

## Petitioner's Demonstratives

# One World Tech. v. Chervon (HK) Ltd.

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### *Inter Partes Review*

IPR2020-00884, U.S. Patent No. 9,596,806

IPR2020-00886, U.S. Patent No. 9,826,686

IPR2020-00887, U.S. Patent No. 9,986,686

IPR2020-00888, U.S. Patent No. 10,070,588

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DLA Piper US LLP

August 5, 2021



## Proposed Agenda

- The Challenged Patents
- Claim Construction
- The Prior Art



# The Challenged Patents

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# The Challenged Patents

## IPR2020-00884 ('806)

| Ground | Claims       | Basis | References                            |
|--------|--------------|-------|---------------------------------------|
| 1      | 1-2, 6-7, 12 | §103  | Outils in view of Matsunaga           |
| 2      | 3-4, 8-9, 13 | §103  | Outils, Matsunaga, Langdon and Nakano |
| 3      | 5, 10        | §103  | Outils, Matsunaga and Meldahl         |
| 4      | 11           | §103  | Outils, Matsunaga, Milcoy and Hilchey |

## IPR2020-00886 ('26686)

| Ground | Claims      | Basis | References  |
|--------|-------------|-------|---|
| 1      | 1-7, 11-17  | §103  | Outils in view of Roelle and Matsunaga                  |
| 2      | 8-10, 18-20 | §103  | Outils in view of Roelle, Matsunaga, Langdon and Nakano |

## IPR2020-00887 ('86686)

| Ground | Claims      | Basis | References  |
|--------|-------------|-------|---|
| 1      | 1-14, 18-20 | §103  | Reichart in view of Nakano, Outils, and 16 CFR 1205 (2012).           |
| 2      | 15-17       | §103  | Reichart in view of Nakano, Outils, Matsunaga and 16 CFR 1205 (2012). |

## IPR2020-00888 ('588)

| Ground | Claims         | Basis | References                                      |
|--------|----------------|-------|---|
| 1      | 1-10           | §103  | Reichart in view of Nakano                      |
| 2      | 11, 15, 20     | §103  | Outils in view of Matsunaga                     |
| 3      | 12, 16, 17, 21 | §103  | Outils in view of Matsunaga, Langdon and Nakano |
| 4      | 19             | §103  | Outils in view of Matsunaga, Milcoy and Hilchey |

Petitions, p.4 (color added).



## The Challenged Patents

### IPR2020-00884 ('806)

| Ground | Claims                           | Basis | References                            |
|--------|----------------------------------|-------|---------------------------------------|
| 1      | 1-2, 6-7, 12                     | §103  | Outils in view of Matsunaga           |
| 2      | 1. A gardening tool, comprising: |       | Nakano                                |
| 3      | 6. A mower, comprising:          |       | Idahl                                 |
| 4      | 11                               | §103  | Outils, Matsunaga, Milcoy and Hilchey |

### IPR2020-00886 ('26686)

| Ground | Claims                           | Basis | References                             |
|--------|----------------------------------|-------|--|
| 1      | 1-7, 11-17                       | §103  | Outils in view of Roelle and Matsunaga |
| 2      | 1. A gardening tool, comprising: |       |  |
|        | 8-10, 18-20                      | §103  | Outils in view of Roelle, Matsunaga,   |
|        | 11. A mower, comprising:         |       |  |

### IPR2020-00887 ('86686)

| Ground | Claims                            | Basis | References                                 |
|--------|-----------------------------------|-------|--|
| 1      | 1-14, 18-20                       | §103  | Reichart in view of Nakano, Outils, and 16 |
|        | 1. A gardening tool, comprising:  |       |  |
|        | 11. A gardening tool, comprising: |       | a  |
|        |                                   |       | and 16 CFR 1205 (2012).                    |

### IPR2020-00888 ('588)

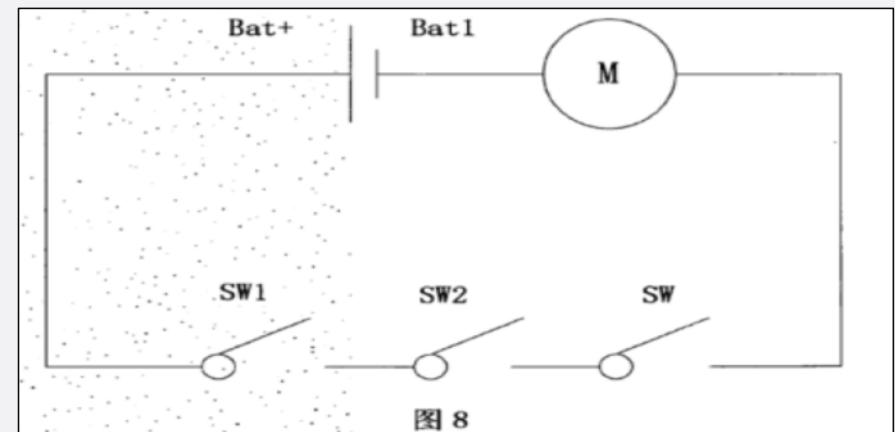
| Ground | Claims                            | Basis | References                  |
|--------|-----------------------------------|-------|-----------------------------|
| 1      | 1. A mower, comprising:           |       |                             |
| 2      | 11, 15, 20                        | §103  | Outils in view of Matsunaga |
|        | 11. A gardening tool, comprising: |       | in                          |
|        | 15. A mower, comprising:          |       | u, Milcoy                   |
| 4      |                                   |       | and Hilchey                 |

## The Challenged Patents – switches SW, SW1, SW2

### Challenged Patents

Preferably, the contact switch SW, the contact switch SW1 and the contact switch SW2 all are connected in series on the same line of the power supply circuit. When one of the contact switch SW1 and the contact switch SW2 switches off, no matter whether the contact switch SW is triggered by the trigger B to be in an off or on state, the power supply circuit cannot communicate with the line to allow the electric power source to provide electrical energy to the motor, thereby achieving safety protection.

### Challenged Patents' Priority Appl.

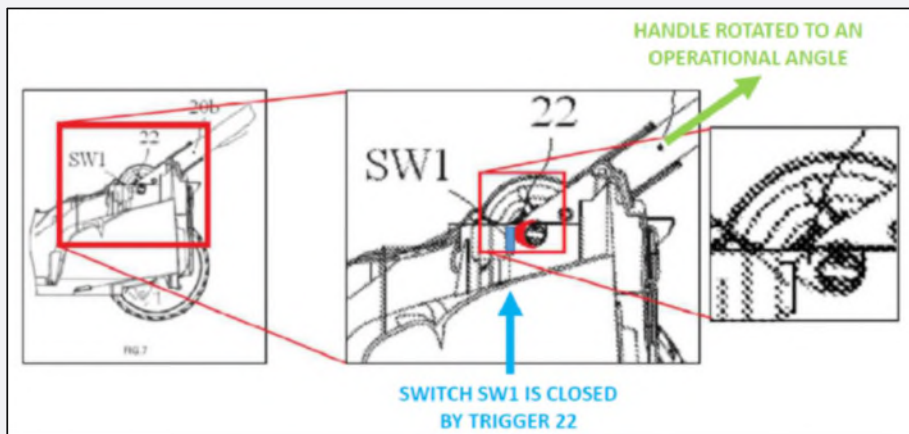


884 Ex.1001 ('806), 7:48-56; Pet. pp.6,10-11,15-16;  
 886 Ex.1001 ('26686), 7:52-60; Pet. pp.5-6,9-10,15-16;  
 887 Ex.1001 ('86686), 7:52-60; Pet. pp.6,9-10,16-17;  
 888 Ex.1001 ('588), 7:52-60; Pet. pp.6,10-11,15.

CN2013-10468919 Fig. 8: 884 Pet. p.16 (citing Ex.1002 ('806 pros.hist.), 440, 443); 886 Pet. p.16, 887 Pet. p.17, 888 Pet. p.16 (each citing Ex.1019 ('806 pros.hist.), 440, 443).

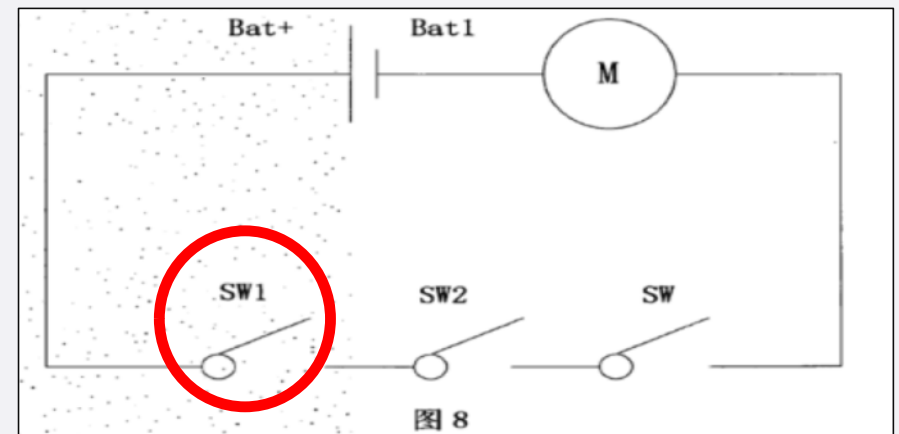
## The Challenged Patents – handle rotation switch (SW1)

### Challenged Patents



Each Petition, p.7 (annotating respective Ex.1001, Fig. 7).

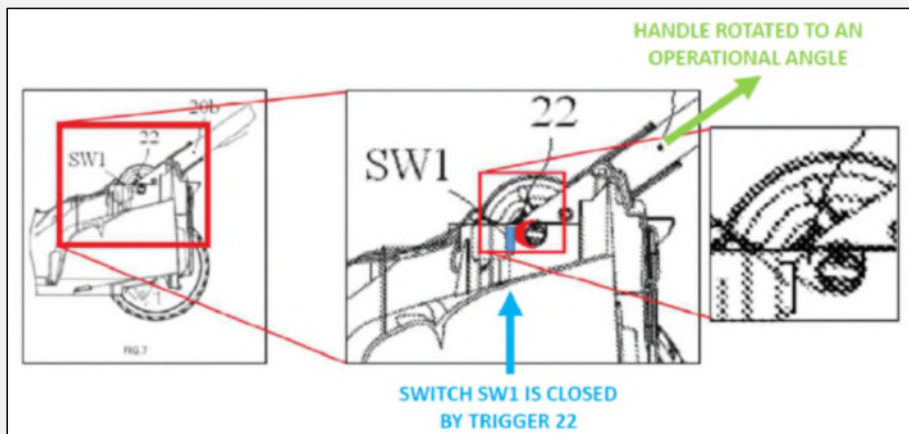
### Challenged Patents' Priority Appl.



CN2013-10468919 Fig. 8: 884 Pet. p.16 (citing Ex.1002 ('806 pros.hist.), 440, 443); 886 Pet. p.16, 887 Pet. p.17, 888 Pet. p.16 (each citing Ex.1019 ('806 pros.hist.), 440, 443).

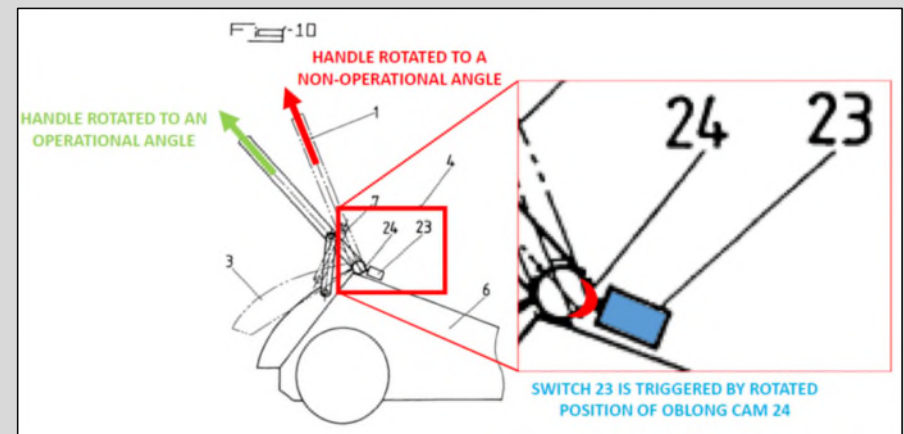
## The Challenged Patents – handle rotation switch (SW1)

### Challenged Patents



Each Petition, p.7 (annotating respective Ex.1001, Fig. 7).

### Outils Prior Art (Ex.1014)

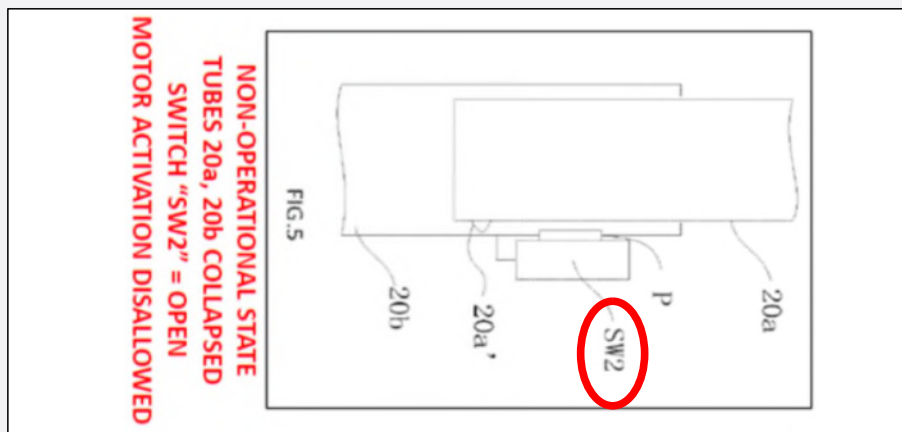


Ex.1014 (Outils), Fig. 10 (annotated in 884 Pet., p.26; 886 Pet., p.25; 887 Pet., p.26; 888 Pet., p.25).

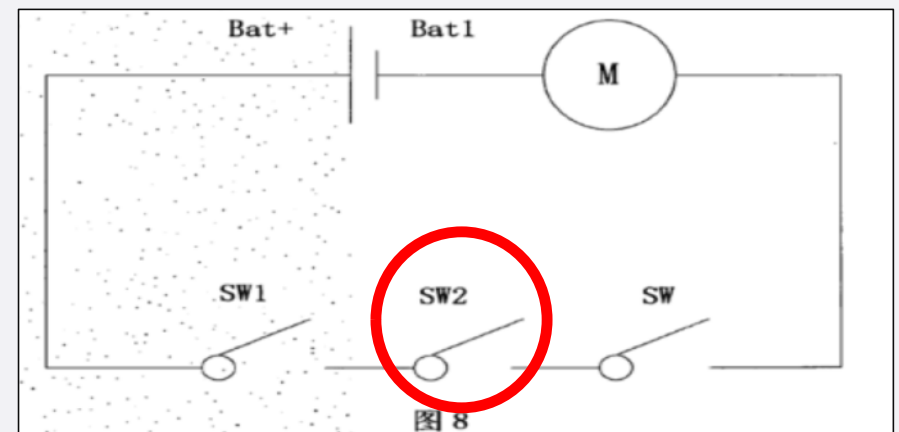


## The Challenged Patents – telescoping switch (SW2)

### Challenged Patents



### Challenged Patents' Priority Appl.

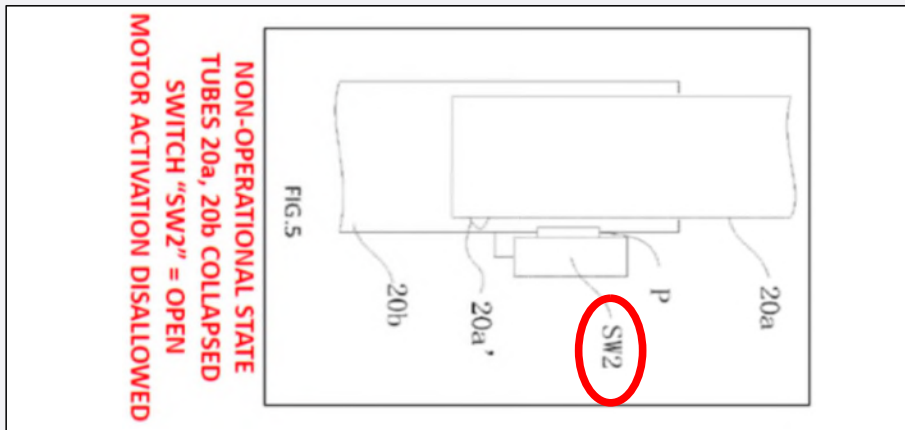


Ex.1001, Fig. 6 (annotated in 884 Pet., p.11; 886 Pet., p.10; 887 Pet., p.10; 888 Pet., p.11).

CN2013-10468919 Fig. 8: 884 Pet. p.16 (citing Ex.1002 ('806 pros.hist.), 440, 443); 886 Pet. p.16, 887 Pet. p.17, 888 Pet. p.16 (each citing Ex.1019 ('806 pros.hist.), 440, 443).

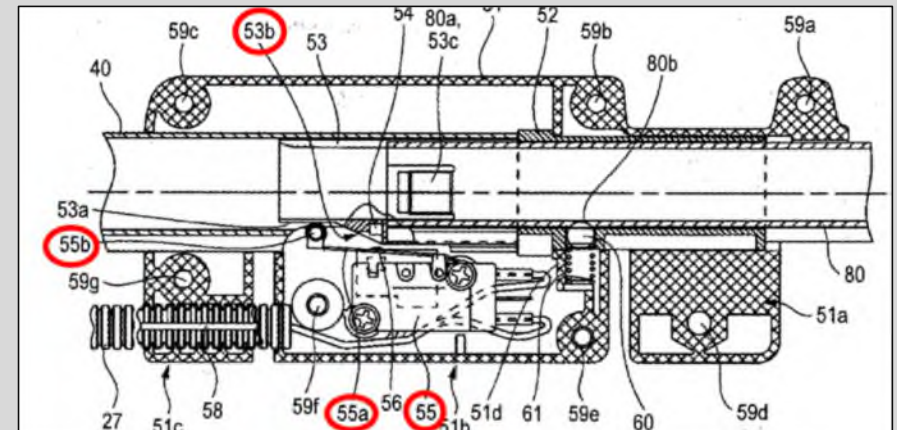
## The Challenged Patents – telescoping switch (SW2)

### Challenged Patents



Ex.1001, Fig. 6 (annotated in 884 Pet., p.11; 886 Pet., p.10; 887 Pet., p.10; 888 Pet., p.11).

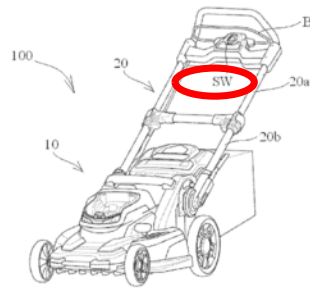
### Nakano Prior Art (Ex.1015)



Ex.1015 (Nakano), Fig. 4 (annotated in 884 Pet., p.49; 886 Pet., p.60; 887 Pet., p.50, 888 Pet., p.43).

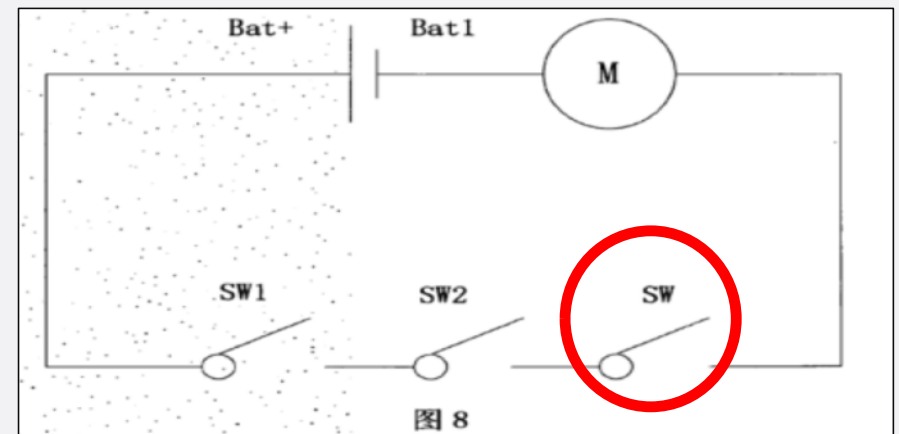
## The Challenged Patents – switch (SW)

### Challenged Patents



The first control device can be operated by the user to start the motor only when the remaining control devices in the control system all are in the designated state. The first

### Challenged Patents' Priority Appl.



Ex.1001, Fig. 1; 884 Pet., p.5; 886 Pet., p.5; 887 Pet., p.5; 888 Pet., pp.5-6; Ex.1001 ('806, 5:57-59; '26686, 5:60-62; '86686, 5:62-64; '588, 5:62-64).

CN2013-10468919 Fig. 8: 884 Pet. p.16 (citing Ex.1002 ('806 pros.hist.), 440, 443); 886 Pet. p.16, 887 Pet. p.17, 888 Pet. p.16 (each citing Ex.1019 ('806 pros.hist.), 440, 443).

# Claim Construction

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## Claim Terms Identified by Petitioner

- **“Power Supply Circuit”**

- *“the electrical path between an electric power source and the claimed ‘motor’ taken by (high-power) current that drives the motor.”* 884 Petition, p.14; 886 Petition, pp.13-14; 887 Petition, p.14; 888 Petition, p.13.
- *“the path, consisting of one or more components, between an electrical power source and the motor taken by current that drives the motor.”* Ex.2026 (Court’s Claim Construction Order), p.2.

- **“Locks / Unlocks”**

- *“respectively, ‘electrically disabling’ and ‘electrically enabling’”* 884 Pet. p.18; 886 Pet. p.17; 887 Pet. p.17; 888, cl.12, 15, 16.
- Challenged patents disclose no mechanical locks.
- Not construed in Related Litigation; Not disputed by Patent Owner. 884 POR, p.10; 886 POR, p.10; 887 POR, p.11.

- **“Trigger”**

- *“a lever manually pulled against a biasing force, and not a pushed button.”* 884 Pet., pp.17-18; 888 Pet., p.16-17.
- *“one or more movable parts for activating a device or mechanism.”* Ex.2026 (Court’s Claim Construction Order, p.2).

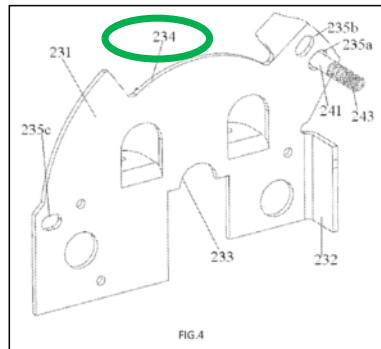


## Claim Terms Identified by Patent Owner

### • “Accommodating Position Relative to the Main Body” (-886 only)

- **PO’s improperly narrow proposal:** “horizontal position over the main body.” 886 POR, p.10-13.
- Petitioner: “a position relative to the main body for when the gardening tool (mower) is not being used.” 886 Reply, pp.5-6.
- Petitioner’s construction is supported by:
  - Claims define “accommodating position” as a position “when the gardening tool is not being used”. ’26686, claim 1 (8:31-32), claim 11 (9:64-65); 866 Reply, p.6; see 886 Pet. 34, 35, 36, 41; .
  - Specification - another accommodating non-use position is afforded by **notch 234** in Figure 4. ’26686, 5:19-20, Fig. 4; 866 Reply, p.6.
  - Extrinsic Evidence – Petitioner’s expert testified “It’s a position that the consumer or the user would want it to be when it’s not being used.” 886 POR, pp.12-13 (citing Ex.2028 (Reed Tr.), 136:13-17).

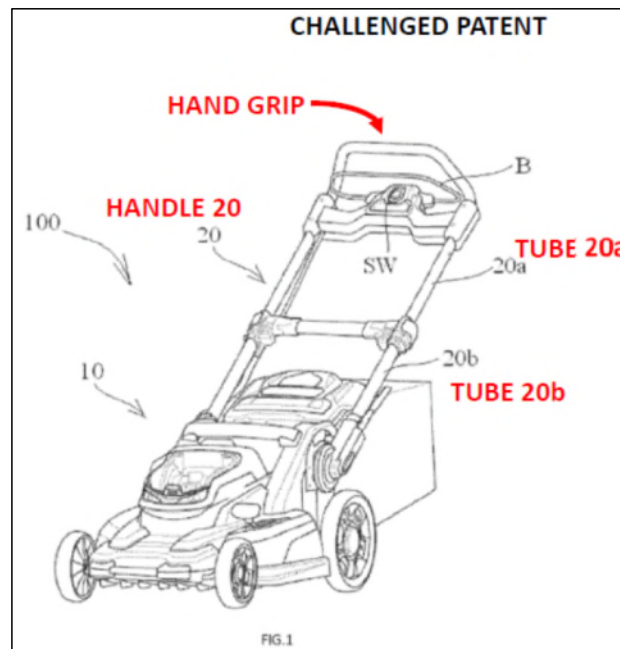
Ex.1001 (each Challenged Patent), Fig. 4.  
with **notch 234** annotated.



## Claim Terms Identified by Patent Owner

- “Handle”

- **PO’s improperly narrow proposal:** “a part by which a thing is held or controlled” 884 POR, 28; 886 POR, 38; 888 POR 14.
- “Handle” must encompass the Challenged Patents “handle 20” with its telescoping tubes 20A, 20B (which are clearly not held during normal use) joined to a horizontal hand-grip (which is).  
884 Reply, pp.16-18; 886 Reply, pp.18-19; 888 Reply, pp.7-9.



884 Reply, p.17; 886 Reply, p.20;  
888 Reply, p.9 (each annotating  
respective Ex.1001, Fig. 1).

# Prior Art

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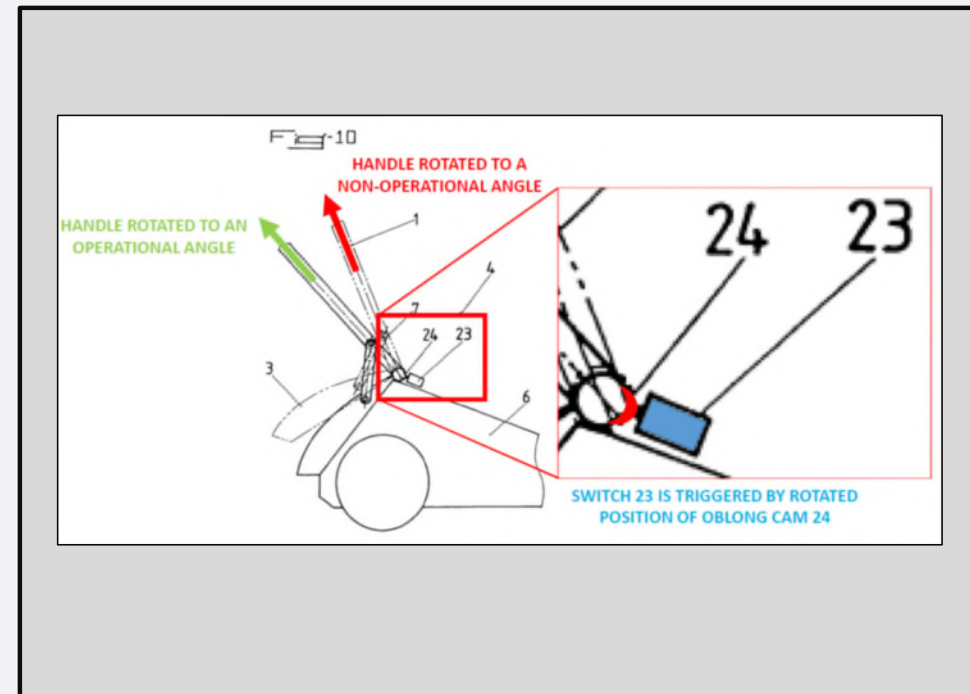


## Outils (Ex.1013, Ex.1014) – handle rotation safety switch

cutting blade.” *Id.*, 8:25-29. Moreover, Outils’ “activation actuators 23 [Figure 10] and 25 [Figure 11] are advantageously similar to the activation actuator 20 [Figure 9]....” *Id.*, 9:10. “The activation actuator 20 can be an electrical supply

cut-off switch for an electric motor or for the ignition circuit of a thermal engine.” *Id.*, 7:25-26. Those activation actuators 20, 23, 25 are also “preferably of the all-or-nothing type, that is to say that they allow the controlled element to be restarted only after they have been interlocked again as a result of their control component returning to the in-use position.” *Id.*, 9:10-13. POSITA would have interpreted this description as indicating that the “stoppage of the motor” and “braking [halting] of the cutting blade” (*id.*, 8:28) continue until the handle 1 returns to its in-use position with cam 24 properly tripping activation actuator 23. In other words, Outils’ user-operated operation assembly 30 which would otherwise activate the motor does not work until that happens, and likewise the halted motor would remain halted until the mower components were reset. TTI1003, ¶76.

884 Petition, pp.34-35 ('806 claims [1c], [6c]);  
Also in 886 Pet. 38-39 ('26686 claims [1e], [11e]);  
887 Pet. 39-40 ('86686 claim [1f]), p.65 (claim [11d]);  
888 Pet. 68-69 ('588 claim [11d]), p.74 (claim [15d]).



Ex.1014 (Outils), Fig. 10 (annotated in -884 Pet., p.26; -886 Pet., p.25; -887 Pet., p.26, -888 Pet., p.25).

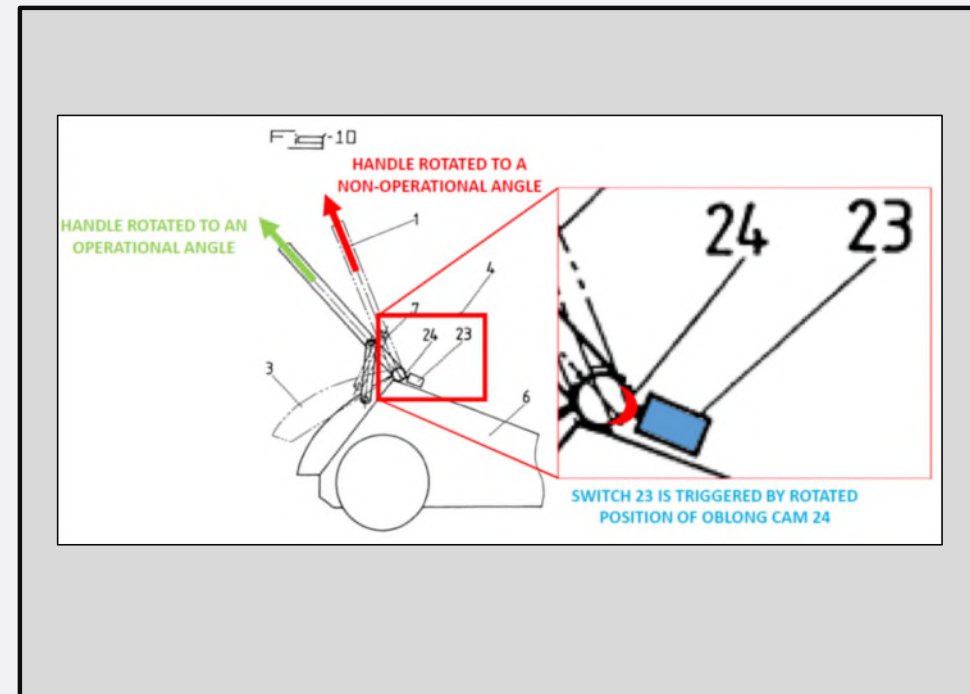
## Outils (Ex.1013, Ex.1014) – handle rotation safety switch

The activation actuator 20 can be an electrical supply cut-off switch for an electric motor or for the ignition circuit of a thermal engine

The activation actuators 23 and 25 are advantageously similar to the activation actuator 20 and are preferably of the all-or-nothing type, that is to say that they allow the controlled element to be restarted only after they have been interlocked again as a result of their control component returning to the in-use position.

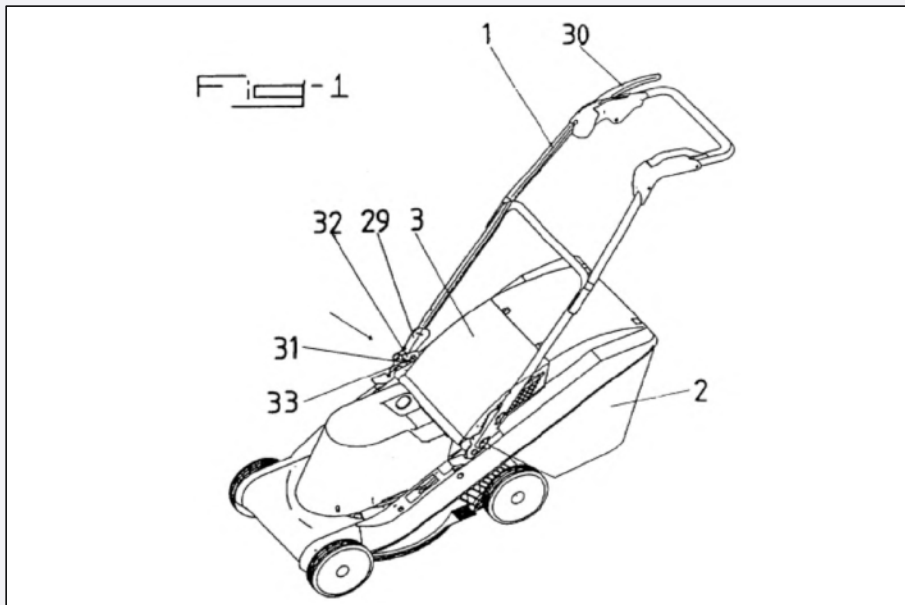
**Figure 10 “actuator 23 [an electrical supply cut-off switch for an electric motor] ... allow[s] the controlled element to be restarted only after ... returning to [its] in-use position.”**

Ex.1014, 7:25-26, 9:10-13 (quoted in 884 Petition, pp.34-35 ('806 claims [1c], [6c]); 886 Pet. 38-39 ('26686 claims [1e], [11e]); 887 Pet. 39-40 ('86686 claim [1f]), p.65 (claim [11d]); 888 Pet. 68-69 ('588 claim [11d]), p.74 (claim [15d]).

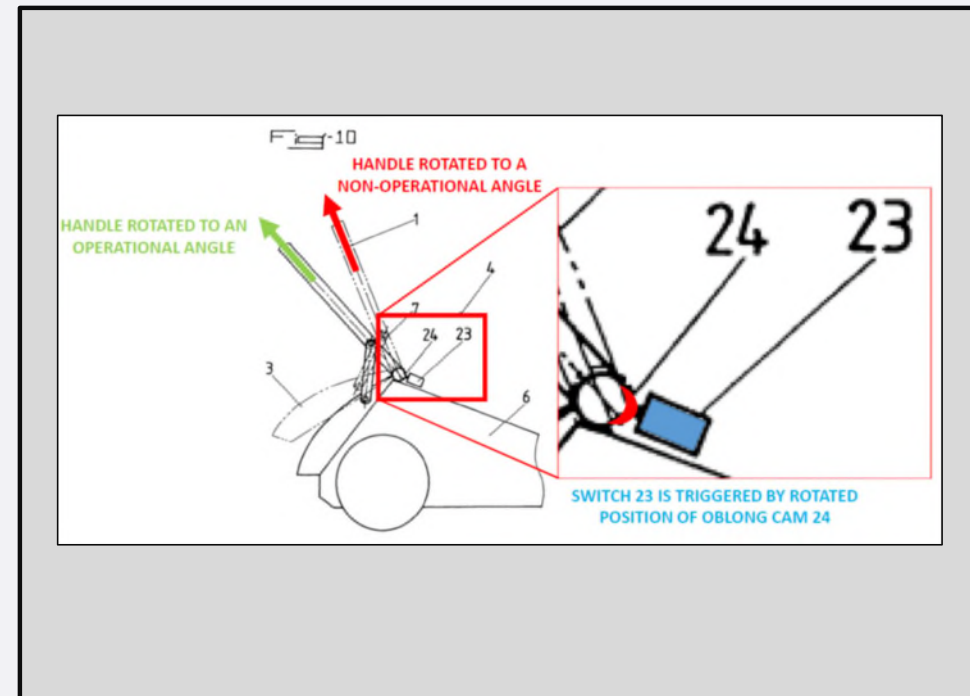


Ex.1014 (Outils), Fig. 10 (annotated in -884 Pet., p.26; -886 Pet., p.25; -887 Pet., p.26, -888 Pet., p.25).

## Outils (Ex.1013, Ex.1014) – handle rotation safety switch



Ex.1014 (Outils), Fig. 1; see 884 Pet. 31-32 ('806 claims [1b], [6b]); 886 Pet. 30-32 ('26686 claims [1b], [11b]); 887 Pet. 39-40 ('86686 claim [1f]), p.65 (claim [11d]); 888 Pet. 64-65 ('588 claim [11b]), p.73 (claim [15b]).



Ex.1014 (Outils), Fig. 10 (annotated in -884 Pet., p.26; -886 Pet., p.25; -887 Pet., p.26, -888 Pet., p.25).

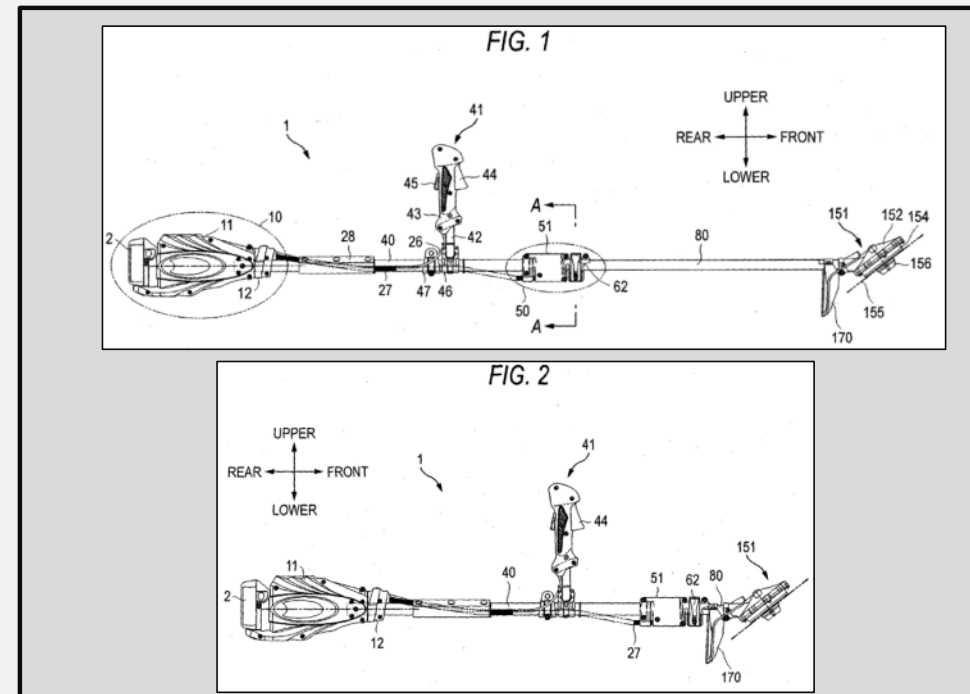
## Nakano (Ex.1015) – telescopic safety

Nakano teaches a telescoping handle on a grass cutting tool.

capable of reducing a storage space

(TTI1015, 3:3-4), but provides added safety where, “if retraction of a rod [*i.e.*, collapse of the telescoping handle] by a certain cause is detected while a work is performed in an extended state of the rod, a motor is immediately braked, thereby improving a safety thereof.” *Id.*, 4:2-4. Nakano improves safety of a telescoping handle by detecting whether it has partially collapsed, and braking/disabling the grass cutter’s motor accordingly. TTI1003, ¶93.

884 Pet. 44; 886 Pet. 54-55; 887 Pet. 44; see 888 Pet. 38.



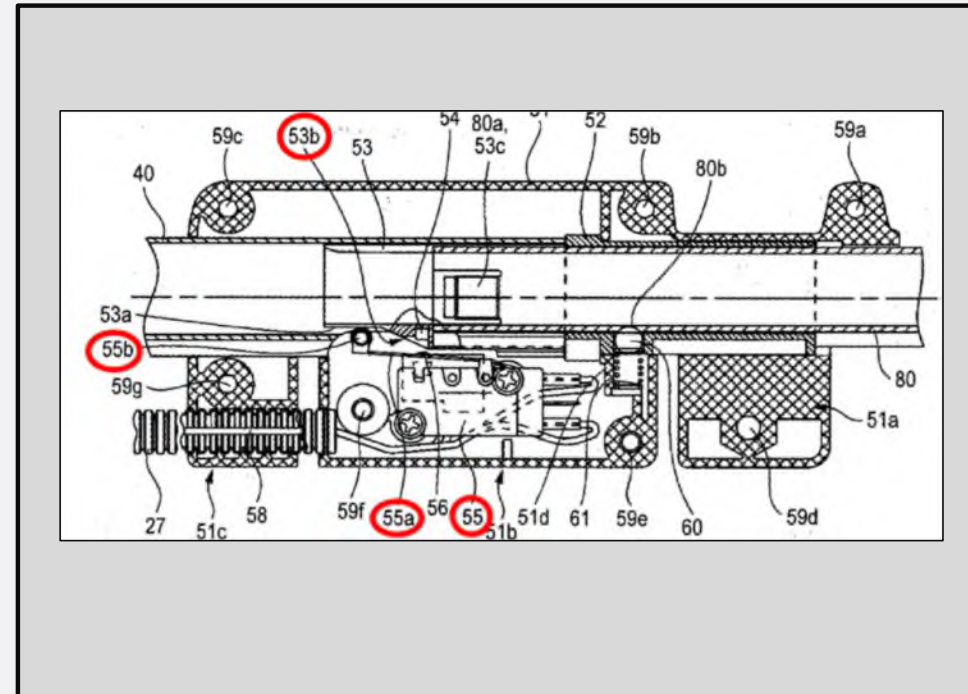
Ex.1015 (Nakano), Figs. 1-2; 884 Pet. 45; 886 Pet. 56; 887 Pet. 45-46; 888 Pet. 39.



## Nakano (Ex.1015) – telescopic safety

In Figure 4, the inclined surface 53b is detected by a round pulley 55b pressing against the exterior of pipe 80 by a resilient lever 55a. The lever 55a is, in turn, configured to turn switch 55 on/off. TTI1015, 18:12-13.

This movement causes lever 55a to trip switch 55 thereby sending a signal to microcomputer 211 allowing power to pass through switch 245 (Fig. 7) or 345 (Fig. 11) in the power supply circuit from battery to motor; of course, switch 21 for the user's trigger 44 is also part of this power supply circuit, and the motor is activated only when both trigger 44/21 and switch 55 permit power to reach the motor. TTI1015, 18:6-18, 9:8-16<sup>4</sup>; TTI1003, ¶98.



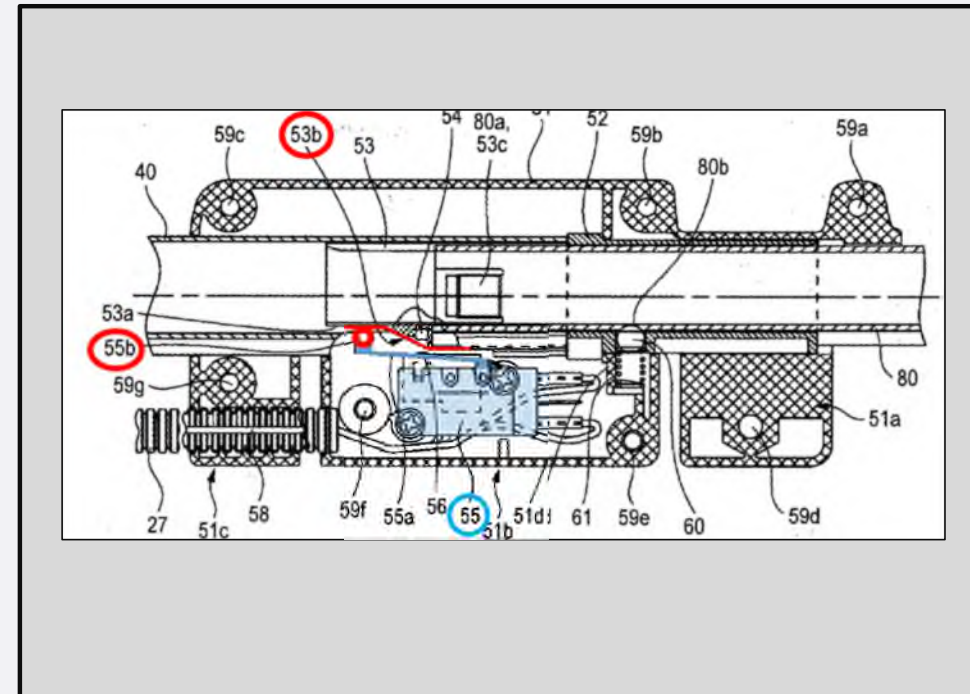
Ex.1015, Fig. 4 (annotated in 884 Pet. 49; 886 Pet. 60; 887 Pet. 50; 888 Pet. 43).

884 Pet. 47; 886 Pet. 58; 887 Pet. 47; 888 Pet. 40-41;  
884 Pet. 48-49; 886 Pet. 59-60; 887 Pet. 49; see 888 Pet. 42.  
Each Pet. separately relies on “**Hall IC 56**” and “**Processor 211**”  
(884 Pet. 50-52; 886 Pet. 61-64; 887 Pet. 51-54; 888 Pet. 44-47).

## Nakano (Ex.1015) – telescopic safety

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Ex.1015, Fig. 4 (highlighting switch 55 and surface 53b).

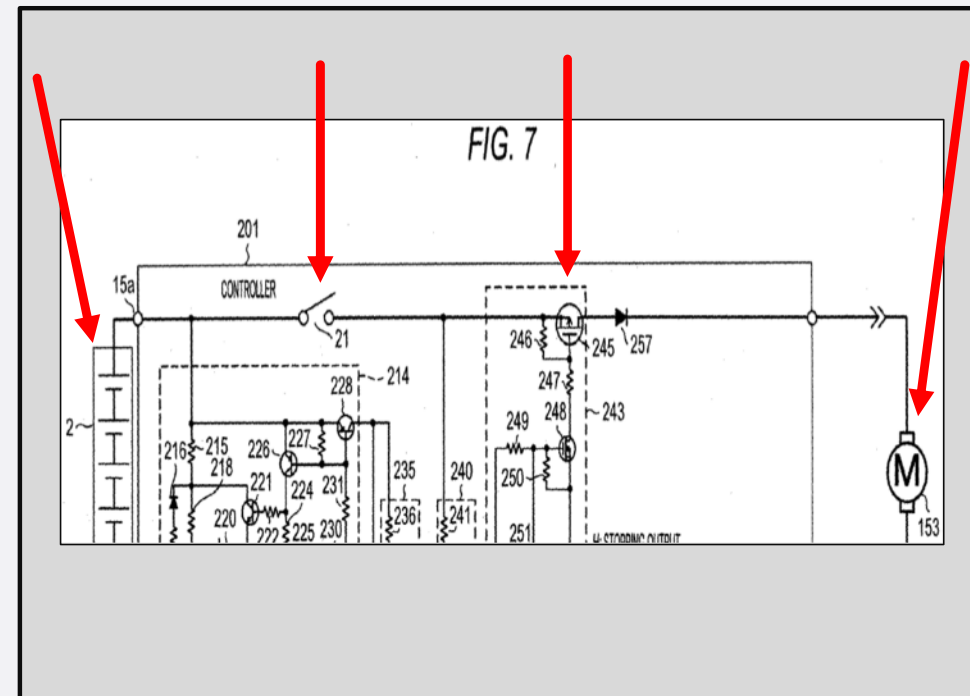
884 Pet. 47; 886 Pet. 58; 887 Pet. 47; 888 Pet. 40-41;  
884 Pet. 48-49; 886 Pet. 59-60; 887 Pet. 49; see 888 Pet. 42.  
Each Pet. separately relies on “**Hall IC 56**” and “**Processor 211**”  
(884 Pet. 50-52; 886 Pet. 61-64; 887 Pet. 51-54; 888 Pet. 44-47).

## Nakano (Ex.1015) – telescopic safety

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This movement causes lever 55a to trip switch 55 thereby sending a signal to microcomputer 211 allowing power to pass through switch 245 (Fig. 7) or 345 (Fig. 11) in the power supply circuit from battery to motor; of course, switch 21 for the user's trigger 44 is also part of this power supply circuit, and the motor is activated only when both trigger 44/21 and switch 55 permit power to reach the motor. TTI1015, 18:6-18, 9:8-16<sup>4</sup>; TTI1003, ¶98.

884 Pet. 47; 886 Pet. 58; 887 Pet. 47; 888 Pet. 40-41;  
884 Pet. 48-49; 886 Pet. 59-60; 887 Pet. 49; see 888 Pet. 42.  
Each Pet. separately relies on “**Hall IC 56**” and “**Processor 211**”  
(884 Pet. 50-52; 886 Pet. 61-64; 887 Pet. 51-54; 888 Pet. 44-47).



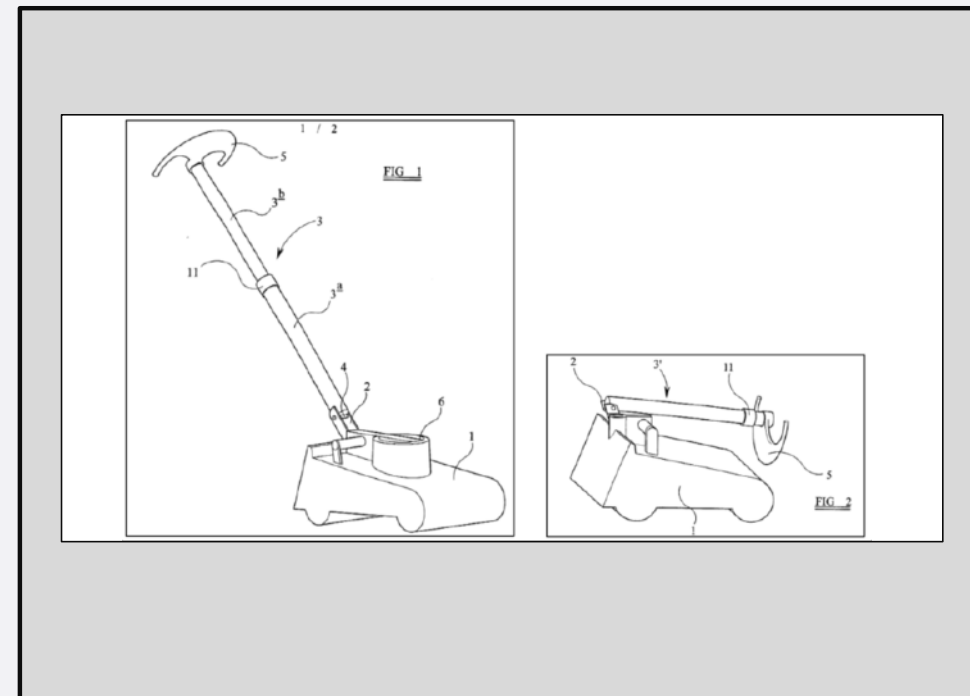
Ex.1015, Fig. 7 (see 884 Pet. 47; 886 Pet. 58; 887 Pet. 48;  
888 Pet. 41); see also Fig. 11 (884 Pet. 48; 886 Pet. 59;  
887 Pet. 49; 888 Pet. 42).

## Reichart (Ex.1007) – “Adjustable Handle for a Lawnmower” -887 and -888 only.

discloses a mower, namely a lawnmower. The “Title of Invention” is “Adjustable handle for a lawnmower,” and its Abstract describes a “ground working machine, particularly a lawnmower....” TTI1007, at 1. Figures 1 and 3 illustrate a walk-behind lawnmower with a single, telescoping handle 3. TTI1003, ¶65.

Reichart’s handle 3,5 is rotatably connected to the main body (casing 1) and includes a plurality of telescopic members (tube parts 3a, 3b) slidably connected to each other. TTI1003, ¶73.

[008] In a preferred development of the invention the linkage comprises in simple manner a telescopically constructed tube, in which the telescoped tube parts are provided with spaced openings for the passing through of locking pins or bolts. It is particularly advantageous to lock



Ex.1007, Figs. 1, 2 (see 887 Pet. 31-32; 888 Pet. 32-33).

888 Pet. 28; see 887 Pet. 29.

888 Pet. 32; see 887 Pet. 31.

Ex.1007, (cited at 888 Pet. 45-46; 887 Pet. 52-53).

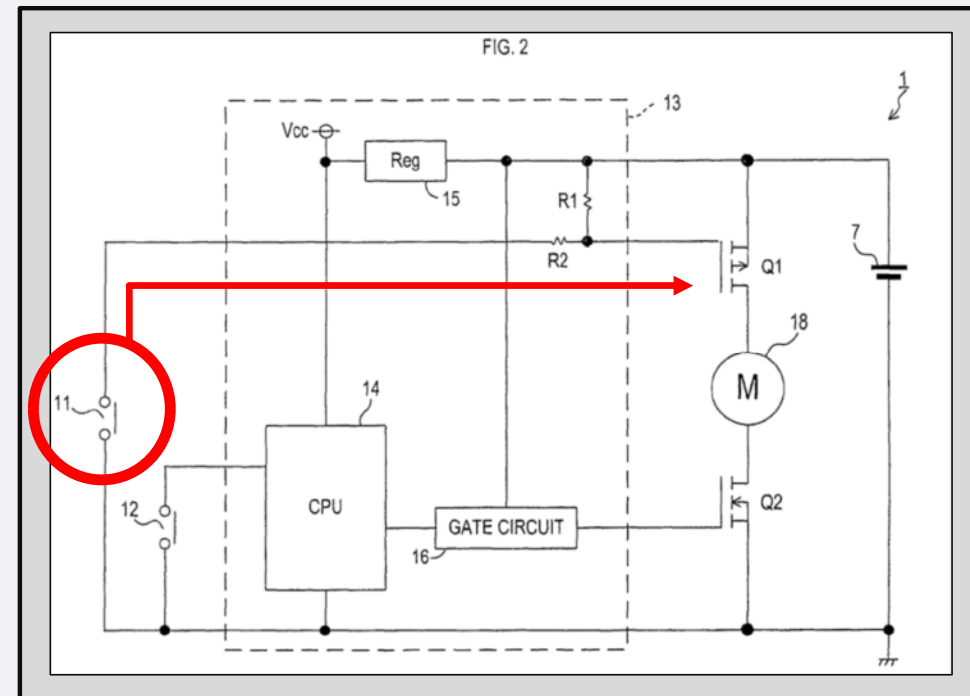


## Matsunaga (Ex.1006)

In particular, Matsunaga teaches an battery-powered electric lawn mowing device having a circuit (Figure 2) that includes a contact switch (11 or 12) acting as a signal source device for sending a control signal to the power supply circuit. The

FIG. 2 is an electrical circuit diagram showing a configuration of the rechargeable grass mower in the first embodiment;

The above embodiments provide examples in which the present invention is applied to a grass mower, a hedge trim-



Ex.1006, Fig. 2 (annotated).

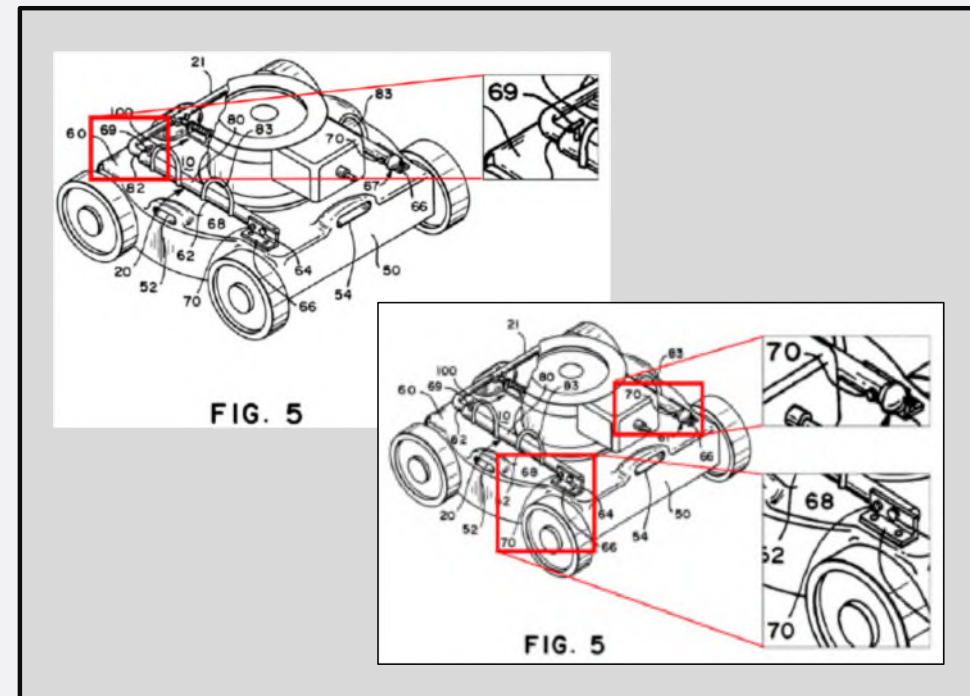
884 Pet. 38; 886 Pet. 42; 887 Pet. 70; 888 Pet. 71.  
 Ex.1006 (Matsunaga), 6:8-10.  
 Ex.1006 (Matsunaga), 19:43-44 (see 884 Reply 6, 886 Reply 15, 888 Reply 7).

## Langdon (Ex.1012) – “Lawn Mowers Including Push Handles”

Langdon teaches a similar U-shaped lawnmower handle that has a plurality of telescopic tubes 62, 82. One telescopic tube 82 extends from the other tube 62 with a “spring biased pin [69] to lock the handles in [an] operative push position.” TTI1012, 4:6-8; Figure 5. POSITA would have understood the “push position” to be an extended (telescoping) position of one telescopic tube relative to the other; Figure 5 shows the collapsed handle rotated against the lawnmower’s main body but POSITA would have understood the “push position” to be a raised angular position not shown in Langdon’s drawings. TTI1003, ¶90.

POSITA would have been motivated by the collapsibility of Langdon’s telescopic handle, and by the fact that it does not have to be removed from the lawnmower body, and would have found it obvious to use that feature in Outils’ lawnmower. POSITA would have recognized the advantage of collapsing Outils’ handle to make the lawnmower easier to ship and store. TTI1003, ¶91.

884 Pet. 42-43, *see also* 21-22; 886 Pet. 52-53, *see also* 20-21; *see* 887 Pet. 21-22; 888 Pet. 77-78, *see also* 20-21.



Ex.1012, Fig. 5 (annotated in 884 Pet. 21-22, 43; 886 Pet. 20-21, 53; 887 Pet. 21-22, 888 Pet. 21, 78.

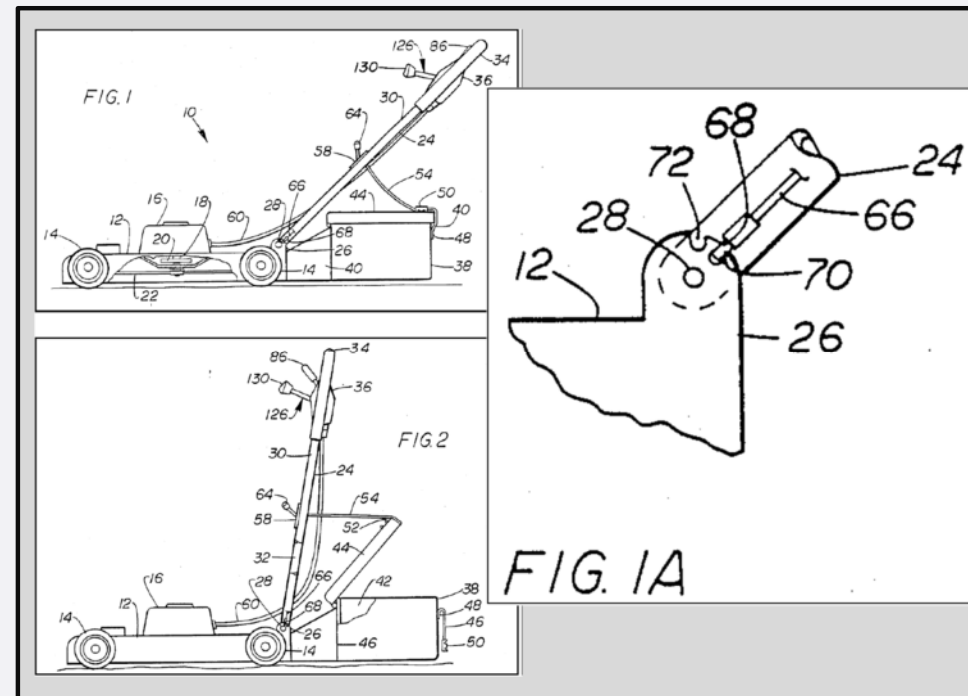
## Roelle (Ex.1011) – “Lawn Mower and Safety Control Thereof” -886 only.

Roelle teaches a walk-behind mower similar to Outils’ with a rotating handle 24 that permits a user to empty a rear-located cut-grass receptacle. TTI1011, Figures 1, 1A, 2. Like Outils, Roelle secures rotating handle 24 in its in-use position (Figures 1, 1A) but the locking structure including a locking mechanism (spring biased pin 68) also keeps the handle in an accommodating, vertical position when the mower is not in use (Figure 2). *Id.*, 3:67-4:5.

As best seen in FIGS. 1 and 1A, lever 64 is pivotally mounted on brace 58 and operates cable 66 which extends to handle latching pin 68 which is suitably biased toward lug 26 to engage within one of recesses 70 or 72 in lug 26 to retain handle in its pushing or normal operating position as shown in FIG. 1 or its vertical position as shown in FIG. 2.

886 Pet. 34.

Ex.1011, 3:67-4:5 (cited at 886 Pet. 34).



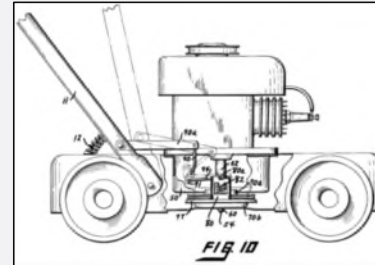
See 886 Pet. 35 (showing Ex.1006, Figs. 1, 1A, 2).

## Meldahl (Ex.1004) – Milcoy (Ex.1016) – Hilchey (Ex.1017)

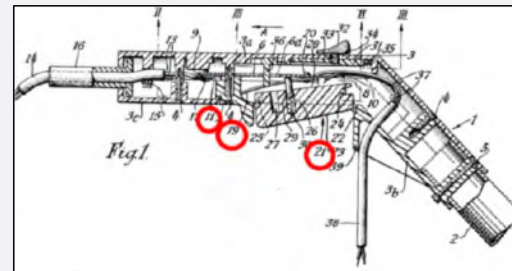
Meldahl (TTI1004) provides one example which forces a brake into physical contact with the lawnmower blade's rotation axis when the lawnmower handle is lifted. This lifting is the same motion that Outils uses to halt/stop the lawnmower and would have been amenable for obvious combination with Outils' lawnmower. TTI1003, ¶114.

Like Outils, Milcoy teaches an electric switch suitable for controlling the operation of an electric tool such as a lawnmower but avoiding the danger of activating its blades at unwanted times. TTI1016, Abstract; 1:4-51. Milcoy's operational assembly is in the form of a contact actuating member 21 that "consists essentially of a block 23" on the lawnmower handle. *Id.*, 3:37-38; 2:63-64; Figure 1. The actuating member 21 resembles the lever illustrated in Outils' Figure 1 and constitutes the claimed "trigger."

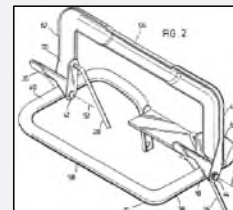
As illustrated in Hilchey's Figure 2, the pivoting axis and mechanics of a one-hand trigger 20 such as Outils' is similar to, and the handle can thus be easily modified to be, a pivoting trigger bar that is squeezed against the handle's horizontal crossbar. TTI1017, Figures 2, 4. Motivation for such an obvious



884 Pet. 57-60.



884 Pet. 61-63.  
886 Pet., 83-85.



884 Pet. 63-65.  
886 Pet., 86-87.

# Prior Art Combinations

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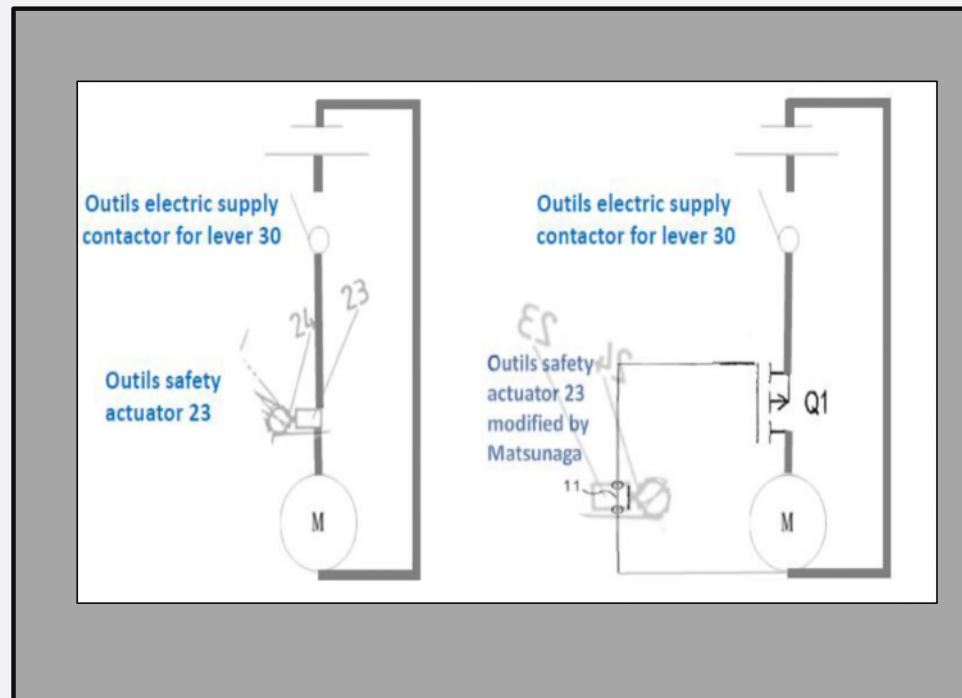
## Obvious Combination of Outils and Matsunaga (and other cited art) IPR2020-00884, 886, 887, 888

Outils' second control device (activation actuator 23) is described as "advantageously similar to the activation actuator 20" (TTI1014, 9:10) which, in turn, "can be an electrical supply cut-off switch for an electric motor." *Id.*, 7:25. POSITA would have understood this description to mean activation actuator 23 can be a switch connected in the power supply circuit (*e.g.*, in series between the electric power source and the electric motor). However, POSITA would have understood from the disclosure of Matsunaga that it is not desirable to pass the high current needed to power a lawn mowing motor through contact switches. TTI1006, 1:7-16. Instead, it is preferable to use smaller capacity contact switches (*id.*, 1:15-16) and to avoid the thick wiring (*id.*, 7:23-30) and associated danger of high current flowing through contact switches. These factors would have motivated POSITA to make an obvious modification to Outils' system by controlling its electrical supply cut-off switch using a separate, low-current circuit with thin wiring lines through which "[o]nly a small current flows for transmitting the ON/OFF state" of contact switches. *See id.*, 7:23-30. TTI1003, ¶81.

POSITA would have found it obvious, based on the motivations explained above, to implement Outils' actuation activator 23 (a contact switch triggered by cam 24) as Matsunaga's contact switch 11 which meets the claimed "switch connected to the power supply circuit." Switch 11 also acts as the claimed signal source for sending a control signal to the power supply circuit, namely to semiconductor switch Q1 in the power supply circuit. TTI1003, ¶83.

See 884 Pet. 34-35, 38-39; 884 Reply 10-11; 886 Pet. 38-39, 41-42; 886 Reply 14; 887 Pet. 69-71; 888 Pet. 68-69, 71-72; 888 Reply 20.

## Obvious Combination of Outils and Matsunaga (and other cited art) IPR2020-00884, 886, 887, 888



See 884 Pet. 34-35, 38-39; 884 Reply 10-11; 886 Pet. 38-39, 41-42; 886 Reply 14; 887 Pet. 69-71; 888 Pet. 68-69, 71-72; 888 Reply 20.

# Obvious Combination of Reichart and Nakano (and other cited art) IPR2020-00887, 888

## Argument 1.

Like Reichart, Nakano teaches a telescoping handle on a grass cutting tool. Nakano shares Reichart's goal of collapsing the handle "to realize a compact electric bush cutter capable of reducing a storage space thereof" (TTI1015 (Nakano), 3:3-4), but provides added safety where, "if retraction of a rod [*i.e.*, collapse of the telescoping handle] by a certain cause is detected while a work is performed in an extended state of the rod, a motor is immediately braked, thereby improving a safety thereof." *Id.*, 4:2-4. Nakano improves safety of a telescoping handle by detecting whether it has partially collapsed, and braking/disabling the grass cutter's motor accordingly. TTI1003, ¶94.

25:9), and thanks to the safety system described previously, an "output stop circuit 243 is a circuit for forcibly stopping rotation of the motor 153 under the control of the microcomputer 211, even when the switch 21 is turned on" (*id.*, 24-16-18) and "supplying of an electric power to the motor 153 is surely stopped when the [telescopic handle] rod has been retracted from the extended state or is retracted during operation." *Id.*, 26:7-8.

main body. In other words, Reichart's handle can be adjusted for use by shorter adults, but when fully collapsed for storage (Figure 2), POSITA would consider the handle too short for safe use. POSITA would have understood Nakano to offer obvious safety solutions to accomplish these goals. TTI1003, ¶93.

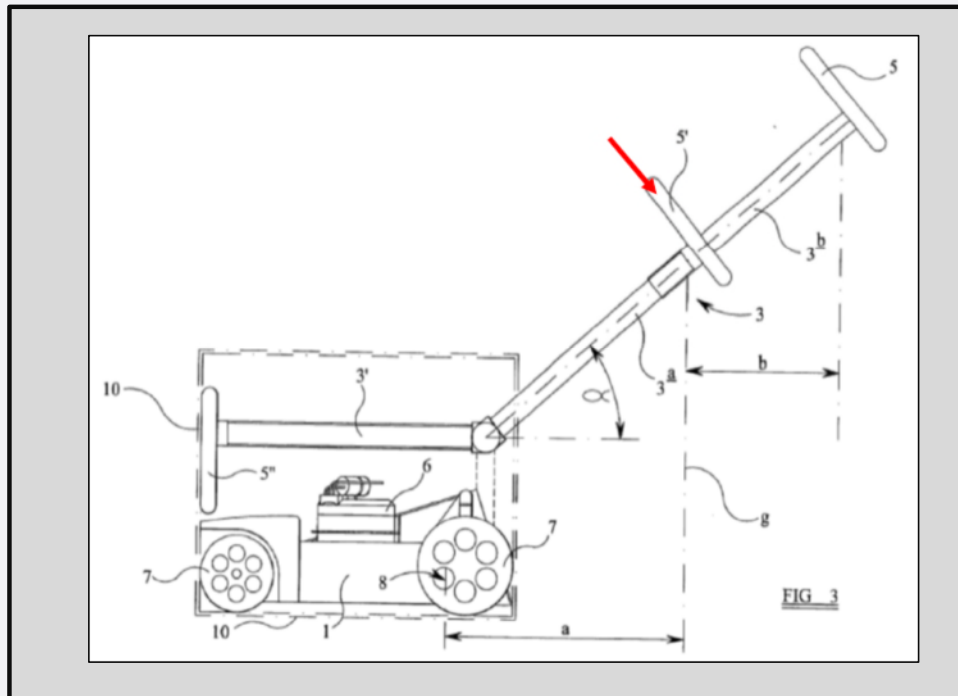
887 Pet., 44, 37, *see also* 51-52; *see* 888 Pet. 38, 51.

887 Pet. 44; 888 Pet. 38.

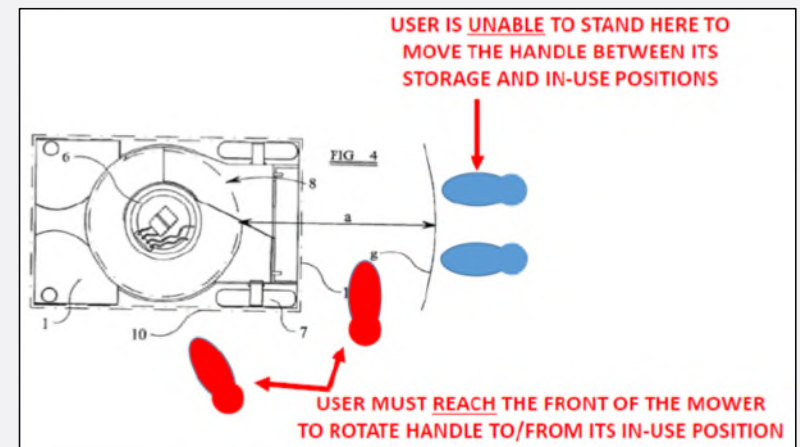


# Obvious Combination of Reichart and Nakano (and other cited art) IPR2020-00887, 888

## Argument 1.



Ex.1015, Figure 3 (annotated).



887 Reply 16; 888 Reply, 11 (annotating Reichart Figure 4).

# Obvious Combination of Reichart and Nakano (and other cited art) IPR2020-00887, 888

## Argument 2 – Not Rebutted by Patent Owner.

Like Reichart, Nakano teaches a telescoping handle on a grass cutting tool. Nakano shares Reichart's goal of collapsing the handle "to realize a compact electric bush cutter capable of reducing a storage space thereof" (TTI1015 (Nakano), 3:3-4), but provides added safety where, "if retraction of a rod [*i.e.*, collapse of the telescoping handle] by a certain cause is detected while a work is performed in an extended state of the rod, a motor is immediately braked, thereby improving a safety thereof." *Id.*, 4:2-4. Nakano improves safety of a telescoping handle by detecting whether it has partially collapsed, and braking/disabling the grass cutter's motor accordingly. TTI1003, ¶94.

25:9), and thanks to the safety system described previously, an "output stop circuit 243 is a circuit for forcibly stopping rotation of the motor 153 under the control of the microcomputer 211, even when the switch 21 is turned on" (*id.*, 24-16-18) and "supplying of an electric power to the motor 153 is surely stopped when the [telescopic handle] rod has been retracted from the extended state or is retracted during operation." *Id.*, 26:7-8.

887 Pet., 44, 37, *see also* 51-52; *see* 888 Pet. 38, 51.

POSITA would find it obvious to modify sleeve 53 to have plural indentations 53a, respectively positioned to match the discrete handle lengths permitted by Reichart's lengthwise "spaced openings for the passing of locking pins or bolts." TTI1015, 2:17-23. TTI1003, ¶103.

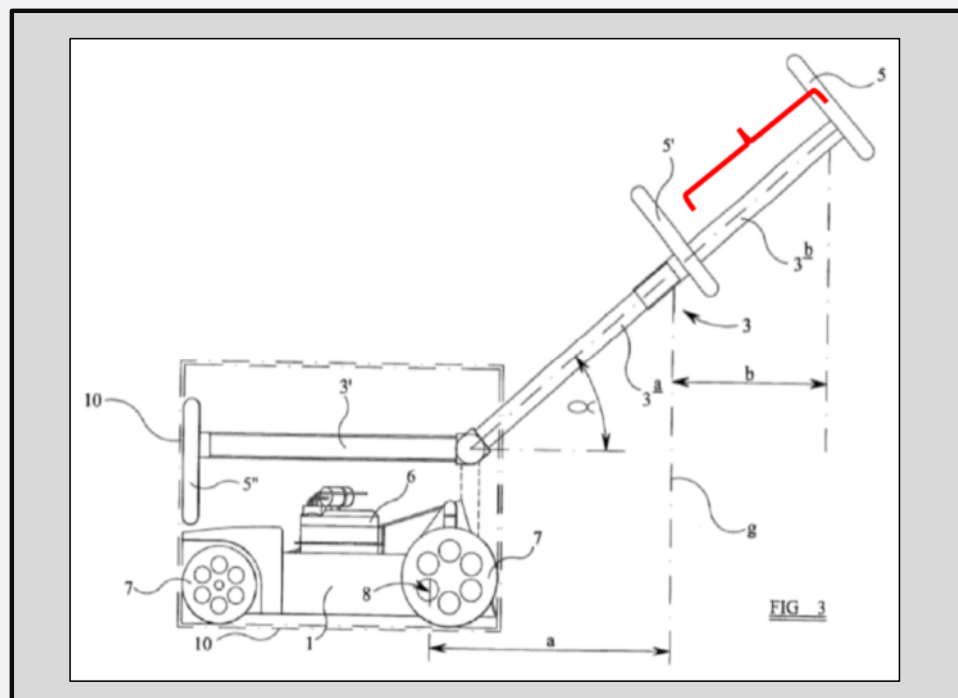
PO does not dispute that POSITA would have found it obvious to use Nakano's safety switch at each discrete length of Reichart's handle, and not solely at its shortest, telescopically collapsed length. After all, even PO's expert acknowledged that, in use, Reichart's and Nakano's devices could (undesirably) run into obstacles like tree trunks (*supra*, n.5). Those collisions were the impetus for Nakano's safety mechanism and would have motivated POSITA to make Reichart's handle safer: If "retraction of a rod by a certain cause ... while a work is performed in an extended state of the rod, a motor is immediately braked, thereby improving a safety" of the mower. Ex.1015, 59.

887 Pet., 52-53; *see* 888 Pet. 45.  
887 Reply 17; *see* 888 Reply 11-12 (each citing Ex.1040 (Fred Smith Tr.), 49:13-50:1).



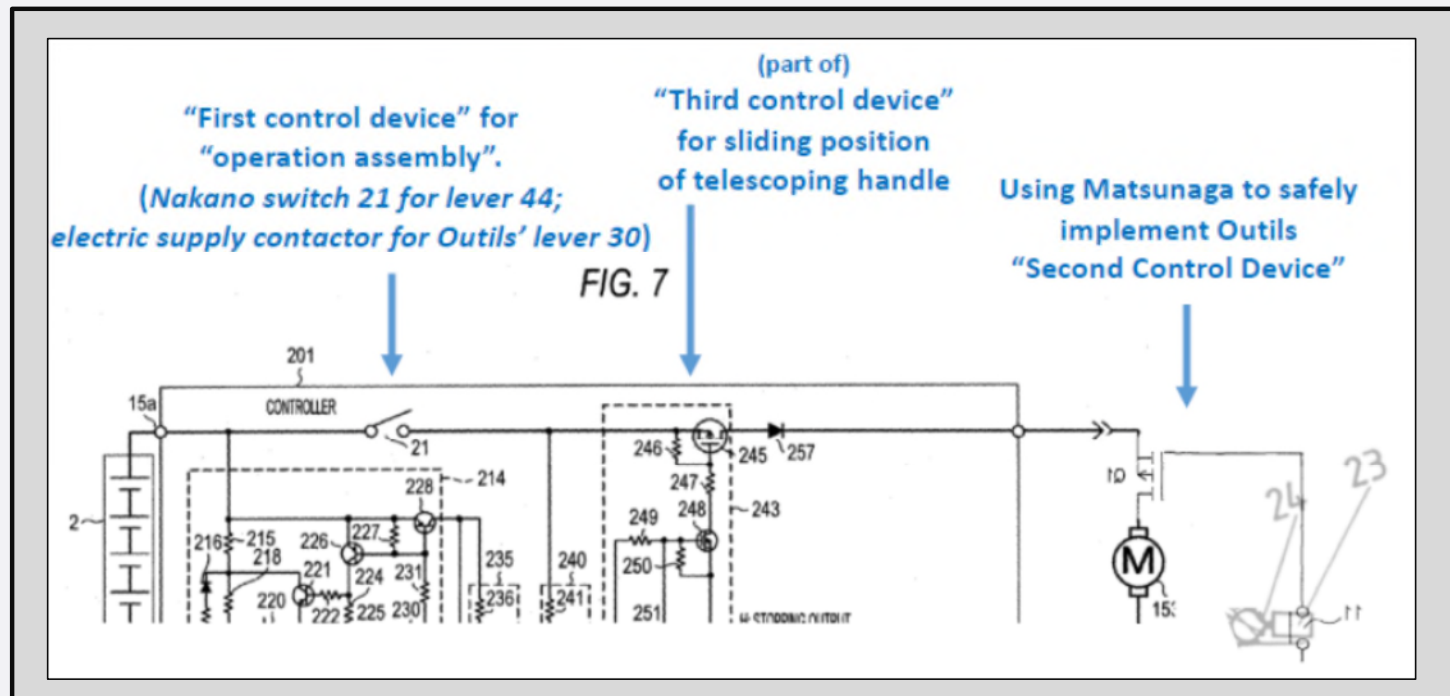
## Obvious Combination of Reichart and Nakano (and other cited art) IPR2020-00887, 888

### Argument 2 – Not Rebutted by Patent Owner.



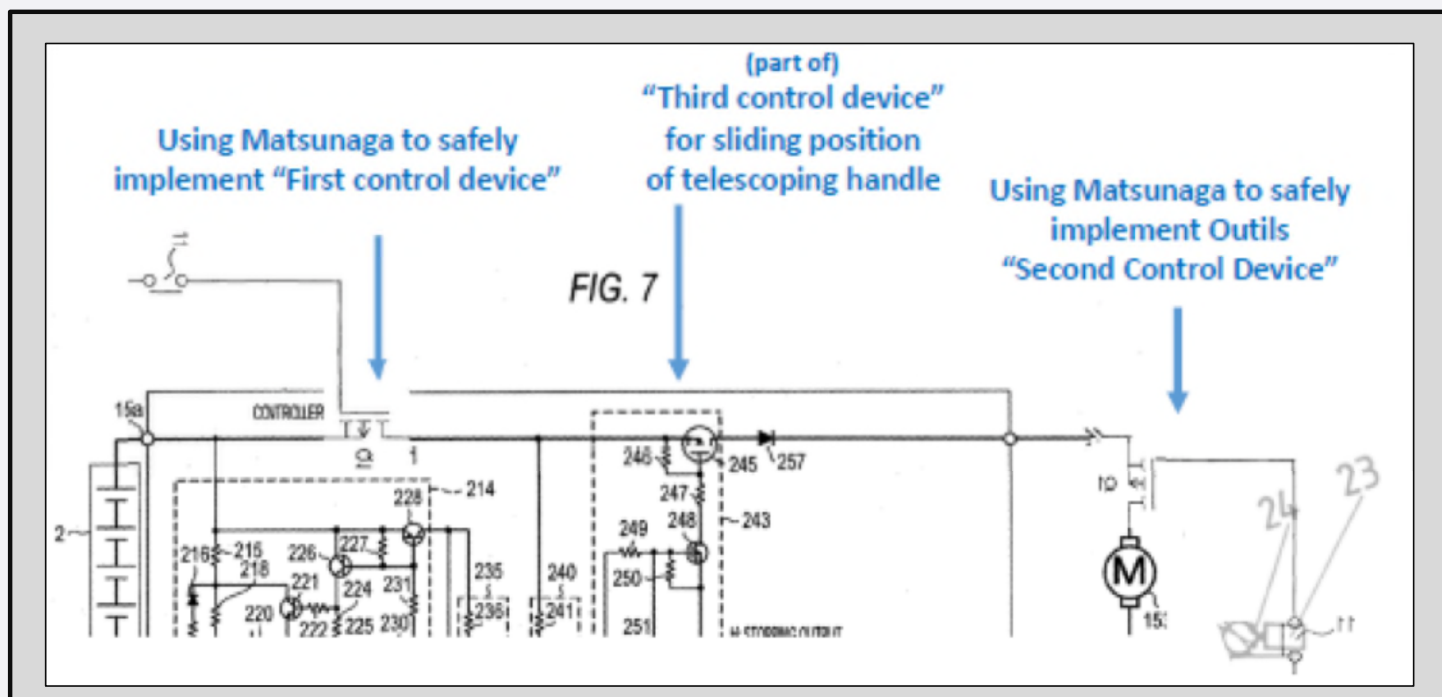
Ex.1015, Figure 3 (annotated).

# Obvious Combination of Outils, Nakano, Matsunaga (and other art) IPR2020-00886, 888



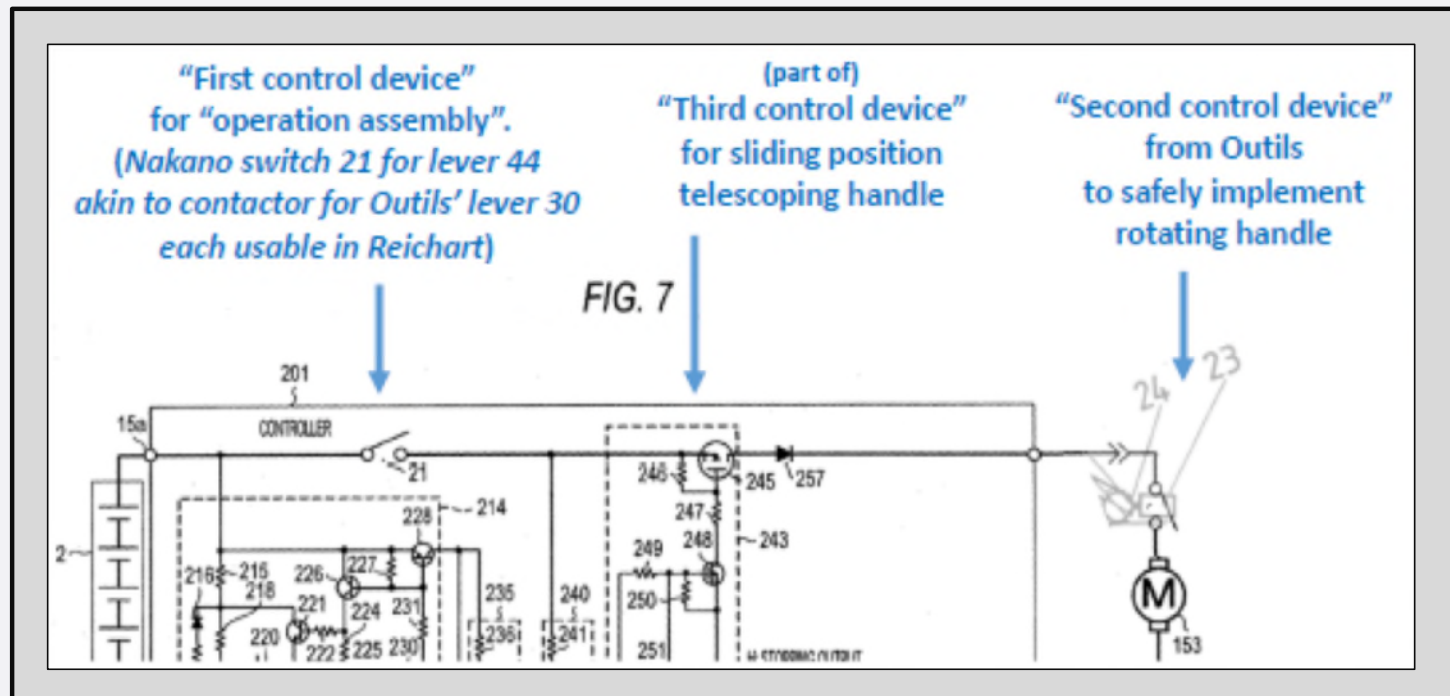
886 Pet. 38, 40-41, 43, 50-51, 51-67; 888 Pet. 70-72, 76, 82; 886  
Reply 21-22.

# Obvious Combination of Outils, Nakano, Matsunaga (and other art) IPR2020-00886, 888



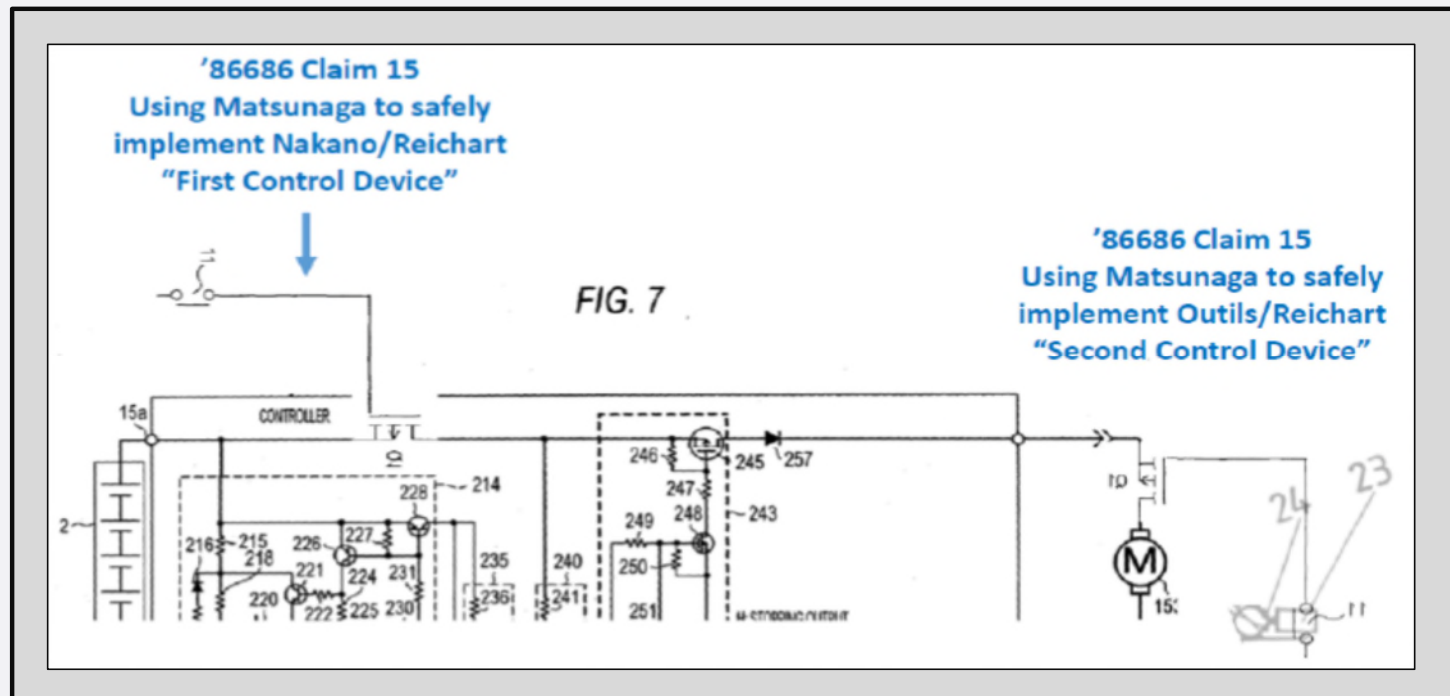
886 Pet. 38, 40-41, 43, 50-51, 51-67; 888 Pet. 70-72, 76, 82; 886  
Reply 22.

**Obvious Combination of Reichart, Nakano, Outils (and other art)**  
IPR2020-00887 Ground 1



887 Pet. 26, 34, 36-41, 44-54, 56-57, 63; 887 Reply 14.

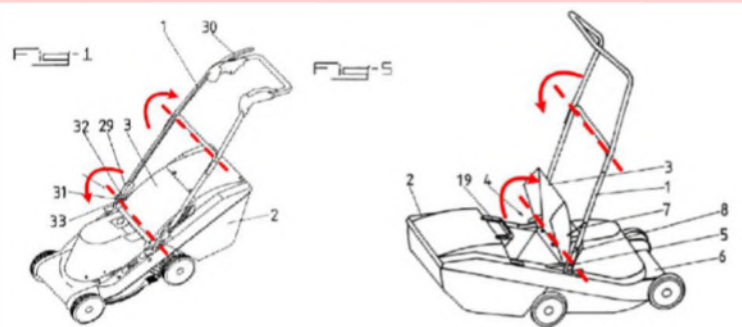
# Obvious Combination of Reichart, Nakano, Outils, Matsunaga IPR2020-00887 Ground 2



887 Pet. 26, 34, 36-41, 44-54, 56-57, 63, 69-73, Reply 22.

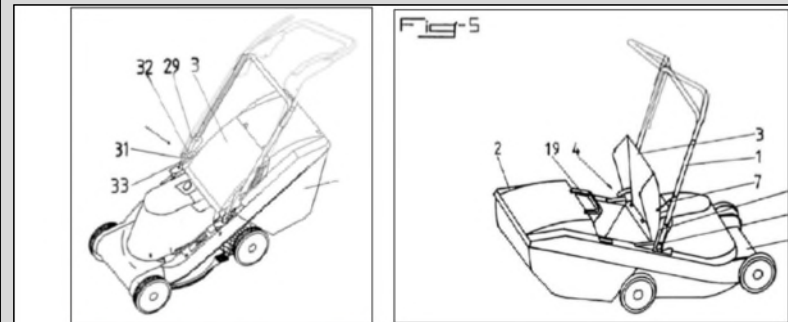


# Obvious Combination of Outils, Langdon, Nakano (and other art) IPR2020-00884, 886, 888



(EX1014, Outils, at FIGS. 1 and 5 (annotated).)

Patent Owner's annotation.



Ex.1014, Figures 1, 5 (annotated).

884 Pet. 42-43; 884 Reply 22; 886 Pet. 52-54, 886 Reply 25-26;  
888 Pet. 77-78, 888 Reply 25.





# All Challenged Claims are Unpatentable

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# Thank You

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August 5, 2021