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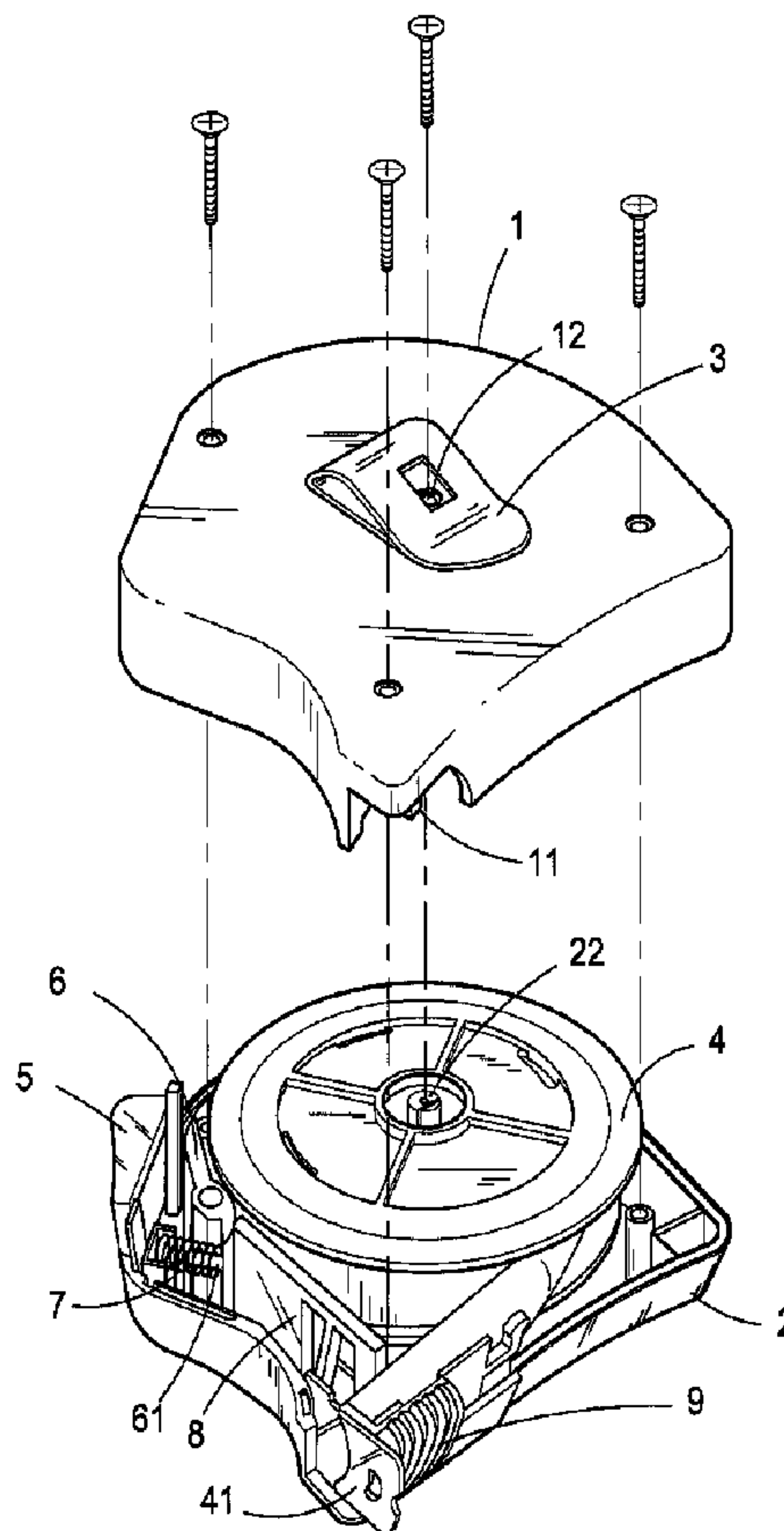
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(54) Titre : STRUCTURE DE FREINAGE POUR METRE A RUBAN

(54) Title: A BRAKING STRUCTURE FOR A TAPE MEASURE



(57) Abrégé/Abstract:

The invention provides a braking structure for a tape measure, which comprises an upper casing, a lower casing, a clip for wearing, a tape assembly, a release key, a braking element, a spring, a stopping piece and a buffering piece; characterized in



(57) Abrégé(suite)/Abstract(continued):

that an improvement is made on the structure between the release key and the braking element in the braking structure for a tape measure, in order to adapt the resilience braking force in a larger tape measure, and specifically, through pushing said braking element to press against said stopping piece by means of the resilience force from said spring in said braking structure for a tape measure, said tape can be clamped tightly and intimately upon said stopping blocks provided on said upper and lower casings, and thereby achieves the purpose of fixing the surface of the tape. Consequently, by just pressing on the release key, the user can very conveniently pull out or retract the tape.

ABSTRACT OF THE DISCLOSURE

The invention provides a braking structure for a tape measure, which comprises an upper casing, a lower casing, a clip for wearing, a tape assembly, a release key, a braking element, a spring, a stopping piece and a buffering piece; characterized in that an improvement is made on the structure between the release key and the braking element in the braking structure for a tape measure, in order to adapt the resilience braking force in a larger tape measure, and specifically, through pushing said braking element to press against said stopping piece by means of the resilience force from said spring in said braking structure for a tape measure, said tape can be clamped tightly and intimately upon said stopping blocks provided on said upper and lower casings, and thereby achieves the purpose of fixing the surface of the tape. Consequently, by just pressing on the release key, the user can very conveniently pull out or retract the tape.

A Braking Structure for A Tape Measure

BACKGROUND OF THE INVENTION

1. Field of the invention

The invention relates to a braking structure for a tape measure, and in particular, to a braking structure for a tape measure, which is functioned by pressing against a stopping piece using the resilience force of a spring.

2. Description of the prior art

In a conventional braking structure for a tape measure, the essential elements thereof, i.e., the releasing key, the braking element, and the stopping piece, are characterized in that they are all made of plastics and are used to clamp the tape measure by means of the resilience force inherent in the plastics. As such, however, the clamp capability of the braking structure against the tape measure is insufficient such that, immediately after the tape is pulled out, the user has often to move the snap key to lock the tape, otherwise, a slight carelessness will lead to retracting of the tape at once, and hence, the user himself or other person nearby may be hurt easily. On the other hand, in the use of the conventional snap key, the constant pushing open or snap fastening thereof may cause very likely the difficulty or fatigue of its push and snap. Further, the conventional braking structure has a high cost and is not easy to mount, as well as tends to damage easily.

In view of the forgoing, the conventional article has still many disadvantage, and is not a perfectly designed one that need improve at once.

Aim at solving the disadvantages derived from the conventional braking structure for a tape measure and at the improvement and innovation thereof, the inventor has, after studying intensively and persistently for many years, developed successfully the braking structure for a tape measure of the invention.

SUMMARY OF THE INVENTION

The object of the invention is to provide a braking structure for tape measure,

which is functioned by pressing against a stopping piece using the resilience force of a spring, and is adapted to provide a greater braking force for a larger tape measure.

The above-said object is achieved by the braking structure for a tape measure , which comprises an upper casing, a lower casing, a clip for wearing, a tape assembly, a release key, a braking element, a spring, a stopping piece and a buffering piece; wherein

stopping blocks are further provided at each of tape outlets of said upper and lower casings and are provided on their top with slopes that correspond right to the slope provided on the top of said stopping piece such that the tape can be clamped to prevent the tape from retracting; and wherein a screw port is provided at the upper surface of said upper casing to fix said clip for convenience of the user to wear said tape measure;

said tape assembly is used to retract said tape measure, and is slipped on a tape shaft protruded from said lower casing for the convenience of the user to pull and withdraw the tape;

said release key together with said braking element and said spring constitute a push key switch between said upper and lower casings, wherein, a spring is provided on said braking element for being slipped on by said spring in a manner that said spring can press against the sidewall of said lower casing such that said braking element can have a leverage to push against the end of said release key, and thereby constitutes a resilience mechanistic action of a pushing down /releasing key;

said stopping piece is made into a rectangular flat plate-shaped pushing bar and is positioned between said braking element and the tape of said tape measure, wherein one of its ends is formed into a tapered sectional surface that, in conjunction with the slope on said stopping block provided on the upper and lower casing, forms two sectional surfaces having an action force against said tape of the tape measure; and

said buffer piece is formed into an elastic piece having two arc features on its one end and is mounted on the peripheral sidewall at the tape outlet of said upper and lower casing as well as is positioned just beneath the tape, such that ,

during withdrawing or retracting the tape, an L-shaped stopping angle at the end of the tape can buffer the resilience force of the retracting tape.

The braking structure for tape measure according to the invention constituted from the above-described elements is primarily to change the structure between the release key and the braking element in the braking structure, so as to adapt for the resilience braking force in a larger tape measure. Specifically, it takes advantage of the resilience force of a spring in said braking structure to push said braking element into pressing against the stopping piece, such that the tape can be tightly and intimately pressed against the stopping block provided between said upper and lower casings, and thereby accomplishes the purpose of fixing the tape.

BRIEF DESCRIPTION OF THE DRAWINGS

The drawings disclose an illustrative embodiment of the present invention which serves to exemplify the various advantages and objects thereof, and are as follows:

Figure 1 is an exploded view of the braking structure for a tape measure according to the invention;

Figure 2 is a three-dimensional view of the braking structure for a tape measure according to the invention;

Figure 3 is a view showing the tape-braked situation of said braking structure for a tape measure; and

Figure 4 is a view showing the tape-debraked situation of said braking structure for a tape measure.

[Representative symbols for main elements]

- | | |
|----|----------------|
| 1 | Upper casing |
| 11 | Stopping block |
| 12 | Screw port |
| 2 | Lower casing |
| 21 | Stopping block |

- 22 Tape shaft
- 3 Clip for wearing
- 4 Tape assembly
- 41 L-shaped stopping angle
- 5 Release key
- 6 Braking element
- 61 Spring stud
- 7 Spring
- 8 Stopping piece
- 9 Buffer piece

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Figure 1 and 2, the braking structure for tape measure according to the invention comprises essentially an upper casing 1, a lower casing 2, a clip for wearing 3, a tape assembly 4, a release key 5, a braking element 6, a spring 7, a stopping piece 8 and a buffering piece 9; wherein

stopping blocks 11, 21 are further provided at each of tape outlets of said upper and lower casings 1,2 and are provided on their top with slopes that correspond right to the slope provided on the top of said stopping piece 6 such that the tape can be clamped to prevent the tape from retracting; and wherein a screw port 12 is provided at the upper surface of said upper casing 1 to fix said clip 3 for convenience of the user to wear said tape measure; said tape assembly 4 is used to retract said tape measure, and is slipped on a tape shaft 22 protruded from said lower casing for the convenience of the user to pull and withdraw the tape; said release key 5 together with said braking element 6 and said spring 7 constitute a push key switch between said upper and lower casings 1,2, wherein, a spring stud 61 is provided on said braking element 6 for being slipped on by said spring 7 in a manner that said spring 7 can press against the sidewall of said lower casing 2 such that said braking element 6 can have a leverage to push against the end of said release key 5, and thereby constitutes a resilience mechanistic action to press down said release key 5; said stopping piece 8 is made into a rectangular flat plate-shaped pushing bar and is positioned between said braking element 6 and the tape, wherein one of its ends is formed into a tapered sectional surface that, in conjunction with the slopes on said stopping block 11, 12 provided on the upper and lower casing 1,2, forms two sectional surfaces having an action force against said tape of the tape measure; and said buffer piece 9 is formed into a elastic piece having two arc

features on its one end and is mounted on the peripheral sidewall at the tape outlet of said upper and lower casing^{1,2} as well as is positioned just beneath the tape, such that, during withdrawing or retracting the tape, an L-shaped stopping angle 41 at the end of the tape can buffer the resilience force of the retracting tape.

Referring to Figure 3 and 4, showing the situations of braking and debarking the tape by the braking structure for tape measure according to the invention, the characteristic resides on that, when the user withdraws out the tape, through just pressing the release key 5, the top end of said braking element 6 can be pressed against at the same time such that said braking element 6 can have a leverage force to push against the spring 7 provided on said spring stud 61 provided on said braking element 6 and thereby said stopping piece 8 is no more pressed and consequently releases the originally clamped tape, as shown in Figure 4, to achieve the purpose of controlling the retracting of the tape. Upon releasing said release key 5, said braking element 6 will, under the action of the resilience force of the spring 7, press the end of said release key 5 to return to its original place, and, under also the pushing action of the resilience force from the spring 7, the engaging portion of said stopping piece 8 and said braking element 6 will clamp and press directly the surface of the tape against the slope of said stopping block 11,21 provided on said upper and lower casings 1,2, as shown in Figure 3, and thereby forms a braking action.

The braking structure for a tape measure according to the invention has following advantages over the above-mentioned conventional technique:

1. By virtue of the resilience force of the spring in the construction of the braking structure for a tape measure according to the invention, the braking structure is adapted for the greater resilience braking force of a larger tape measure.
2. After withdrawing the tape to the predetermined maximum length, the tape will not retract immediately such that the user can operate it safely.
3. The embarrassment of braking failure occurred in the conventional snap key-braking mode due to frequently use could be completely avoided.

Many changes and modifications in the above described embodiment of the invention can, of course, be carried out without departing from the scope thereof. Accordingly to promote the progress in science and useful arts, the invention is disclosed and is intended to be limited only by the scope of the

appended claims.

What is claimed is:

1. A braking structure for a tape measure, comprises an upper casing, a lower casing, a clip for wearing, a tape assembly, a release key, a braking element, a spring, a stopping piece and a buffering piece;
characterized in that said release key together with said braking element and said spring constitutes an elastic pressing key switch between said upper and lower casings, wherein, said spring can slip on a spring stud provided on said braking element and can press against the peripheral sidewall of said lower casing, such that said braking element can have a leverage force to push the end of said release key, and thereby constitutes an elastic mechanistic action to press down said release key, and is adapted for the greater resilience braking force in a larger tape measure; and in particular, through pushing said braking element to press against said stopping piece by means of the resilience force from said spring in said braking structure for a tape measure, said tape can be clamped tightly and intimately upon said stopping blocks provided on said upper and lower casings, and thereby achieves the purpose of fixing the surface of the tape.

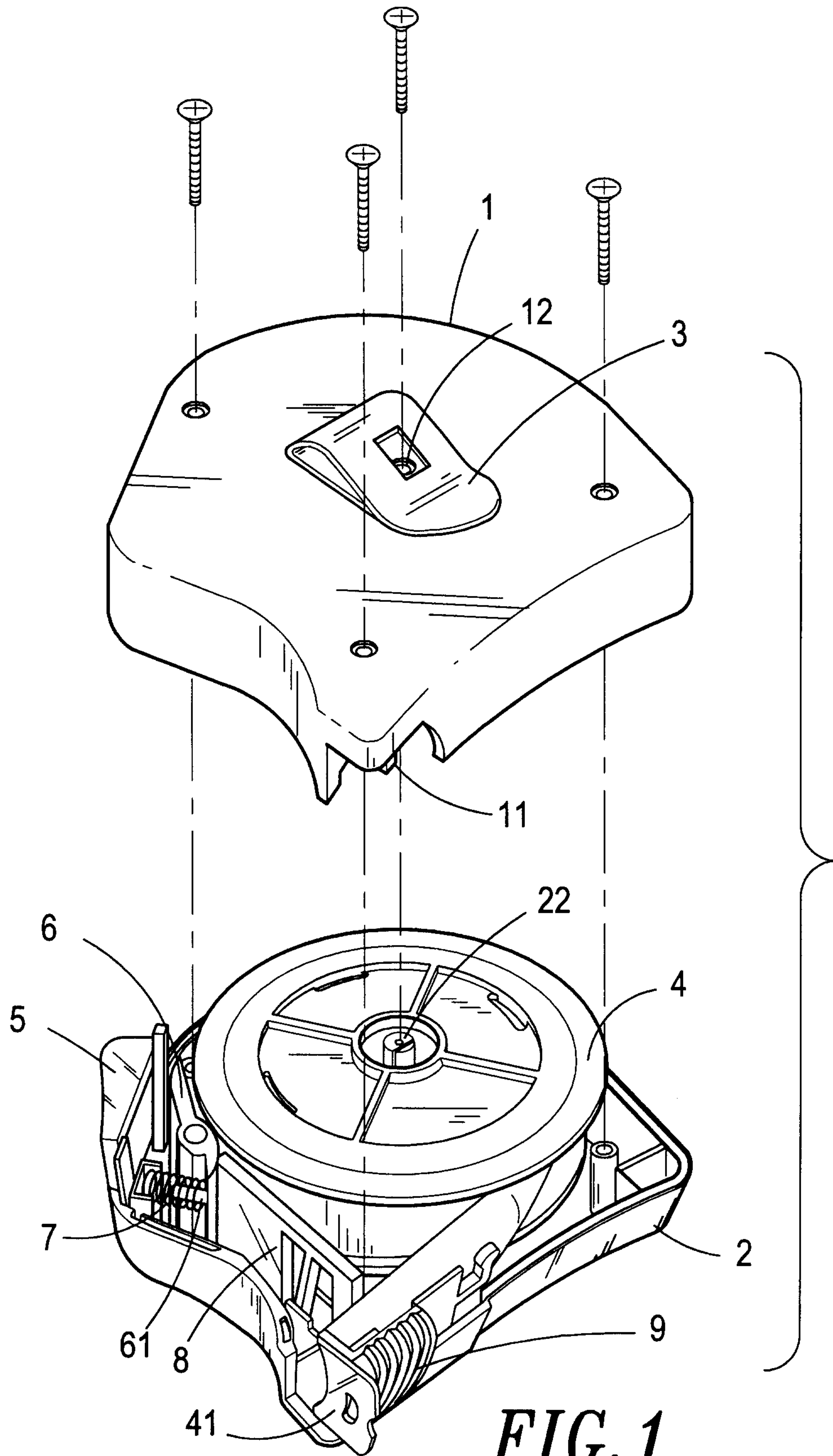
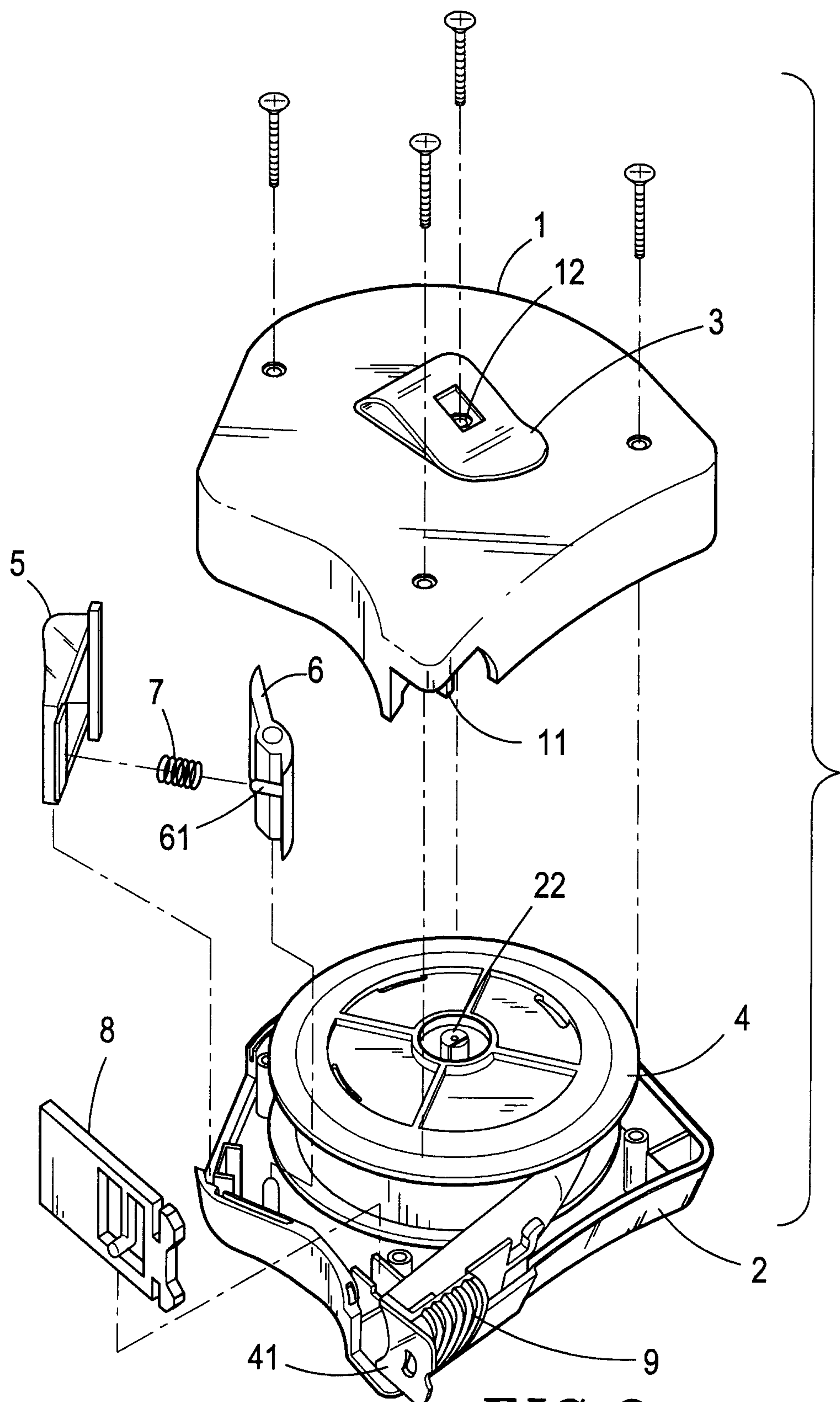


FIG. 1

**FIG. 2**

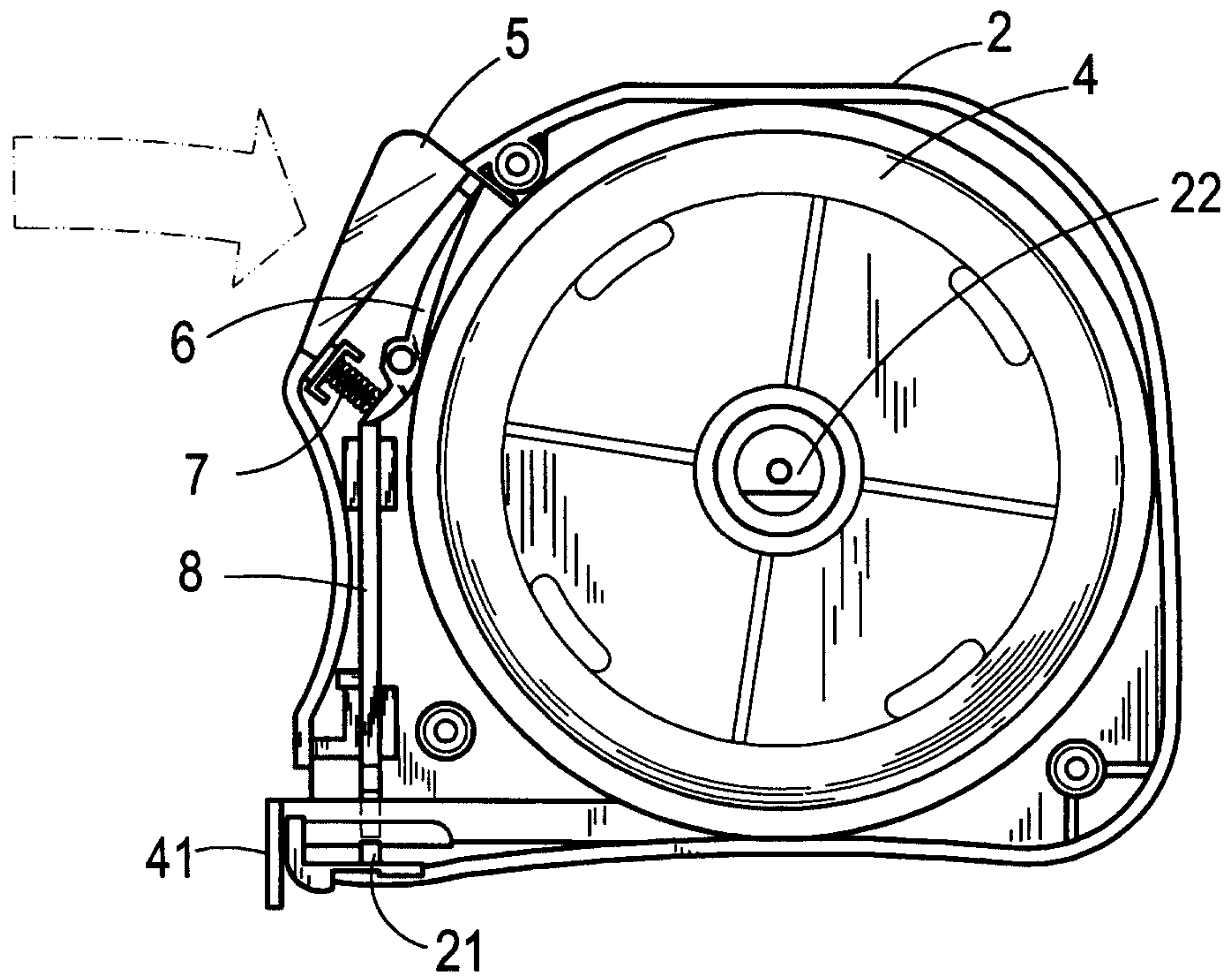


FIG. 3

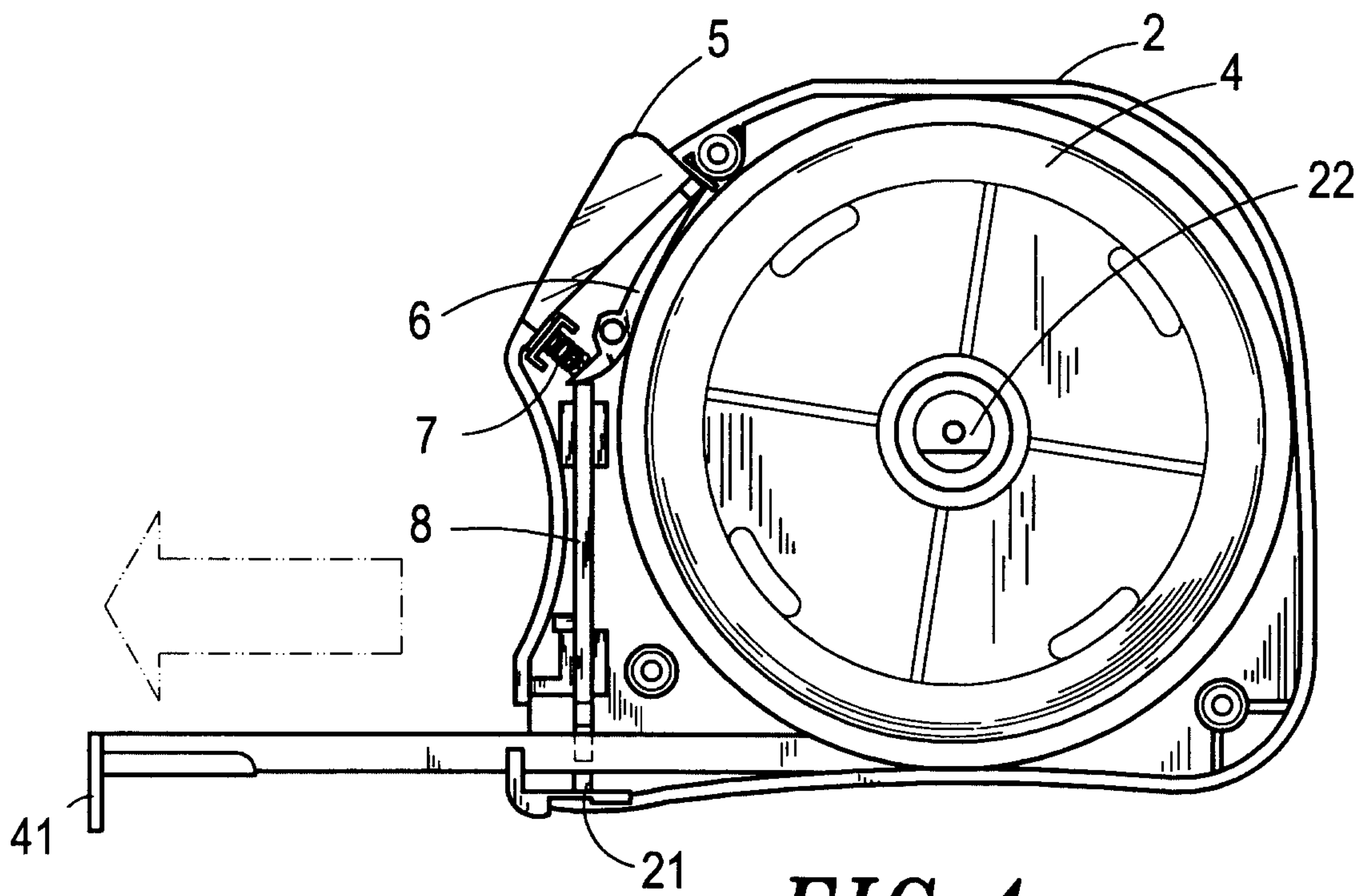


FIG. 4

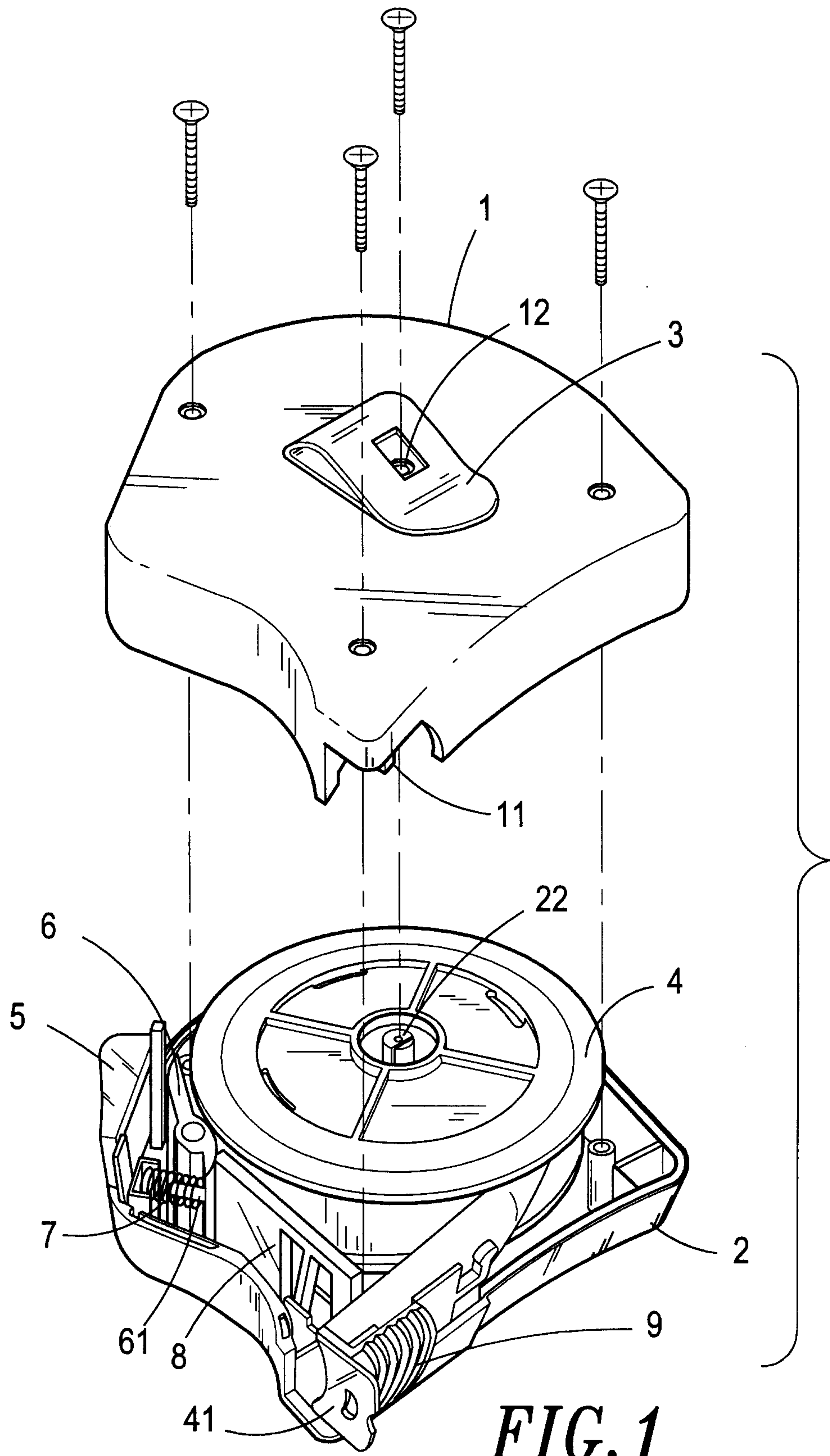
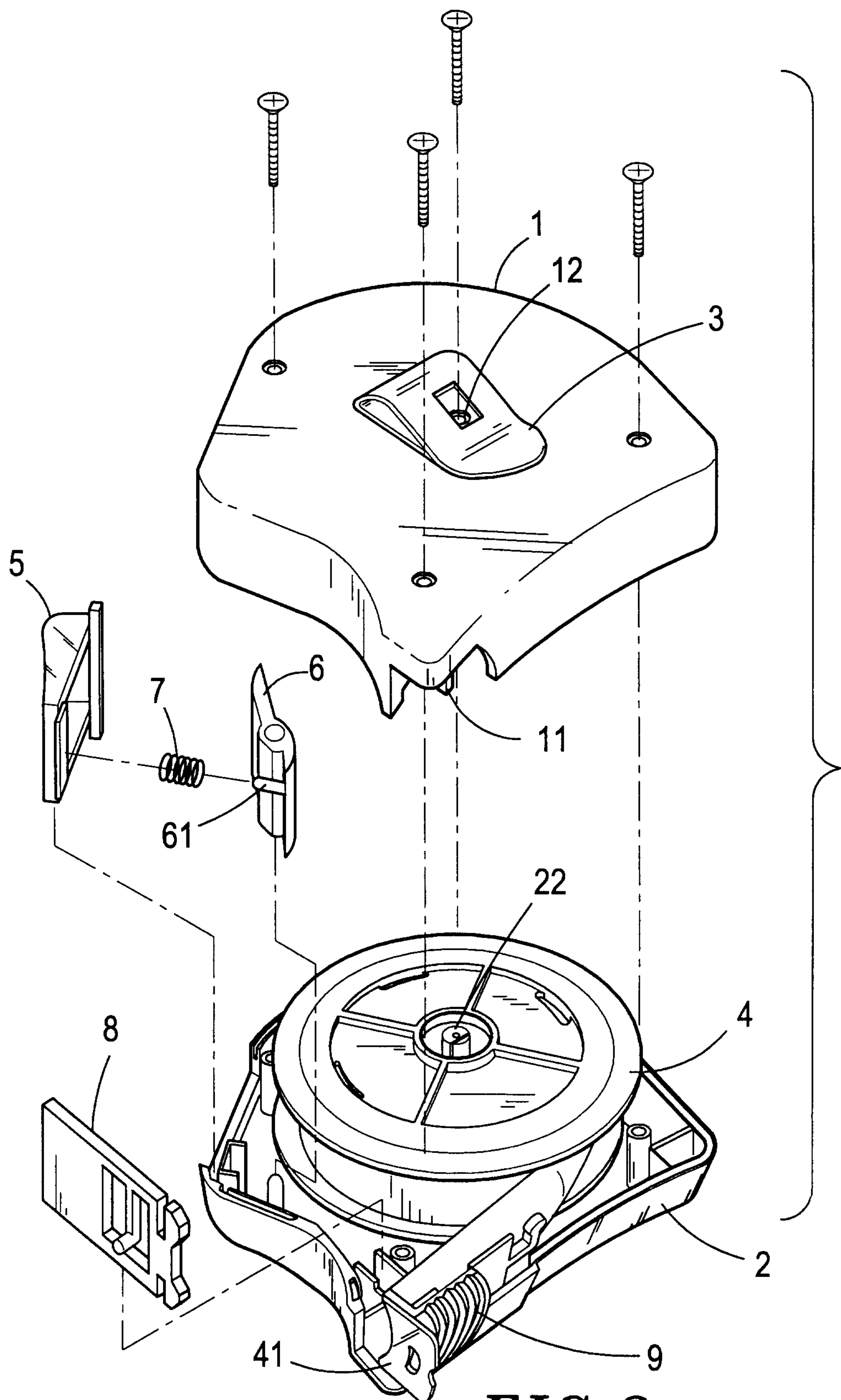


FIG. 1

**FIG.2**

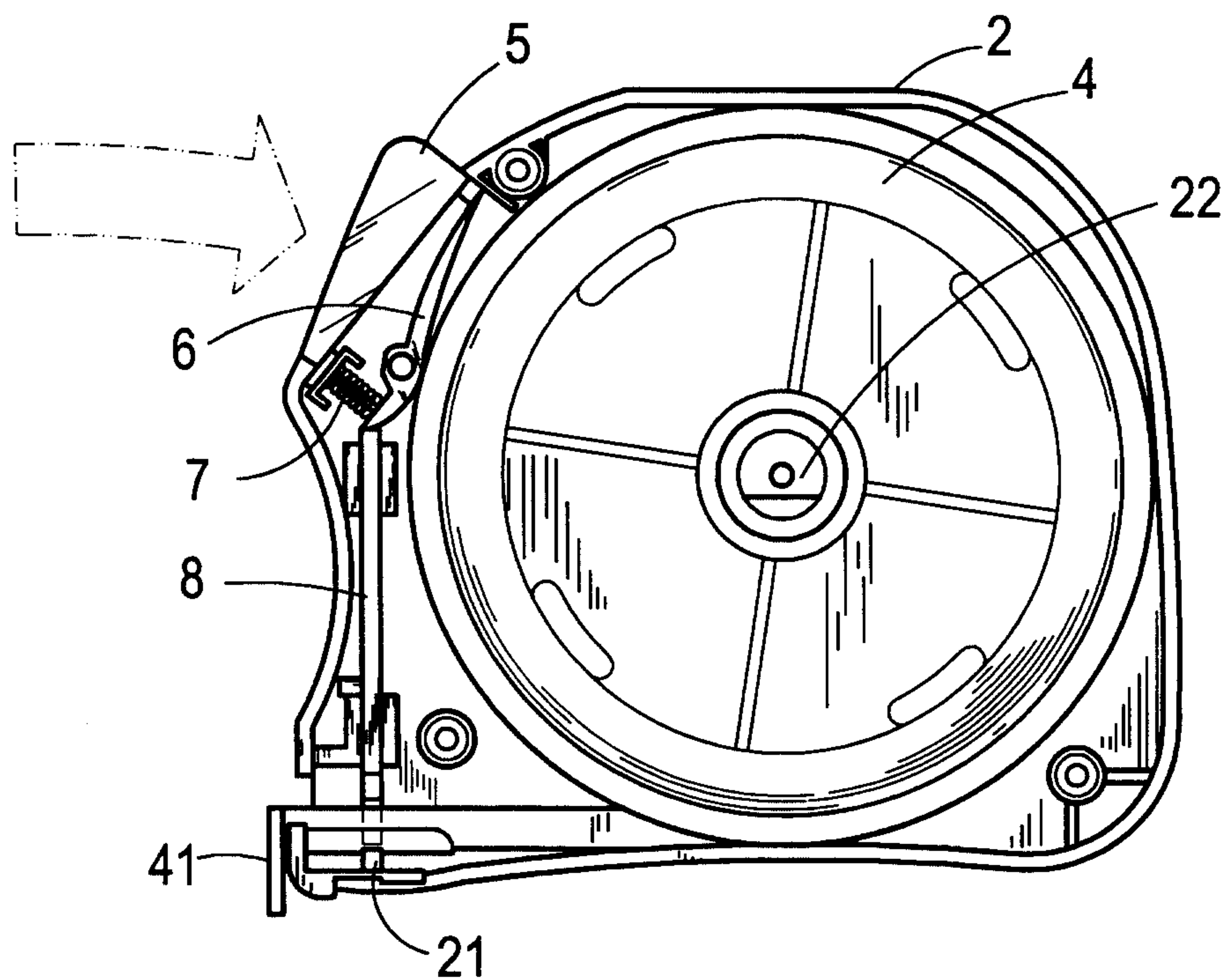


FIG. 3

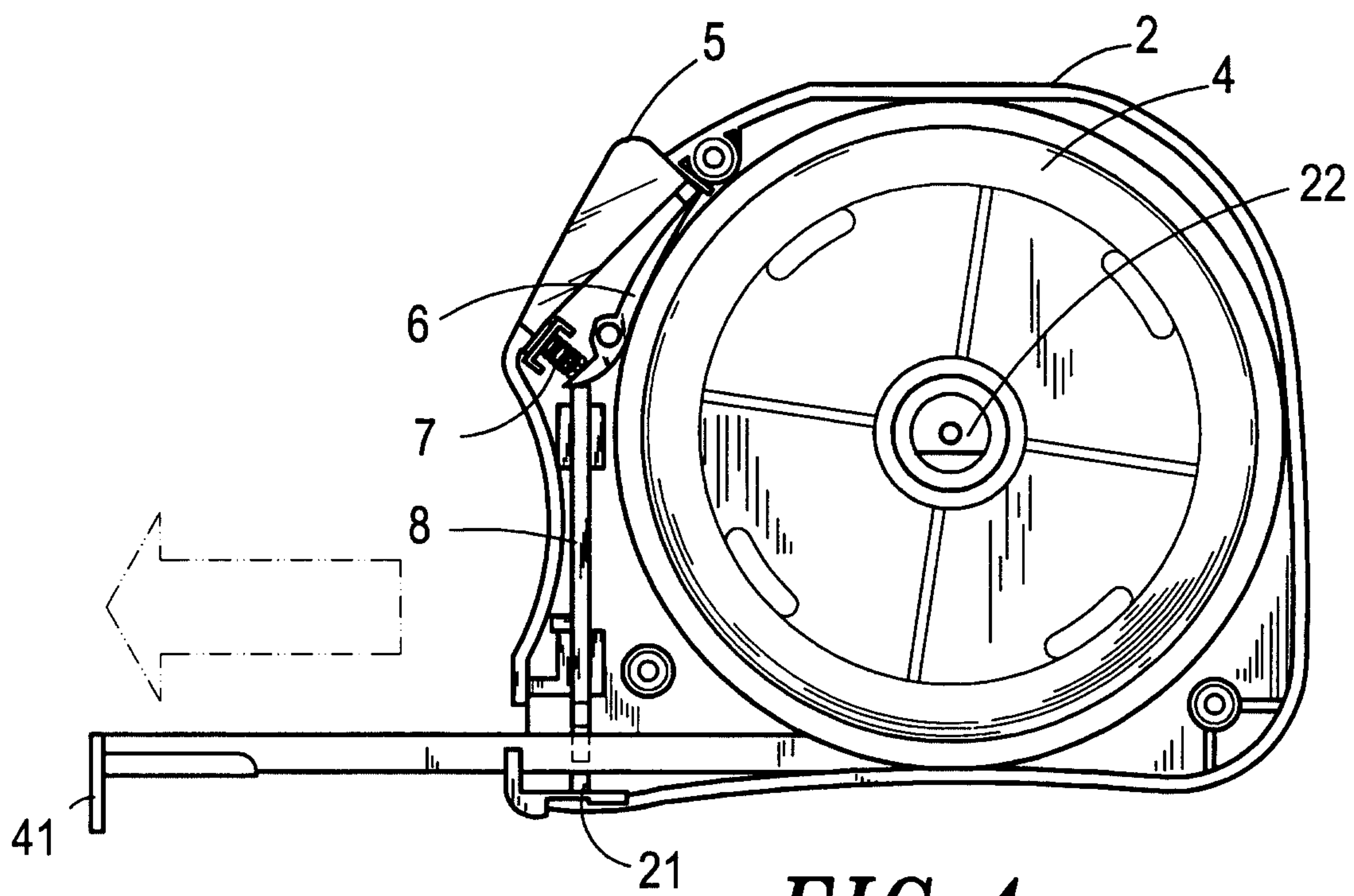


FIG. 4

