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WO 96/00555 A1 **US 5393287 A** **US 5352188 A**

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(54) Abstract Title
Massage device

(57) A massaging device, designed for massaging the back muscles of a user, comprises a frame (10) to which are attached a plurality of spaced rollers (12) and bracing means (20) to engage the user's feet. The rollers are arranged to provide, tangentially thereto, a generally planar surface to support the user's back, so that the user may move his body over the rollers by placing his feet in contact with the bracing means and extending his legs from a flexed position to an extended position. Such movement over the rollers provides a beneficial massaging effect to the user's back.

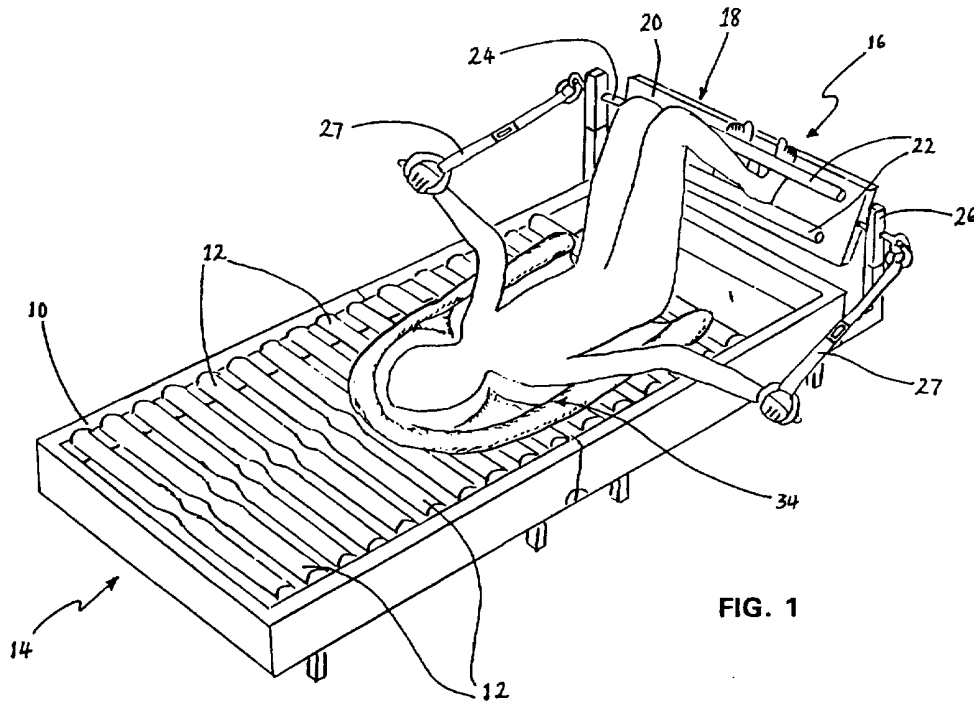


FIG. 1

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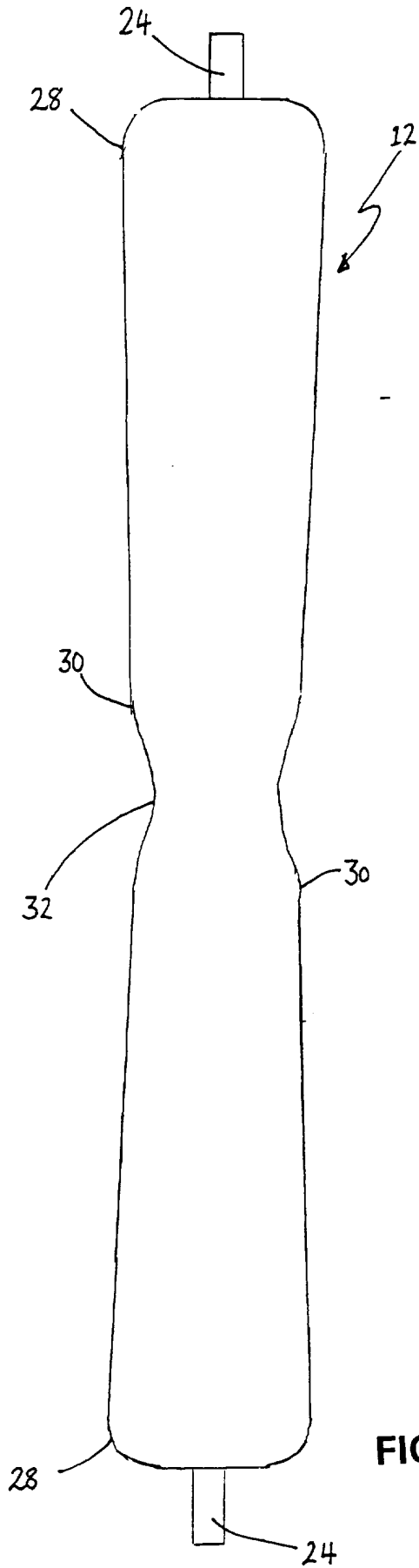


FIG. 2

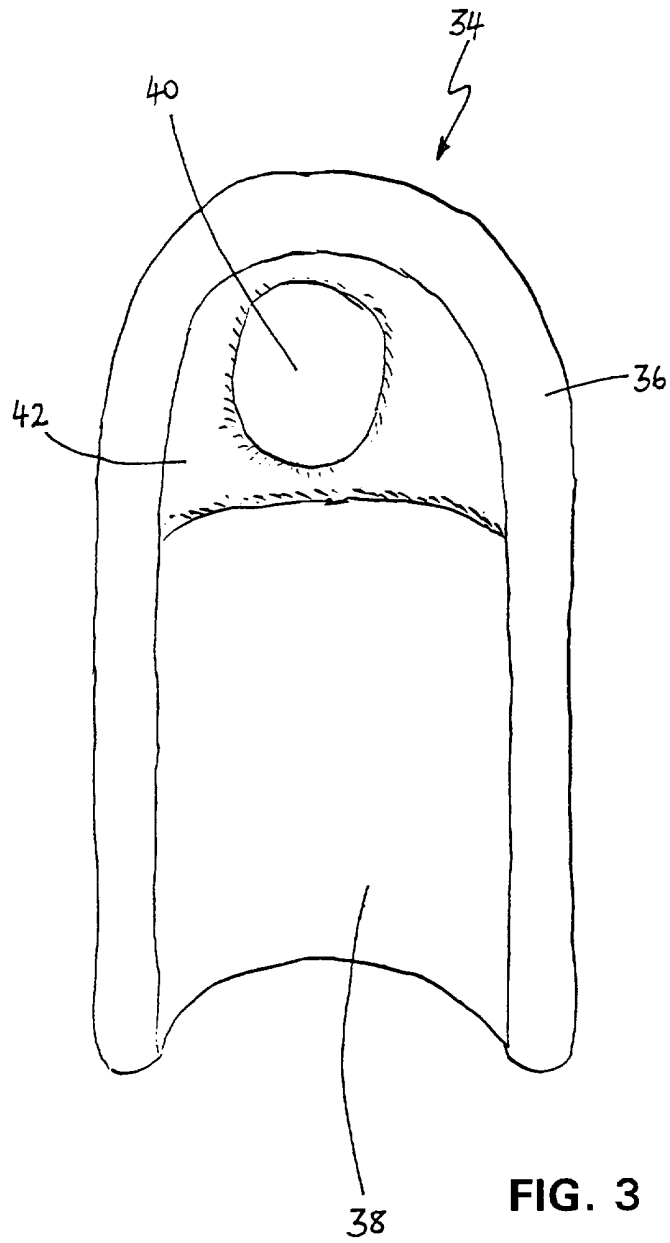


FIG. 3

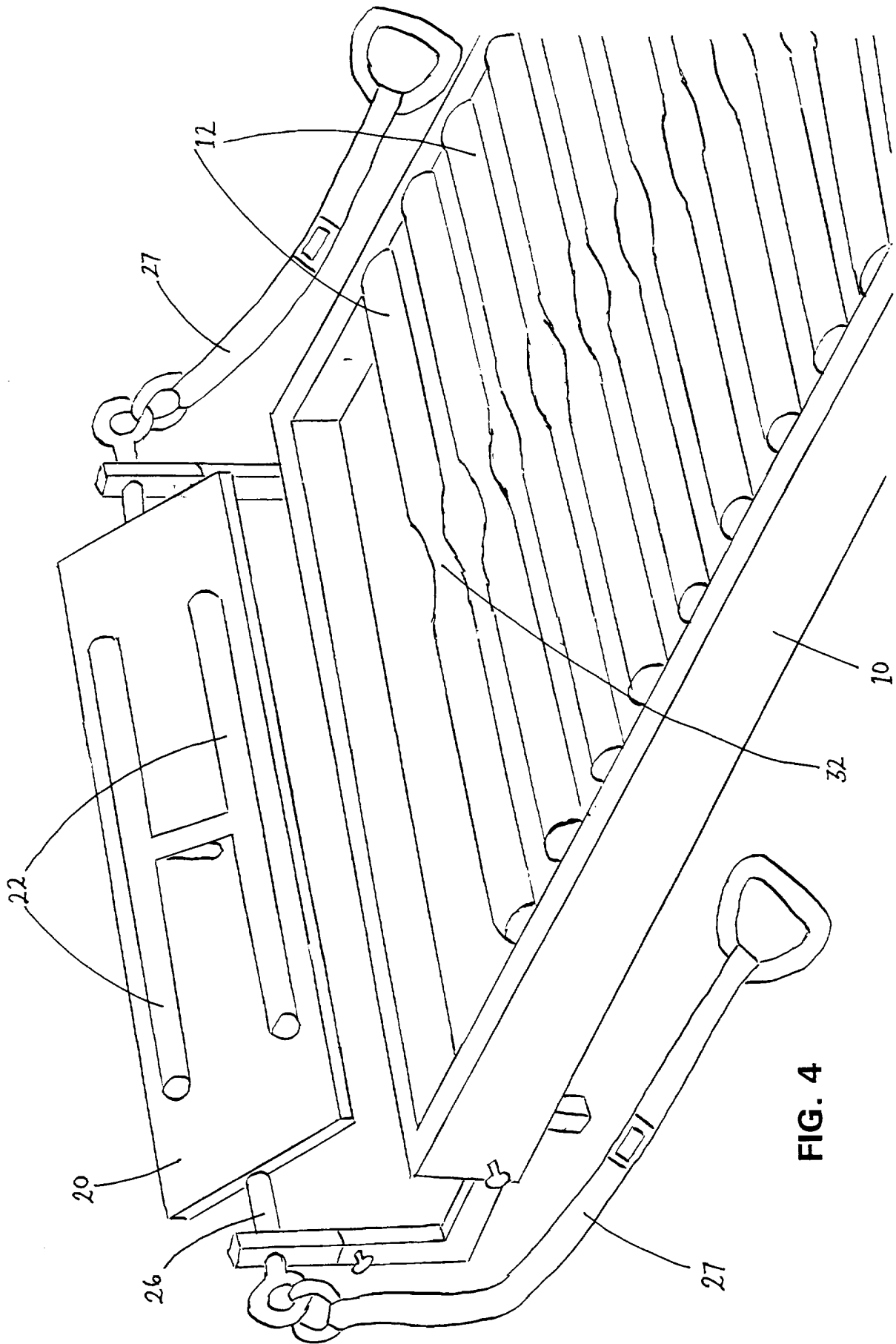


FIG. 4

MESSAGE DEVICE

This invention relates to devices for massaging back muscles.

Massaging of the muscles in the back has long been
5 practised as a method for relieving tension and promoting
recovery from muscular injuries. Traditionally, massaging
is carried out by direct muscle manipulation, though a
number of hand-held devices have been developed to aid in
the task. Whether or not such devices are employed, it is
10 necessary for the massaging to be carried out by a third
party (such as a specialist masseur), which is often
inconvenient. There is therefore a requirement for
apparatus enabling a user readily to massage his or her own
back, without the need for another person to perform the
15 operation.

The present invention provides a devices for massaging
the back of a user, the device comprising: a frame; a
plurality of spaced rollers mounted to the frame and
arranged so as to define, tangentially to the rollers, a
20 generally planar surface to support the back of a user in
operation; and bracing means attached to the frame and
engageable by the user's feet to allow the user to move
his/her body over the rollers by placing his/her feet in
contact with the bracing means and extending his/her legs
25 from a flexed position towards an extended position, such
movement over the rollers providing a massaging effect to
the user's back.

The device of the invention permits the user to
administer a massage to his or her own back, and therefore
30 obviates the need for a third party to be present.
Moreover, as the device is operated by the user pushing
against a bracing means (for example a foot board), the use
of the device brings the added benefit of exercising the
user's legs. In the preferred embodiment described below,
35 the user's arms are also exercised.

In preferred embodiments, the frame is generally rectangular, and the rollers are generally equally spaced and arranged within their axes substantially parallel to each other. Preferably, the axes of the rollers are generally perpendicular to the path of travel of the user.

In order to avoid pain or injury to the spine of the user, each of the rollers may be formed with a circumferential groove (ie a portion of reduced diameter) to accommodate the spine. The grooves should be aligned with each other in the direction of motion of the user, and the groove on each roller may conveniently be positioned at its mid point. The rollers may also be tapered inwardly towards their mid points, to assist in positioning the user's body centrally on the rollers.

The comfort of the user may further be enhanced by the provision of a mat placed over the rollers, on which the user lies. The mat should be composed of a sufficiently supple material to allow the massaging effect of the rollers to be transmitted through the mat to the user's back. Equally, the mat must have sufficient rigidity, at least at its leading edge, to prevent its becoming caught between adjacent rollers. For extra comfort, the mat may be provided with a shaped portion (which may be padded) to accommodate the head of the user, and the peripheral edges of the remainder of the mat may also be padded.

The bracing means may be provided by a simple foot board affixed to one end of the frame. Preferably this is mounted so as to be rotatable about an axis generally parallel to the axes of the rollers, so as to permit the user's feet to remain flat against the board throughout the passage of the user's body over the rollers.

In some embodiments of the invention the plane of the rollers may be inclined to the horizontal, so that the user's feet are lower than his/her head. The advantage of this arrangement is that, after extending his/her legs and

passing over the rollers in one direction, the user may, by relaxing his/her legs, return to the starting position under the influence of gravity. However, in preferred embodiments the frame is generally horizontal, and means are provided to
5 allow the user to return to the starting position. Conveniently this may be provided by foot retention means associated with the bracing means, and/or by handstraps attached to the foot end of the frame.

The invention will hereinafter be described in more
10 detail by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a preferred embodiment of device according to the invention;

Figure 2 is a side view of a single roller of the
15 Figure 1 embodiment;

Figure 3 is a plan view of the mat of the Figure 1 embodiment; and

Figure 4 is a close up partial perspective view of the foot end of the Figure 1 embodiment, with the mat removed.

20 The massage device illustrated in Figure 1 consists of a frame 10, having a length of about 180 cm and a width of about 65 cm. The preferred material of construction is steel, but the frame may be constructed of any material having sufficient mechanical strength.

25 Rollers 12 are rotatably mounted to the frame, for example on ball bearings. The rollers are mounted parallel to each other, and perpendicular to the sides of the frame, in order to provide a direction of motion for the user towards the head end (14) and foot end (16) of the device.
30 At the foot end of the device bracing means 18 is provided, which consists of foot board 20 and retention bars 22. Foot board 20 is pivotably mounted via axle 24 to brackets 26 attached to frame 10.

Foot board 20 may be fixed in place by tightening a wing nut (not shown), and brackets 26 may be adjusted for height to suit individual requirement. Furthermore, brackets 26 are telescopically mounted to frame 10, so that the distance between the foot board and the rollers may be adjusted according to the height of the user. Hand straps 27 of adjustable length are attached to brackets 26.

The distances between rollers 12 are also adjustable, so that the distribution of pressure points may be varied according to individual requirement.

Each roller 12 has a length of about 60 cm, a diameter of about 5.5 cm at its widest point (28) (adjacent to the bearing) tapering to 4.5 cm towards the centre (30), and a groove 32 in the centre. The tapering is provided to keep the user's body towards the centre of the rollers and stably in line while moving to and fro over the rollers. The purpose of the groove is to avoid direct contact with the spinal column of the user.

Rollers 12 may have metal (e.g. steel) axles for strength, but are covered with a softer but firm material, such as a foamed plastics material. The axle 24 is mounted to frame 10 by means of ball bearings (not illustrated).

Referring to Figure 3, mat 34 is made of a length and width so as to accommodate the upper body of an average user. The mat is made of rubber or synthetic rubber, or other soft material, and may have an embossed surface to provide additional massaging means and to prevent slippage of the user's body. The peripheral edges of the mat are provided with a reinforcing rib 36 to impart sufficient structural rigidity to the mat to prevent its slipping between the rollers during use. The portion 38 of the mat on which the user's body lies is soft and pliable, so that the user's back receives the benefit of the massaging effect of the rollers, which press against the user's back under the action of the user's own body weight. The head portion

of the mat is provided with padding to prevent the user's head being injured by the rollers, and cushioning 42 is provided to fit snugly round the head and neck of the user. The reinforcing ribs 36 are also cushioned for extra 5 comfort.

The device is used by first placing mat 34 on rollers 12 and then lying on it with the head resting on the cushioned head-rest (40,42).

The user's feet are then inserted by placing both feet 10 on the foot board 20 and sliding the ankles between retention bars 22. One of the hand straps 27 is held in each hand (as in Figure 1).

The device is now ready for use. As shown in Figure 1, the user initially has his/her legs flexed at the knees and 15 hips. By pushing against the foot board 20 the user's body moves over the rollers towards the head end 14 of the device. The user's body weight keeps the mat 34 in place, so that it moves along with the user.

Next, by a combination of pulling with the feet, 20 against retention bars 22, and pulling with the hands/arms on hand straps 27, the user's body moves back towards the foot end 16 of the device, whereupon the procedure may be repeated.

This movement to and fro results in the back of the 25 user being massaged, while at the same time the user's wrists, arms, legs, ankles, hips, and shoulders have the benefit of being exercised, thus providing combined massage and exercise for the user.

CLAIMS

1. A device for massaging the back of a user, the device comprising: a frame; a plurality of spaced rollers mounted to the frame and arranged so as to define, 5 tangentially to the rollers, a generally planar surface to support the back of a user in operation; and bracing means attached to the frame and engageable by the user's feet to allow the user to move his/her body over the rollers by placing his/her feet in contact with the bracing means and 10 extending his/her legs from a flexed position towards an extended position, such movement over the rollers providing a massaging effect to the user's back.

2. A device according to claim 1, wherein the rollers are arranged so that their axes are substantially parallel.

15 3. A device according to claim 1 or claim 2, wherein the rollers are substantially equally spaced from each other.

4. A device according to any of claims 1 to 3, wherein each roller is provided with a portion of reduced 20 diameter, to accommodate the spine of the user.

5. A device according to any preceding claim, further comprising a mat overlying the rollers, upon which the user lies in operation.

6. A device according to claim 5, wherein the mat is 25 composed of a sufficiently supple material for the massaging effect of the rollers to be transmitted through the mat to the user's back.

7. A device according to claim 5 or claim 6, wherein the mat is of sufficient rigidity to prevent the leading edge of 30 the mat becoming caught between adjacent rollers.

8. A device according to any of claims 5 to 7, wherein the mat is provided with a shaped portion to accommodate the head of a user.

9. A device according to any preceding claim, wherein
5 the bracing means comprises means for receiving and retaining the user's feet.

10. A device according to any of claims 2 to 9, wherein the bracing means comprises a footplate which is rotatable about an axis substantially parallel to the axes
10 of the rollers.

11. A device according to any preceding claim, further comprising a pair of hand straps attached to the frame.

12. A device substantially as hereinbefore described, with reference to and as shown in the drawings.



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Claims searched: 1-12

Examiner: Peter Davey
Date of search: 24 June 1998

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK Cl (Ed.P): A5R (REB, REQ, RER)
Int Cl (Ed.6): A61H 15/00 15/02
Other: Online: WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	WO 96/00555 A1 (OJALA), see eg. Fig. 2	1-3 and 9 at least
X	US 5393287 (PAPAPASCHALIS), see eg. Fig. 2	1-3, 9 and 11 at least
X	US 5352188 (VITKO), see eg. Figs. 3 and 3A	1-3 and 9 at least

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.