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(54) **CLIP DEVICE**

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(57) **ABSTRACT**

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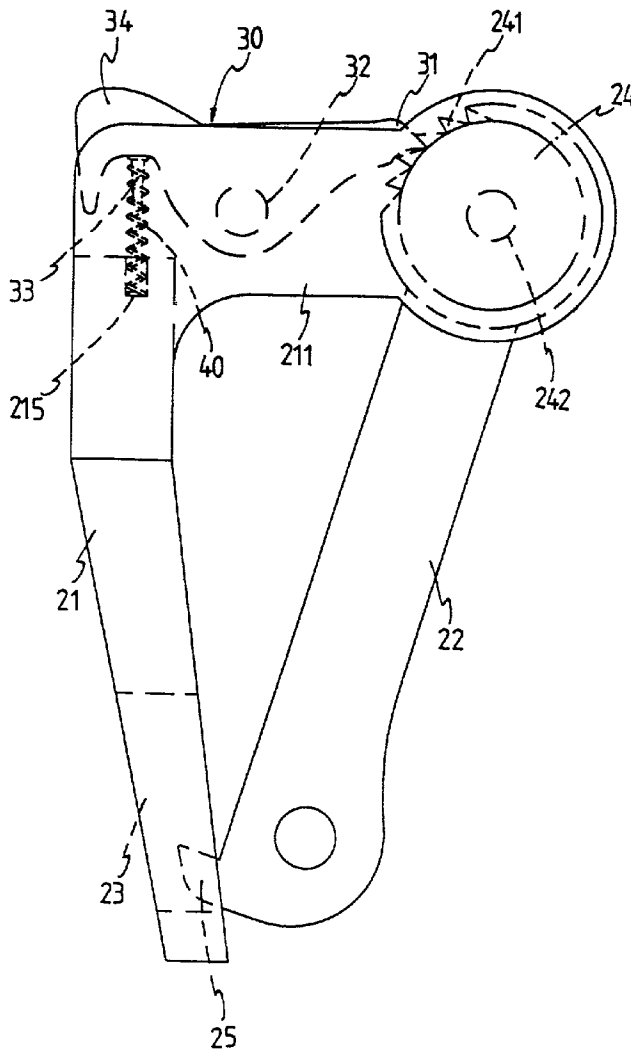
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A clip device includes a base member with an arm extending from a first end of the base member and a pawl member is pivotally connected to the arm at a mediate point thereof. A spring is biased between a first end of the pawl member and the first end of the base member. A locking member is pivotally connected to a distal end of the arm and a ratchet gear is connected to the locking member so as to be engaged with a second end of the pawl member. The second end of the pawl member is disengaged from the ratchet gear by pushing the first end of the pawl member.



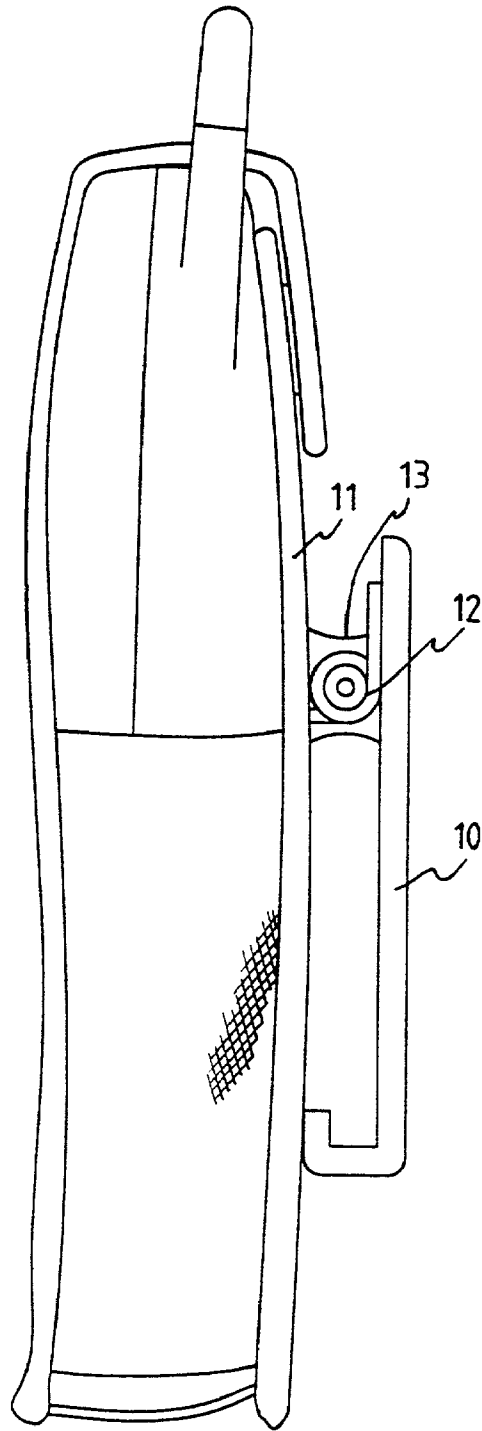


FIG. 1
PRIOR ART

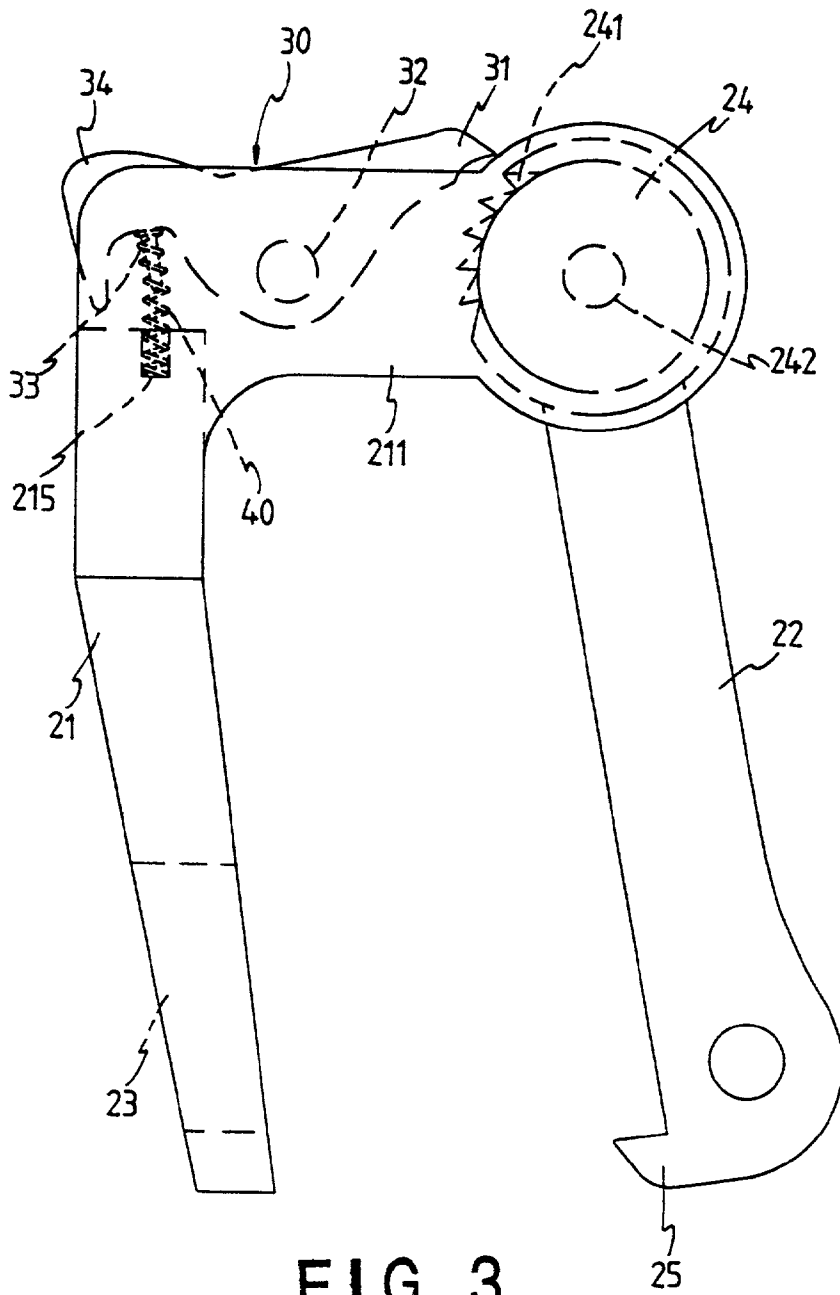


FIG. 3

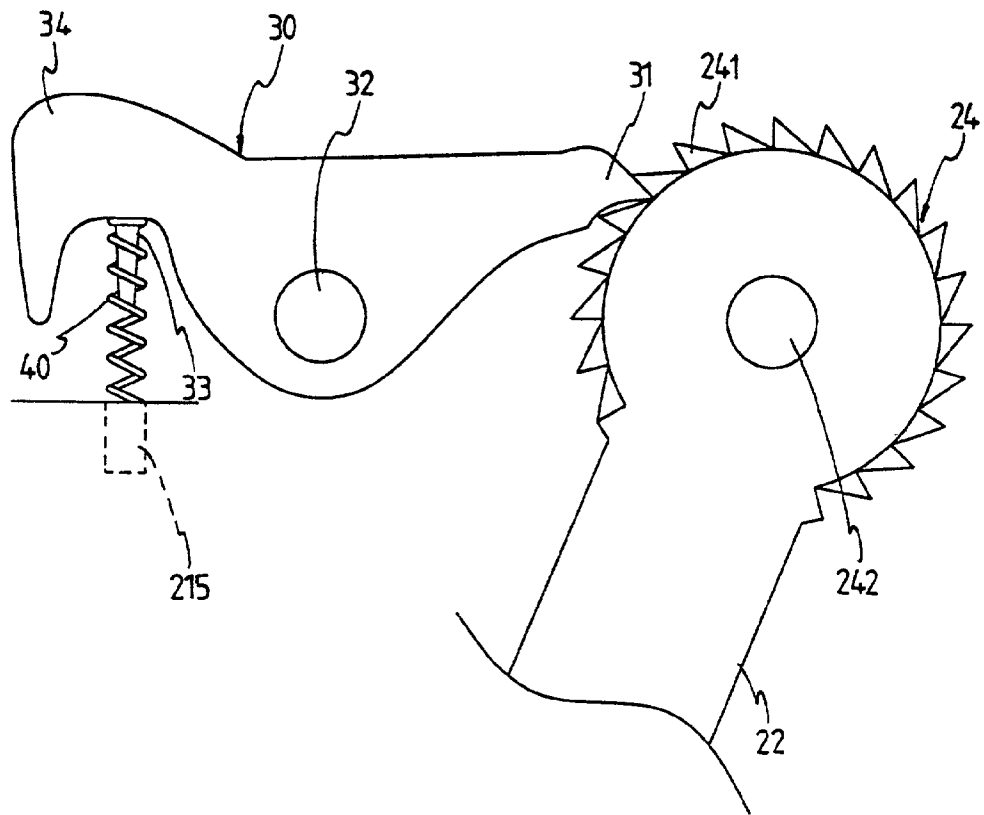


FIG. 4

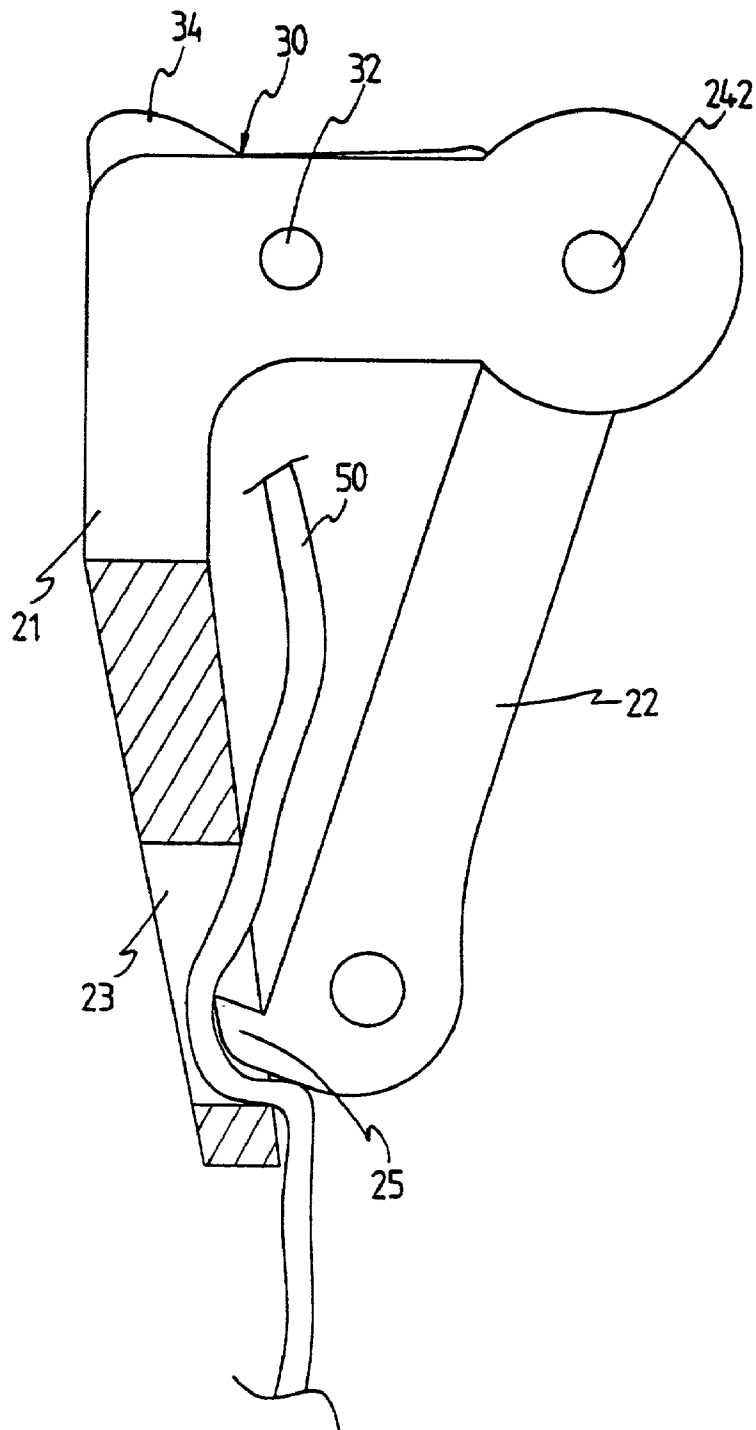


FIG. 5

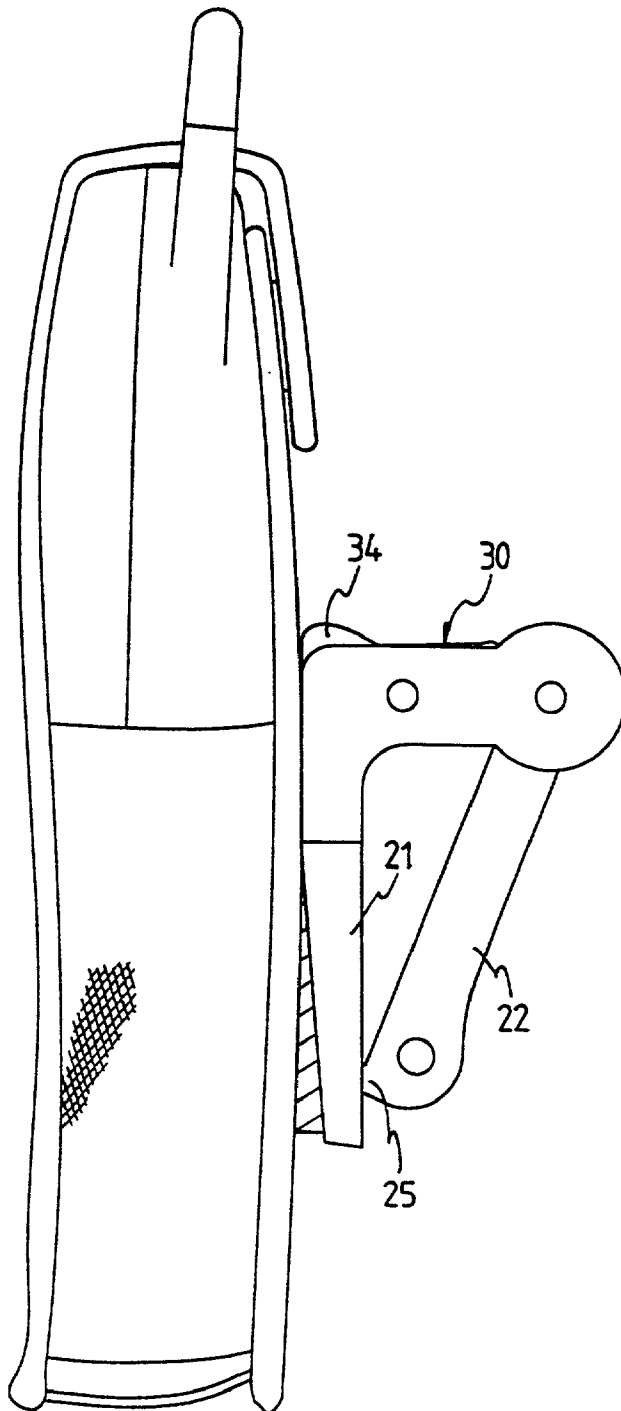


FIG. 6

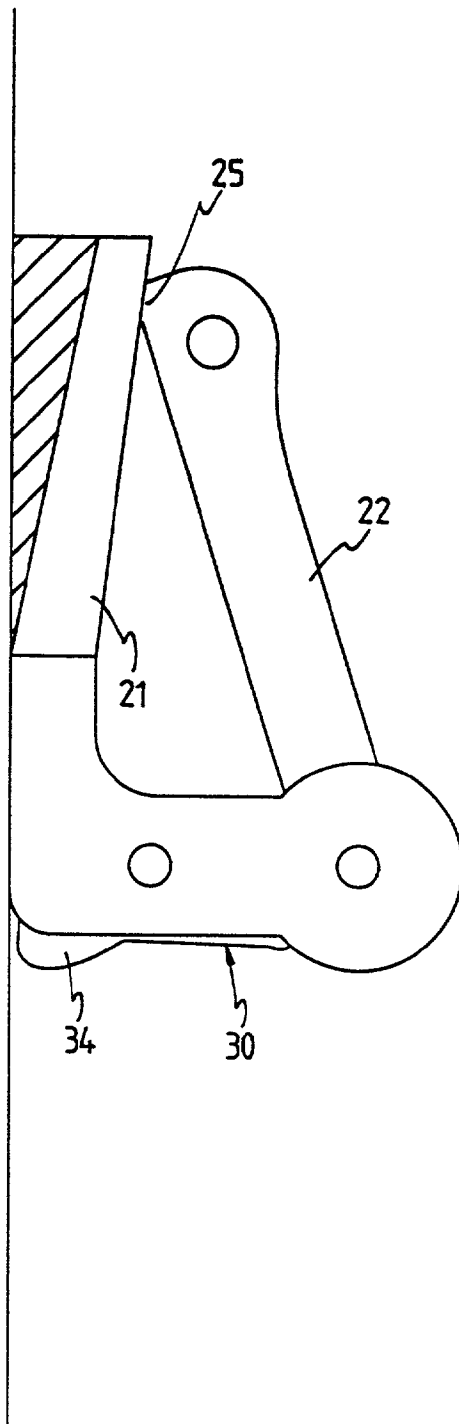


FIG. 7

CLIP DEVICE

FIELD OF THE INVENTION

[0001] The present invention relates to a clip device having a base member connected to an object and a locking member pivotally connected to the base member. A pawl member is pivotally connected between the locking member and base member to prevent the locking member from being disengaged from the base member.

BACKGROUND OF THE INVENTION

[0002] A conventional clip device for being attached to a rear side of a cellular phone pocket **11** is shown in **FIG. 1** and generally includes a base member **11** fixedly connected to the pocket **11** and a locking member **10** which is pivotally connected to the base member **11** with a torsion spring **12** connected between the locking member **10** and the base member **11**. By the torsion spring **12**, the locking member **10** is always biased toward the pocket **11** so that a user's belt (not shown) extends between the locking member **10** and the pocket **11** and is secured by the locking member **10**. However, the locking member **10** could be tangled or impacted by objects and the whole pocket **11** together with the cellular phone in the pocket **11** drop.

[0003] The present invention intends to provide a clip device that has a pawl member to engage with a ratchet gear on a locking member so that only release the pawl member and the gear, the locking member is pivoted.

SUMMARY OF THE INVENTION

[0004] In accordance with one aspect of the present invention, there is provided a clip device and comprising a base member with an arm extending from a first end of the base member and a pawl member pivotally connected to the arm at a mediate point thereof. A spring is biased between a first end of the pawl member and the first end of the base member. A locking member has a first end thereof pivotally connected to a distal end of the arm and a ratchet gear is connected to the first end of the locking member so that a second end of the pawl member is engaged with the ratchet gear.

[0005] The primary object of the present invention is to provide a clip device that employs a pawl member to control the locking member which will not be pulled to release the secure condition unintentionally.

[0006] These and further objects, features and advantages of the present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, several embodiments in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] **FIG. 1** is a side view to show a conventional clip device attached to a cellular phone pocket;

[0008] **FIG. 2** is a side illustrative view to show a clip device of the present invention;

[0009] **FIG. 3** is a side illustrative view to show that a locking member of the clip device of the present invention is pulled away from a base member;

[0010] **FIG. 4** is a side illustrative view to show a pawl member and a ratchet gear of the clip device of the present invention;

[0011] **FIG. 5** is a side cross sectional view to show a strip is secured by the locking member of the clip device of the present invention;

[0012] **FIG. 6** is a side view to show that the clip device of the present invention is attached to a cellular phone pocket, and **FIG. 7** is a side view to show that the clip device of the present invention is used in upside down position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] Referring to **FIGS. 2 to 4**, the clip device of the present invention comprises a base member **21** which is attached to an object and an arm **211** extends from a first end of the base member **21**. A pawl member **30** is pivotally connected to the arm **211** at a mediate point thereof by a pin **32** and a rod **33** extends from a first end of the pawl member **30**. A recess **215** is defined in the first end of the base member **21** and a spring **40** has an end mounted to the rod **33** and the other end of the spring **40** is received in the recess **215** so that the pawl member **30** is pivotable about the pin **32**. A push portion **34** extends from the top surface of the arm **211** so as to be accessed by the user to push the push portion **34** downward.

[0014] A locking member **22** has a first end thereof pivotally connected to a distal end of the arm **211** and a ratchet gear **24** is connected to the first end of the locking member **22**. A pin **242** connects the first end of the arm **211** and the ratchet gear **24** so that the locking member **22** is pivoted about the pin **242**. A second end **31** of the pawl member **30** is engaged with the teeth **241** of the ratchet gear **24** to maintain the position of the locking member **22**.

[0015] An aperture **23** is defined through a second end of the base member **21** and a second end of the locking member **22** has a hook **25** which is engaged with the aperture **23**.

[0016] As shown in **FIG. 5**, a strip **50** of an object to which the base member **21** is attached is secured in the aperture **23** by the hook **25** to achieve a purpose of securing the strip **50**. **FIG. 6** shows that the clip device is used on the cellular phone pocket and the locking member **22** will not be unintentionally released except that the push portion **34** of the pawl member **30** is pushed. **FIG. 7** shows that the clip device can be used upside down and has the same feature.

[0017] While we have shown and described various embodiments in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope and spirit of the present invention.

What is claimed is:

1. A clip device comprising:

a base member, an arm extending from a first end of said base member;

a pawl member pivotally connected to said arm at a mediate point thereof and a spring biased between a first end of said pawl member and said first end of said base member, and

a locking member having a first end thereof pivotally connected to a distal end of said arm and a ratchet gear connected to said first end of said locking member, a second end of said pawl member engaged with said ratchet gear.

2. The clip device as claimed in claim 1 further comprising an aperture defined through a second end of said base

member and a second end of said locking member having a hook which is engaged with said aperture.

3. The clip device as claimed in claim 1 further comprising a recess defined in said first end of said base member and a rod extending from said first end of said pawl member, said spring having an end mounted to said rod and the other end of said spring received in said recess.

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