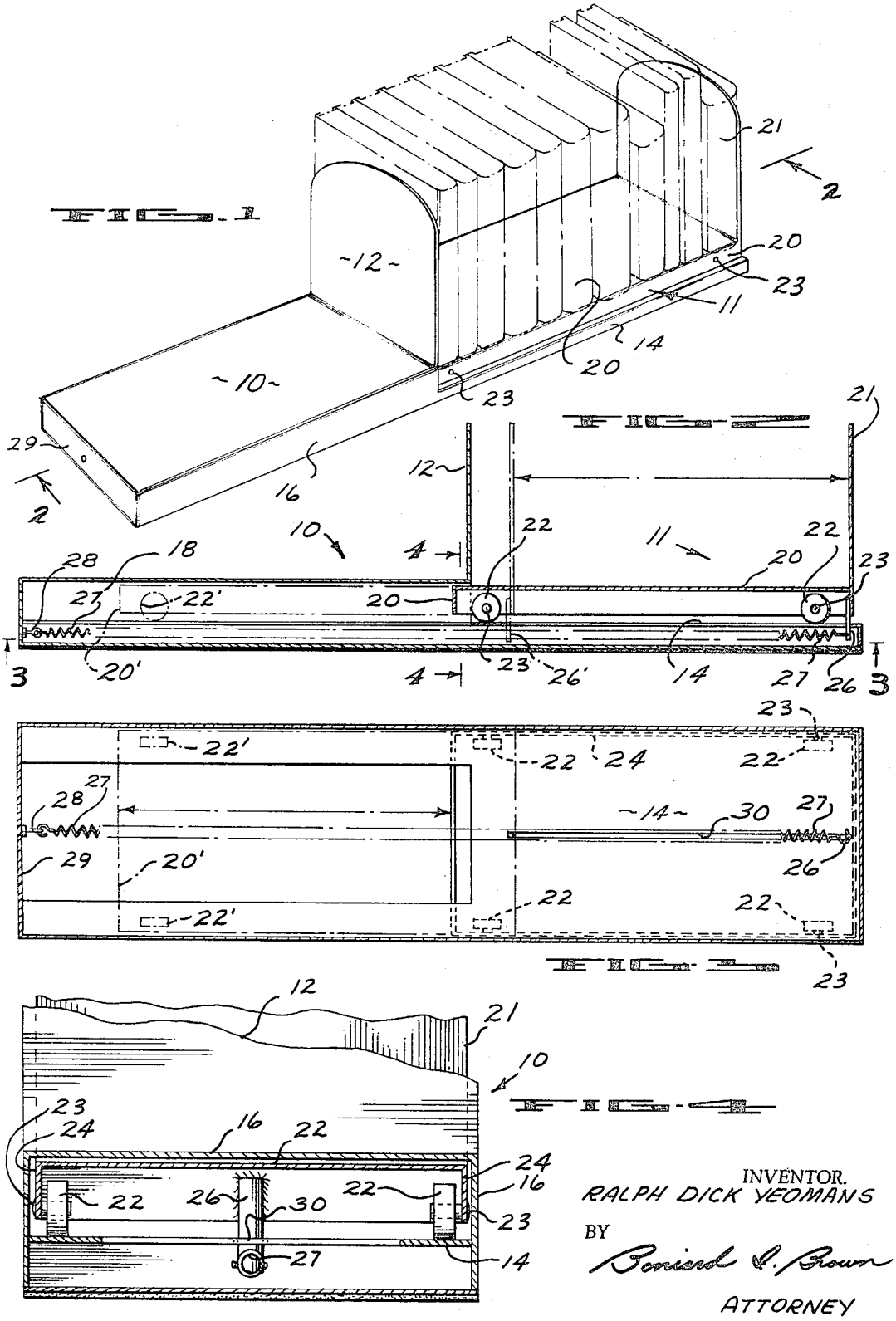
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SELF-ADJUSTING TELESCOPING BOOKENDS

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SELF-ADJUSTING TELESCOPING BOOKENDS

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ABSTRACT OF THE DISCLOSURE

An adjustable telescoping bookend apparatus having a stationary section and a movable book supporting section, both sections having upright bookends, the stationary section having an upright bookend and a longitudinally extending hollow receiving portion with a transverse opening and a lower platform extending from the opening, the movable section being telescopically receivable in the hollow portion of the stationary section and being supported on rollers for movement on the platform, the movable and stationary sections being connected by spring means whereby the movable section is resiliently urged telescopically into the hollow section.

The present invention relates generally to adjustable book racks or bookends; more particularly, the invention relates to self-adjusting bookends connected by telescoping base sections.

Automatically adjustable book racks or bookends of the prior art have been characterized by certain shortcomings and disadvantages. Among these are their relative complexity, relatively large number of components, and their relatively high expense of production because of the substantial number of parts and the number of operations required in manufacture.

The present invention provides a relatively simplified self-adjusting expansible and collapsible bookend apparatus, whereby greater ease of operation is achieved and more economical manufacture is a particular advantage thereof. The new configuration is particularly adapted for metal forming operations in manufacture. The new bookend arrangement of this invention includes a stationary portion and a movable portion which telescope together and are normally urged together by spring means. Wheels or rollers provide smooth motion of the bookends in their contracting and expanding movements.

It is therefore an object of the present invention to provide a new and improved self-adjusting bookend apparatus which is automatically adjustable to accommodate the number of books or other objects placed between the bookends.

An object of the invention is the provision of a self-adjusting bookend apparatus according to the foregoing object, which is of simplified construction and which is adapted for economical fabrication.

An object of this invention is to provide a self-adjusting bookend apparatus according to the foregoing objects which is well-adapted to fabrication by conventional and economical metal-forming techniques.

An object of the present invention is the provision of a self-adjusting bookend apparatus according to the foregoing objects wherein roller means provide efficient, smooth relative movement of cooperating telescoping sections to provide efficient operation.

An object of the invention is to provide a self-adjusting bookend apparatus according to the foregoing object wherein resilient means urge the telescoping sections together.

Other objects, features and advantages of the present invention will become apparent to those versed in the art from a consideration of the following description, the appended claims and the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a preferred embodiment of the self-adjusting telescoping bookend apparatus of the present invention;

FIGURE 2 is a longitudinal cross-sectional view taken at line 2—2 of FIGURE 1;

FIGURE 3 is a bottom view taken at line 3—3 of FIGURE 2; and

FIGURE 4 is a sectional view taken at line 4—4 of FIGURE 3.

Referring to the drawing, a preferred embodiment of the automatically adjusting telescoping bookend apparatus of the present invention is shown as comprising a stationary base assembly or section **10** and a movable book-supporting assembly or section **11**.

The stationary section **10** includes a stationary bookend **12**, a low platform portion **14** extendnig longitudinally from the open end of an enlarged hollow portion **16** which defines a space **18** therein. The platform **14** extends into hollow portion **16**, as shown.

The movable section **11** includes a rectilinear book-supporting section **20** at the outer end of which is attached an upwardly extending bookend **21**. Four wheels **22** are rotatably mounted adjacent to the respective corners of the book-supporting body **20**. The wheels **22** may preferably be fabricated of a resilient durable material such as nylon or Teflon, or wheels provided with appropriate ball bearings and races may be utilized.

Movable section **11** is supported by its wheels **22** and axles **23** atop the low platform portion **14** of the fixed base section **10**. The body **20** of the movable section is adapted to be telescopically received in hollow section **16** of the stationary section **11**.

An extension **26** from bookend **21** into lower platform **14** provides an engagement means for one end of a spring **27**. The other end of spring **27** is engaged by a hook **28** affixed to the end wall **29** of section **16**. A guide groove **30** in the top of platform **14** permits extension **26** to move freely along its path between the limits of extension of movable section **11** and collapse thereof when bookends **12** and **21** meet.

Spring **27** as shown in FIGURES 2 and 3 is in its extended position and normally urges extension **26** towards the position **26'** shown in FIGURE 2, thus tending to pull bookend **21** and movable assembly **11** towards bookend **12** so that body section **20** thereof is normally in the location indicated in phantom outline at **20'** under the urging of spring **26** when no books are in the assembly.

From the foregoing description and the drawing, it will be appreciated that the adjustable bookend apparatus of the invention is adapted for economical mass production by conventional metal forming processes and techniques, such as stamping, bending and welding.

The use and operation of the self-adjusting telescoping bookend apparatus of the invention will be understood from the foregoing description and from the drawing. The bookend uprights **12** and **21**, being attached to stationary section **10** and movable section **11**, respectively, are resiliently urged together by the spring **27**, whereby the bookends automatically adjust themselves to accommodate changes in the span of books between the bookends and supported on movable section **11**. The bookend apparatus automatically adjusts itself to the number of books supported on movable section **11** between the bookends, within the limit of the expansive movement of the movable section. As one inserts books into the assembly between bookend uprights **12** and **21**, riding on rollers **22** in base **20**, to the limit of its extension. As a particular book or books is removed spring **26** draws assembly **20–21–22–24** by its dependent extension tab **26** farther into space **18** automatically clamping the remaining books in place.

Those versed in the art will appreciate that the pres-

ent invention achieves the objects and realizes the advantages hereinbefore mentioned.

Although a specific embodiment of the present invention has been illustrated and described herein, it will be understood that the same is merely exemplary of presently preferred embodiments capable of attaining the objects and advantages hereinbefore mentioned, and that the invention is not limited thereto; variations will be readily apparent to those versed in the art, and the invention is entitled to the broadest interpretation within the terms of the appended claims.

The inventor claims:

1. An adjustable bookend apparatus comprising:

a stationary base section, said stationary section having a longitudinally extending hollow portion with a transverse opening and having a lower platform portion extending longitudinally from said transverse opening,

a first upright bookend extending upwardly from the hollow portion adjacent to the juncture of the hollow portion and the platform portion,

a movable book-supporting section telescopically receivable in said hollow portion of the stationary section and supported on rollers for free movement on said platform into and out of the hollow portion,

a second upright bookend attached to the movable section at the end thereof farthest from said first bookend and having an attachment means dependent therefrom,

and spring means connected between said dependent attachment means and a second attachment means on said stationary base section,

whereby said movable section is resiliently urged telescopically into said hollow section, whereby the bookends clamp books therebetween and are automatically expansible and contractible to accommodate varying numbers of books.

2. A telescoping bookend assembly comprising:

a fixed bookend means having receiving means therein and a platform means outwardly adjacent thereto and extending into said receiving means;

a book-supporting movable bookend means having

means movably engageable in said receiving means and slidable on said platform means; and

a spring means interconnecting said fixed bookend means and said receiving means for normally urging said movable bookend means by said means engageable in said receiving means into said receiving means so as to normally urge said fixed and said movable bookend means together,

whereby when books are placed between said bookend means and individual books removed therefrom the urge of said spring automatically closes the gap by pulling said movable bookend means closer to said fixed bookend means to hold the remaining books securely in place.

3. A telescoping bookend assembly according to claim 2, wherein said means movably engageable in said receiving means includes supporting wheels rollable on said platform means to provide free movement of said movable bookend means on said platform means into said receiving means.

4. A telescoping bookend assembly according to claim 2, wherein said platform means includes a guide groove and said movable bookend means includes an extension slidable in said guide groove to maintain alignment of said movable bookend means as it is moved in and out of said receiving means, said extension means depending from said movable bookend means and providing attachment for said spring means.

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