Dec. 16, 1958 L. NOVACK 2,864,513

TRAVERSE TRACK FOR CLOTHES CLOSETS

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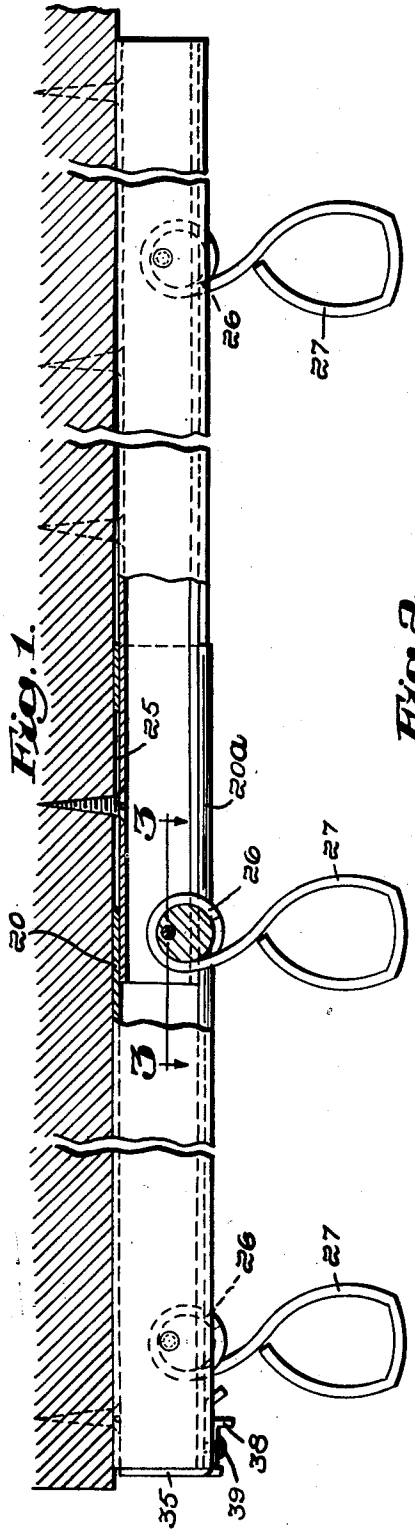


Fig. 1.

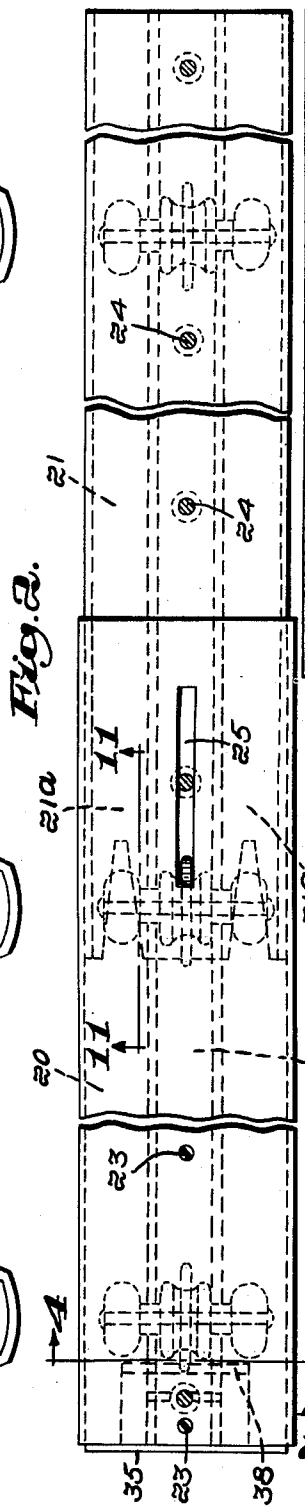


Fig. 2.

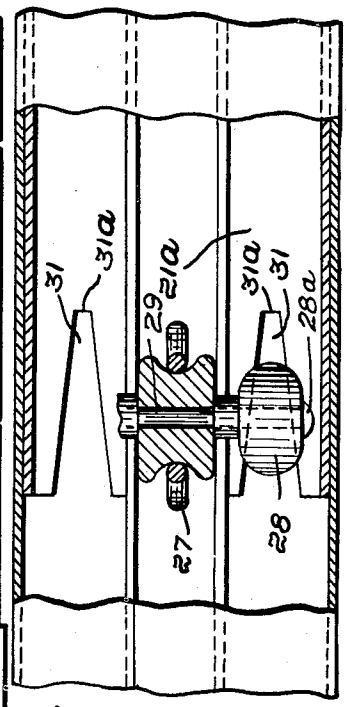


Fig. 3.

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Fig. 4.

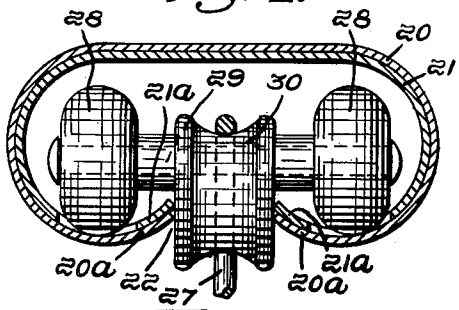


Fig. 5.

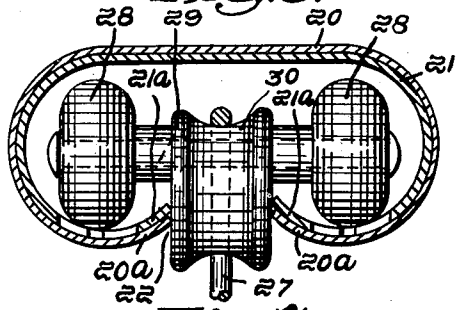


Fig. 6.

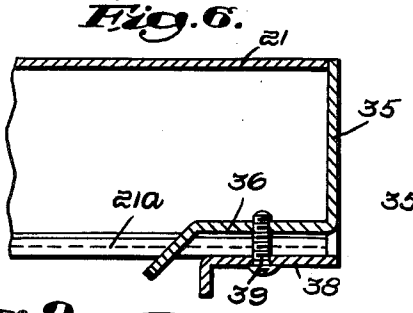


Fig. 9.

Fig. 7.

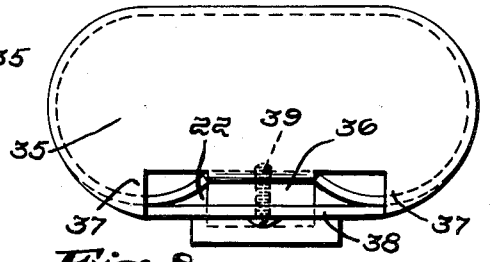


Fig. 8.

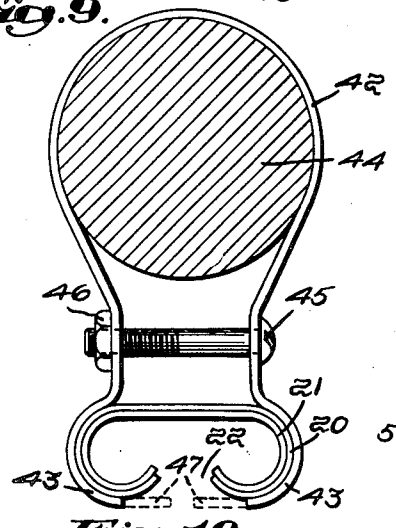
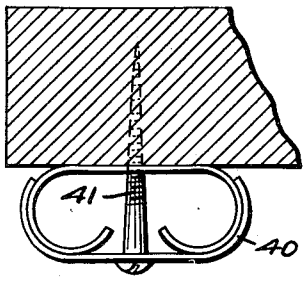
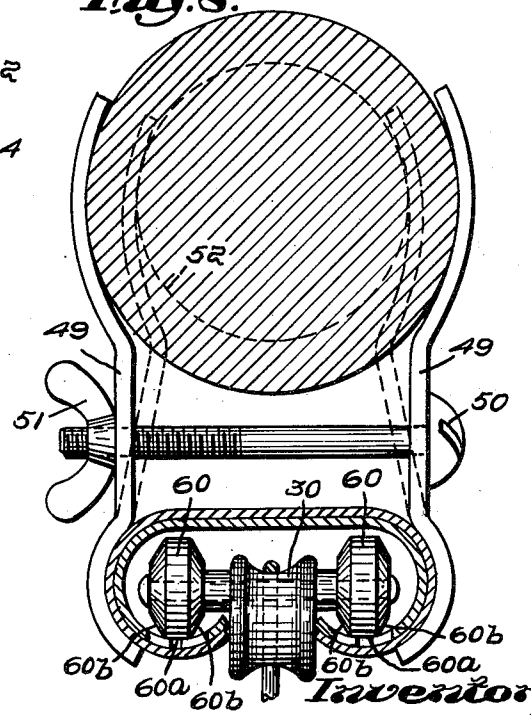


Fig. 10.





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Fig. 15.

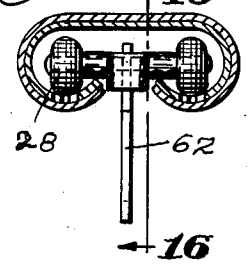


Fig. 16.

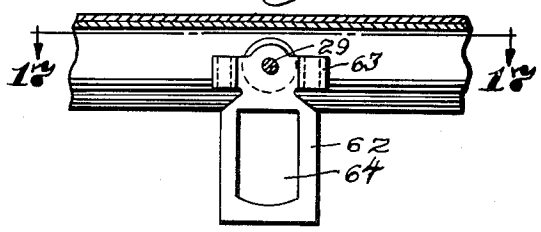


Fig. 17.

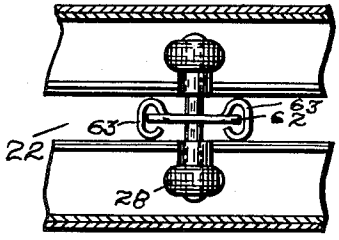


Fig. 12.

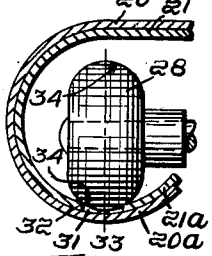


Fig. 11.

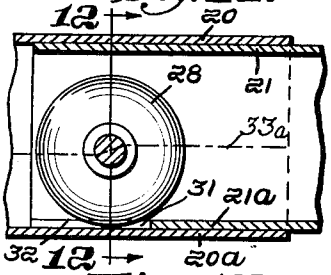


Fig. 14.

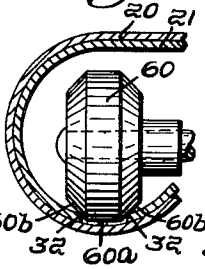


Fig. 13.

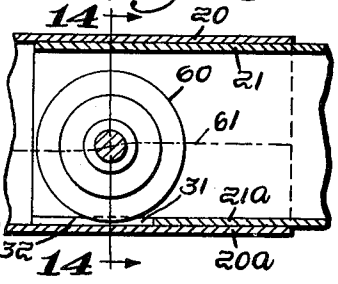
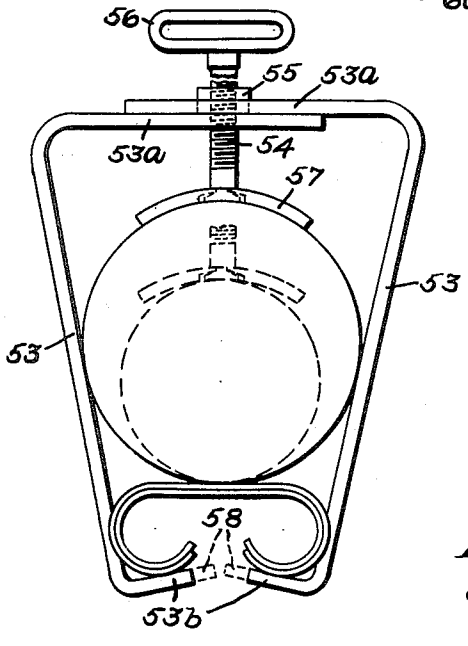


Fig. 18.



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TRAVERSE TRACK FOR CLOTHES CLOSETS

Lawrence Novack, Newton Center, Mass.

Application July 18, 1955, Serial No. 522,436

2 Claims. (Cl. 211—162)

The subject of this invention is a traverse rod suitable for mounting in clothes closets to act as a support for coat hangers.

Ordinarily a clothes closet is provided with a pole on which the coat hangers are hung. The hangers tend to become tangled so that they are difficult to remove, and garments on the hangers are likely to be unevenly spaced and to hang crooked. Furthermore, as the hangers do not slide easily along the pole it is difficult to move a group of garments to place or remove hangers in inaccessible parts of the closet. In long closets with narrow doors, a great deal of the space is often wasted because of the difficulty and inconvenience of reaching parts of the pole which are not immediately in front of the door.

The principal object of this invention is to provide a traverse track, suitable for mounting on a closet pole, or on the bottom of a shelf, which will support a number of coat hangers evenly spaced and in the correct position, and permits the hangers to slide readily to allow convenient access to garments hung in any part of a closet. Another object is to provide a track which can be readily adjusted to fit closets of various sizes and easily mounted by an unskilled person.

The track consists in general of two telescoping inverted metal channels, with curved, inturned lips on which run a number of rollers carrying members suitable for supporting coat hangers. Provision is made in the overlapping region of the channels for moving the rollers easily from one section to another.

In the drawings illustrating a preferred embodiment of the invention:

Fig. 1 is a side elevation, partly in cross-section and partly broken away, of a traverse track constructed according to the invention;

Fig. 2 is a plan view of the track, partly broken away;

Fig. 3 is a cross-section, somewhat enlarged, taken along line **3—3** of Fig. 1;

Fig. 4 is an enlarged transverse cross-section of the track showing one of the rollers;

Fig. 5 is a cross-section similar to Fig. 4 showing a roller riding on the inside section of the track;

Fig. 6 is a cross-section of an end cap for the track;

Fig. 7 is an end view of the cap of Fig. 6;

Fig. 8 is an end view of a clip for mounting the track on poles of various sizes, and also shows a modified form of roller;

Fig. 9 is an end view of another form of clip for mounting the track on a pole;

Fig. 10 is an end view of another form of end stop;

Fig. 11 is a fragmentary cross-section of the track taken along line **11—11** of Fig. 2, showing one of the rollers in transition from one section of the track to the other;

Fig. 12 is a fragmentary cross-section along line **12—12** of Fig. 11;

Fig. 13 is a fragmentary cross-section of the track in the same region as Fig. 11, showing a modified form of roller in transition from one section of the track to the other;

Fig. 14 is a cross-section taken along line **14—14** of Fig. 13;

Fig. 15 is a transverse cross-section of the track showing a modified form of rider;

Fig. 16 is a cross-section taken along line **16—16** of Fig. 15;

Fig. 17 is a cross-section taken along line **17—17** of Fig. 15; and

Fig. 18 is an end view of another type of clamp for attaching the track to poles of various sizes.

As seen in Figs. 1–5, the track itself consists of a pair of inverted channel sections **20** and **21** having pairs of inturned arcuate lips **20***a* and **21***a*, respectively, which bound a longitudinal slot **22** running the entire length of the track. Section **21** is made with a sliding fit with respect to section **20** and telescopes within the latter to permit adjustment of the overall length of the track. Each track section **20** and **21** is preferably provided with regularly spaced screw holes **23** and **24**, respectively, along the top, for attaching the sections by screws to the bottom of a shelf. The outer section **20** has an elongated slot **25** near its end in the overlapping region of the sections, to permit a centrally placed screw to pass through both sections when the track is adjusted to various lengths. A number of riders, generally indicated by the numeral **26**, carrying hanger supports **27**, run in the two track sections.

As shown in detail in Figs. 4 and 5, each of the riders consists of a pair of rollers **28** rotatably mounted on a pin **29**, and a hanger block **30**, centrally mounted on the pin between the rollers, which carries the hanger supports **27**. The hanger block has a concave rim. The hanger support **27** is ordinarily made of heavy wire formed into a loop at the bottom to receive the hook of a coat hanger. The upper end of the support is wrapped around the rim of block **30**. The hanger block is rather loosely mounted on pin **29**. Rollers **28** preferably have extended hubs **28***a* which tend to limit the axial movement of the block. Pin **29** is upset at each end to retain the rollers, or the rollers may be secured in any other convenient manner. The hanger block, which is eccentrically mounted, projects down in to slot **22** and tends to keep pin **29** perpendicular to the slot.

As shown in Fig. 3, the lips **21***a* of the inner track section have V-shaped notches **31** cut in their left-hand ends. The action of the rollers as they encounter these slots is best seen in Figs. 4, 5, 11 and 12. In Fig. 4, the rollers **28** are seen resting entirely on the upper surfaces of lips **20***a* of the outer track section. In Fig. 5 the rollers **28** are resting entirely on the upper surfaces of lips **21***a* which are higher than those of lips **20***a*. When the roller is in an intermediate position in a notch, as shown in Figs. 11 and 12, the upper edges **32** of the notches bear on the roller at two spaced points part way up its sides. Due to the convergence of these edges toward the base of the notch, these bearing points will move gradually toward the center line **33** of the roller as the roller moves toward the base of the notch. The rim of the roller is transversely curved on a radius **34** and, due to this curvature, the roller will gradually rise along the path indicated by the dotted line **33**, as the bearing points move closer to its center. The roller thus rides gradually up the notch from the level of lip **20***a* to that of lip **21***a*, instead of rising abruptly as it enters track section **21**. The rollers will not stick, in passing from one track section to the other, even when carrying a heavy load, and the sidewise restraining effect of the two notches also helps to eliminate twisting of the riders as they pass from one section to another.

To prevent the riders from coming out of the track at the ends, a stop, such as that shown in Figs. 6 and 7, may be applied to the open ends of the track sections.

This stop consists of an oval end plate **35**, having an inwardly and downwardly bent tongue **36** which projects into the slot **22**, and a pair of depending lugs **37**. This plate is secured by means of a bracket **38** which fits under lips **21***a* and between lugs **37**, and is secured to tongue **36** by a screw **39**.

An alternative form of end stop is shown in Fig. 10, and consists of a channel-shaped bracket **40** which is retained on one of the track sections by means of a screw **41** passing through the screw hole nearest the open end of the section.

In house of new construction, the track is preferably screwed to the bottom of a shelf, as illustrated in Fig. 1, and the conventional poles may be dispensed with. For this purpose, the screw holes are preferably spaced nine inches apart, and the slot **25** is made nine inches long so that at least one screw can always be passed through both track sections in their overlapping portion, regardless of the length to which the track may be adjusted. For mounting in closets which have poles already installed, a clamp such as that shown in Fig. 9 may conveniently be used. This clamp consists of a strap **42** having inturned lower ends **43** which grip the track section **20** or **21**, as the case may be. The clamp is preferably made of metal and is sufficiently flexible so that it can be snapped over the pole **44**. The clamp is then tightened on to the pole and the track by means of a screw **45** and nut **46**. A number of such clamps may be placed at intervals along the pole, and the straps near each end of the track may carry extensions **47** which project across slot **22** and serve as stops for the riders.

Another form of clamp for attaching the track to a pole is shown in Fig. 8. This clamp consists of a pair of straps **49** having curved upper ends which embrace the pole and curved lower ends which embrace the track. The straps are connected together by a carriage bolt **50** and wing nut **51**. This screw may be tightened to any desired degree to draw the upper ends of straps **49** in, to fit a smaller pole, as indicated by the dotted lines **52**.

Another form of clamp is shown in Fig. 18. This clamp consists of a pair of channel-shaped brackets **53** having overlapping legs **53***a* at the top, and inturned legs **53***b* at the bottom. The leg **53***a* of one strap carries an attached nut **54** which passes through a hole **55** in legs **53***a* of the other strap. A thumb screw **56** pases through this nut and engages a curved plate **57**. This plate may be adjusted up and down by means of the screw to fit poles of various sizes. As in the clamp shown in Fig. 9, the legs **53***b* of the straps of the end clamps may have extensions **58** which serve as stops for the riders.

In the modified form of rider shown in Fig. 8, the rollers **60** have flat central rims **60***a* and conical rims **60***b* at either side. The action of these rollers in passing from one track section to the other is illustrated in Figs. 13 and 14. When the roller enters notch **31** the riders **60***b* are engaged by the upper edges **32** of the notch. As the roller moves toward the base of the notch the converging bear on points closer to rim **60***a*, and the slope of rims **60***b* causes the center of the roller to rise gradually along the path indicated by line **61**, until the rim **60***a* is at the level of the upper surface of lip **21***a*.

In the form of rider illustrated in Figs. 15, 16, and 17 a hanger supporting member **62**, which may be a metal stamping, depends from pin **29**. The upper part of this member has two bent lugs **63** which ride in slot **22** and hold the member straight in the track. The member has an opening **64** into which the hook of a hanger may be inserted. This type of rider may be used with either the bevelled or the rounded type of roller.

The track sections are preferably made of fairly heavy gauge metal so as to remain straight under a heavy load of clothing. When the track is clamped to a pole at

intervals along its length, the track and pole become, in effect, a beam or truss of substantial stiffness, thus eliminating troublesome sagging in the center of the pole. The clamp type of attachment is especially convenient for persons living in rented property who do not want to make permanent installations.

It is understood that any number of riders may be placed on the track, and the number may be changed by removing one of the end stops and sliding riders on or off. The riders keep the hangers properly spaced and straight so that they do not become tangled. The number of riders may be chosen so that enough space is left on the track to permit riders in inaccessible parts of the closet to be slid out. The V-shaped notches on the inner track provide a double bearing on the rollers, so that side thrust, and resulting excessive friction are eliminated in passing the rollers from one track section to the other. The rollers also ride smoothly from one section to another, especially the bevelled type which have a uniform rise. The whole closet space may be thus utilized, to advantage, and clothing hung in inaccessible portions brought into reach with very little effort.

What is claimed is:

1. The combination of a traverse track for clothes closets with a plurality of riders mounted to move along the track: the track comprising an outer channel-shaped track section and an inner channel-shaped track section slidably received in the outer section with portions of the track sections overlapping, and means for supporting said sections in aligned, fixed relationship, both sections having inturned lips and a longitudinal slot between the lips, the lips of the inner section being at a higher level than those of the outer section; and each rider comprising a pair of rollers disposed to bear on said lips, and a clothes hanger supporting member supported on said rollers and depending through said slot, the lips of said inner section having notches with converging upper edges engageable with said rollers, and said rollers having curved rims adapted to bear on said edges.

2. The combination of a traverse track for clothes closets with a plurality of riders mounted to move along the track: the track comprising an outer channel-shaped track section and an inner channel-shaped track section slidably received in the outer section with portions of the track sections overlapping, and means for supporting said sections in aligned, fixed relationship, both sections having inturned lips and a longitudinal slot between the lips, the lips of the inner section being at a higher level than those of the outer section; and each rider comprising a pair of rollers disposed to bear on said lips, and a clothes hanger supporting member supported on said rollers and depending through said slot, the lips of said inner section having notches with converging upper edges engageable with said rollers, and said rollers having bevelled rims adapted to bear on said edges.

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