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Kelsch et al.

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(54) **ANTI-THEFT APPARATUS FOR RETAIL DISPLAY OF A LAPTOP COMPUTER**

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CPC ***E05B 73/0082*** (2013.01); ***E05B 47/0004*** (2013.01); *E05B 2047/0016* (2013.01)

(58) **Field of Classification Search**
CPC .. E05B 73/0082; E05B 73/00; E05B 47/0004; E05B 2047/0016; F16M 13/02; Y10T 70/5009
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See application file for complete search history.

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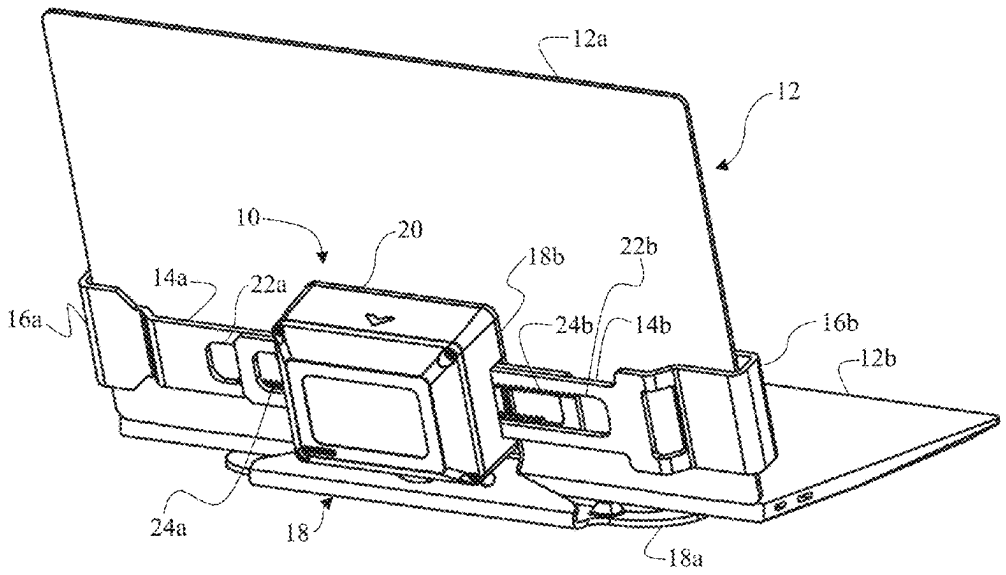
(57) **ABSTRACT**

An anti-theft device for securing a laptop computer or a similar electronic device against theft. The anti-theft device has a stand that mounts onto a display surface. A pair of arms is disposed in a linear sliding relationship relative to a housing affixed to the stand. The arms terminate with inwardly grips that receive the opposing edges of a lid portion of a laptop. The arms have gear racks operatively engaged by a pinion gear, which is joined to a concentrically aligned ratchet gear. A pawl operatively engages the ratchet gear, permitting the ratchet gear and the pinion gear to rotate only in one direction, while precluding reverse rotation. Thus, the adjustable arms can inwardly retract while the pawl engages the ratchet gear, but cannot outwardly extend. A solenoid is disposed within the housing and, when energized, retracts the pawl away from the ratchet gear, thus unlocking the arms.

20 Claims, 6 Drawing Sheets



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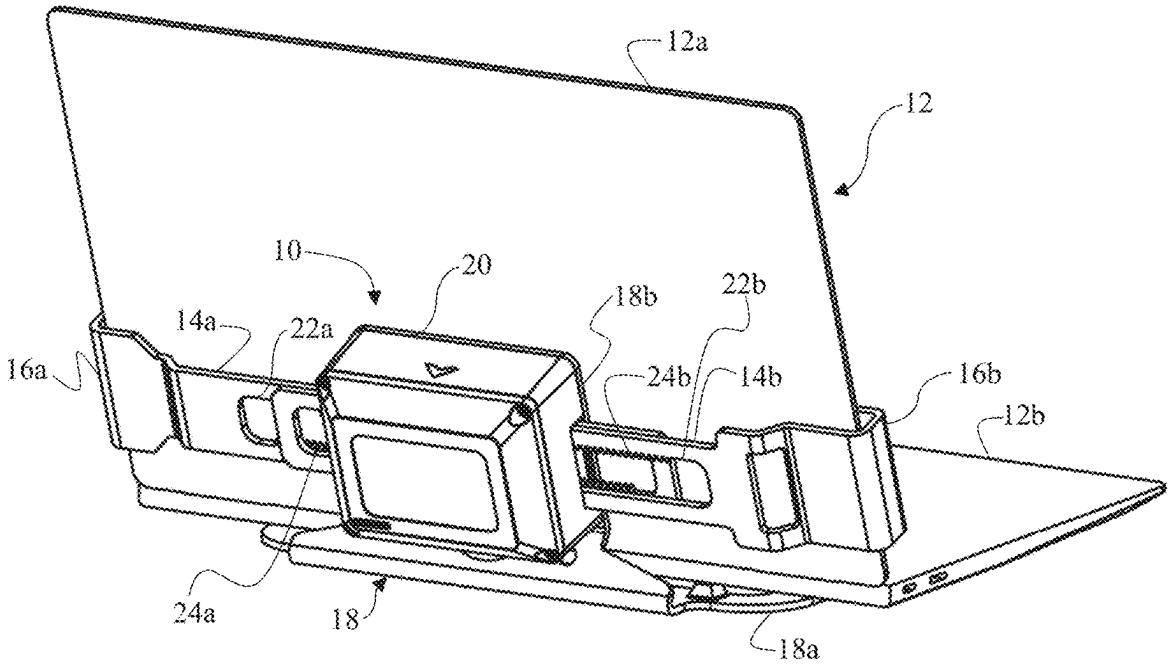

12a
12
10
20
18b
22b
14a
22a
16a
24b
14b
16b
12b
24a
18
18a

FIG. 1A

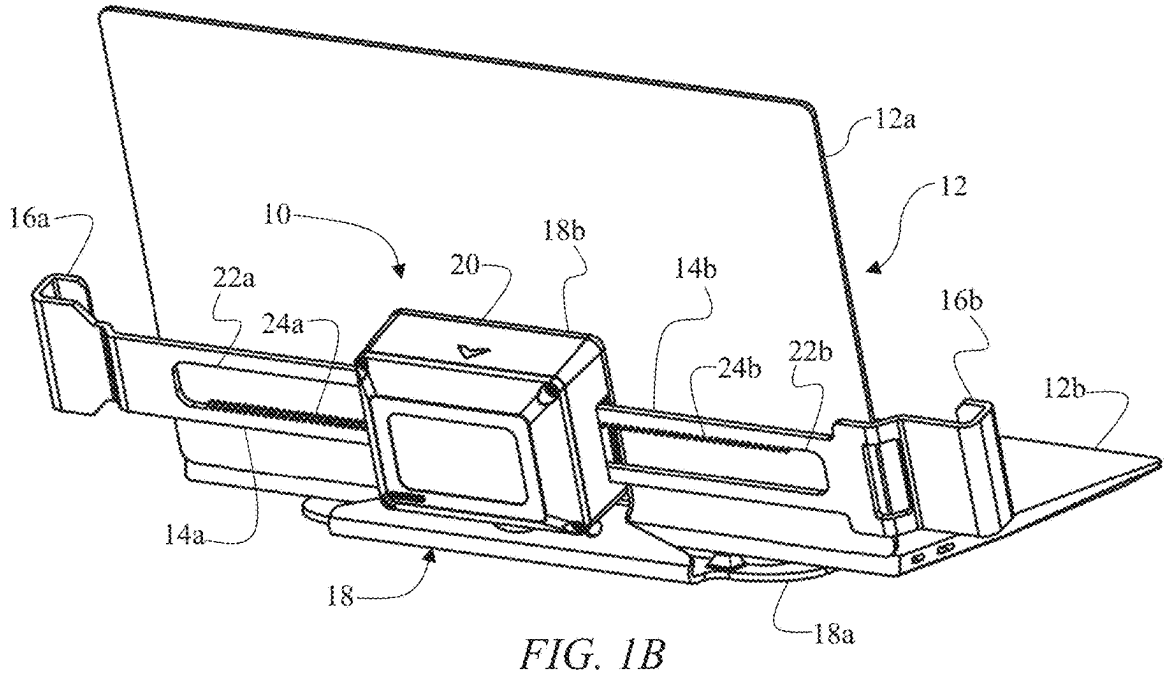

12a
12
16a
10
18b
20
14b
22a
24a
16b
22b
24b
12b
14a
18
18a

FIG. 1B

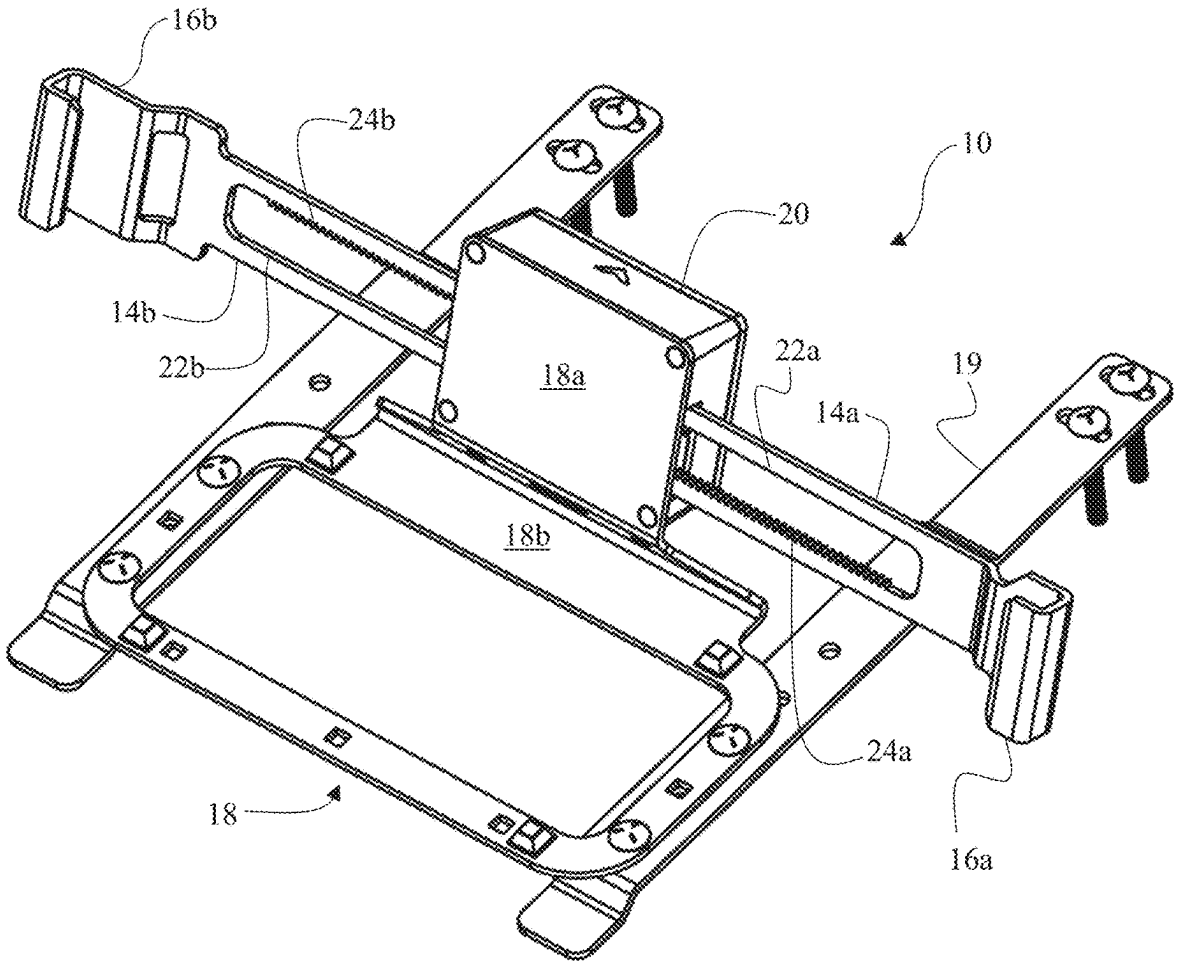
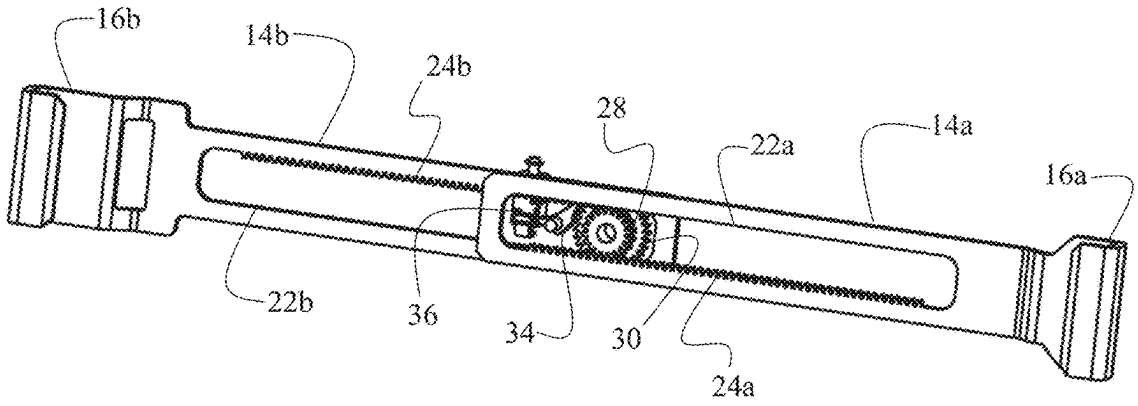


FIG. 2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14b
24b
28
22a
14a
16a
22b
36
34
30
24a

FIG. 3A

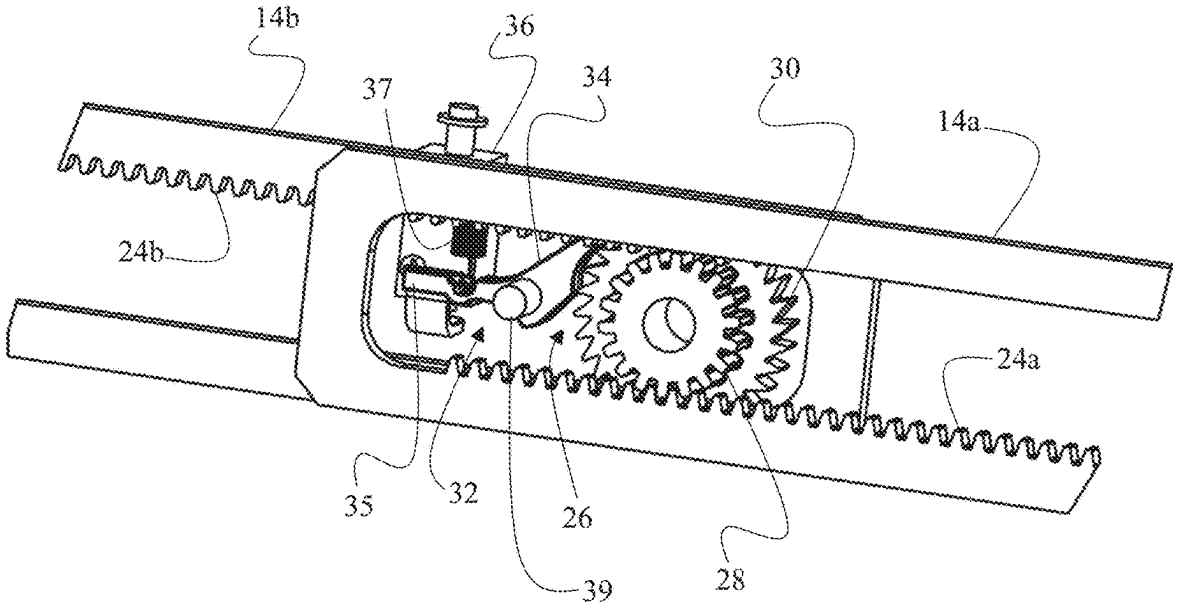
14b
36
37
34
30
14a
24b
24a
35
32
26
28
39

FIG. 3B

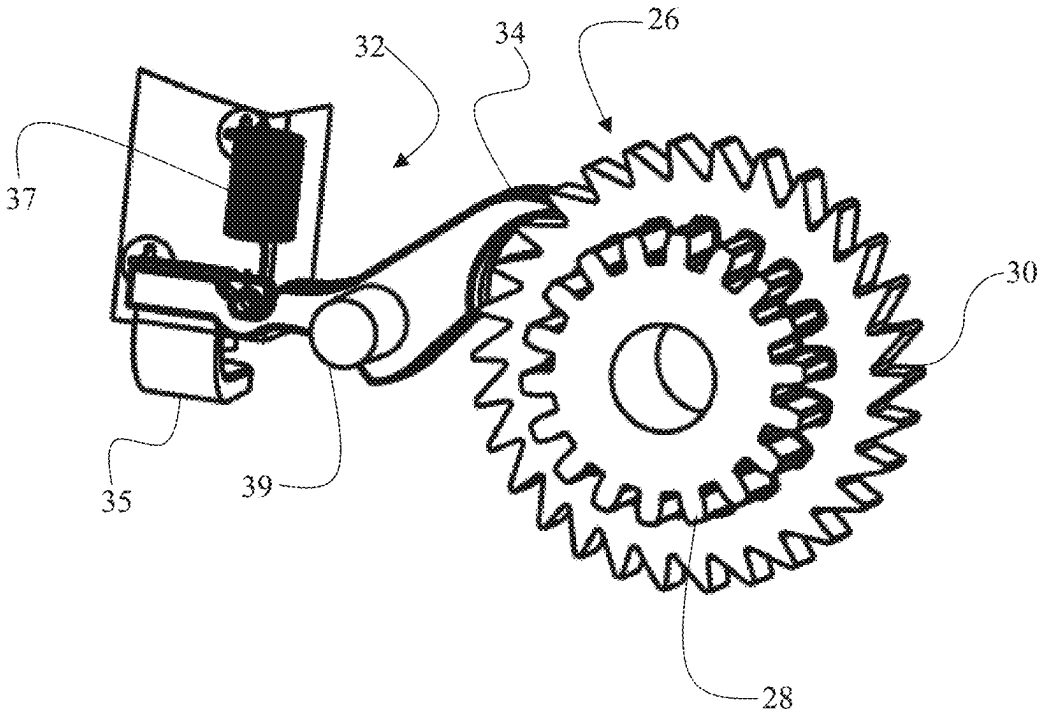

FIG. 4A

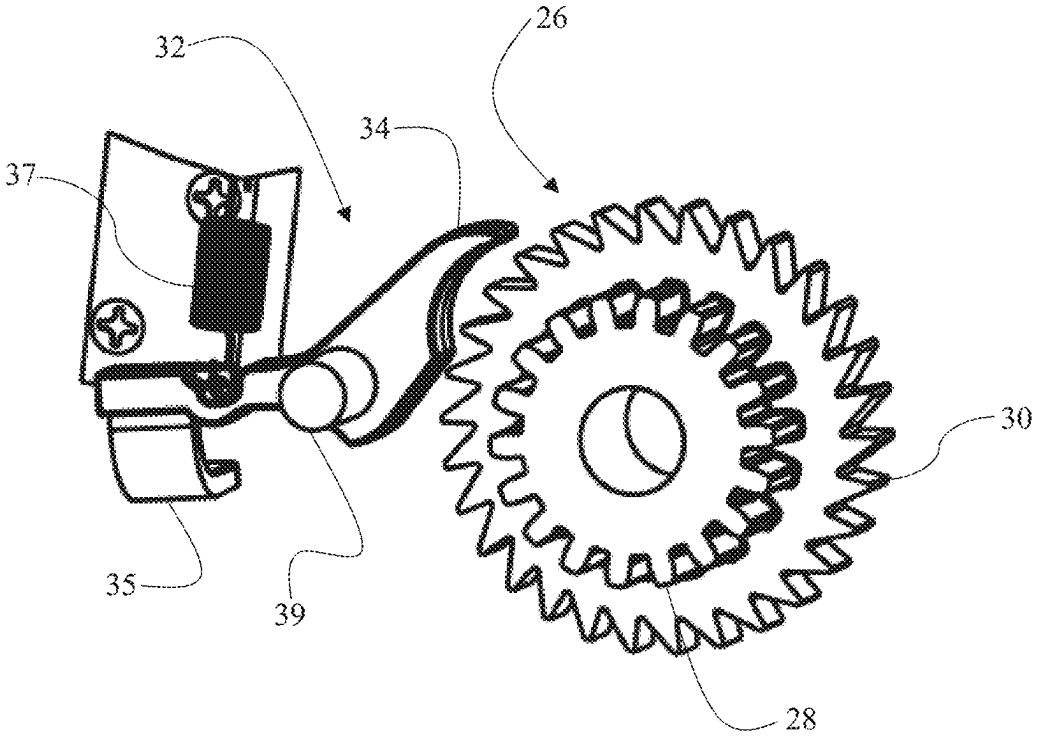

FIG. 4B

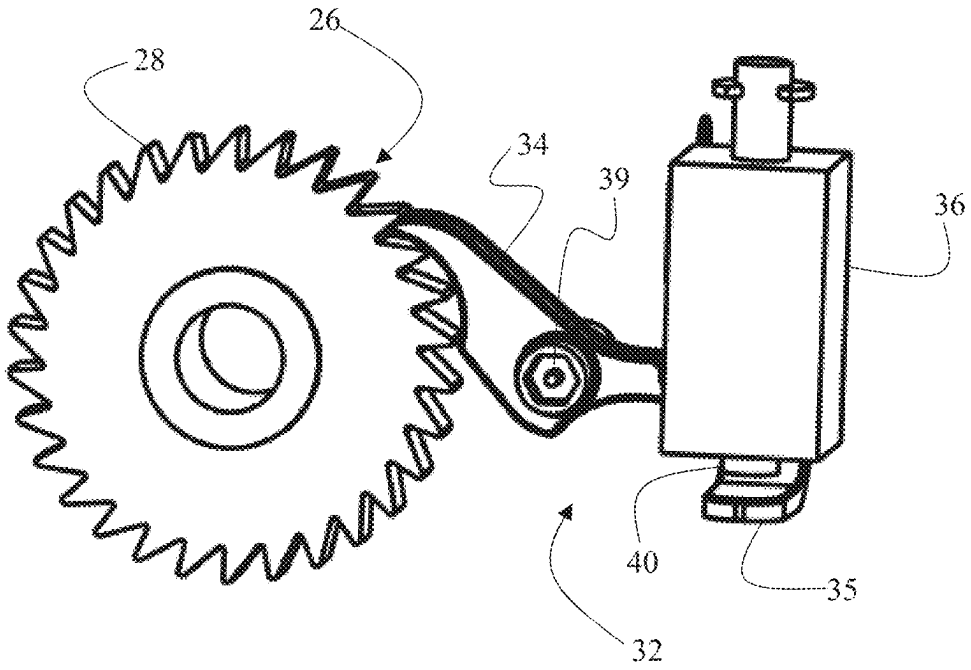

FIG. 5A

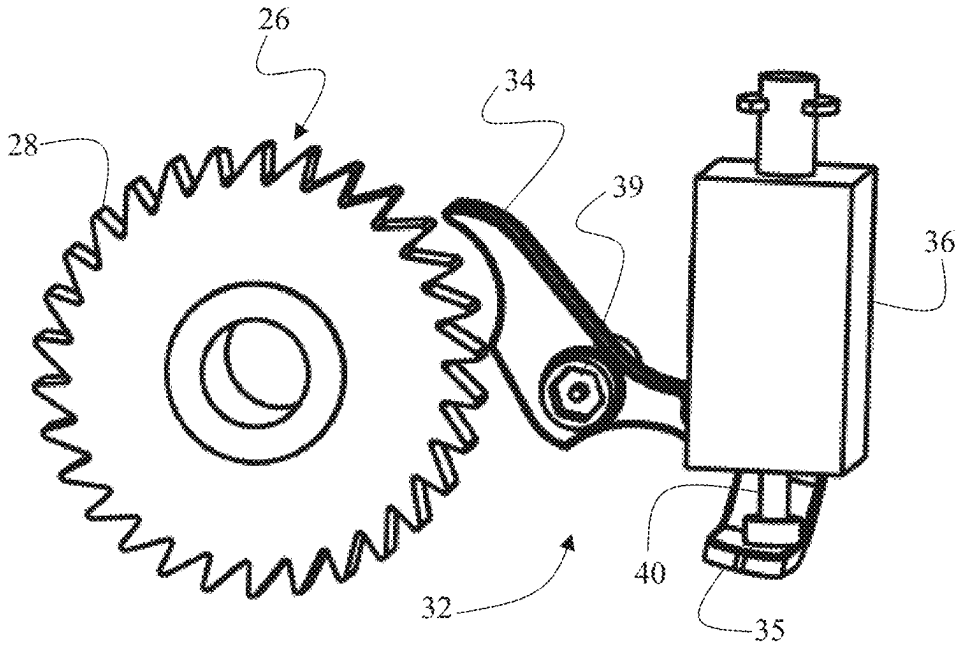

FIG. 5B

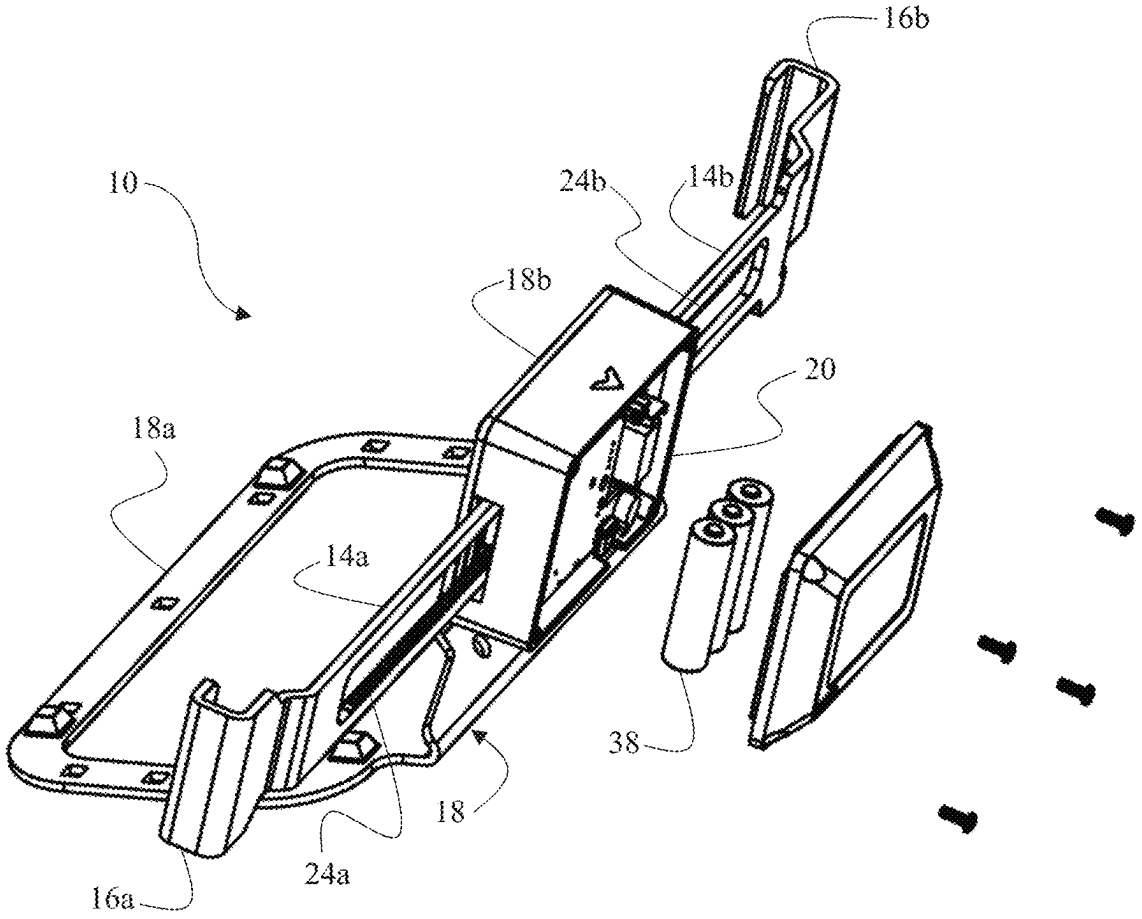
16b
10
24b
14b
18b
20
18a
14a
38
18
24a
16a

FIG. 6

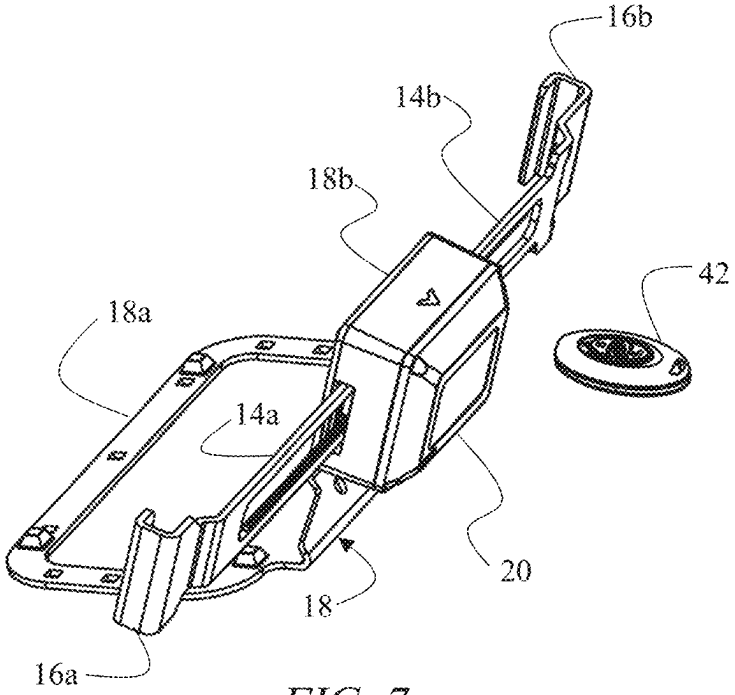
16b
14b
18b
42
18a
14a
20
18
16a

FIG. 7

ANTI-THEFT APPARATUS FOR RETAIL DISPLAY OF A LAPTOP COMPUTER

PRIORITY CLAIM

This non-provisional patent application claims priority to the U.S. Provisional Application No. 63/578,636 filed on Aug. 24, 2023.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to merchandise anti-theft devices. More specifically, it relates to an anti-theft device for a retail display of a laptop computer.

2. Brief Description of the Related Art

Retailers often prefer to present their merchandise to consumers in a manner that allows the consumers to touch, inspect, and otherwise interact with the products at a display counter. Many merchandise items, especially portable electronic devices, are relatively expensive and, therefore, are under a serious threat of theft. Retailers often face a dilemma pertaining to how to interactively display their merchandise to attract customers and increase sales, while, at the same time, safeguarding the merchandise against theft. There is an unresolved need for an anti-theft device for a laptop computer having adjustable, lockable arms that can accommodate various computer sizes, wherein store personnel can unlock the adjustable arms using a wireless means, such as a key fob.

SUMMARY OF THE INVENTION

In an embodiment, the invention may be an anti-theft device for a laptop computer. The anti-theft device includes a stand that has a base portion configured to be anchored to a display surface and configured to support a body of the laptop computer thereon. The stand may have an angular configuration that includes a lateral portion joined at an angle to the base portion. A housing may be affixed to the lateral portion of the stand. The anti-theft device further includes one or more adjustable arms. The adjustable arm has a first portion slidingly disposed within the housing and a second portion positioned outside the housing and terminating with a grip.

The grip may be U-shaped and may be configured to receive an edge of a lid portion of the laptop computer. The U-shaped configuration of the grip permits the edge of the lid portion of the laptop to translate in a transverse direction relative thereto. Furthermore, in an embodiment, the grip does not engage the base portion of the laptop computer while the base portion is at rest. Thus, the laptop computer may be lifted from the stand and raised to a height until the base portion of the laptop engages the grips, which will preclude the base portion from being raised any higher. When the laptop computer is lifted or lowered in such manner, the edge of the lid portion translates transversely within the U-shaped grip while remaining secured therein.

The adjustable arm includes a gear rack disposed along the portion of the arm that is slidingly disposed within the housing. A pinion gear is rotationally disposed within the housing and operatively engaged with the gear rack of the adjustable arm. Due to this engagement, inward retraction of the adjustable arm relative to the housing requires the pinion gear to rotate in a first direction, while outward extension of the adjustable arm relative to the housing requires the pinion gear to rotate in the second, opposite direction.

In an embodiment, the adjustable arm may have a window into which the pinion gear is placed. The gear rack may be disposed on a longitudinal inner edge of the window. When the arm is extended outwardly relative to the housing by a maxim permitted distance, the terminal edge of the window will abut the pinion gear, and in this manner, the adjustable arm will be restricted against further outward extension, thereby precluding removal of the adjustable arm from the housing.

A ratchet gear is also rotationally disposed within the housing and is joined to the pinion gear in a concentric alignment. The pinion gear and the ratchet gear collectively form a gear assembly. A pawl is pivotally disposed within the housing and operatively engages the ratchet gear. The pawl permits the gear assembly to rotate in the first direction, but precludes the gear assembly from rotating in the second direction. Therefore, the engagement between the pawl and the ratchet gear enables the adjustable arm to retract inwardly relative to the housing, but precludes the adjustable arm from extending outwardly relative to the housing. In this manner, the pawl, which is a part of the locking mechanism, locks the adjustable arm in place to secure the laptop within the anti-theft device.

The locking mechanism further includes a biasing element, such as a coil spring, which is operatively connected to the pawl. The biasing element applies a biasing force onto the pawl, urging it into the operative engagement with the ratchet gear.

The locking mechanism further includes an actuator disposed within the housing. In an actuated state, the actuator counteracts the biasing force of the biasing element, therefore disengaging the pawl from the ratchet gear. When the pawl is disengaged from the ratchet gear, the gear assembly can rotate in the second direction, thereby permitting the adjustable arm to extend outwardly relative to the housing. Thus, when the actuator is in the actuated state, the adjustable arm can be extended into an open position in which the grip disengages the edge of the lid portion of the laptop computer, permitting removal thereof from the stand.

In an embodiment, the actuator is a solenoid. The solenoid may be electrically connected, via a switch, to a power source (such as a battery), which may be disposed within the housing or externally to the anti-theft device. The switch has a closed state in which a closed electrical circuit is formed between the power source and the solenoid and an open state in which the electrical circuit therebetween is broken. When the switch is closed, the solenoid is energized (actuated), and when the switch is open, the solenoid is de-energized. The pawl is configured to pivot about a fulcrum and has a tail portion positioned on the opposite side of the fulcrum relative to the pawl's operating end. When the solenoid is energized, its piston applies a force onto the tail of the pawl, which causes the pawl to pivot about the fulcrum, disengaging the operating end thereof from the ratchet gear. And, as explained above, when the pawl is disengaged from the ratchet gear, the gear assembly (including the pinion gear) can rotate in reverse, thereby permitting the adjustable arm to be extended outwardly relative to the housing such that the grip can be removed from the edge of the laptop's lid portion.

The anti-theft device may further include a fob configured to transmit a signal, while a receiver disposed within the housing is configured to detect that signal. When receiver detects a predefined signal, the receiver triggers the closing

of the switch, thereby energizing the solenoid to disengage the pawl from the ratchet gear. Likewise, another signal transmitted by the fob may trigger the opening of the switch, thereby de-energizing the solenoid and returning the pawl into operative engagement with the ratchet gear.

In an embodiment, the anti-theft device may include a second adjustable arm with a second grip. The second adjustable arm may also be slidingly disposed within the housing, in an opposite configuration relative to the first arm, so that the first and the second grips are positioned on the opposite sides of the housing and are configured to receive opposite edges of the lid portion of the laptop computer. The second adjustable arm has a second gear rack disposed therealong and operatively engages the pinion gear. The gear racks of the first and the second arms are positioned on the opposite sides of the pinion gear, such that the pinion gear translates linear movement of the first adjustable arm to the second adjustable arm, thereby synchronizing inward retraction and outward extension of the adjustable arms. This feature ensures that the grips are equidistant relative to the center of the stand, thereby facilitating attractive central display of the laptop.

DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the invention, reference should be made to the following detailed description, taken in connection with the accompanying drawings, in which:

FIG. **1**A is a perspective back view depicting a laptop computer secured within the locked arms of the anti-theft device.

FIG. **1**B is a perspective back view depicting the anti-theft device in an unlocked configuration.

FIG. **2** is a perspective front view of an embodiment of the anti-theft device.

FIG. **3**A is a front view of the adjustable arms and the locking mechanism.

FIG. **3**B is a front detail view of the adjustable arms and the locking mechanism.

FIG. **4**A is a front view of the locking mechanism engaging the gear assembly in a locking configuration of the anti-theft device.

FIG. **4**B is a front view of the locking mechanism disengaged from the gear assembly in an unlocked configuration of the anti-theft device.

FIG. **5**A is a back view of the locking mechanism engaging the gear assembly in a locking configuration of the anti-theft device.

FIG. **5**B is a back view of the locking mechanism disengaged from the gear assembly in an unlocked configuration of the anti-theft device.

FIG. **6** is an exploded perspective view of the anti-theft device.

FIG. **7** is an perspective view of the anti-theft device and a security fob for transitioning the anti-theft device into the unlocked configuration.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In the following detailed description of the preferred embodiment, reference is made to the accompanying drawings, which form a part hereof, and within which specific embodiments are shown by way of illustration by which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural changes may be made without departing from the scope of the invention.

FIGS. **1**A-**1**B depict an anti-theft device **10** for securing a laptop **12**. The anti-theft device **10** has adjustable arms **14***a* and **14***b* which terminate with U-shaped grips **16***a* and **16***b*, respectively. When the adjustable arms **14***a* and **14***b* are in their closed positions depicted in FIG. **1**A, the U-shaped grips **16***a* and **16***b* receive the opposite edges of the lid portion **12***a* of the laptop computer **12**. FIG. **1**B depicts an open configuration of the adjustable arms **14***a* and **14***b*, in which U-shaped grips **16***a* and **16***b* are separated by a distance exceeding the width of the laptop **12**, thereby permitting its removal.

FIG. **2** depicts that the anti-theft device **10** comprises a stand **18** configured to be mounted directly to a retail display counter or to a specialized frame **19**. The stand **18** has an angled configuration that includes a base portion **18***a* and a lateral portion **18***b*. A housing **20** is affixed to the lateral portion **18***b* of the stand **18**.

FIGS. **3**A and **3**B show that the adjustable arms **14***a* and **14***b* are partially disposed within the housing **20** in an overlapping relationship—i.e., the arm **14***b* is positioned behind the arm **14***a*. The arms **14***a* and **14***b* are configured to linearly translate relative to the housing **20** in an inwardly retracting and outwardly extending manner. The housing **20** may have a track that constrains the movement of the arms **14***a* and **14***b* solely to linear translation relative to the housing. FIGS. **3**A and **3**B further show that the first arm **14***a* has a first longitudinal window **22***a*, while the second arm **14***b* has a second longitudinal window **22***b*. A first gear rack **24***a* is disposed along the bottom edge of the first window **22***a*, and the second gear rack **24***b* is disposed along the top edge of the second window **22***b*. In this manner, the gear racks **24***a* and **24***b* are disposed in an opposing relation with respect to one another.

The adjustable arms **14***a* and **14***b* terminate with U-shaped grips **16***a* and **16***b*, respectively. The U-shaped grips **16***a* and **16***b* are offset toward the front relative to the arms **14***a* and **14***b*, providing sufficient clearance for the lid portion **12***a* of the laptop computer **12** relative to the lateral portion **18***b* of the stand **18**. Furthermore, the grips **16***a* and **16***b* are positioned above the body portion **12***b* of the laptop computer **12** and do not restrict the body portion **12***b* from being lifted from the stand **18**. In this manner, a customer can lift the laptop computer **12** from the stand **18** to feel its actual weight. When a customer lifts the laptop computer **12**, its lid portion **12***a* will slide within the U-shaped grips **16***a* and **16***b*, until the base portion **12***b* of the laptop **12** contacts the bottom edges of the U-shaped grips **16***a* and **16***b*. In this manner, the customer can feel the true weight of the laptop **12**, without compromising security.

FIGS. **4**A and **4**B depict a gear assembly **26**, which is rotationally disposed within the housing **20**. The gear assembly **26** includes a pinion gear **28** and a ratchet gear **30**. The pinion gear **28** and the ratchet gear **30** are concentric and are fixedly joined together. The gears **28** and **30** can either be joined together in any manner known in the art including using fasteners, adhesive, welding or the gear assembly may be manufactured as a monolithic component.

The pinion gear **28** is positioned within the windows **22***a* and **22***b* of arms **14***a* and **14***b*, while the ratchet gear **30** is positioned outside the windows **22***a* and **22***b*, behind the arms **14***a* and **14***b*. The pinion gear **28** operatively engages both gear racks **24***a* and **24***b*. Because the gear racks **24***a* and **24***b* are oriented in an opposing manner, the pinion gear **28** synchronizes their movement relative to one another, whereby an inward linear displacement of the first arm **14***a* causes the pinion gear **28** to rotate, and this rotation causes the second arm **14***b* to also move inwardly by the same

distance as the first arm **14***a*. Thus, when a user slides the first arm **14***a* inwardly relative to the housing **20**, the second arm **14***b* also slides inwardly relative to the housing **20** by the same distance. Analogously, when the arm **14***a* is extended relative to the housing **20**, the pinion gear **28** translates that displacement to the arm **14***b*, causing it to extend by the same distance. In this manner, arms **14***a* and **14***b* are configured to always be equidistant relative to the housing **20**, thereby automatically aligning the laptop computer **12** in the center of the anti-theft device **10**, which facilitates a neat and attractive display.

FIGS. **4**A and **4**B further depict a locking mechanism **32**. FIG. **4**A shows that the locking mechanism **32** comprises a pawl **34** that engages the ratchet gear **30**, thereby precluding the gear assembly **26** from rotating in reverse, including the pinion gear **28**. Thus, when the locking mechanism **32** is in a locking configuration—the configuration in which the pawl **34** engages the ratchet gear **30**—the arms **14***a* and **14***b* can only slide inwardly relative to the housing **20**, while their outward movement is precluded because the pinion gear **28** cannot rotate in reverse due to engagement between the ratchet gear **30** and the pawl **34**.

The locking mechanism **32** further includes a biasing element **37**, which is operatively connected to the pawl **34** and urges the pawl **34** into engagement with the ratchet gear **30**.

To secure the laptop **12** within the anti-device **10**, the U-shaped grips **16***a* and **16***b* must be initially separated by a distance exceeding the width of the laptop **12**, thereby permitting the laptop **12** to be positioned onto the stand **18** with the lid portion of the laptop opened, as depicted in FIG. **1**B. Then, the arms **14***a* and **14***b* are retracted into housing **20**, thereby reducing the distance between the grips **16***a* and **16***b* until they receive the edges of the lid portion of the laptop **12** therein, as depicted in FIG. **1**A. At this point, the laptop **12** is secured within the anti-theft device **10**.

To remove the laptop computer **12** from the anti-theft device **10**, the pawl **34** must be disengaged from the ratchet gear **30**, as depicted in FIG. **4**B, thus enabling the gear assembly **26** (including the pinion gear **28**) to rotate in reverse. Then, while the pawl **34** remains retracted away from the ratchet gear **30**, the user must slide the arms **14***a* and **14***b* apart until the distance between the U-shaped grips **16***a* and **16***b* exceeds the width of the laptop **12**, at which point the laptop **12** can be removed from the stand **18**. The pawl **34** can then be transitioned into is locking configuration in which the pawl **34** operatively engages the ratchet gear **30**, as depicted in FIG. **4**A, and the anti-theft device **10** is ready to secure the laptop **12**, as disclosed above.

FIGS. **5**A and **5**B depict that the locking mechanism **32** may include an actuator, such as a solenoid **36**, an electric motor, a pneumatic actuator, a magnetic actuator, or any other type of actuator known in the art. FIG. **6** depicts that the locking mechanism **32** is disposed within the housing **20** and may be electrically connected to a power source **38**, such as a battery, which also may be disposed within the housing **20** and electrically connected to the solenoid **36** via a switch. In the locking configuration, depicted in FIG. **5**A, the switch is opened and the electric current from the power source **38** is not conveyed to the solenoid **36**. The piston **40** of the solenoid **36** is retracted away from the tail **35** of the pawl **34**, which is disposed on the opposite side of the fulcrum **39** relative to the pawl's operating end. In this locking configuration, the biasing element **37** presses the pawl **34** against the ratchet gear **30**. Because the pawl **34** precludes the gear assembly **26** from rotating in reverse, the retaining the arms **14***a* and **14***b* are in the locked state, whereby the engagement between the gear racks **24***a* and **24***b* and the pinion gear **28** precludes the arms **14***a* and **14***b* from being extended out of the housing **20**. In an embodiment, the stand **18**, the arms **14***a* and **14***b* and the gear assembly **26** are made out of a metal or a metal alloy (such as steel), thereby reducing the likelihood of forced or accidental damage to these components, ensuring the longevity and the high level of security provided by the anti-theft device **10**.

FIG. **5**B depicts the unlocked configuration of the locking mechanism **32**. In this configuration, the switch connecting the solenoid **36** to the power source **38** is closed and the solenoid **36** is an energized state. The piston **40** extends from the solenoid **36** and applies a force onto the tail **35** of the pawl **34**. The force applied onto the tail **35** of the pawl **34** exceeds the biasing force exerted onto the pawl **34** by the biasing element **37**. This causes the pawl **34** to pivot away from and disengage the ratchet gear **30**, thereby transitioning the locking mechanism **32** into the unlocked configuration, in which the gear assembly **26** can rotate in reverse, which releases the arms **14***a* and **14***b* to outwardly extend relative to the housing **20**.

Thus, to actuate the solenoid **36**, the switch must be closed, forming an electrical circuit between the power source **38** and the solenoid **36**. A switch may be configured to be closed in response to a predefined wireless signal. FIG. **7** depicts a wireless fob **42** configured to transmit such signal to a corresponding receiver within the housing **20**. Examples of the wireless signals and the corresponding transmitter and receiver devices may include the following: infrared (IR), radio frequency (RF), near-field communications (NFC), Wi-Fi, UWB (UltraWideBand), BT or BLE (Bluetooth or Bluetooth Low Energy), Cellular/5G/6G, LoraWAN, audio/voice commands, magnetics, etc.

When an authorized user actuates the wireless signal transmitter—for example by pressing a button on the fob **42**—the receiver within the housing **20** receives the wireless signal and actuates the solenoid **36** (or another actuator). The piston **40** of the solenoid **36** extends and applies a force onto the tail **35** of the pawl **34**, thereby causing the pawl **34** to pivot about fulcrum **39** away from the ratchet gear **30**. When the pawl **34** is in this disengaged position, the user can slide the arms **14***a* and **14***b* outwardly relative to the housing **20** so that the distance between the U-shaped grips **16***a* and **16***b* exceeds the width of the laptop computer **12**, as depicted in FIG. **1**B. At this point, the laptop computer **12** may be removed from the anti-theft device **10**. The user can then use the fob **42** to transmit another predefined wireless signal to the anti-theft device **10** to open the switch and deactivate the solenoid **36**. When the piston **40** of the solenoid **36** retracts away from the tail **35** of the pawl **34**, the biasing element **37** returns the pawl **34** into the operative engagement with the ratchet gear **30**, thereby transitioning the anti-theft device **10** into the locking configuration. The biasing element **37** may be a coil spring that biases the pawl **34** toward its engaged position, and when the piston **40** of the solenoid **36** is retracted away from the tail **35** of the pawl **34**, the biasing force causes the pawl **34** to reengage the ratchet gear **30**.

The advantages set forth above, and those made apparent from the foregoing description, are efficiently attained. Since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matters contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. An anti-theft device for securing an article of merchandise, comprising:

a stand having a base portion configured to be anchored to a display surface and configured to support the article of merchandise thereon;

a housing mounted to the stand;

an adjustable arm having a first portion slidingly disposed within the housing and a second portion positioned outside the housing and terminating with a grip, wherein the grip is configured to receive an edge of the article of merchandise when the adjustable arm is in a closed position;

a gear rack disposed along the first portion of the adjustable arm;

a pinion gear rotationally disposed within the housing and operatively engaged with the gear rack of the adjustable arm, wherein inward retraction of the adjustable arm relative to the housing requires the pinion gear to rotate in a first direction and outward extension of the adjustable arm relative to the housing requires the pinion gear to rotate in the second direction;

a ratchet gear rotationally disposed within the housing and joined to the pinion gear in a concentric alignment, the pinion gear and the ratchet gear collectively forming a gear assembly;

a pawl pivotally disposed within the housing and operatively engaging the ratchet gear, wherein the pawl permits the gear assembly to rotate in the first direction and precludes the gear assembly from rotating in the second direction, thereby permitting the adjustable arm to retract inwardly relative to the housing and precluding the adjustable arm from extending outwardly relative to the housing;

a biasing element operatively connected to the pawl and applying a biasing force urging the pawl into operative engagement with the ratchet gear; and

an actuator disposed within the housing, wherein in an actuated state, the actuator counteracts the biasing force of the biasing element, disengaging the pawl from the ratchet gear and thus releasing the gear assembly to rotate in the second direction thereby permitting the adjustable arm to extend outwardly relative to the housing into an open position in which the grip disengages the edge of the article of merchandise, permitting removal thereof from the stand.

2. The anti-theft device of claim 1, wherein the article of merchandise is a laptop computer and wherein the grip is U-shaped and permits an edge of a lid portion of the laptop to translate in a transverse direction relative thereto.

3. The anti-theft device of claim 2, wherein the grip does not engage the base portion of the laptop computer while the base portion is at rest, thereby permitting the laptop computer to be lifted from the stand, wherein lifting the laptop computer causes the edge of the lid portion to translate transversely within the U-shaped grip while remaining secured therein.

4. The anti-theft device of claim 1, wherein the actuator is a solenoid.

5. The anti-theft device of claim 4, wherein the pawl is configured to pivot about a fulcrum and wherein the pawl has a tail positioned on the opposite side of the fulcrum relative to an operating end, and wherein a piston of the solenoid is configured to apply a force onto the tail of the pawl thus causing the pawl to pivot about the fulcrum, thereby disengaging the operating end thereof from the ratchet gear.

6. The anti-theft device of claim 5, wherein a power source is disposed within the housing and electrically connected to the solenoid via a switch, wherein the switch has a closed state in which an electrical circuit is closed between the power source and the solenoid and an open state in which the electrical circuit therebetween is broken.

7. The anti-theft device of claim 6, further comprising a fob configured to transmit a signal and a receiver disposed within the housing configured to detect the signal, wherein detection of the signal by the receiver triggers the switch to transition between the open state and the closed state, thereby selectively energizing the solenoid to disengage the pawl from the ratchet gear or selectively de-energizing the solenoid to return the pawl into engagement with the ratchet gear.

8. The anti-theft device of claim 1, wherein the adjustable arm has a window configured to receive the pinion gear therein, and wherein the gear rack is disposed on a longitudinal inner edge of the window.

9. The anti-theft device of claim 8, wherein when the terminal edge of the window contacts the pinion gear, the adjustable arm is restrained against further outward extension relative to the housing, thereby precluding removal of the adjustable arm from the housing.

10. The anti-theft device of claim 1, wherein the adjustable arm is a first adjustable arm and the grip is a first grip, further comprising a second adjustable arm with a second grip slidingly disposed within the housing, wherein the first and the second grips are positioned on the opposite sides of the housing and are configured to receive opposite edges of the article of merchandise.

11. The anti-theft device of claim 10, wherein a second gear rack is disposed along the second adjustable arm and operatively engages the pinion gear, and wherein the first and the second gear racks are disposed in an opposing relationship with one another relative to the pinion gear, such that the pinion gear translates linear movement of the first adjustable arm to the second adjustable arm, thereby synchronizing inward retraction and outward extension of the first and the second adjustable arms.

12. A method of securing an article of merchandise using an anti-theft device, comprising:

affixing a stand of the anti-theft device to a display surface, the stand having a base portion configured to support the article of merchandise thereon;

linearly extending an adjustable arm from a housing mounted to the stand, wherein the adjustable arm has a first portion slidingly disposed within the housing and a second portion positioned outside the housing and terminating with a grip, wherein the grip is configured to receive an edge of the article of merchandise when the adjustable arm is retracted into a closed position;

placing the article of merchandise onto the base of the stand;

aligning the edge of the article of merchandise with the grip;

inwardly retracting the adjustable arm into the housing such that the grip receives the edge of the article of merchandise, wherein a pinion gear is rotationally disposed within the housing and operatively engaged with a gear rack disposed along the first portion of the adjustable arm, wherein inward retraction of the adjustable arm requires the pinion gear to rotate in a first direction and outward extension of the adjustable arm requires the pinion gear to rotate in the second direction, and wherein a ratchet gear is rotationally disposed within the housing and joined to the pinion gear in a

concentric alignment such that the pinion gear and the ratchet gear collectively form a gear assembly, and wherein a pawl is pivotally disposed within the housing and is biased by a biasing element connected thereto into an operative engagement with the ratchet gear such that the pawl permits the gear assembly to rotate in the first direction and precludes the gear assembly from rotating in the second direction, thereby permitting the adjustable arm to retract inwardly relative to the housing and precluding the adjustable arm from extending outwardly relative to the housing, thereby locking the article of merchandise within the grip of the adjustable arm;

energizing an actuator disposed within the housing, wherein the actuator retracts the pawl away from the ratchet gear by counteracting a biasing force exerted onto the pawl by the biasing element, thereby releasing the gear assembly to rotate in the second direction, thus enabling the adjustable arm to extend outwardly; and

outwardly extending the adjustable arm relative to the housing until the grip of the adjustable arm disengages the edge of the article of merchandise, thereby permitting removal of the article of merchandise from the stand.

13. The method of claim **12**, wherein the article of merchandise is a laptop computer and wherein the grip is U-shaped and permits an edge of a lid portion of the laptop to translate in a transverse direction relative thereto.

14. The method of claim **13**, further comprising a step of lifting the laptop computer from the stand while the edge of the lid portion thereof remains secured within the grip, whereby the edge of the lid portion of the laptop translates transversely within the U-shaped grip as the laptop computer is lifted.

15. The method of claim **12**, wherein the actuator is a solenoid.

16. The method of claim **15**, wherein the energizing step causes a piston of the solenoid to extend and apply a force onto a tail of the pawl located on the opposite side of a fulcrum, thereby causing the pawl to pivot about the fulcrum, thus disengaging the pawl from the ratchet gear.

17. The method of claim **16**, wherein a power source is disposed within the housing and electrically connected to the solenoid via a switch, wherein the switch has a closed state in which an electrical circuit is closed between the power source and the solenoid and an open state in which the electrical circuit therebetween is broken, and wherein the energizing step transitions the switch into the closed state.

18. The method of claim **17**, wherein the energizing step comprises a step of operating a fob to transmit a signal configured to be detected by a receiver disposed within the housing, whereby responsive to the receiver detecting the signal, triggering the switch to transition between the open state and the closed state, thereby selectively energizing the solenoid to disengage the pawl from the ratchet gear or selectively de-energizing the solenoid to return the pawl into operating engagement with the ratchet gear.

19. The method of claim **12**, wherein the adjustable arm is a first adjustable arm and the grip is a first grip, and wherein a second adjustable arm having a second grip is slidingly disposed within the housing, wherein the first and the second grips are positioned on the opposite sides of the housing and are configured to receive opposite edges of the article of merchandise.

20. The method of claim **19**, wherein a second gear rack is disposed along the second adjustable arm and operatively engages the pinion gear, and wherein the first and the second gear racks are positioned in an opposing relation with one another relative to the pinion gear, whereby the step of inwardly retracting the first adjustable arm causes the second adjustable arm to inwardly retract and the step of outwardly extending the first adjustable arm causes the second adjustable arm to outwardly extend.

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