

PATENTS EXAMINATION BOARD

Subject: The Drafting of Patent Specifications - Paper 2

Date: 16 November 2018

Time: 09h00 -13h00 (although candidates requiring extra time are entitled to an additional two hours)

Examiners: J Fiandeiro
V Williams

Moderator: J D Whittaker

Attached is an instruction from your client detailing an invention.

You are required to draft a full patent specification for your client's invention. The full patent specification must include: (1) a background to the invention, (2) a summary of the invention, i.e. consistory clauses, (3) a brief description of the drawings, (4) a detailed description of the invention, (5) a set of patent claims, and (6) an abstract.

Marks will be allocated as follows:

- 50% of the marks will be allocated to the claims.
- 50% of the marks will be allocated to the rest of the specification.

In order to obtain a pass for this paper, candidates must obtain not less than 40% for each of these two sections.

Your client writes:

"I have designed a product display arrangement, and in particular a device that automatically pushes display items towards the front of the display arrangement.

A typical display arrangement comprises several rods, on which the display items may be hung, with the rod extending away from a rear wall or plate towards customers. One problem with this arrangement is a decrease in the visibility of the display items after the first few display items have been removed from the front end of the rod. To address this, stores frequently employ people to walk through the store at the end of the day and move display items on the rod towards the front end of the rod, which is clearly not ideal.

I am aware of a product pusher, as shown in the PRIOR ART drawing in the attached drawing pack. This pusher 10 includes a push plate 26 mounted on a rod 16. A compression spring 34 is placed over the rod 16 and extends between a support board 14 and the push plate 26. The compression spring 34 is arranged to apply a pushing force against the plate 26, thereby pushing the items 12 towards the front end of the rod 16. This pusher 10, however, is limited by the length and design of the spring 34, and in practice it only works with a small number of items 12 on the rod 16. In particular, when there are only a few items 12 remaining on the rod 16, the spring 34 is simply not long enough to push the last few items 12 to the very end of the rod 16.

One of the objectives of my invention is to address this shortcoming by pushing all the display items to the very end of the rod, irrespective of the number of items on the rod.

As best seen in Figures 1 to 4, my product pushing device 13 can crawl along the entire length of a rod 11, the rod 11 supporting various display items 15. The items are typically suspended from the rod 11 from a hole 17 located near the

top of the item 15. The rod 11 is secured by a mounting structure 10 on one end 11b and protrudes generally horizontally from a back panel 19. The front end 11a of the rod 11 is bent upwards to prevent the items 15 from falling off the rod 11.

Thus, as consumers remove items 15 from the front end 11a of the rod 11, my product pushing device 13 automatically and continuously moves the remaining items 15 towards the front end 11a of the rod 11, by applying a pushing force on the rear face of the last item 23. Figure 3, for example, shows a side view of my invention in use, after all but one of the items 15 has been removed from the front end 11a of the rod 11, with the last product 23 being positioned right at the very front end of the rod 11a.

Figure 5 shows an end view of my pushing device 13, taken along line 5-5 in Figure 4, and Figure 6 shows a corresponding cut-away end view of my device 13 to show the inner components. Figure 7 shows a side view of my device 13, and Figures 8 and 9 are sectional views taken along lines 8-8 and 9-9, respectively, in Figure 6.

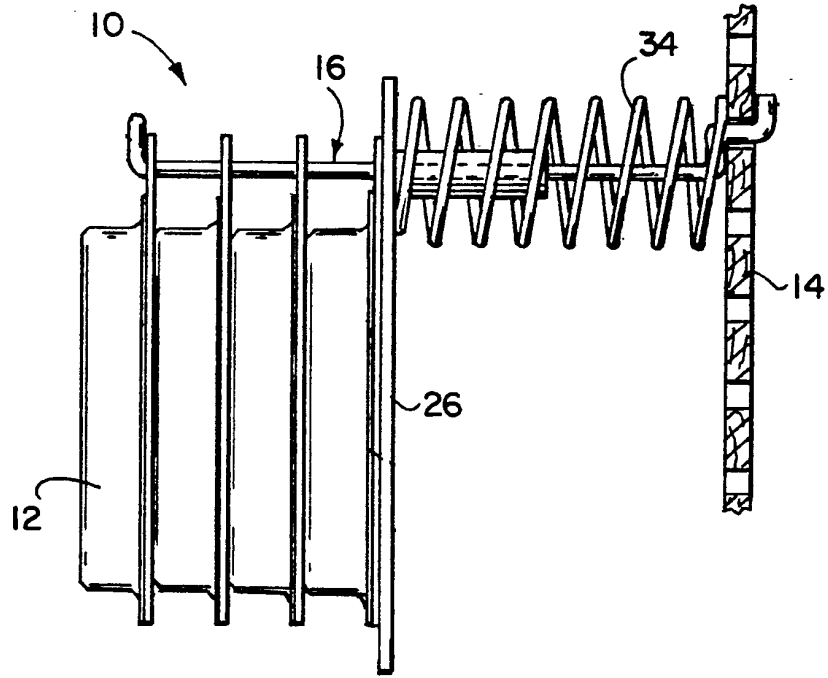
My device 13 comprises a housing 27 with a bore 29 through which the rod 11 extends, as shown in Figure 5. The housing 27 includes a top plate 31 that covers the bore 29 through which the rod 11 extends.

As shown in Figures 6, 9 and 10, a conventional gear wheel 61 is rotatably supported in the housing 27, so as to engage and move along the rod 11. The wheel 61 has teeth 92 that mesh with corresponding teeth 90 formed on the rod 11, so as to maximize friction between the wheel 61 and the rod 11 as the wheel 61 crawls along the rod 11. A rotational shaft or pin 69 extends from the centre of the wheel 61, so that the pin 69 rotates with the wheel 61. The pin 69 further extends through the centre of a spring component 65, typically in the form of a flat coil spring 33 secured in the housing 27 by a projecting tongue 67 (Figure 8)

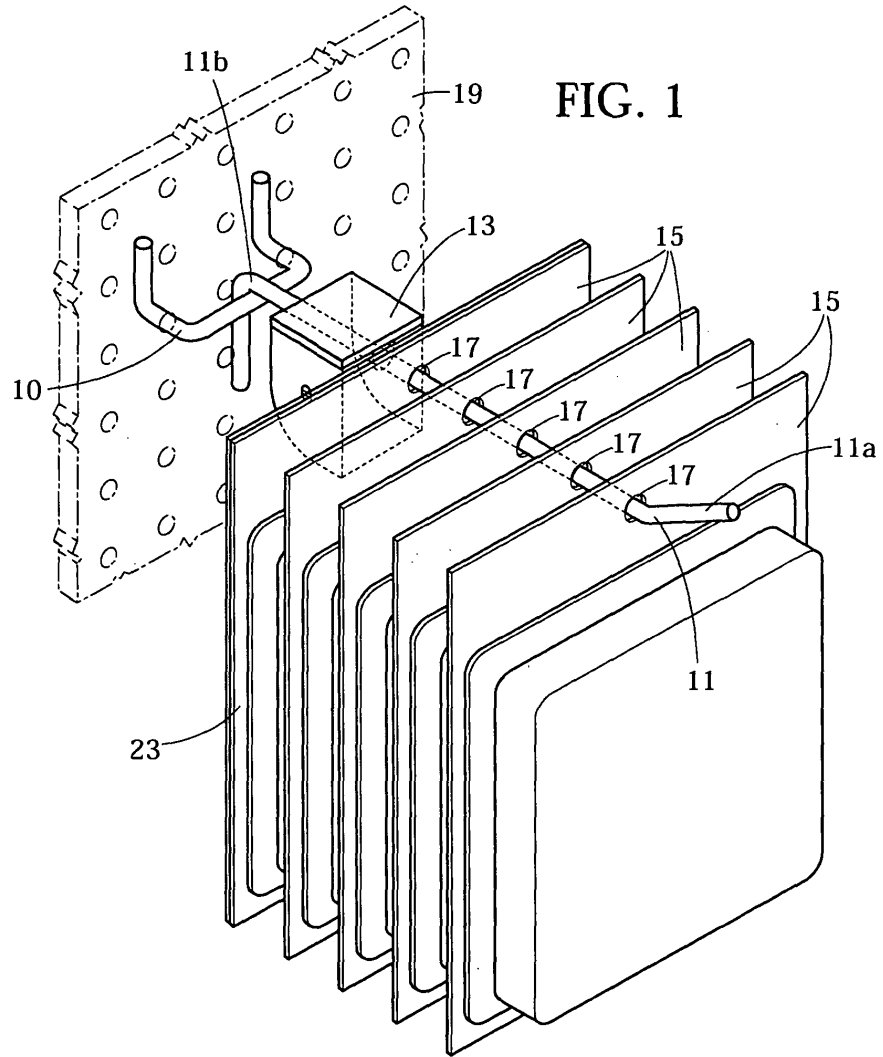
secured in a slot in the housing 27. The inner end of the spring 33 is attached to the shaft 69 of the wheel 61 by inserting a protruding tongue 35 into a slot in the shaft 69. Rotation of the shaft 69 thus causes the coil spring 33 to tighten or release, depending on the direction of the rotation.

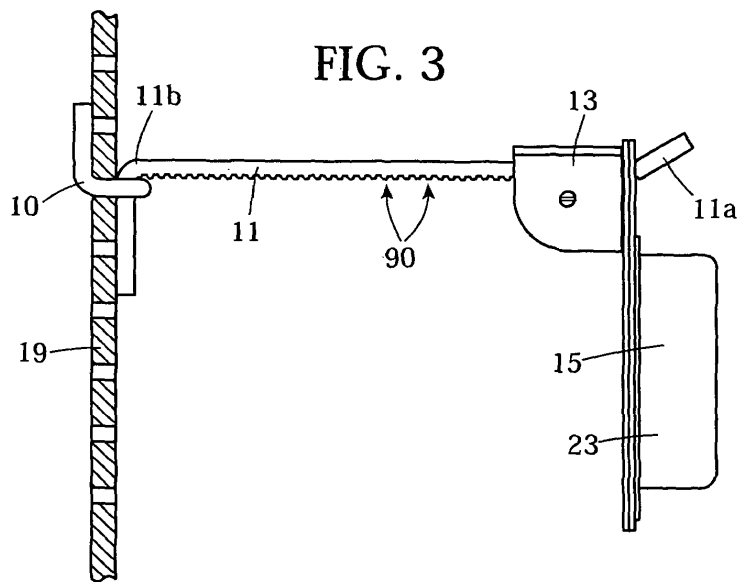
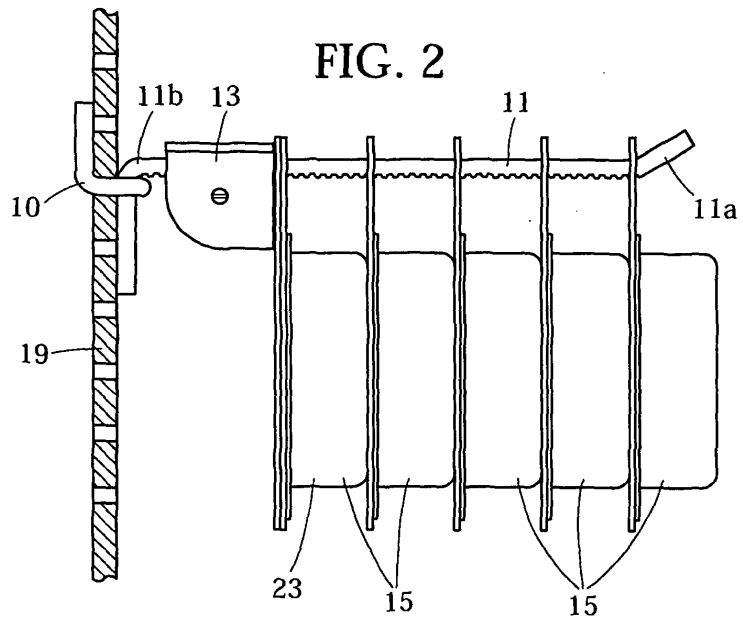
In use, my pusher device 13 is wound tighter (i.e. primed) by the wheel 61 rolling along the rod 11 as the device 13 is pushed back from the front end 11a of the rod 11 to the rear end 11b. The coil spring 33 accordingly tries to unwind i.e. it urges the wheel 61 to roll along the rod 11 from the rear end 11b towards the front end 11a, thereby always urging the items 15 on the rod 11 towards the front end of the rod 11. Since my device 13 can move along the entire length of the rod 11, it is able to push all the display items 15 to the very end of the rod 11, irrespective of the number of items 15 on the rod 11.

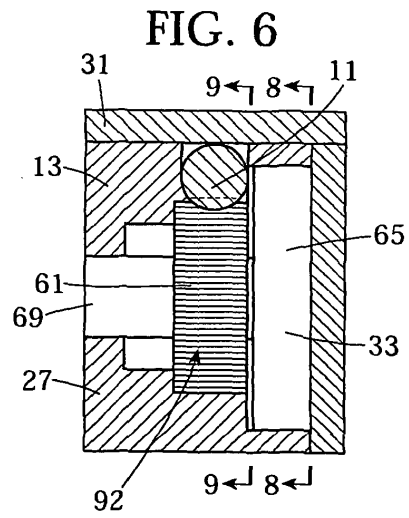
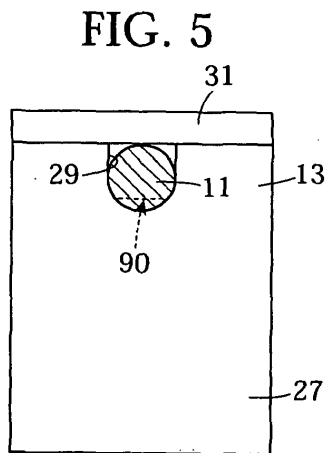
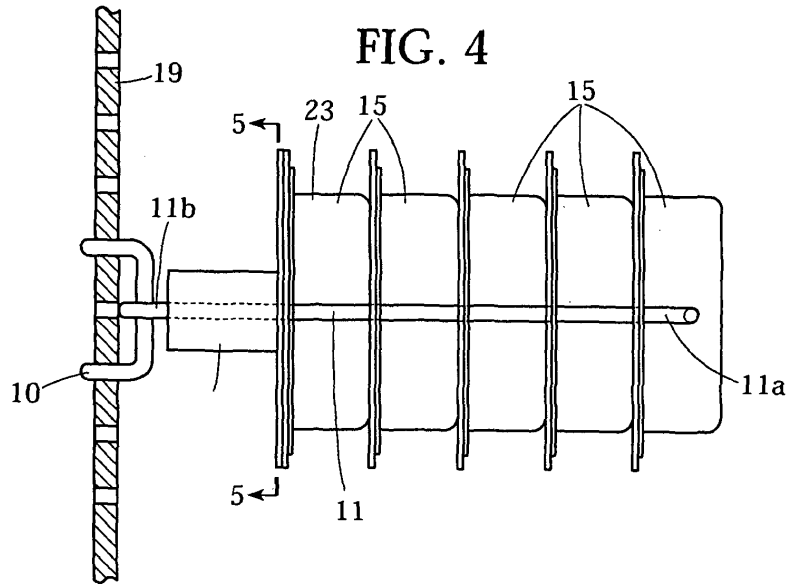
Please prepare a patent specification for my invention.”

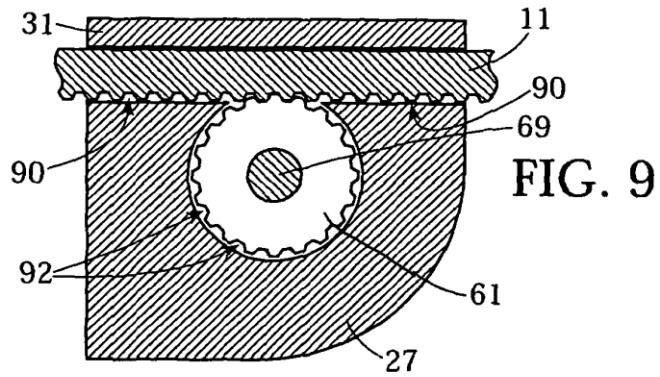
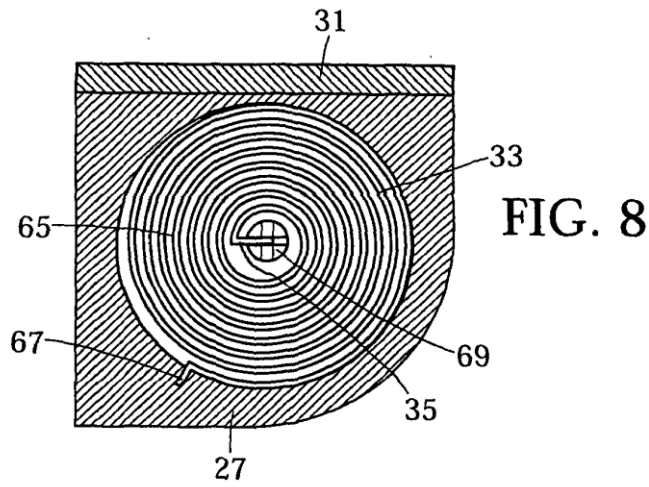
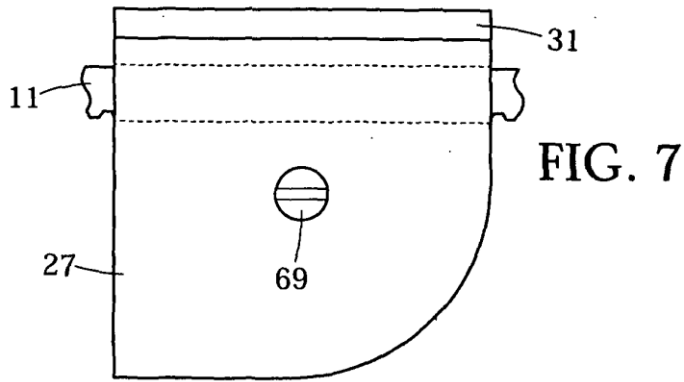


PRIOR ART









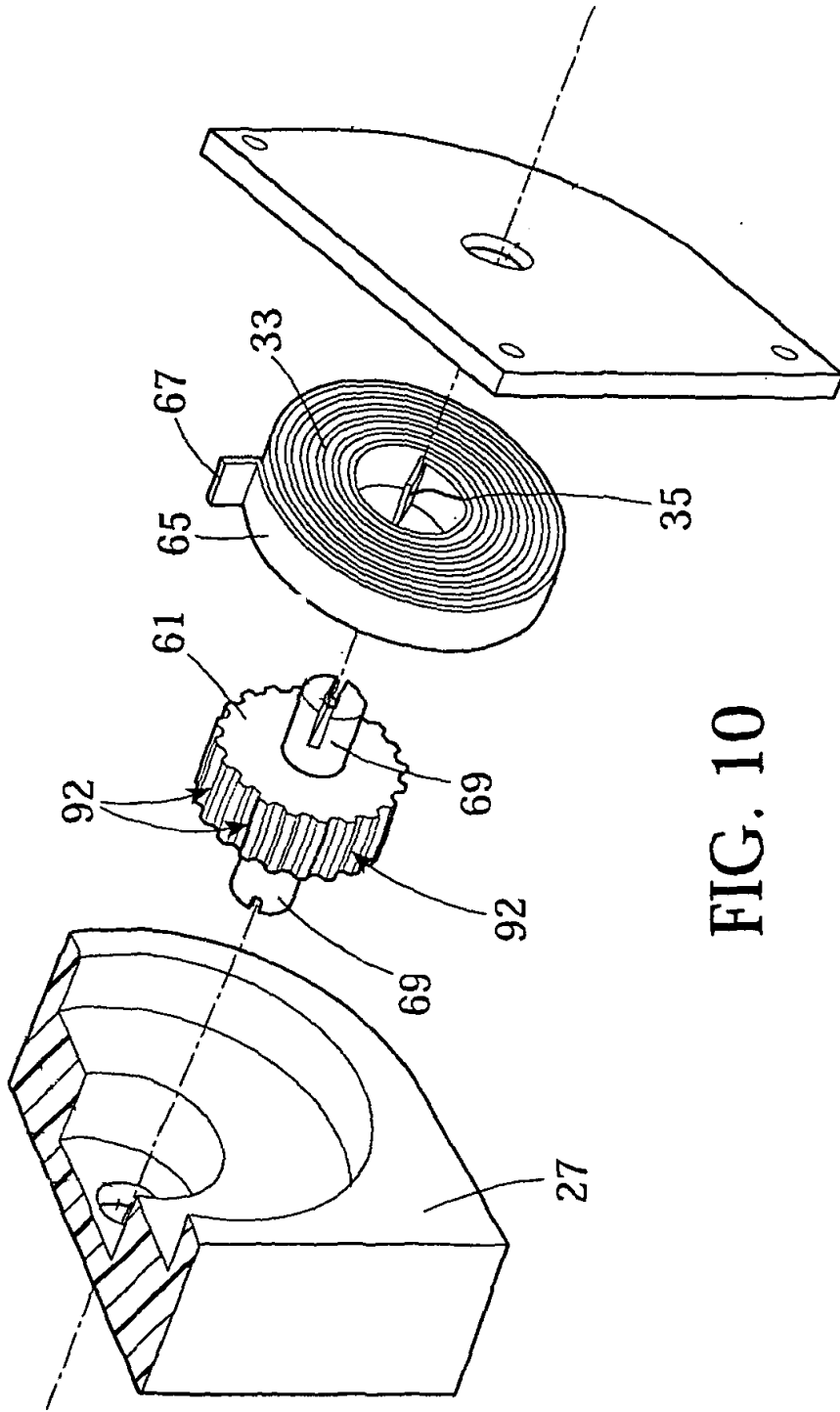


FIG. 10