, on this record, Appellant has not persuaded us the Examiner erred regarding rejection B of claim 7.

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[6] "A statement by an applicant in the specification or made during prosecution identifying the work of another as 'prior art' is an admission which can be relied upon for both anticipation and obviousness determinations, regardless of whether the admitted prior art would otherwise qualify as prior art under the statutory categories of 35 U.S.C. 102." MPEP §2129(I.), citing *Riverwood Int'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354 (Fed. Cir. 2003); *Constant v. Advanced Micro-Devices Inc.*, 848 F.2d 1560, 1570 (Fed. Cir. 1988).

Rejection B of claim 9

Claim 9 recites: "A system according to claim 1, wherein rotors of the electric motor means and of the at least one electric generator are mounted on the same shaft."

Regarding rejection B of claim 9, Appellant contends, *inter alia*:

> The final rejection relies on Figure 5 of Roesel Jr. et al. to suggest it would be obvious to mount the rotors of an electric motor means and rotors of at least one electric generator on the same shaft. However, Figure 5 of Roesel Jr. et al. clearly shows two different shafts (shaft 73A, shaft 123) such that it is not possible for the rotors of an electric motor means and rotors of at least one electric generator to be mounted on the same shaft as required by claim 9.

(App. Br. 19).

The Examiner relies of Roesel's Figure 5. (Final Act. 5). Roesel describes Figure 5, in pertinent part: "Attached to machine 10 and aligned axially with shaft 73A, is a shaft 123 supported by a bearing pair 125 and attached to the outer face of an electrically operable clutch 124." (Col. 12, ll. 60–62; Fig. 5). We note Figure 5B of Roesel depicts an exploded view of the pertinent portion of Figure 5, showing that shaft 123 (coupled to the pulley and belt) is mechanically coupled to shaft 73 (to the left), via clutch 124, thus realizing the mechanical effect of the "same shaft" when clutch 124 is engaged. Given these teachings (*id.*), we find mounting the rotors on the same shaft (claim 9) for efficient coupling between the motor means and generator would have merely realized a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection B of claim 9.

Rejection B of claim 10

Claim 10 recites: "A system according to claim 1, wherein the electric motor means and the at least one electric generator with a common shaft are inside a single containing structure."

Regarding rejection B of claim 10, Appellant contends, inter alia:

> Figure 5 of Roesel Jr. et al. clearly shows two different shafts (shaft 73A, shaft 123) that are provided in a housing. There is no teaching or suggestion in Figure 5 of Roesel Jr. et al. as an electric motor means and at least one electric generator with a common shaft that are inside a single containing structure as required by claim 10.

(App. Br. 19–20).

We find Appellant (*id.*) premises his argument on the "common shaft" limitation that we have fully addressed above regarding claim 9, and found unpersuasive. Appellant admits that Roesel provides a housing. (App. Br. 19). *See* n.6 *supra*, regarding admissions. Roesel expressly describes: "An enclosed housing 106 is attached to the base, and it comprises metal frame members 104, 104A, 104B, 104C, and 104D, all welded, bolted, or otherwise joined into a strong and firm framework." (Col. 12, ll. 33–36; Fig. 5). Given this evidence (*id.*), and given Appellant's admission (App. Br. 19), and given our discussion above regarding the "common shaft" limitation contested with respect to claim 9, on this record we are not persuaded the Examiner erred regarding rejection B of claim 10.

Rejection B of claim 11

Claim 11 recites: "A system according to claim 1, wherein said electric motor means is located at a spaced location from said at least one electric generator, said electric motor means being different from said at least one electric generator."

The Examiner finds (Final Act. 6):

> Roesel Jr. et al. shows electric motor means differs and is spaced from an electric generator [COL. 3 LINES 45-48] where the rotors are mounted on the same shaft [COL. 3 LINES 52-57] within a single containing structure [FIG. 5]; the connecting means comprises a clutch 124 which connects a shaft 123 of the at least one electric generator with the output shaft 73A.

Regarding rejection B of claim 11, Appellant contends, *inter alia*, "[t]here is no teaching or suggestion in Roesel Jr. et al. as to an electric motor means that is located at a spaced location from at least one electric generator as claimed." (App. Br. 20). We disagree. We find Figure 5B depicts a space between the shafts 123 and 73A, within the exploded view.

Therefore, Appellant has not persuaded us the Examiner erred regarding rejection B of claim 11.

Rejection C of claims 12–20 under 35 U.S.C. § 103(a)

Rejection C of Independent Claim 12

Regarding rejection C of independent claim 12, Appellant contends, inter alia:

> Langley Jr. fails to teach and fails to suggest an electric generator that is operated or not operated to convert rotation of an output shaft of an electric motor into generated electric energy based on a state of the electric motor as determined by a detector device as claimed. Langley, Jr. only discloses an electric generator 40 that is coupled to a pneumatic motor 36 in one embodiment (see Figure 1) and an electric generator 70 that is connected to a pulley 68 via gearing 72 and a clutch 66 in another embodiment (see Figure 2). However, Langley, Jr. provides no teaching or suggestion as to operating or not operating an electric generator based on whether the energy used

> by an electric motor is above or below a preset value as featured in the present invention.

(App. Br. 22).

We find Appellant is arguing the references separately.[7] The argued "teaching or suggestion as to operating or not operating an electric generator based on whether the energy used by an electric motor is above or below a preset value" (App. Br. 22) was found by the Examiner in Tajima, as discussed above regarding claim 1. Moreover, as discussed above regarding claim 1, we find such arrangement would have merely realized a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection C of claim 12.

Rejection C of claims 13–19

The Examiner finds regarding claims 13–19 (Final Act. 8):

> Independent claim 16 and dependent claims 17-19 differ only slightly from independent claim 12 and dependent claims 13-15 discussed above; where the system of Tajima et al. showing various operating parameters contingent on detecting means has been modified by Langley Jr. to employ an electric generator separate from the electric motor.
>
> Langley Jr. further shows the output shaft of the electric motor connected to the load [FIG. 2] and the electric generator 70 being connected to the output shaft converting rotation of the output shaft into generated electric energy [COL. 3 LINES 53-57] comprising a clutch 44 positioned and acting between the electric motor and the electric generator[.]

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[7] *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.).

Claim 13 recites:

> A system according to claim 12, further comprising: a clutch positioned and acting between said electric motor and said electric generator, said clutch connecting said electric generator with said output shaft when said detector device determines said electric motor is in said second state, said electric generator being disconnected from said output shaft when said detector device determines said electric motor is in said first state.

Regarding rejection C of claim 13, Appellant contends, inter alia: "Although Langley, Jr. discloses a clutch 66 and a clutch 52, neither the clutch 66 nor the clutch 52 of Langley, Jr. connects an electric generator with an output shaft of an electric motor as featured in the present invention." (App. Br. 23).

However, we find Appellant acknowledges in traversing claim 12, that "Langley, Jr. only discloses an *electric generator 40 that is coupled to a pneumatic motor 36* in one embodiment (see Figure 1) and an electric generator 70 that is connected to a pulley 68 via gearing 72 and a clutch 66 in another embodiment (see Figure 2)." (App. Br. 22).

We find an artisan would have known an electric motor could have been substituted for the pneumatic motor 36 depicted in Langley's Figure 2, and we find such arrangement would have merely realized a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417. Appellant does not provide any evidence in the record of secondary considerations to establish, e.g., an unexpected result from such coupling of familiar components. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection C of claim 13.

Rejection C of claim 14

Claim 14 recites: "A system according to claim 13, wherein said

electric generator is located at a spaced location from said electric motor."

Regarding rejection C of claim 14, Appellant recites the claim language and grounds his argument on a premise that we have fully addressed above regarding claim 13: "Neither the clutch 66 nor the clutch 52 of Langley, Jr. connects an electric generator with an output shaft of an electric motor as featured in the present invention." (App. Br. 24).

Because we have fully addressed this argument above regarding claim 13, on this record, Appellant has not persuaded us the Examiner erred regarding rejection C of claim 14.

Rejection C of claim 15

Claim 15 recites: "A system according to claim 14, wherein said electric generator is separate from said electric motor."

Regarding rejection C of claim 15, Appellant grounds his argument by essentially restating a premise that we have fully addressed above regarding claim 14:

> The final rejection relies on the teachings of Langley, Jr. to suggest it would be obvious to provide a clutch as featured in the present invention. *Neither the clutch 66 nor the clutch 52 of Langley, Jr. connects an electric generator with an output shaft of an electric motor as featured in the present invention*.

(App. Br. 25) (emphasis added).

Because we have fully addressed this argument above regarding claim 14, on this record, Appellant has not persuaded us the Examiner erred regarding rejection C of claim 15.

Rejection C of independent claim 16

Regarding claims 16–19, the Examiner finds (Final Act. 8):

> Independent claim 16 and dependent claims 17-19 differ only slightly from independent claim 12 and dependent claims 13-15 discussed above; where the system of Tajima et al. showing various operating parameters contingent on detecting means has been modified by Langley Jr. to employ an electric generator separate from the electric motor.

Regarding rejection C of claim 16, Appellant essentially restates arguments we have fully addressed above regarding claims 12–15, e.g.:

> There is no teaching or suggestion as to the electric generator 70 of Langley, Jr. being connected to an output shaft of the electric motor 50 when a detector device determines an amount of motor electric energy used by the electric motor is less than a preset value as featured in the present invention.

(App. Br. 26).

Because such coupling is the essential function of a mechanical clutch, such as depicted in Langley's Figure 2 (elements 44, 52, 66), we find the arrangement recited in claim 16 would have merely realized a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417. Therefore, Appellant has not persuaded us the Examiner erred regarding rejection C of claim 16.

Rejection C of claims 17–19

Regarding, claims 17–19, Appellant essentially restates arguments regarding the clutch arrangement that we have fully addressed above regarding claims 12–16. (App. Br. 26–28). We find these arguments unpersuasive for the reasons discussed *supra*. Therefore, on this record, Appellant has not persuaded us the Examiner erred regarding rejection C of claims 17–19.

Rejection C of claim 20

Regarding rejection C of claim 20, Appellant contends, *inter alia*:

> The prior art as a whole does not teach or suggest *two electric generators* that are connected with *two respective shafts* of an electric motor via *two clutches* as recited in claim 20. The final rejection takes the position that Tajima et al. discloses a single generator. However, there is no teaching or suggestion in Tajima et al. as to an electric generator, let alone *two electric generators* as featured in the present invention. In fact, neither Tajima et al. nor Langley, Jr. discloses two electric generators that are connected with two respective shafts of an electric motor via two clutches as claimed.

(App. Br. 28–29.)

We have fully addressed above (in our discussion of claim 6) the obviousness of duplication of parts: "A mere duplication of parts is not invention." *Marcum*, 47 F.2d at 378 (CCPA 1931) (citing *Topliff*, 145 U.S. at 163 (1892)). *See also KSR*, 550 U.S. at 417 (i.e., "the predictable use of prior art elements according to their established functions.").

Therefore, on this record, Appellant has not persuaded us the Examiner erred regarding rejection C of claim 20.

Conclusion

For at least the aforementioned reasons, on this record, we are not persuaded the Examiner erred. We find a preponderance of the evidence supports the Examiner's underlying factual findings and ultimate legal conclusion of obviousness for all claims on appeal.

DECISION

We affirm the Examiner's rejections of claims 1–20 under § 103(a).

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 41.50(f).

AFFIRMED