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(54) **Uniform-speed Transmission Device for Clothing Goods Sorting**

(57) The invention discloses a uniform-speed transmission device for clothing goods sorting, comprising a frame, wherein, several transmission drums are arranged inside the frame, and rolls are fixed at both ends of the transmission drums. The invention has the following beneficial effects: A driving wheel, a driven wheel and several guide wheels are connected at one end of the rolls respectively, and the driving wheel is connected transmissively with the driven wheel and the several guide wheels by a belt, so the driving wheel, the driven wheel and the several guide wheels rotate at the same speed when the belt rotates, thus ensuring that all transmission drums rotate at a relatively uniform speed and the transmission speed of goods is more gentle and uniform; the servo motor is arranged, and the threaded rod is driven to rotate by the servo motor, thus adjusting the height of the No.1 rod through the threaded sleeve. <Figure 1>

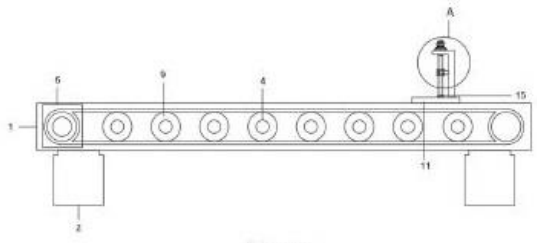

Figure 1

UNIFORM-SPEED TRANSMISSION DEVICE FOR CLOTHING GOODS SORTING

FIELD OF INVENTION

[001] The invention relates to the technical field of logistics, specifically to a uniform-speed transmission device for clothing goods sorting.

BACKGROUND TO INVENTION

[002] In the prior art, non-uniform transmission speed is apt to cause goods blockage in the process of logistics conveying, and large and small goods pile up together, which is inconvenient for the next step of sorting. Therefore, the invention provides a uniform-speed transmission device for clothing goods sorting.

SUMMARY OF INVENTION

[003] The invention aims to provide a uniform-speed transmission device for clothing goods sorting to solve the problem as presented in the background above. A driving wheel, a driven wheel and several guide wheels are connected at one end of the rolls respectively, and the driving wheel, the driven wheel and the several guide wheels are connected in a transmission way through a belt, so the driving wheel, the driven wheel and the several guide wheels rotate at the same speed when the belt rotates, thus ensuring that all transmission drums rotate at a relatively uniform speed and the transmission speed of goods is more gentle and uniform; the servo motor is arranged, and the threaded rod is driven to rotate by the servo motor, thus adjusting the height of the No.1 rod through the threaded sleeve. When transmitted, large goods touch the No.2 rod and drive the No.2 rod to rotate, so the transmission speed is slowed down through the No.2 rod and large goods are distinguished from small goods. After passing the No.2 rod, all the large goods are transmitted on the right side of the transmission drums, thus facilitating sorting of the goods by size.

[004] To achieve the above-mentioned purpose, the invention provides the following technical solution: a uniform-speed transmission device for clothing goods sorting, comprising a frame, wherein, several transmission drums are arranged inside the frame, rolls are fixed at both ends of the transmission drums, the rolls on one side of the transmission drums are connected in a rotatable way with the inner part of the frame, the rolls on the other side of the transmission drums pass the frame and are fixed to a driving wheel, the end of the driving wheel away from the rolls is fixed to the output end of the rotary motor, a driven wheel is connected in a transmission way to the driving wheel by the belt, the end of the driven wheel close to the frame is fixed to the rolls, guide wheels are connected in

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a transmission way inside the belt, the side of the guide wheels close to the frame is fixed to the rolls, a mounting plate is fixed at the surface of the frame on one side, a support is fixed to the mounting plate, a servo motor is fixed at the top of the support, a threaded rod is fixed at the output end of the servo motor, a threaded sleeve is connected in a threaded to the threaded rod, a guide plate is fixed at the side of the threaded sleeve close to the support, a No.1 rod is fixed at the other side of the threaded sleeve, a No.2 rod is connected in a movable way with the end of the No.1 rod away from the threaded sleeve through a hinge, and a spring is fixed between the outer side of the No.1 rod and the outside of the No.2 rod.

[005] Preferably, the rotary motor is fixed to the frame through several fixing mounts.

[006] Preferably, the bearing on the mounting plate is connected in a rotatable way with the end of the threaded rod close to the mounting plate.

[007] Preferably, the support comes into contact with one side of the guide plate.

[008] Preferably, the No.1 rod is parallel with the transmission drums.

[009] Preferably, several supporting legs are fixed at the bottom of the frame.

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[0010] Compared with the prior art, the invention has the following beneficial effects: A driving wheel, a driven wheel and several guide wheels are connected at one end of the rolls respectively, and the driving wheel, the driven wheel and the several guide wheels are connected in a transmission way through a belt, so the driving wheel, the driven wheel and the several guide wheels rotate at the same speed when the belt rotates, thus ensuring that all transmission drums rotate at a relatively uniform speed and the transmission speed of goods is more gentle and uniform; the servo motor is arranged, and the threaded rod is driven to rotate by the servo motor, thus adjusting the height of the No.1 rod through the threaded sleeve. When transmitted, large goods touch the No.2 rod and drive the No.2 rod to rotate, so the transmission speed is slowed down through the No.2 rod and large goods are distinguished from small goods. After passing the No.2 rod, all the large goods are transmitted on the right side of the transmission drums, thus facilitating sorting of the goods by size.

BRIEF DESCRIPTION OF DRAWINGS

[0011] FIG.1 is the structural view of the invention;

[0012] FIG.2 is the top view of the invention;

[0013] FIG.3 is the enlarged view of point A of the invention;

[0014] FIG.4 is the enlarged view of point B of the invention.

[0015] Notation in the figures: 1. frame; 2. supporting leg; 3. transmission drum; 4. roll; 5. driving wheel; 6. rotary motor; 7. belt; 8. driven wheel; 9. guide wheel; 10. fixing mount; 11.

mounting plate; 12. support; 13. servo motor; 14. threaded rod; 15. bearing; 16. threaded sleeve; 17. guide plate; 18. No.1 rod; 19. hinge; 20. No.2 rod; 21. spring.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] The technical solution in the embodiments of the invention is described clearly and completely below in combination with the drawings in the embodiments of the invention. Obviously, the embodiments described are only a part but not the whole of the embodiments of the invention. Based on the embodiments of the invention, all other embodiments obtained by those skilled in the art without any creative work are within the protection scope of the invention.

[0017] As shown in FIG.1-4, the invention provides a technical solution: a uniform-speed transmission device for clothing goods sorting, comprising a frame 1, wherein, wherein, several transmission drums 3 are arranged inside the frame, rolls 4 are fixed at both ends of the transmission drums 3, the rolls 4 on one side of the transmission drums 3 are connected in a rotatable way with the inner part of the frame 1, the rolls 4 on the other side of the transmission drums 3 pass the frame 1 and are fixed to a driving wheel 5, the end of the driving wheel 5 away from the rolls 4 is fixed to the output end of the rotary motor 6, a driven wheel 8 is connected in a transmission way to the driving wheel 5 by the belt 7, the end of the driven wheel 8 close to the frame 1 is fixed to the rolls 4, and guide wheels 9 are connected in a transmission way inside the belt 7. When the driving wheel 5 rotates, the driving wheel 5, the driven wheel 8 and the several guide wheels 9 rotate at the same time through the transmission connection of the belt 7, so they rotate at the same speed, thus ensuring that all transmission drums 3 rotate at a relatively uniform speed and the transmission speed of goods is more gentle and uniform. The side of the guide wheels 9 close to the frame 1 is fixed to the rolls 4, a mounting plate 11 is fixed at the surface of the frame 1 on one side, a support 12 is fixed to the mounting plate 11, a servo motor 13 is fixed at the top of the support 12, a threaded rod 14 is fixed at the output end of the servo motor 13, a threaded sleeve 16 is connected in a threaded to the threaded rod 14, a guide plate 17 is fixed at the side of the threaded sleeve 16 close to the support 12, a No.1 rod 18 is fixed at the other side of the threaded sleeve 16, a No.2 rod 20 is connected in a movable way with the end of the No.1 rod 18 away from the threaded sleeve 16 through a hinge 19. When transmitted, large goods touch the No.2 rod 20, apply a pushing force to the No.2 rod 20 and drive the No.2 rod 20 to rotate under the action of the hinge 19, which generates a pressure on the spring 21, so the transmission speed is slowed down through the No.2 rod 20. After passing the No.2 rod 20, all the large goods are transmitted on the right side of the

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transmission drums 3, so large goods are distinguished from small goods, thus facilitating sorting of the goods by size. A spring 21 is fixed between the outer side of the No.1 rod 18 and the outside of the No.2 rod 20.

[0018] Several supporting legs 2 are fixed at the bottom of the frame 1, the rotary motor 6 is fixed to the frame 1 through several fixing mounts 10, the bearing 15 on the mounting plate 11 is connected in a rotatable way with the end of the threaded rod 14 close to the mounting plate 11, the support 12 comes into contact with one side of the guide plate 17, and the No.1 rod 18 is parallel with the transmission drums 3.

[0019] When in use, the goods are placed on the transmission drums 3, and the rotary motor 6 is started, and the driving wheel 5 is forced to rotate. When the driving wheel 5 rotates, the driving wheel 5, the driven wheel 8 and the several guide wheels 9 rotate at the same time through the transmission connection of the belt 7, so they rotate at the same speed, thus ensuring that all transmission drums rotate at a relatively uniform speed and the transmission speed of goods is more gentle and uniform. The servo motor 13 is arranged. The servo motor 13 is started, and the threaded rod 14 is forced to rotate, thus adjusting the height of the No.1 rod 18 through the free movement of the threaded sleeve 16 on the threaded rod 13. After the height adjustment of the No.1 rod 18 is completed, when transmitted, large goods touch the No.2 rod 20, apply a pushing force to the No.2 rod 20 and drive the No.2 rod 20 to rotate under the action of the hinge 19, which generates a pressure on the spring 21, so the transmission speed is slowed down through the No.2 rod 20. After passing the No.2 rod 20, all the large goods are transmitted on the right side of the transmission drums 3, and the No.2 rod 20 returns to the original position under the action of the spring 21, so large goods are distinguished from small goods, thus facilitating sorting of the goods by size.

[0020] In the description of the invention, it should be understood that the orientation or positional relationship indicated by the terms "coaxial", "bottom", "one end", "top", "middle", "the other end", "upper", "one side", "top", "inside", "front part", "center" and "both ends" is based on the orientation or positional relationship shown in the drawings, which is only intended to facilitate the description of the invention and to simplify the description, rather than to indicate or imply that the device or element referred to must have a particular orientation, be constructed and operated in a particular orientation. Therefore, it cannot be construed as limitations to the present invention.

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[0021] In addition, the terms "first", "second", "third" and "fourth" are used for descriptive purposes only and should not be construed as indicating or implying a relative importance or implicitly indicating the number of technical features indicated.. Thus, features limited by the terms "first", "second", "third" and "fourth" may include one or more of the features either explicitly or implicitly.

[0022] In the invention, unless otherwise specified and limited explicitly, the terms "installation", "arrangement", "connection", "fixation", "rotatable connection" and the like should be understood generally. For example, the connection can be fixed connection, detachable connection or integrated connection; it can be mechanical connection, electric connection, direct connection or indirect connection through media, or communication or an interactive relation between two elements. Unless otherwise specified explicitly, those skilled in the art can understand the specific meanings of the above-mentioned terms in the invention according to the specific conditions.

[0023] Though the embodiments of the invention are given and described, those skilled in the art may understand that various changes, modifications, substitutions and variations of these embodiments are permitted under the conditions of not deviating from the principles and spirits of the invention, and the scope of the invention is defined by the claims attached and their equivalents.

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CLAIMS

1. A uniform-speed transmission device for clothing goods sorting, characterized in that it comprises a frame (1), wherein, several transmission drums (3) are arranged inside the frame, rolls (4) are fixed at both ends of the transmission drums (3), the rolls (4) on one side of the transmission drums (3) are connected in a rotatable way with the inner part of the frame (1), the rolls (4) on the other side of the transmission drums (3) pass the frame (1) and are fixed to a driving wheel (5), the end of the driving wheel (5) away from the rolls (4) is fixed to the output end of the rotary motor (6), a driven wheel (8) is connected in a transmission way to the driving wheel (5) by the belt (7), the end of the driven wheel (8) close to the frame (1) is fixed to the rolls (4), guide wheels (9) are connected in a transmission way inside the belt (7), the side of the guide wheels (9) close to the frame (1) is fixed to the rolls (4), a mounting plate (11) is fixed at the surface of the frame (1) on one side, a support (12) is fixed to the mounting plate (11), a servo motor (13) is fixed at the top of the support (12), a threaded rod (14) is fixed at the output end of the servo motor (13), a threaded sleeve (16) is connected in a threaded to the threaded rod (14), a guide plate (17) is fixed at the side of the threaded sleeve (16) close to the support (12), a No.1 rod (18) is fixed at the other side of the threaded sleeve (16), a No.2 rod (20) is connected in a movable way with the end of the No.1 rod (18) away from the threaded sleeve (16) through a hinge (19), and a spring (21) is fixed between the outer side of the No.1 rod (18) and the outside of the No.2 rod (20).

2. The uniform-speed transmission device for clothing goods sorting according to Claim 1, characterized in that the rotary motor (6) is fixed to the frame (1) through several fixing mounts (10),
the bearing (15) on the mounting plate (11) is connected in a rotatable way with the end of the threaded rod (14) close to the mounting plate (11).

3. The uniform-speed transmission device for clothing goods sorting according to Claim 1, characterized in that the support (12) comes into contact with one side of the guide plate (17).

4. The uniform-speed transmission device for clothing goods sorting according to Claim 1, characterized in that the No.1 rod (18) is parallel with the transmission drums (3).

5. The uniform-speed transmission device for clothing goods sorting according to Claim 1, characterized in that several supporting legs (2) are fixed at the bottom of the frame (1).

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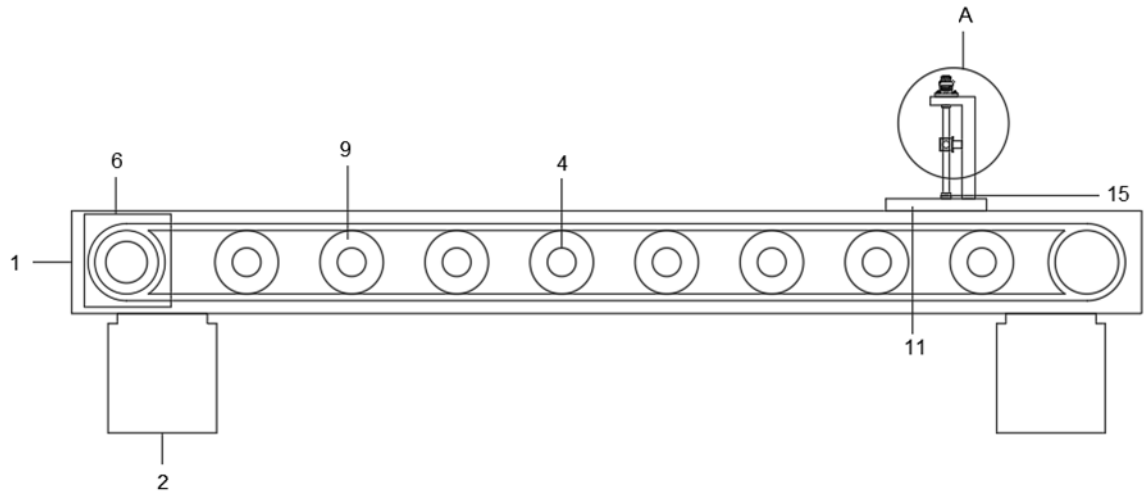

Figure 1

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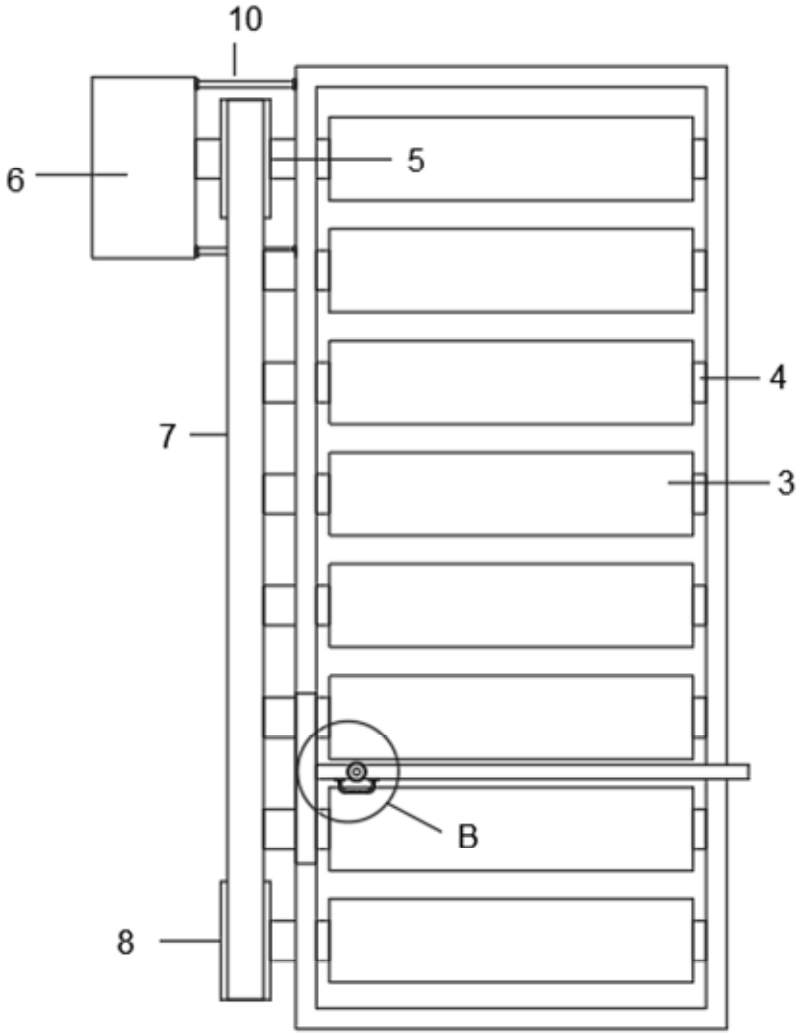

Figure 2

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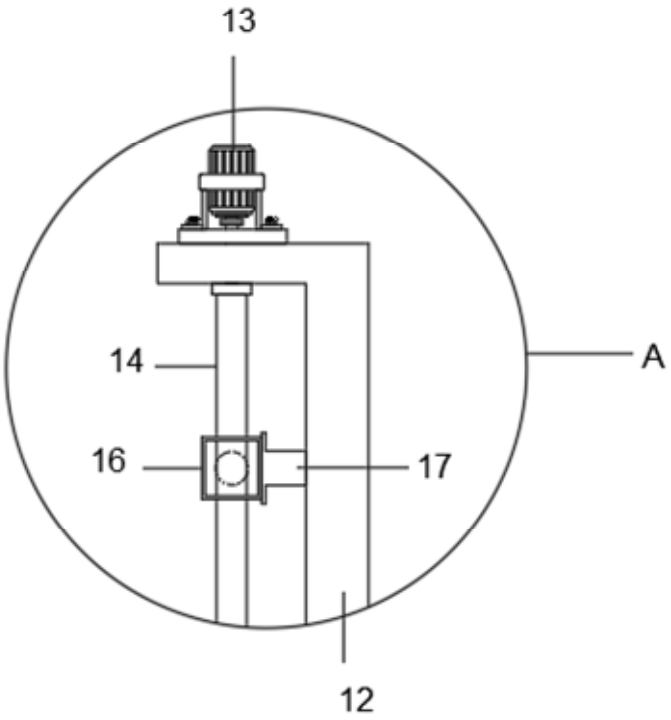

Figure 3

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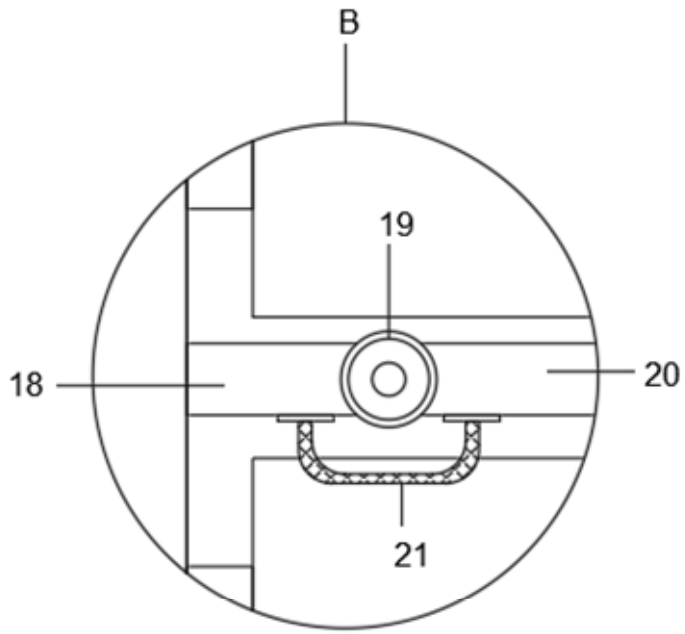

Figure 4

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