

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NXTGEN TOYS, LLC.,
Petitioner,

v.

ZIPSTRING, LLC,
Patent Owner.

Case IPR2024-01213

Patent 11,674,774

PATENT OWNER'S ORAL ARGUMENT DEMONSTRATIVES



Patent Owner's Oral Hearing Demonstratives

Attorney Jodi McLane

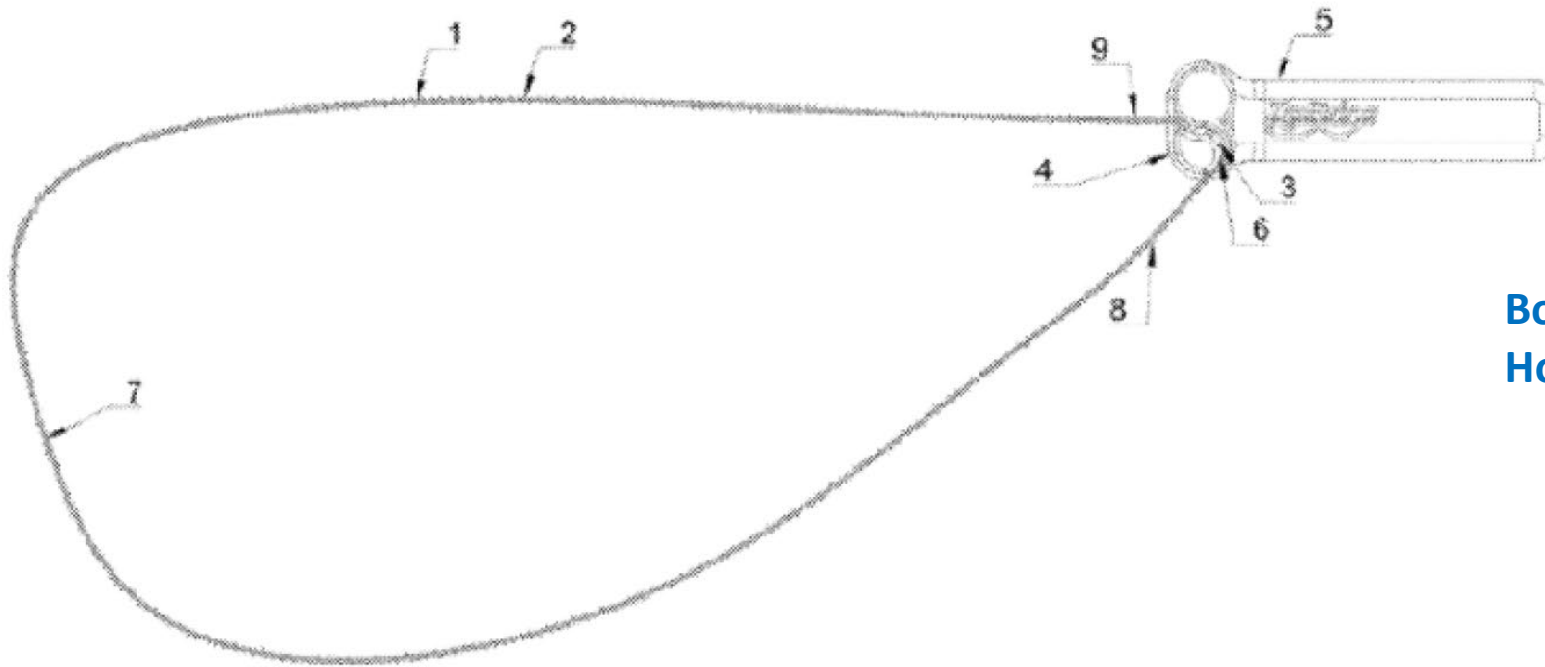
United States Patent and Trademark Office
Before the Patent Trial and Appeal Board
NxtGen Toys, LLC v. ZipString, LLC

US Patent No: 11,674,774
IPR2024-01213
December 4, 2025

Petitioner Has Not Met Its Burden to Establish the Claims are Unpatentable

- Ground 1: Yeany Does NOT Anticipate Claims 1-3, 12 and 15
- Ground 2: Abello in View of Yeany Does NOT render Claims 1-3, 12 and 15-17 obvious under 35 U.S.C. § 103.
- Ground 3: Wagner in View of Yeany Does NOT render Claims 1-3, 12 and 15 obvious under 35 U.S.C. § 103.
- Ground 4: Wagner in view of Yeany and Scorch Does NOT render Claims 4, 16 and 17 obvious under 35 U.S.C. § 103.

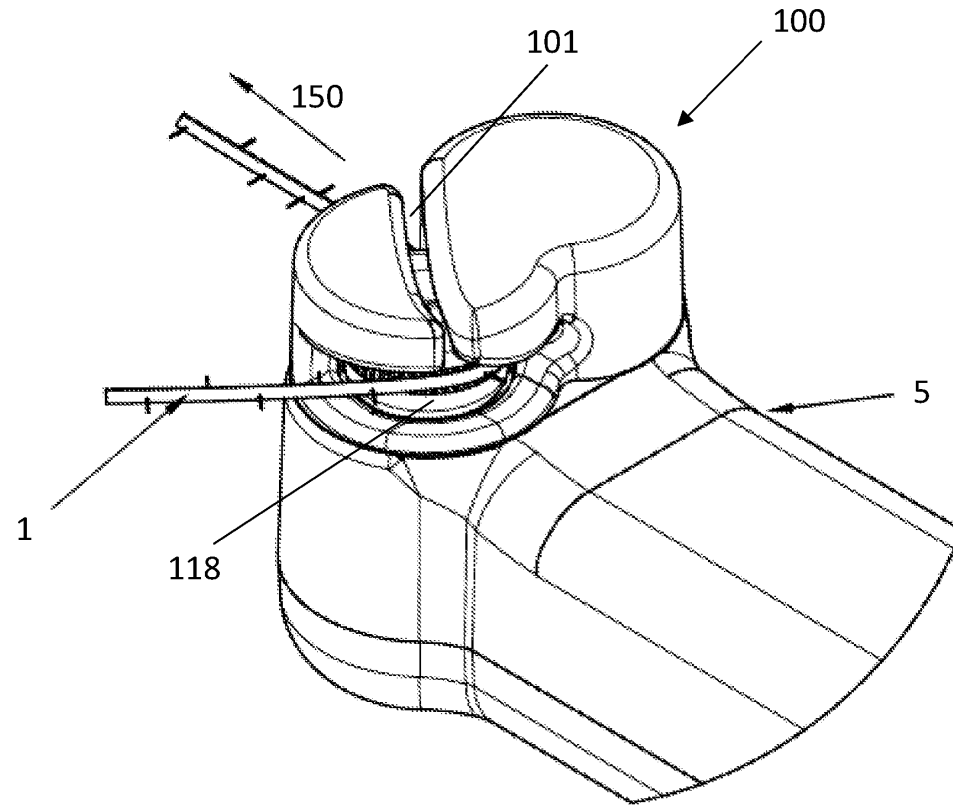
String Shooting Device as Disclosed in '774 Patent



Body – 5
Housing - 100

Ex.1001, FIG. 1

String Shooting Device as Disclosed in '774 Patent



Body – 5
Housing – 100
Loading Slot - 101

Ex.1001, FIG. 14

Ground 1: Yeany Does Not Anticipate Claims 1-3, 12 and 15

CLAIM 1 - '774 Patent

YEANY is **MISSING** the following limitations:

1. A string shooting device comprising:
 a body;
 a housing attached to the body;

wherein the string comprises **a surface texture configured to increase air friction** in response to the string being propelled through air by the pair of wheels...

Ground 1: Yeany Does Not Anticipate Claims 1-3, 12 and 15

CLAIM 12 - '774 Patent

YEANY is **MISSING** the following limitations:

12. A method of propelling a looped string through air comprising:
...and wherein the **looped string comprises a plurality of fibers extending away from the axis;**

generating, from the looped string propelled by the at least one driven wheel, lift at an end of the looped string distal from the housing based on **a surface texture of string configured to increase air friction in response to the looped string being propelled.**

Ground 1: Yeany Does Not Anticipate Claims 1-3, 12 and 15

CLAIM 15 - '774 Patent

YEANY is **MISSING** the following limitations:

15. The method of claim 12, wherein propelling the looped string from the at least one driven wheel comprises:

receiving the looped string **through an intake aperture of the housing;**

guiding the looped string between the pair of wheels; and
propelling the looped string **through an exit aperture of the housing.**

Yeany does NOT disclose a BODY

A POSITA would understand upon reading the '774 Patent that **the body** (5) of the claimed device is configured to be held by a user ['774 Patent Col. 6, lines 14-17] and that Yeany, a tabletop device, is not so configured. Exhibit 2002, ¶98.

“Embodiments of the present disclosure are configured to be hand-held devices, where a user holds **the body 5** and turns on the motor **4** to drive the looped string **1** with the drive wheel **3**.” Exhibit 1001, ['774 Patent Col. 6, lines 14-17]

Yeany does NOT disclose a HOUSING



In the '774 Patent it is clear that the housing covers, at least partially, the pair of wheels. [EX. 10011, Col. 1, lines 63-66; Col. 9, Lines 37-43]

Yeany's wheels are not covered by a housing. They are mounted to a piece of wood and remain open, with no covering.

Yeany does NOT disclose that the string has surface texture
configured to increase surface tension

- Yeany is completely silent as to the surface texture of the string and does not discuss the string having or not having a particular surface texture. *See Exhibit 2002, ¶103.*

Yeany does NOT disclose receiving the looped string **through an intake aperture of the housing;** or guiding the looped string between the pair of wheels; and propelling the looped string **through an exit aperture of the housing**

- Yeany's wheels are not covered by a housing. They are mounted to a piece of wood and remain open, with no covering.
- There is no **intake aperture (104) or exit aperture (103)** in Yeany.
- Because Yeany does not include a housing it cannot and does not meet the claim limitations of receiving the looped string **through an intake aperture of the housing** or propelling the looped string **through an exit aperture of the housing**.

Ground 2: Abello in view of Yeany does not render obvious Claims 1-3, 12 and 15-17 under 35 U.S.C. § 103.

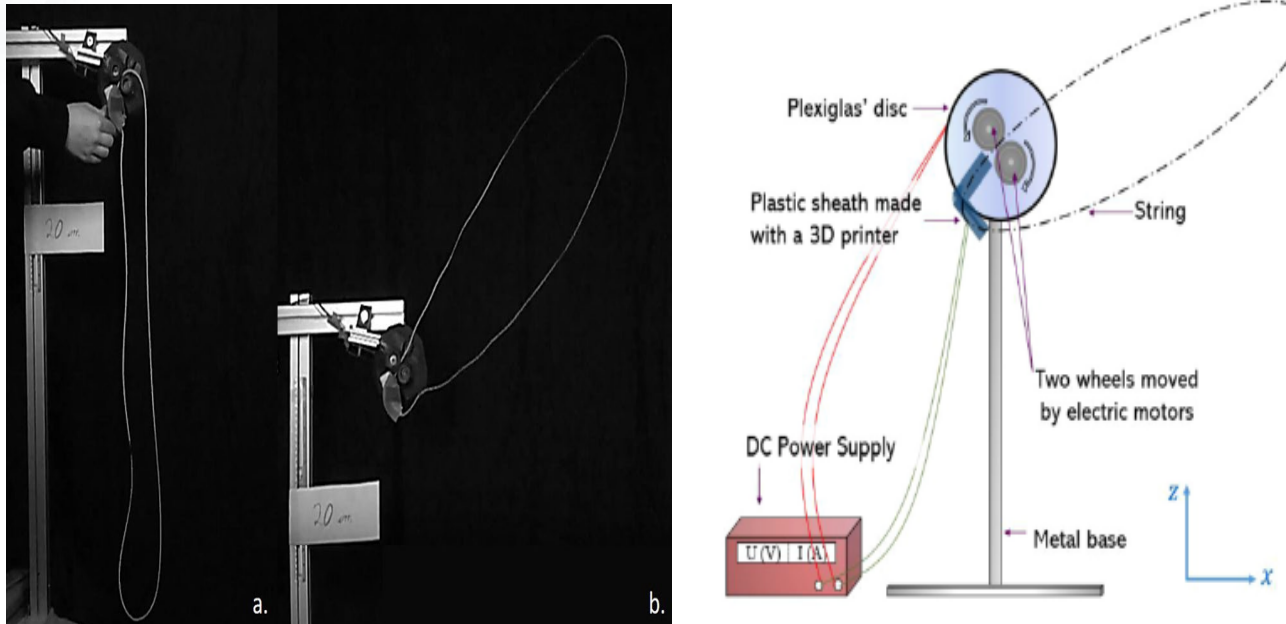
CLAIM 1 - '774 Patent

Abello and Yeany are both **MISSING** the following limitations:

1. A string shooting device comprising:
 - a body;**
 - a housing attached to the body;**

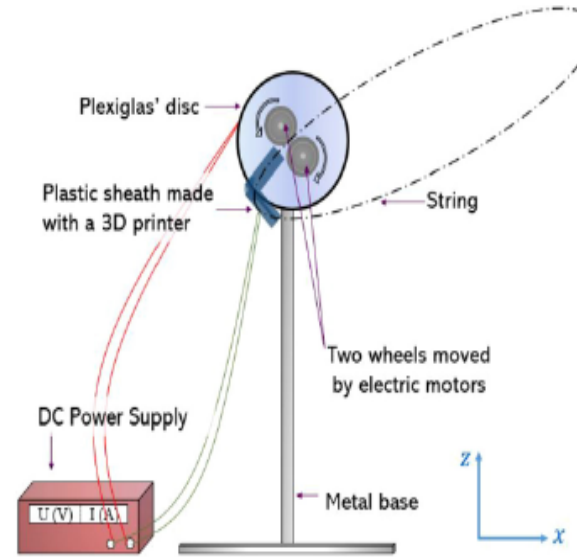
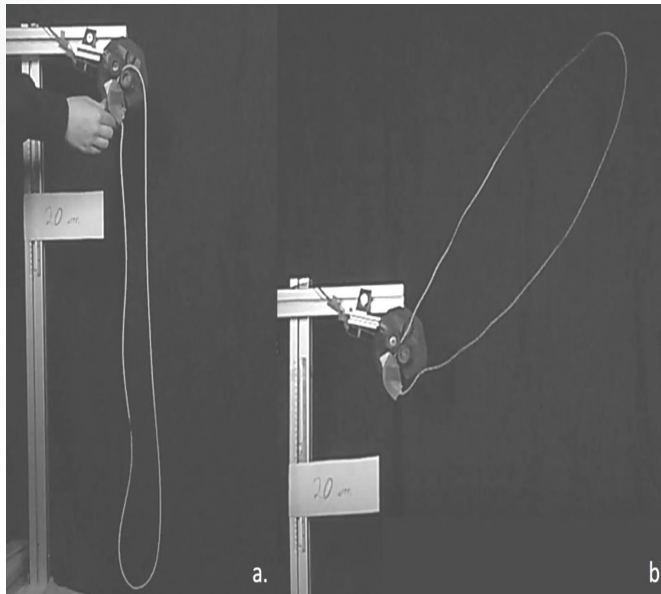
wherein the string comprises **a surface texture configured to increase air friction** in response to the string being propelled through air by the pair of wheels...

Abello does NOT disclose a BODY



Abello Figure 2.

Abello does NOT disclose a HOUSING



Abello Figure 2.

Abello does NOT disclose that the string **has a surface texture configured to increase surface tension**

- As Dr. Kudrowitz admits, “Abello does not provide explicit details on the surface texture of the string.” See Exhibit 2002 ¶ 132.
- Abello merely discusses exploring changing various parameters by modifying the string such as its linear density, roughness, fibre material, diameter, etc. See Exhibit 2002 ¶ 132.
- As noted by Dr. Jason Janét: “The fact that Abello specifically notes that the “smoothest” string has the highest takeoff speeds indicates a desirability for the string to be smooth”. See Exhibit 2002 ¶ 77.

Petitioner Does Not Meet its Burden of Proving Obviousness

- Neither Yeany Nor Abello disclose a **body**;
- Neither Yeany Nor Abello disclose a **housing attached to the body**;
- Neither Yeany Nor Abello disclose the string comprises **a surface texture configured to increase air friction**;
- Even assuming *arguendo* that a POSITA would consider the smoothness of the string in view of the teachings of Abello, the motivation, if any, would be to use smooth string.

Ground 3: Wagner in view of Yeany Does Not Anticipate Claims 1-3, 12 and 15 under 35 U.S.C. § 103.

- Wagner is **MISSING** the following limitations:

Claim 1. wherein the string comprises **a surface texture configured to increase air friction** in response to the string being propelled through air by the pair of wheels...

- Dr. Kudrowitz acknowledges that “Wagner does not explicitly state that the surface texture of the string is configured to increase air friction in response to the string being propelled through air by the pair of wheels.” See Exhibit 2002, ¶158.
- Dr. Kudrowitz provides no support from the Yeany video that expressly mentions air friction in response to the string be propelled through the air. See Exhibit 2002, ¶159.

Ground 4: Wagner in view of Yeany and Scorch Does Not Anticipate Claims 4, 16 and 17.

Claim 4:

4. The string shooting device of claim 1, wherein the housing covers, at least partially, the pair of wheels, and **wherein the housing defines a loading slot through which the string is loaded or removed from between the pair of wheels.**

- Not one of the references cited by the Petitioner includes a housing that has a loading slot through which the string is loaded or removed from between the pair of wheels. PO Response p. 19.

Ground 4: Wagner in view of Yeany and Scorch Does Not Anticipate Claims 4, 16 and 17.

Claim 16:

- 16. A string shooting device comprising:
- a body;
- **a housing attached to the body and defining a loading slot;**
- a pair of wheels, wherein at least one of the pair of wheels is a driven wheel, **wherein the loading slot is disposed at least partially over at least one of the pair of wheels;** and
- a looped string, wherein **the looped string comprises a surface texture configured to increase air friction** in response to the looped string being propelled through air by the pair of wheels.

Yeany and Scorch do **NOT** have a **HOUSING**
Wagner and Yeany are both **MISSING a LOADING SLOT**
Scorch is also **MISSING a LOADING SLOT**

- Petitioner and Dr. Kudrowitz **admit** that Dependent claims 4 and 16 add limitations for a “loading slot” that are not expressly taught by Wagner or Yeany. See Exhibit 2002 ¶ 174.
- Not one of the references cited by the Petitioner includes a housing that has a loading slot through which the string is loaded or removed from between the pair of wheels. PO Response p. 19.
- A POSITA would understand from reviewing the ‘774 Patent that Scorch’s slot is not a “slot through which the string is loaded or removed between the pair of wheels”. Exhibit 2002, ¶183.

Scorch

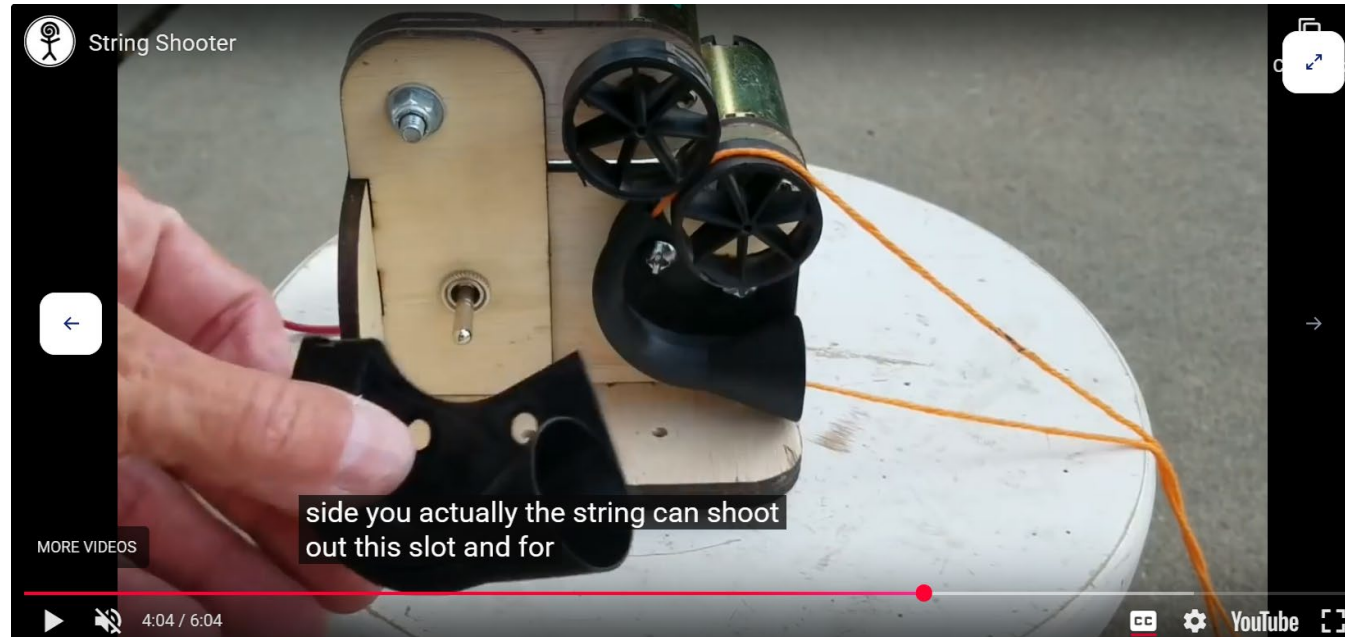
- Scorch’s “funnel” is not a “**housing**” that “**covers, at least partially, the pair of wheels**” of Scorch’s string shooter, in whole or in part. Nor does the Scorch funnel **defines a loading slot through which the string is loaded or removed from between the pair of wheels**” Exhibit 2002, ¶183.
- The Scorch funnel is a separate add-on component that Scorch used to load string into the funnel and then feed the string between the open wheels as the wheels started rotating.
- The slot in Scorch is disposed within the funnel only, and the funnel is a separate piece that does not cover the wheels.

Scorch



Scorch does not have a housing and one wheel is hinged and pivots, as shown in the video. The slot in the funnel is **NOT “defined by the housing”** and is **NOT a “loading slot through which the string is loaded or removed from between the pair of wheels.”**

Scorch



Scorch discloses that the string can actually shoot out of the slot during use.

A POSITA when reviewing the video would hear the narrator stating that “the string can shoot out the slot” [Scorch 4:00-4:04] and understand that Scorch’s slotted funnel does not actually “house the looped string”. Exhibit 2002 ¶184

Scorch



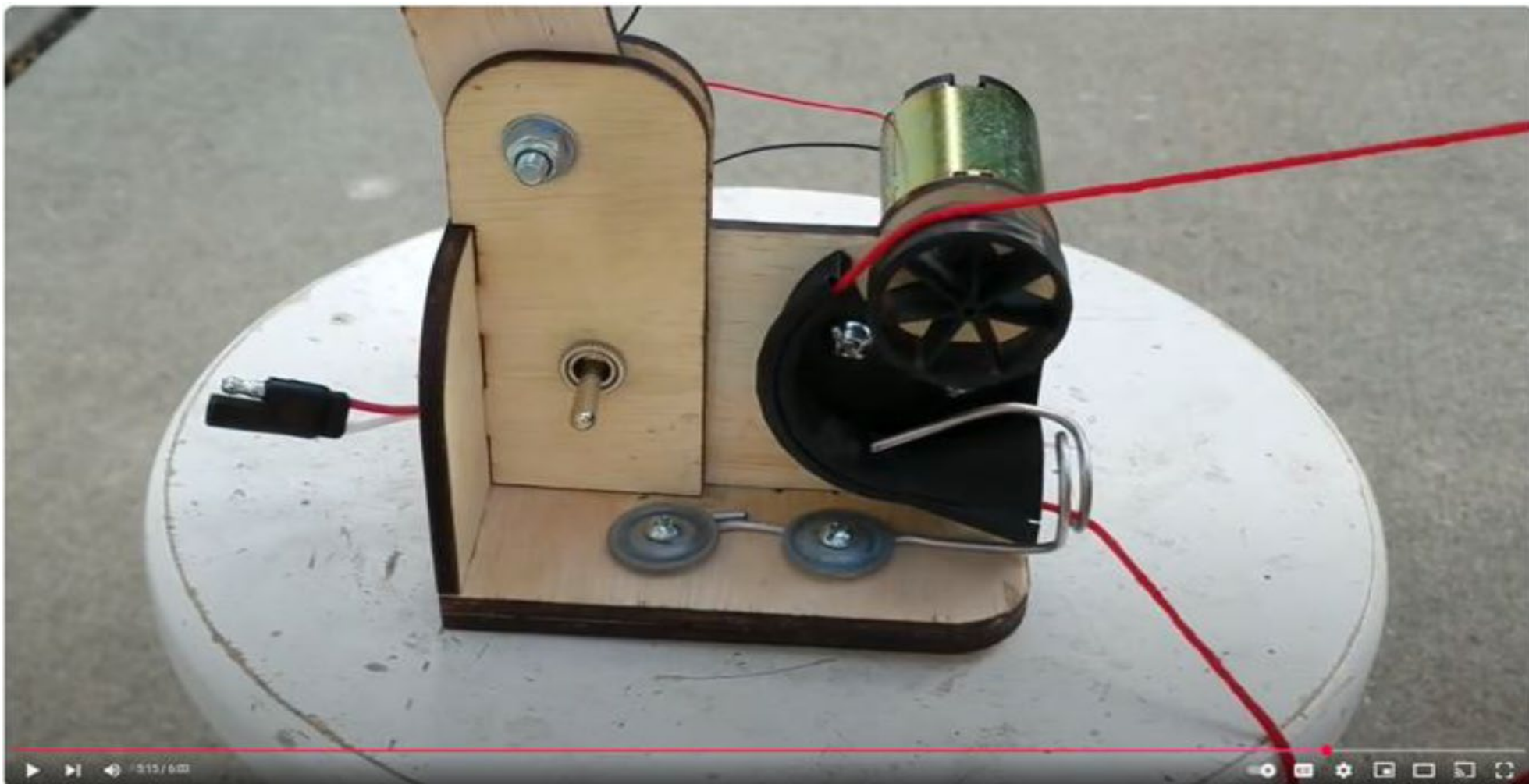
To aid in keeping the string from “shooting out” of the slot, the Scorch narrator adds “an extra piece that’ll go on there” which is “basically a bent wire with a corkscrew at the end” to “prevent the string from coming out the side”. [Scorch 4:05-4:30] A POSITA would understand that Scorch’s “separate piece” is not part of the funnel but, instead, a completely different component which does not join or otherwise become part of the funnel, and neither has nor is a slot. Petitioner and Dr. Kudrowitz do not show or mention this “separate piece”, which is in the metal corkscrew in the figure below. Exhibit 2002 ¶184

Scorch is **MISSING A LOADING SLOT**

- Ignoring these differences and deficiencies, Petitioner and Dr. Kudrowitz state that “A POSITA would apply the teaching of a side loading slot from Scorch to the Wagner device in order to improve the convenience of replacing a loop of string. Exhibit 2002 ¶186

- Scorch describes his slotted funnel as ineffective because the funnel still does not house the string and requires a separate piece to prevent the string from popping out of the slot. Exhibit 2002 ¶204
- Scorch notes the many reasons for not using his slotted funnel by describing it as complicated, prone to entanglement and incomplete. See Exhibit 2002 ¶205

Scorch



Dr. Kudrowitz Proposed Changes to Illustrate a Loading Slot on the Body of the Wagner Device Produce an Inoperable Device

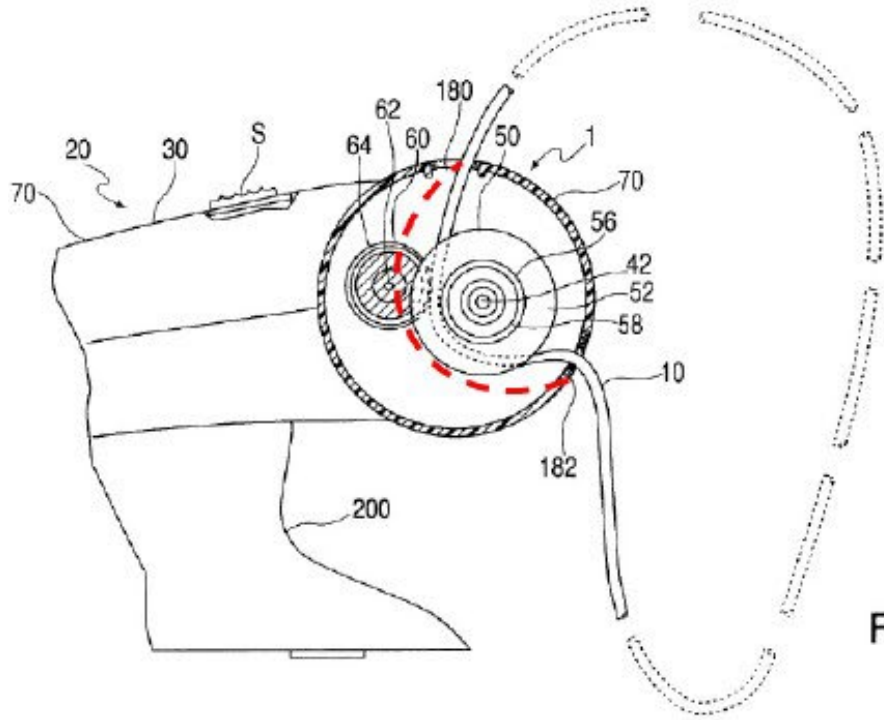


FIG. 1

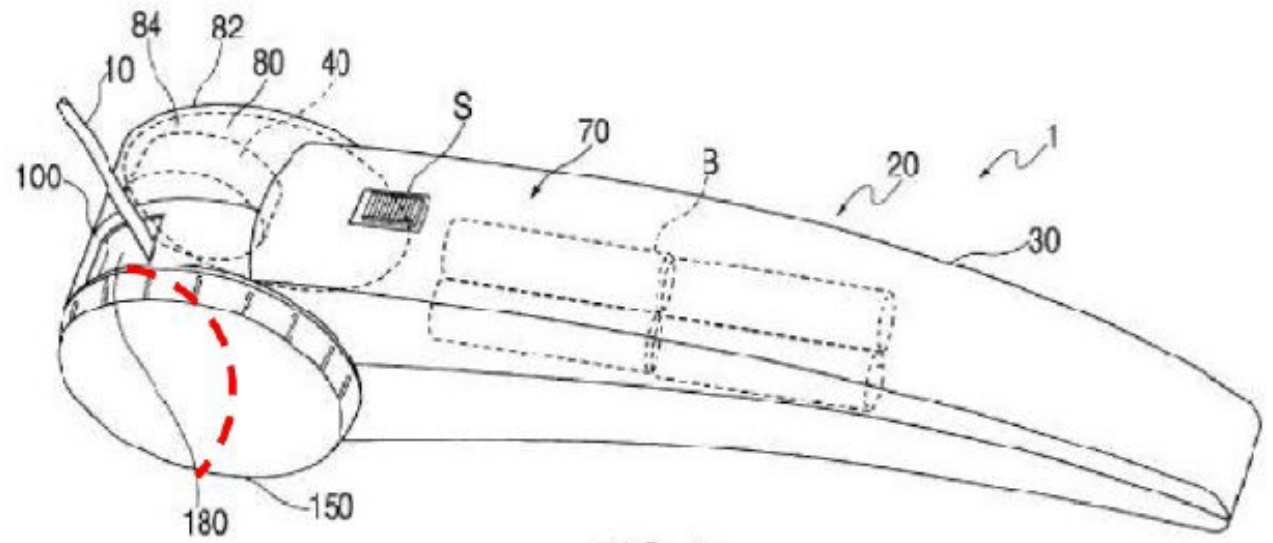


FIG. 3

Wagner

Wagner is **MISSING** a **LOADING SLOT**

- *Wyers v. MasterLock Co.*, 616 F.3d 1231, 1238-39 (Fed. Cir. 2010). “[T]he burden falls on the challenger to show that ‘a skilled artisan would have been motivated to combine the teachings of the prior art,’ and that a ‘skilled artisan would have had a reasonable expectation of success in doing so’” (quoting *Pfizer, Inc. v. Apotex, Inc.* 480 F.3d 1348, 1361 (Fed. Cir. 2007)).
- *In Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1322 (Fed. Cir. 2019), the Federal Circuit held that the benefits, both lost and gained, should be weighed against one another, and the prior art must be considered for all its teachings, not selectively.

- Dr. Janét opined that the combinations proposed cannot match the invented system of the '774 Patent. Even if such a combination were made, it would not yield the results claimed by the Petitioner. See Exhibit 2002 ¶ 121. P.O. Response p.17.
- A POSITA would notice that Wagner's housing is deficient as defined in the '774 Patent, because it does not include a loading slot that allows one to insert or remove a looped string. The '774 Patent defines its housing that defines a loading slot through which the string is loaded or removed from between the pair of wheels ['774, 1:63-66] Wagner's cover 150 and rotatable cup 100 do not comprise a channel, groove or long, narrow aperture or slit defining a slot in order to insert a looped string. See P.O. Response p. 8.

- As with Wagner, Scorch's "funnel" is not a "housing" as defined in the claims of the '774 patent because it does not cover the wheels of Scorch's string shooter, in whole or in part. In addition, a POSITA would understand from reviewing the '774 Patent that , Scorch's slot is not a "slot through which the string is loaded or removed between the pair of wheels". (See table below) because Scorch's slot terminates a substantial distance from where the two wheels meet; Scorch's slot is not over the area between the pair of wheels. In fact, Scorch moves the wheels apart substantially to load the string as shown in the video. See Exhibit 2002 ¶ 183

- As Dr. Janét notes in his opinion, Petitioner and Dr. Kudrowitz’s design **assumes** that a POSITA would choose to incorporate the funnel of Scorch into the cover of Wagner by only selecting certain portions of the funnel, namely the slot. The Conclusion by Dr. Kudrowitz that a POSITA would choose to add the funnel, including it’s unstable slot that allows the string to “pop out” to Wagner, by cutting the once stable and removable cover of Wagner in tow to reach the desired conclusion is unsupported by fact or logic. See Exhibit 2002 ¶ 191.
- A POSITA would not see Scorch’s external slotted funnel tube as an improvement, much less a design fit for Wagner’s cover 152. See P.O. Response p. 21.

Proposed Substitute Claims 21-26 and 28 are not Obvious in View of the Cited References

- Yeany and Scorch do **NOT** have a **HOUSING**
- Wagner and Yeany are both **MISSING a LOADING SLOT**
- Scorch is also **MISSING a LOADING SLOT**

Substitute Claims 21-26 and 28 are not rendered Obvious Over Wagner in View of Yeany and Scorch (Grounds 3 and 4 in the Petition) for they **do not include** a **housing** that defines a **loading slot** through which the string is loaded from between the pair of wheels.

Substitute Claim 21 - “wherein the housing covers, at least partially, the pair of wheels, and wherein the **housing** defines a **loading slot** therein through which the string is loaded from between the pair of wheels.

Substitute Claim 25 – “including a **loading slot** ... wherein said **loading slot** provides a mechanism to load and unload said looped string”

Throughout the Record, Dr. Kudrowitz has Provided Unsupported Conclusory Arguments and has Failed to Articulate why a POSITA Would be Motivated to Combine These References.

In an *inter partes* review, the burden of proof always rests on the Petitioner to articulate this reasoning; the burden never shifts to the Patent Owner to prove the absence of a motivation to combine. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

Conclusion

- Petitioner has not met the burden of proving its claims of anticipation and obviousness by a preponderance of the evidence.
- Alternatively, Substitute Claims 21-26 and 28 of the '774 patent are patentable.

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CERTIFICATE OF SERVICE

I hereby certify that on November 28, 2025 a copy of the Patent Owner's Oral Argument Demonstratives were previously served via email on the following:

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Dated: December 1, 2025

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