A transmission device for curtains includes a bottom board and a mandrel unit connected to the bottom board. The mandrel unit has first frames and a mandrel which is engaged with the engaging portions of the first frames. The bottom board has multiple guide holes and the first frames are easily connected to the bottom board at the suitable guide holes. A second frame includes a bottom plate, a top plate, a wheel and multiple rollers, wherein the wheel and the rollers are connected between the bottom plate and the top plate. The wheel has a spool and a cord is wrapped between the spool and the mandrel. A coil spring is connected to the spool. Two control cords are wrapped to the mandrel and extends through the head box of the curtain and are connected to the bottom bar of the curtain.
TRANSMISSION DEVICE FOR CURTAINS

FIELD OF THE INVENTION

[0001] The present invention relates to a transmission device, and more particularly, to a transmission device for curtains and the transmission device is cooperated with different sizes of curtains.

BACKGROUND OF THE INVENTION

[0002] The conventional transmission device for curtains generally comprises a first frame located at one end of the head box and multiple second frames are located at the other end of the head box. The Multiple mandrels are rotatably engaged with the second frames. The cords are wrapped to the first frame and pass through the first frames are wrapped around the mandrels. The cords then pass through the bottom board of the head box and fixed to the curtain. By operation to the cords, the curtain is lifted or lowered.

[0003] However, the first frame, the multiple second frames and the multiple mandrels are not able to be cooperated with different sizes of the head boxes. Furthermore, the second frames are located at distances so that they are installed to the head box individually. The time required for installation of the second frames and mandrels is long and inconvenient.

[0004] The present invention intends to provide a transmission device for curtains and the transmission device is able to be cooperated with different sizes of the head boxes.

SUMMARY OF THE INVENTION

[0005] The present invention relates to a transmission device for curtains includes a bottom board and a mandrel unit is connected on the bottom board. The mandrel unit has two first frames and a mandrel which is engaged with the engaging portions of the two first frames. A second frame has a bottom plate, a top plate, a wheel and multiple rollers, wherein the wheel and the rollers are connected between the bottom plate and the top plate. The rollers are located on two sides of the wheel which has a spool. A cord is wrapped between the spool and the mandrel. A coil spring is connected to the spool. The guide holes in the bottom board allow the two first frames to be connected to the bottom board easily.

[0006] The primary object of the present invention is to provide a transmission device for curtains and the transmission device can be connected with different sizes of head boxes.

[0007] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is a perspective view to show the transmission device of the present invention;
[0009] FIG. 2 is an exploded view to show the transmission device of the present invention and a head box;
[0010] FIG. 3 is a cross sectional view to show that the cord is wrapped around the mandrel which is connected to the two first frames, the two first frames are connected to the bottom board which is connected on the head box;
[0011] FIG. 4 is a cross sectional view to show that the cord is wrapped around the spool of the second frame and then wrapped to the mandrel connected to the two first frames, the two first frames are connected to the bottom board which is connected on the head box;
[0012] FIG. 5 is a cross sectional view to show that the cord is wrapped around the spool of the second frame and then wrapped to the mandrel connected to the two first frames, the cord extends through the head box;
[0013] FIG. 6 shows that the curtain having the transmission device of the present invention is expanded, and
[0014] FIG. 7 shows that the curtain having the transmission device of the present invention is collected.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0015] Referring to FIGS. 1 to 5, the transmission device for curtains of the present invention is received in the top box of the curtain and comprises a bottom board 10 which has multiple guide holes 11 defined therethrough.

[0016] A mandrel unit 20 comprises at least two first frames 21 and a mandrel 22. Each of the at least two first frames 21 has an engaging portion 210 and a passage 211. The mandrel 22 is engaged with the engaging portions 210 of the at least two first frames 21. Each of the at least two first frames 21 has a through hole 212 and a connection member 212A is engaged with the through hole 212 and one of the guide holes 11 in the bottom board 10 so that the at least two first frames 21 are fixed to the bottom board 10. The guide holes 11 in the bottom board 10 allow the at least two first frame 21 to be connected to the bottom board 10 easily.

[0017] A second frame 30 comprises a bottom plate 31, a top plate 32, a wheel 33 and multiple rollers 34. The wheel 33 and the rollers 34 are connected between the bottom plate 31 and the top plate 32, and the rollers 34 are located on two sides of the wheel 33. The wheel 33 has a spool 330 and a cord 330A has one end wrapped to the spool 330. A coil spring 331 is connected to the spool 330. The other end of the cord 330A extends through the passage 211 of one of the at least two first frames 21 and is wrapped to the mandrel 22. There are two control cords respectively wrapped to the mandrel 22 and the two respective distal ends of the two control cords extend through two holes defined through the bottom panel of the top box of the curtain and are connected to the bottom bar of the curtain. The bottom board 10 is installed to the bottom panel of the head box by extending connection parts 12 through the bottom board 10 and the connection parts 12 are then fixed to the bottom panel of the head box.

[0018] FIG. 6 shows that the curtain having the transmission device of the present invention is expanded and FIG. 7 shows that the curtain having the transmission device of the present invention is collected.

[0019] The users can purchase the combination of the bottom board 10 and the first and second frames 21, 30, and the combination can be installed to any existed head box. The assembling time required is shortened and the manufacturers do not need to produce different sizes of the first and second frames 21, 30 so as to reduce the cost.

[0020] While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.
What is claimed is:
1. A transmission device for curtains, comprising:
a bottom board;
a mandrel unit having at least two first frames and a mandrel, each of the at least two first frames having an engaging portion and a passage, the mandrel engaged with the engaging portions of the at least two first frames, and
a second frame having a bottom plate, a top plate, a wheel and multiple rollers, the wheel and the rollers connected between the bottom plate and the top plate, the rollers located on two sides of the wheel, the wheel having a spool and a cord wrapped between the spool and the mandrel, a coil spring connected to the spool.
2. The transmission device as claimed in claim 1, wherein the bottom board has multiple guide holes.
3. The transmission device as claimed in claim 2, wherein each of the at least two first frames has a through hole and a connection member is engaged with the through hole and one of the guide holes in the bottom board.