Oct. 31, 1967 N. A. RABELOS 3,349,425

SPRING LOADED RETRACTABLE CASTER

Filed July 17, 1962

Fig-1

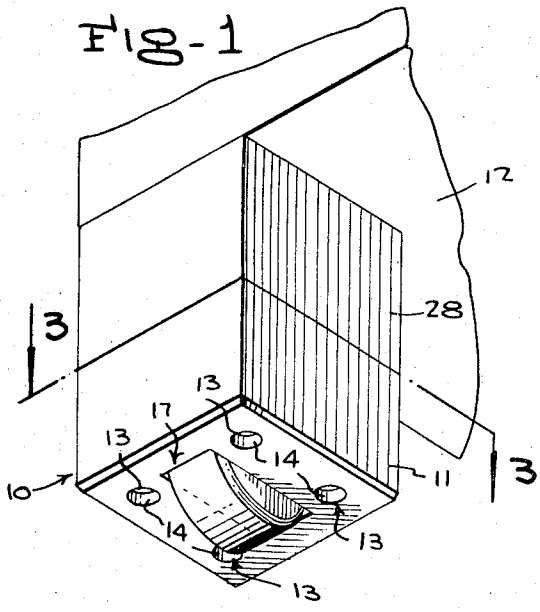



Fig-2

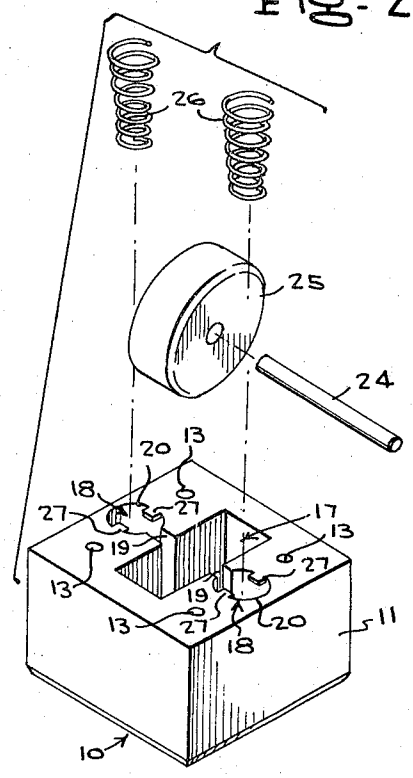



Fig-3

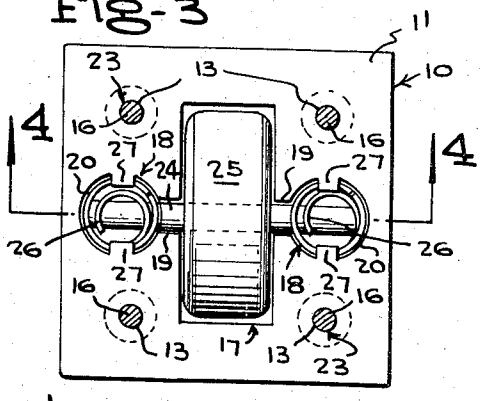



Fig-4

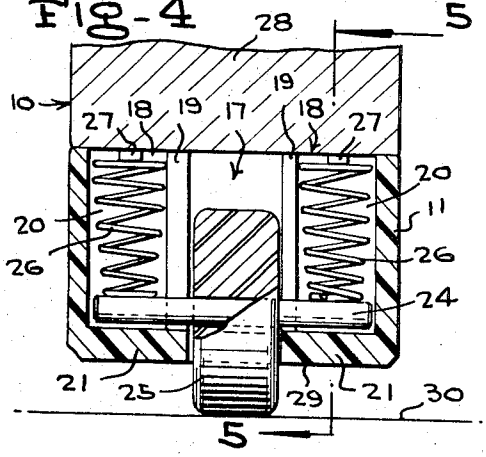
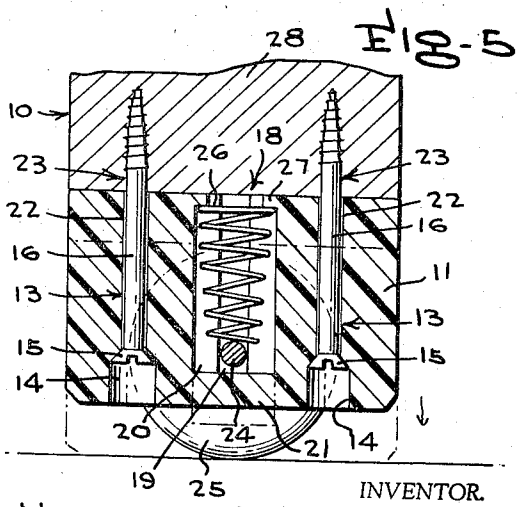



Fig-5




INVENTOR.

NICHOLAS A. RABELOS

BY

Sherman Levy

ATTORNEY

United States Patent Office 3,349,425 Patented Oct. 31, 1967



3,349,425

# SPRING LOADED RETRACTABLE CASTER

Nicholas A. Rabelos, Atlanta, Ga., assignor to Roll-Lok Corporation, Atlanta, Ga.

Filed July 17, 1962, Ser. No. 210,448
1 Claim. (Cl. 16—44)

This invention relates to an improved retractable caster, and more particularly to retractable casters which are particularly well suited for large articles of furniture or the like.

The primary object of the present invention is to provide a retractable caster which includes a block or base or body member that is adapted to be arranged contiguous to the lower surface of a portion of an article of furniture or other member, and wherein the roller is movably supported or mounted in the body member, there being a spring means or resilient means for urging the roller or wheel into a downward position, and wherein when a person or persons are supported on the article of furniture, the roller will move to a retracted position so as to effectively lock the article of furniture from inadvertent or accidental movement, the roller or rollers in extended position permitting convenient and easy movement of the article of furniture from place to place as desired or required.

A further object is to provide such a retractable caster which is adapted to be used for preventing marring, or dragging or scuffing, and wherein the present invention includes a minimum number of parts so that the unit can be made and sold at a very low cost, and wherein the device is easy to use or install, the present invention being adaptable to different types of furniture or other articles such as reclining chairs, sofas, or other heavy furniture, and wherein the present invention also is convenient to use when floors are carpeted or the like.

Still another object is to provide such a retractable caster for large articles of furniture, wherein when the roller is retracted, as for example when a person sits on the article of furniture, the device will be in locked position so that the article of furniture will not move from its proper location or position, and wherein when the person gets up from the article of furniture, the roller will move to a downward or extended position due to the provision of springs so that the article of furniture can be readily rolled or moved to a different position as desired or required.

Still another object is to provide such a retractable caster that is economical to manufacture and efficient in operation, and which is rugged in structure and foolproof in use.

These and other objects of the invention will become apparent from a reading of the following specification and claim, together with the accompanying drawing, wherein like parts are referred to and indicated by like reference characters, and wherein:

FIG. 1 is a fragmentary perspective view illustrating the retractable caster for large articles of furniture or the like, constructed according to the present invention.

FIG. 2 is a perspective view showing the parts disassembled for illustrative purposes.

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 1.

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 3.

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 4.

Referring in detail to the drawings, the numeral **10** indicates one of the retractable casters of the present invention, and it is to be understood that a plurality of such casters are adapted to be used below an article of furniture such as the article **12**, and the number of the



casters **10** being used will depend upon the article being supported. As shown in the drawings the caster **10** includes a body member or block or base **11** which is arranged contiguous to the lower surface of the article of furniture **12**, and the body member **11** is provided with a plurality of spaced apart openings **13** therein, and as shown in FIG. 5 these openings **13** include enlarged or countersunk lower portions **14** as well as smaller portions **22**. The numeral **23** indicates securing elements such as screws which have their heads **15** seated in the countersunk portions **14** of the openings **13**, and the shanks **16** of the securing elements **23** extend through the portions **22** and the upper threaded ends of the securing elements **23** are arranged in threaded engagement with the lower portion of the legs **28** of the furniture **12** as shown in the drawings.

The body member **11** is further provided with a slot **17** for a purpose to be later described, and there is provided a pair of diametrically opposed recesses which are each indicated by the numeral **18**, and the recesses **18** each include an inner narrow portion **19** which communicates with the slot **17**, and each recess **18** further includes an enlarged cylindrical or circular portion **20**. The slot **17** extends from the upper surface of the body member **11** to the vicinity of the lower surface thereof whereby there is defined a shoulder **21** in the lower portion of the body member.

The numeral **24** indicates an axle or shaft or pin which is movably mounted in the body member **11**, and end portions of the axle **24** extend through the narrow portions **19** and into the portions **20** of the recesses **18**. A roller or wheel **25** is movably mounted in the slot **17**, and the roller **25** is mounted on the axle **24**. As shown in FIG. 4 for example, a pair of spring members **26** have their lower ends abutting end portions of the axle **24**, and there is provided stop members **27** for limiting upward movement of the spring members **26**.

As shown in FIG. 1 for example, the numeral **28** indicates a leg which is of conventional construction and which is arranged below the article of furniture **12**, and the caster **10** is positioned contiguous to the lower surface of the leg **28**, and the securing elements or screws **23** serve to fasten the body member **11** to the leg **28**. In some instances where legs are not used, the caster may be fastened directly to the article of furniture **12**, but in those instances where the articles of furniture have depending legs, the casters are adapted to be connected to the legs such as the legs **28** as shown in FIG. 1.

From the foregoing, it will be seen that there has been provided a retractable caster which is adapted to be applied to or connected to various objects or articles which are to be moved from one location to another, and for example the present invention is particularly suitable for use with articles of furniture such as heavy articles including sofas or the like. The caster **10** is constructed so that the roller **25** is automatically retractable into an inoperative position upon application of pressure upon the roller so that the lower surface **29** of the member **11** will firmly engage a floor or other surface as indicated by the numeral **30**, and the roller **25** moves to retracted position due to the weight or pressure on the object or article **12** by a person or persons. Also, the roller **25** automatically turns or moves to operative position when the weight or pressure on the article **12** is removed due to the provision of the springs **26**.

The present invention is easy to install and efficient in use, and the casters can be used with various different types of articles or objects which are in use.

When the article **12** which may be a sofa is unoccupied, the roller **25** will be in the extended position as shown in FIGS. 4 and 5 for example, and this will permit the article **12** to be readily moved on a supporting surface

such as the floor **30**. Then, when the weight of a person or pressure is applied to the article **12**, the springs **26** will be compressed so as to permit the roller **25** to move into retracted position into the slot **17** whereby the lower flat surface **29** of the member **11** will engage the floor **30** to prevent inadvertent or accidental shifting or movement of the article **12**. As soon as the person arises from the seat or sofa **12**, the springs **26** will serve to automatically move the roller **25** to extended position as, for example, as shown in FIGS. 1, 4 and 5 so as to permit the article **12** to be rolled along a floor if desired or required.

The member **11** is adapted to be arranged contiguous to the lower end of the leg **28** of the article **12**, and the securing elements **23** extend through the openings **13** for fastening the member **11** to the leg **28**. The member **11** includes the centrally disposed slot **17** which is arranged or constructed so that the roller **25** will be maintained in its proper aligned position, and this slot **17** will permit extension or retraction of the roller **25**, but the slot **17** will prevent the roller from accidentally shifting or turning from its desired aligned position. The slot **17** is of a sufficient size however to permit turning movement of the roller **25**. The axle **24** extends through the narrow portions **19** of the recesses and the springs **26** are interposed between the stop members or lips **27** and the ends of the axle **24** so that the spring members **26** will be able to exert the proper pressure on the axle **24** to normally urge or bias the roller **25** to its outward or extended position. However when sufficient pressure or weight is applied to the article **12**, the springs **26** will be compressed so as to permit the roller **25** to be retracted into the slot **17** as previously stated.

The parts can be made of any suitable material and in different shapes or sizes.

The present invention can be conveniently used with large articles of furniture such as sofas, chairs, desks, beds and the like. It can also be used with articles such as step ladders, stools, and various types of kitchen or office furniture or other members or articles. An important aspect or feature of the present invention is the fact that it utilizes a minimum number of parts and hence is adapted to be made and sold at low cost and is constructed so that the device will not readily get out of order. The retractable caster will prevent marring, dragging or scuffing of floor surface or the like and permits articles to be easily rolled when the articles are unoccupied, and when the articles such as the articles of furniture are occupied, the articles will stay put. In addition the present invention can be conveniently used with reclining chairs.

The members **27** prevent the springs **26** from coming out of their proper location, and the present invention works extremely well even on carpeted floors or other surfaces. The member **11** can be made of a suitable material such as plastic, wood or the like. When a person sits on the article **12**, the weight of the person is sufficient to lock the device in place, and when the roller **25** moves to retracted position, there is provided the flat surface **29** for engaging the floor **30** so that holes or indentations will not be punched in a carpet or the like. The present invention may be merchandized as a do-it-yourself item. Also, the present invention permits furniture to be moved silently without scraping the floor surface.



There is provided the countersunk openings **13** which prevent the device from working loose from the furniture leg **28**, and the arrangement of the securing elements or screws **23** helps prevent damage to the parts. By utilizing two springs **26**, the pressure on the axle **24** will be properly distributed or equalized so that the necessary balance or equilibrium of the parts will be insured. The shoulder **21** limits downward movement of the axle **24** and associated parts, and the caster is constructed so that breakage or damage to the parts will be prevented.

While the drawings show the caster **10** attached to the leg **28**, it is to be understood that different methods of attaching the caster to the article can be utilized, and for example in certain instances the article **12** may be recessed to accommodate or receive the caster, while in other instances the caster may be attached directly to the article **12**.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

A retractable caster of the type stated comprising a body member having a centrally arranged vertically disposed slot therein, said body member having a pair of diametrically opposed recesses formed therein and said recesses communicating with said slot, each of said recesses including a narrow inner portion and an enlarged cylindrical portion, a vertically movable axle having its end portions projecting through the narrow portions of the recesses and extending into the enlarged cylindrical portions thereof, a roller mounted on the intermediate portion of the axle and said roller being mounted for up and down movement in said slot, spring members positioned in the cylindrical portions of the recesses and said spring members having their lower ends engaging the end portions of the axle, stop means engaging the upper end portions of the spring members, said body member including a plurality of spaced apart openings therein, said openings including lower enlarged portions and said openings having upper portions of reduced size, and securing elements extending through said openings and said securing elements having enlarged heads seated in the lower enlarged portions of the openings.


**References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 888,426 | 5/1908 | Legge | 16—46 |
| 968,790 | 8/1910 | Olssen | 16—44 |
| 2,458,922 | 1/1949 | Andresen | 16—44 |
| 2,620,239 | 12/1952 | Gruenais | 16—44 X |
| 3,044,102 | 7/1962 | Lackinger | 16—44 |



MARVIN A. CHAMPION, *Primary Examiner.*

DONLEY J. STOCKING, *Examiner.*