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W. WALMSLEY

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FASTENER

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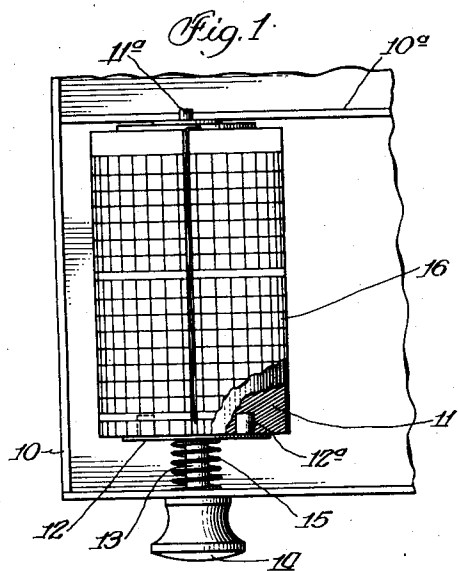
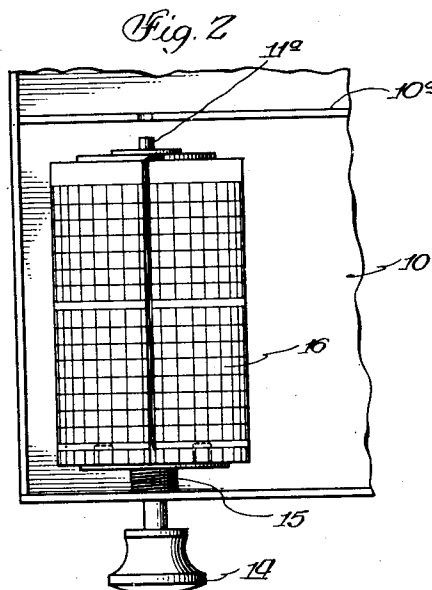
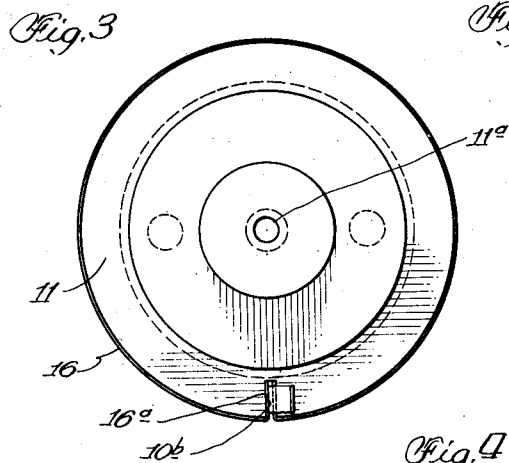
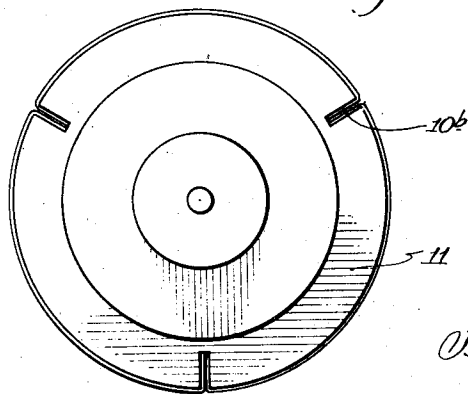
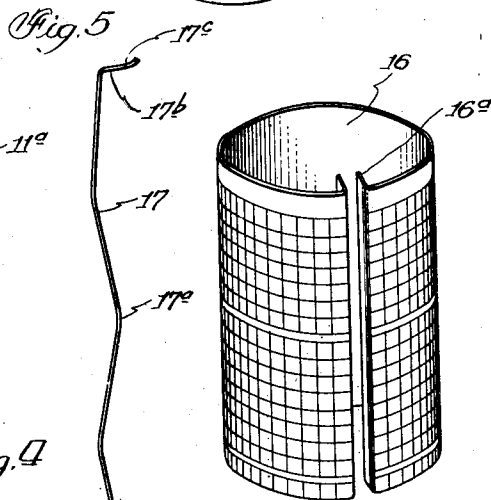


Fig. 6

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UNITED STATES PATENT OFFICE

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FASTENER

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3 Claims. (Cl. 101-415.1)

My invention relates to cylindrical holders on which a sheet is wrapped and adapted to be used or read as the cylinder is turned, and more particularly to devices for fastening the sheet to the cylinder, and my main object is to provide a fastener of this kind which is of extreme simplicity.

A further object of the invention is to design the novel fastener in a single piece and for application without the need of screws, nails, or other accessories.

A still further object of the invention is to provide a fastener which requires a minimum amount of space for itself and leaves practically the entire space around the cylinder for the sheet.

An additional object of the invention is to so construct the novel fastener that it is placed under tension when in use, holding the ends of the sheet firmly to the cylinder.

An important object of the invention is to design the novel fastener for easy application and removal, facilitating the mounting and removal of the sheet.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the novel fastener may be had by reference to the accompanying drawing, in which

Fig. 1 is an elevation, partly in section, of a cylinder installation showing the novel fastener in place;

Fig. 2 is a view similar to Fig. 1 showing the cylinder in a position to be removed from the place in which it is installed;

Fig. 3 is a top plan view of the cylinder, on an enlarged scale, showing the sheet fastened around the same;

Fig. 4 is a view similar to Fig. 3, showing a modification where the sheet is applied in sections;

Fig. 5 is an edge view, on an enlarged scale, of the novel fastener; and

Fig. 6 is a perspective view of the sheet in position for application to the cylinder.

Various means have been employed in the past to secure a sheet around a cylinder, such as in the case of floor-sanding rollers, cylinders where the sheet contains reference data, etc., the purpose being to both secure the sheet in closely wrapped form to the cylinder and render the fastener releasable for the removal of the sheet in case it became worn or required replacement. However, the fastening means referred to have been more or less complicated and therefore not suitable for my purpose.

In the present instance, the wrapper for the cylinder is intended to be used for purposes of reference, the view of any portion of the sheet from the front being made possible by turning the cylinder the proper distance. It is understood that with no friction or strain received by the sheet it is not necessary to have a very strong fastening means, and one will suffice which firmly holds the sheet to the cylinder in closely-wrapped form.

In accordance with the foregoing, specific reference to the drawing indicates a fragment of a suitable cabinet at 10, in which the cylinder 11 is vertically mounted for rotation. Thus, the spindle 11a of the cylinder is receivable in an aperture in a cabinet shelf 10a, while at the bottom the cylinder is perforated to receive the lugs 12a of a bottom plate 12 carried by a spindle 13. The latter is co-axial with the spindle 11a and passes through the bottom of the cabinet to receive a knob 14. Between the plate 12 and the cabinet bottom, the spindle 13 receives a compression spring 15. It will be seen that the cylinder may be rotated by turning the knob 14; and it may be removed by pulling the knob down as indicated in Fig. 2 to release the spindle 11a from the shelf 10a, enabling the cylinder to be lifted free of the lugs 12a and drawn out of the cabinet. This installation has been shown merely for purposes of example, and as a simple means to provide both a turning and removing control for the cylinder, no novelty being claimed for the same.

The sheet which is adapted to be wrapped around the cylinder is indicated at 16, and for the present purpose the ends 16a thereof are bent in to appear as in Fig. 6 when the sheet is ready to be mounted. In the form shown in Fig. 3, the periphery of the cylinder is cut with a deep longitudinal slot 10b, and when the sheet has been mounted as in Fig. 3 the ends 16a seat in the slot in closely spaced relation.

The novel fastener is in the form of a long strip 17 of spring metal, the strip being formed with a series of shallow alternate bends 17a. One end of the strip is made with a short lateral bend 17b having a slight inclination and terminating with an outward curl 17c.

When the sheet has been mounted on the cylinder as described above, the strip 17 is inserted between its terminal bends 16a by pressure tending to straighten the strip. This enables the latter to be fitted in the narrow space between the sheet ends 16a. However, the strip is now under tension and exerts pressure against the ends 16a to keep them firmly against the sides of

the cylinder groove. The bend 17b overlies the top end of the cylinder in the manner indicated in Fig. 1, and acts as a support or a stop retainer for the strip. The curl 17c permits the finger to be readily applied to dislodge the strip and release the sheet in case the latter is to be no longer used or is to be replaced by a new sheet. The surface of the sheet has been shown lined like a chart to suggest a vertical and lateral tabulation of formulas or other reference data carried by the sheet.

The modification of Fig. 4 shows that the cylinder may be grooved in three places instead of one, where sheet sections are intended to extend only part-way around the cylinder. Thus, the illustration shows each sheet section extending one-third-way around the cylinder. Obviously, fewer or more sheets could be used by further and similar modifications of the cylinder. With the novel fastener applied at each junction of sheet sections, all may be firmly secured yet individually removable if desired.

It will be evident from the above description that I have provided a fastener for the purpose specified which is of extreme simplicity. Being of spring metal and placed under tension when applied, it will exert its hold on the sheet ends firmly and indefinitely without the use of any other means, and stay in place at all times. Being a thin strip, it occupies but a slight amount

of room, leaving almost the entire surface of the cylinder to carry and display the wrapped sheet. The fastener therefore does not waste any sheet space and is highly efficient in this and the other respects noted. The fastener bends 17a being rounded make it easy to press the fastener in place and prevent the sheet ends from being cut or torn. Finally, it will be evident that a fastener of this kind may be produced at trifling cost.

I claim:—

1. A securing means for a sheet wrapped around a cylinder wherein terminal inward bends of the sheet are directed into a longitudinal slot in the periphery of the cylinder, such bends being spaced from each other; said means comprising a strip of spring material, said strip having a plurality of wave-like formations formed across the same transversely of the length thereof, and said strip being insertable in said slot between said bends of said sheet to press said bends against the walls of said slot.

2. The structure of claim 1, one end of the strip being bent over on the corresponding end of the cylinder to form a stop retainer.

3. The structure of claim 1, said strip being formed to provide an alternate series of shallow bends, the apices of said bends being rounded.

WILLIAM WALMSLEY.