VARIABLE LENGTH RETRACTABLE LEASH SYSTEM

ABSTRACT

A method is described for a variable length retractable leash that allows a user to set the extension length with a single click of a button while using the leash. Once set, the leash operates as a retractable leash for the set extension length. For example, if the leash is half extended when the button clicked, the leash functionally becomes an extension leash of one half its normal maximum length. Once released, the leash resumes operation as a retractable leash for the maximum extension length. This contrasts with typical retractable leashes that feature a brake lock button that limits extension but also eliminates the retraction capability. Eliminating the retraction capability causes the leash to become lax and easily entangled with the leashed animal.

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CLAIMS

1. What is claimed is a method for a variable length retractable leash that allows a user to set the extension length by operating a lock button while the leash is in use. Once set, the leash operates as a retractable leash for the extension of the leash in effect when the lock button is operated. Once the lock button is released, the leash resumes operation as a retractable leash for the maximum extension length.

BACKGROUND OF THE INVENTION

Animal leashes, typically for dogs, are an essential item for many pet owners. Leashes attach to dogs in a number of ways, but from a user's operational viewpoint can be classified into two types: retractable and non-retractable.

A non-retractable leash is a fixed length of some sturdy material which is often short enough to keep a dog close to the user. One disadvantage of a non-retractable leash is that if the leash is relatively long, it can drag on the ground and become entangled with the animal's legs and body.

A retractable leash, in the other hand, allows a dog the freedom to travel in a wider radius from the user and to explore its environment more fully and allow the user to move more independently from the dog. The retractable leash is spooled on an internal reel and extends to some maximum length as the dog moves away from the user and then retracts by means of an internal spring as the dog approaches the user. Retractable leashes typically feature a brake button that stops the leash from extending when operated, and an associated brake lock that locks the brake in place at the chosen extension. Once braked, the leash behaves as a non-retractable leash with the dragging/tangling disadvantages cited previously.

SUMMARY OF THE DISCLOSURE

This invention proposes an enhancement to the retractable leash system that allows the leash to retain its retracting properties when the brake is engaged. Prior art that most closely relates to the invention is US patent 2013//0008392. In this system, the user can preset the maximum leash extension length before use by adjusting a knob on the leash housing. In contrast, this invention allows the leash extension to the adjusted while the leash is in use by the simple clicking of the brake button.

REFERENCES

US 2013/0008392 A1: Retractable Leash System. Jan. 10, 2013

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a side view of the invention and locking mechanism contained within the casings FIG. 2 shows an end view of the casings and the axle. FIG. 3 shows the rotating lock casing from a top view with its locking teeth. A second set of teeth on the bottom side is not shown.

DETAILED DESCRIPTION

As shown in FIG. 1, the *runner* is a threaded nut that rides on the reel *axle* and is confined within a casing that prevents it from turning with the axle. The extension of the leash rotates the reel on its axle thus causing the runner to move away from the reel. The *lock* is an unthreaded tabbed component that also rides on the axle and is pressed against the runner by a spring when not locked in place. A *shock* is a compressible material between the runner and the lock that absorbs the impact of a fast unreeling of the leash at the end of the leash's extension, thereby alleviating the potential for damage to the dog's neck and the user's arm. The lock tabs protrude through a slot in the inner fixed casing and the rotating outer lock casing as shown in FIG. 2. A lock control, emanating from the leash brake, rotates the lock casing to engage teeth upon the

lock tabs as shown in FIG. 3. Once the lock is engaged by the lock teeth it becomes fixed in place on the axle which in turn prevents the runner from moving along the axle past the position of the lock, halting the axle rotation in the process. This in turn limits the leash extension to the extension length in effect when the brake is engaged, while preserving the retractability of the leash.

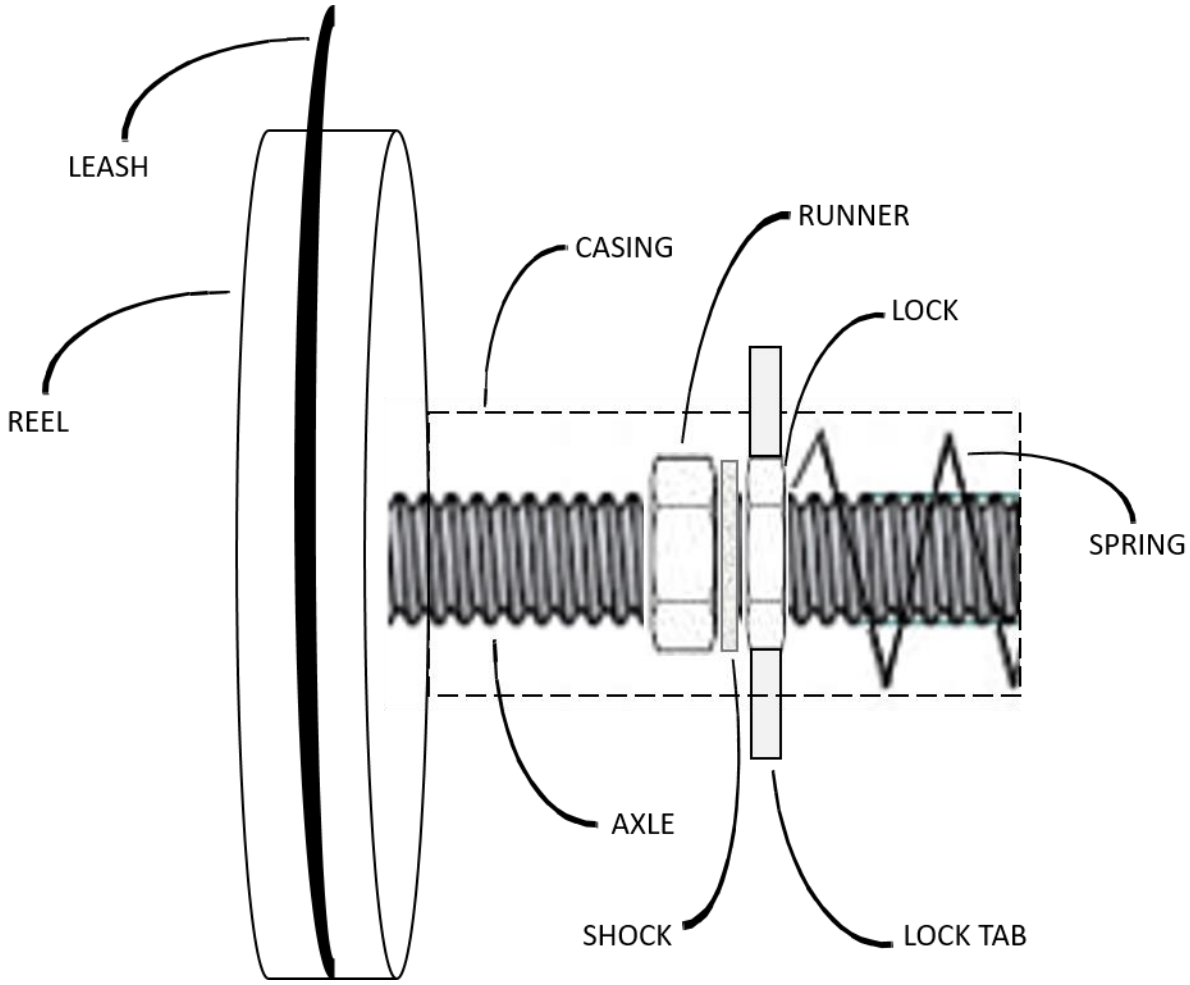

FIG. 1 – SIDE VIEW

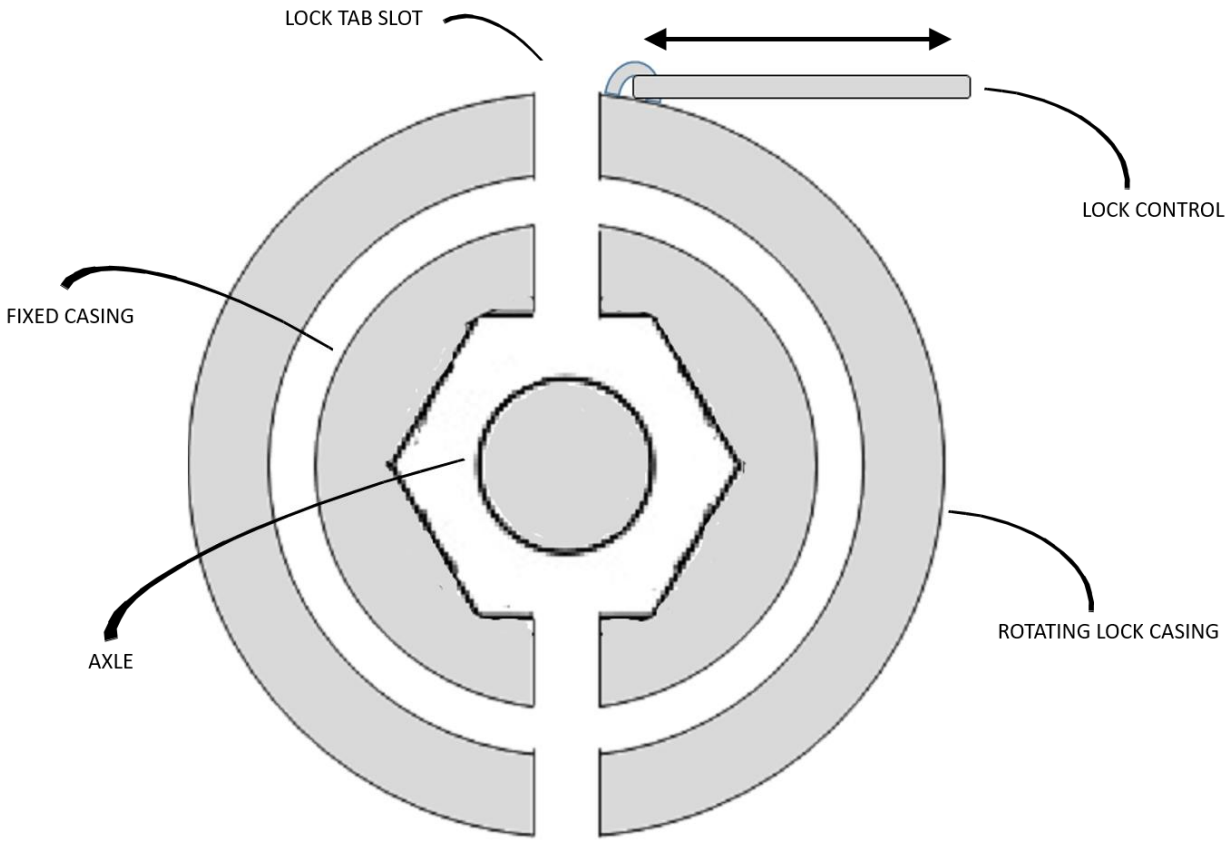

FIG. 2 – END VIEW

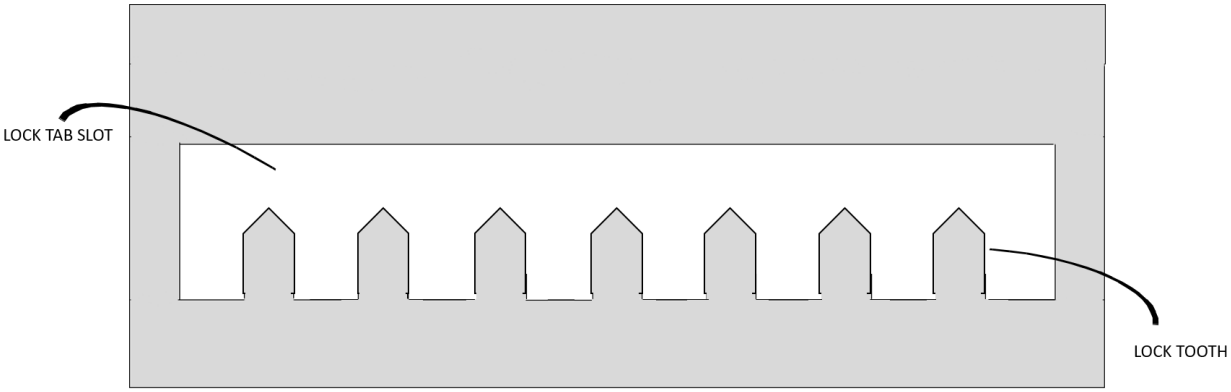

FIG. 3 – ROTATING LOCK CASING