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(54)

Electric cling film cutter

(57)

An electric cling film cutter includes a base 2 provided with a positioning frame 21, an auxiliary rotating rod 22 and a driving device 23 composed of a motor 231 and a driving wheel unit 232. The base 2 is assembled inside with a delivery wheel 3 having its surface fully disposed with elongate flutes 31 and plural guide grooves 32 and one side provided with a driven rotating wheel 33 engaged with the driving wheel unit 232. A cutter 4 positioned before the delivery wheel is composed of a frame plate 41, a motor 42, a belt 43 and a cutter base 44. The frame plate 41 is provided with idle wheels 412, 413 parallel to and leaning on the delivery wheel 3. A stripping guide plate 5 is positioned under the delivery wheel 3, having its upper end formed with plural protruding parting members 51 respectively aligned to the guide grooves on the delivery wheel 3 for pushing the cling film 10 delivered to separate from the surface of the delivery wheel 3, convenient and safe in use.

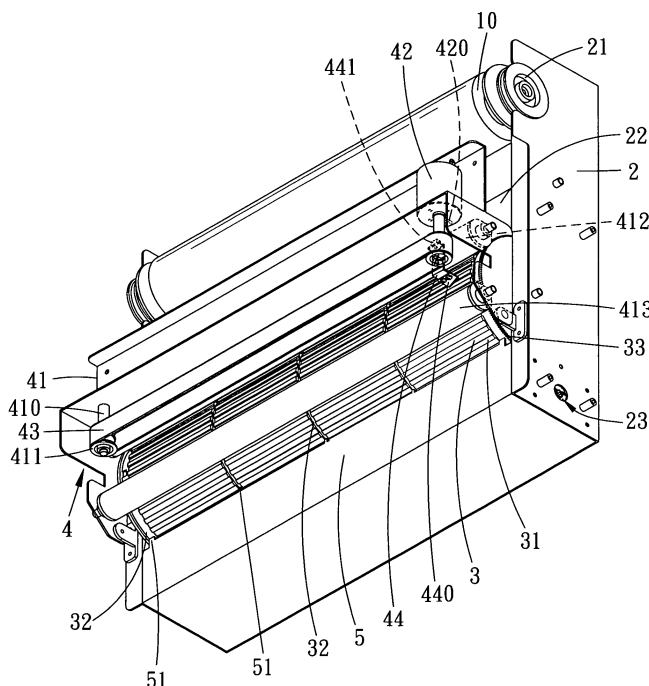


FIG.2

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] This invention relates to an electric cling film cutter, particularly to one able to deliver and cut off cling film automatically and keep the cling film tidy and smooth, facilitating a user to fetch the cling film and safe in use.

2. Description of the Prior Art

[0002] A conventional cling film, as shown in Fig. 1, includes a roll of cling film 10 placed in a long casing 11 having its topside provided with an open-able outer cover 12, with a lengthwise opening formed between the outer cover 12 and the casing 11 and having its edge disposed with a serrated cutting member 13. In operating and using, firstly, draw the cling film 10 out of the casing 11 for a preset length to be used. Next, press the outer cover 12 with one hand, and hold the end of the cling film 10 with the other hand and apply a force to draw the cling film 10 reversely to let the cling film 10 cut off by the cutting member 13. However, to cut and tear off the conventional cling film 10, a user can press only one end of the outer cover 12 with one hand but cannot move the same hand along the casing 11 to press other parts of the outer cover 2 at the same time for evenly pressing the outer cover 2; therefore, the cling film 10 can hardly be cut and torn off with smoothness and with a balanced length, likely to make the cling film 10 tangled and deformed and hence resulting in inconvenience in operating and using.

[0003] In addition, the conventional cling film 10 has the serrated cutting member 13 disposed outside the casing 11; therefore, when drawing and tearing off the cling film 10, a user is likely to be cut by the sharp teeth of the cutting member 13 in case of operating carelessly.

SUMMARY OF THE INVENTION

[0004] The objective of this invention is to offer an electric cling film cutter able to automatically deliver out a cling film to a preset length to be used and electrically cut it off, able to keep the cling film tidy and smooth after it is cut off and safe in use.

[0005] The feature of this invention is a delivery wheel 3 assembled in the interior of a base 2 and having its surface fully disposed with lengthwise elongate flutes 31 and plural guide grooves 32 and having one side mounted with a driven rotating wheel 33 engaged with the driving wheel unit 232 of a driving device 23. A cutter 4 is positioned in front of the delivery wheel, composed of a frame plate 41, a motor 42, a belt 43 and a cutter base 44. The frame plate 41 is installed thereon with at least one idle wheel 412, 413 parallel to and leaning on the delivery wheel 3. A stripping guide plate 5 is set beneath

the delivery wheel 3 and has its upper end formed with plural protruding parting members 51 respectively aligned to the guide grooves 32 on the delivery wheel 3 for pushing the cling film 10 delivered out to separate from the surface of the delivery wheel 3 and no longer adhere thereon, convenient and safe in use.

BRIEF DESCRIPTION OF DRAWINGS

[0006] This invention will be better understood by referring to the accompanying drawings, wherein:

Fig. 1 is a perspective view of a conventional cling film cutter;

Fig. 2 is a perspective view of an electric cling film cutter in the present invention;

Fig. 3 is a partial perspective view of a driving device in the present invention;

Fig. 4 is a perspective view of the electric cling film cutter viewed at another angle in the present invention; and

Fig. 5 is a perspective view of the electric cling film cutter in a using condition in the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0007] A preferred embodiment of an electric cling film cutter in the present invention, as shown in Figs 2 and 3, includes a base 2, a delivery wheel 3, a cutter 4, and a stripping guide plate 5 as main components combined together.

[0008] The base 2 is provided thereon with a positioning frame 21 for fixing a cling film in position, and an auxiliary rotating rod 22 is disposed under the positioning frame 21 to assist guiding and delivering the cling film 10. A driving device 23 is installed in the interior of the base 2 near its lower side, consisting of a motor 231 and a deceleration driving wheel unit 232.

[0009] The delivery wheel 3 positioned in the base 2 has its surface fully disposed with transverse elongate flutes 31 and several longitudinal guide grooves 32 and one side assembled with a driven rotating wheel 33 engaged with the driving wheel unit 232 of the driving device 23 in the base 2.

[0010] The cutter 4 positioned in front of the delivery wheel 3 is composed of a frame plate 41, a motor 42, a belt 43 and a cutter base 44. The frame plate 41 is assembled on the base 2 and has its opposite sides respectively fixed with a shaft rod 410 extending downward and having its lower side fixed with a belt shaft seat 411. Further, the frame plate 41 is mounted thereon with an upper idle wheel 412 and a lower idle wheel 413 parallel to and leaning on the front side of the delivery wheel 3 to assist guiding and delivering the cling film 10. The motor 42 is installed on the frame plate 41 for correspondingly driving one shaft rod 410 and one belt shaft seat 411 and has its underside provided with an inductor 420.

The belt 43 is fitted around the opposite belt shaft seats 411 at the lower side of the frame plate 41. The cutter base 44 secured on the belt 43 has its lower side fixed with a blade 440 having its cutting edge exactly aligned to the elongate flutes 31 in the surface of the delivery wheel 3. The cutter base 44 further has its upper side disposed with a magnetic member 441 to be aligned to the inductor 420 at the underside of the motor 42.

[0011] The stripping guide plate 5 is positioned under the delivery wheel 3 and has its upper end formed with plural protruding parting members 51 respectively aligned to the longitudinal guide grooves 32 of the delivery wheel 3 for pushing the cling film delivered out to part from the surface of the delivery wheel 3 and no longer adhere thereon, thus facilitating a user to fetch and use the cling film.

[0012] In using, referring to Figs. 2 to 5, firstly, load the cling film 10 in the positioning frame 21 of the base 2 and draw it out to pass over the auxiliary rotating rod 22 and have its end adhering to the surface of the delivery wheel 3 and then start a power source and wait. In operating, a starting button is pressed to start the motor 231 of the starting device 23 to drive the driving wheel unit 232 to rotate and actuate the delivery wheel 3 to operate. Simultaneously the delivery wheel 3 will automatically and continuously draw out the cling film 10 on its surface. At this time, the upper and the lower idle wheel 412 and 413 parallel to and leaning on the front side of the delivery wheel 3 will help to roll and press the cling film 10 to make it tidy and smooth, and the cling film 10 delivered out will be pushed to part from the surface of the delivery wheel 3 by the parting members 51 of the stripping guide plate 5. After the cling film 10 is drawn out to a preset length needed by a user, release the starting button to temporarily stop the motor 231 from driving the delivery wheel 3 to operate, and then start the motor 42 of the cutter 4 to drive the shaft rod 410 and the belt 43 to rotate. Synchronously, the cutter base 44 fixed on the belt 43 will be transversely and linearly moved together with the belt 43 from one end and have the blade 440 cutting off the cling film 10 on the delivery wheel 3. When the cutter base 44 is rotated together with the belt 43 for one round, the inductor 420 at the underside of the motor 42 will induce the magnetic member 441 at the topside of the cutter base 44 and command the motor 42 to stop operating temporarily for stopping the belt 43 and the cutter base 44 from rotating. Thus, through electric cutting, the cling film 10 delivered out can be kept tidy and smooth, letting a user fetch and use the cling film 10 conveniently.

[0013] To sum up, the electric cling film cutter of this invention can automatically deliver and cut off the cling film and keep the cling film tidy and smooth, able to let a user to fetch and use the cling film conveniently and safe in use.

[0014] While the preferred embodiment of the invention has been described above, it will be recognized and understood that various modifications may be made therein and the appended claims are intended to cover

all such modifications that may fall within the spirit and scope of the invention.

5 Claims

1. An electric cling film cutter comprising:

a base 2 provided thereon with a positioning frame 21 for fixing a cling film 10, an auxiliary rotating rod 22 disposed under said positioning frame 21 to assist guiding and delivering said cling film 10, said base 2 having a driving device 23 installed in the interior, said driving device 23 composed of a motor 42 and a driving wheel unit 232; and,

characterized by a delivery wheel 3 assembled inside said base 2, said delivery wheel 3 having its surface fully disposed with elongate flutes 31 and plural guide grooves 32, said delivery wheel 3 having one side provided with a driven rotating wheel 33 engaged with said driving wheel unit 232 of said driving device 23;

a cutter 4 positioned in front of said delivery wheel 3, said cutter 4 composed of a frame plate 41, a motor 42, a belt 43 and a cutter base 44, said frame plate 41 assembled thereon with at least one idle wheel 412, 413 parallel to and leaning on said delivery wheel 3; and

a stripping guide plate 5 assembled under said delivery wheel 3, said stripping guide plate 5 having its upper end formed with plural protruding parting members 51, said protruding parting members 51 respectively aligned to said guide grooves 32 on said delivery wheel 3 for pushing said cling film 10 delivered out to separate from surface of said delivery wheel 3 to facilitate a user to fetch and use said cling film.

2. The electric cling film cutter as claimed in Claim 1, wherein said elongate flutes 31 of said delivery wheel 3 are arranged transversely, while said guide grooves 32 are disposed longitudinally.

3. The electric cling film cutter as claimed in Claim 1, wherein said frame plate 41 of said cutter 4 is assembled on said base 2 and has its opposite sides respectively provided with a shaft rod 410 and a belt shaft seat 411, said motor 42 installed on said frame plate 41 for correspondingly driving one said shaft rod 410 and one said belt shaft seat 411 and having its underside provided with an inductor 420, said belt 43 fitted around said belt shaft seats 411, said cutter base 44 threadably fixed on said belt 43 and disposed with a blade 440, said blade 440 having its cutting edge exactly aligned to said elongate flutes 31 on the surface of said delivery wheel 3, said cutter base 44 having its upper side disposed with a mag-

netic member 441 to be aligned to said inductor 420
at the underside of said motor 42.

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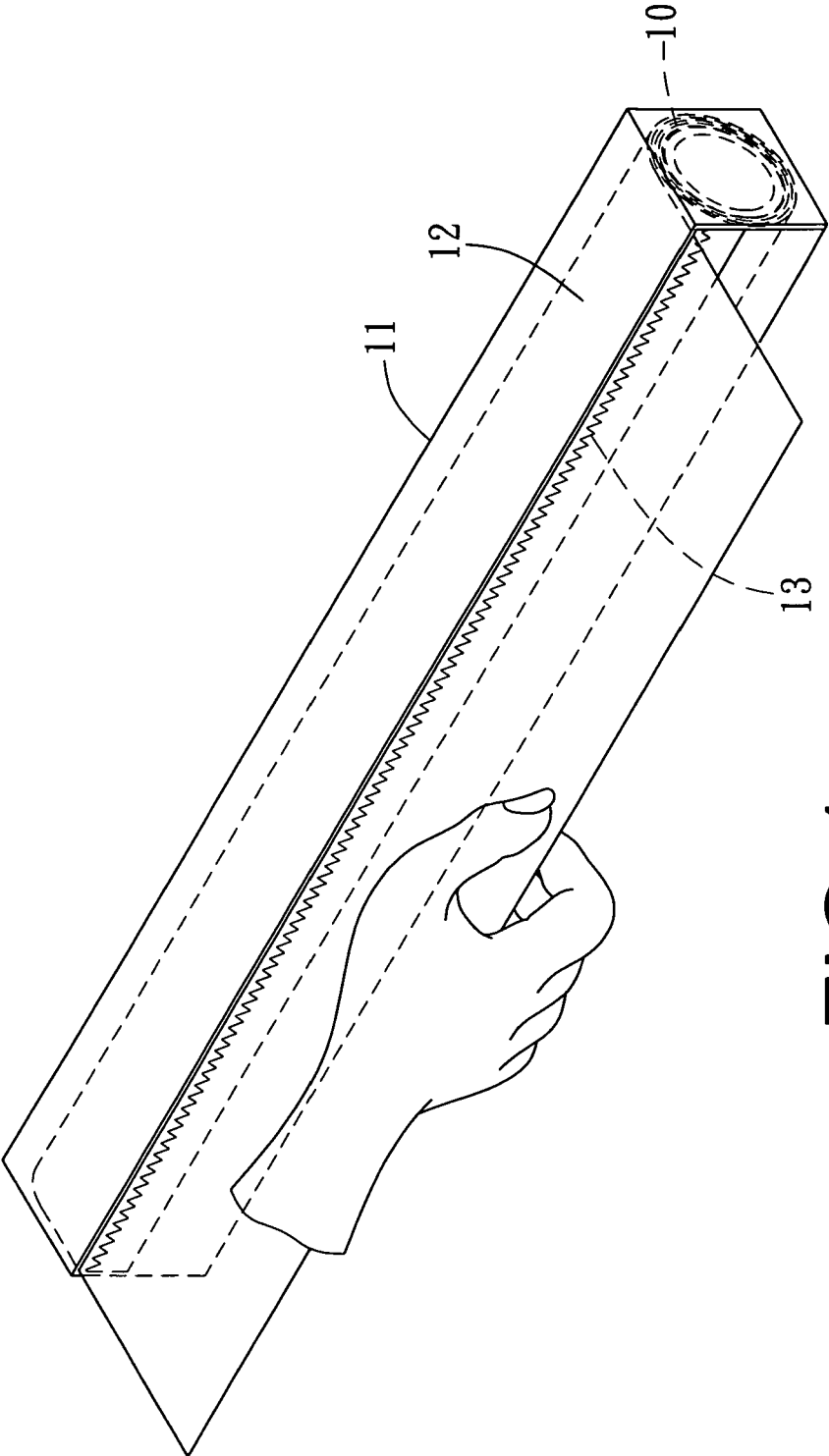


FIG.1
(PRIOR ART)

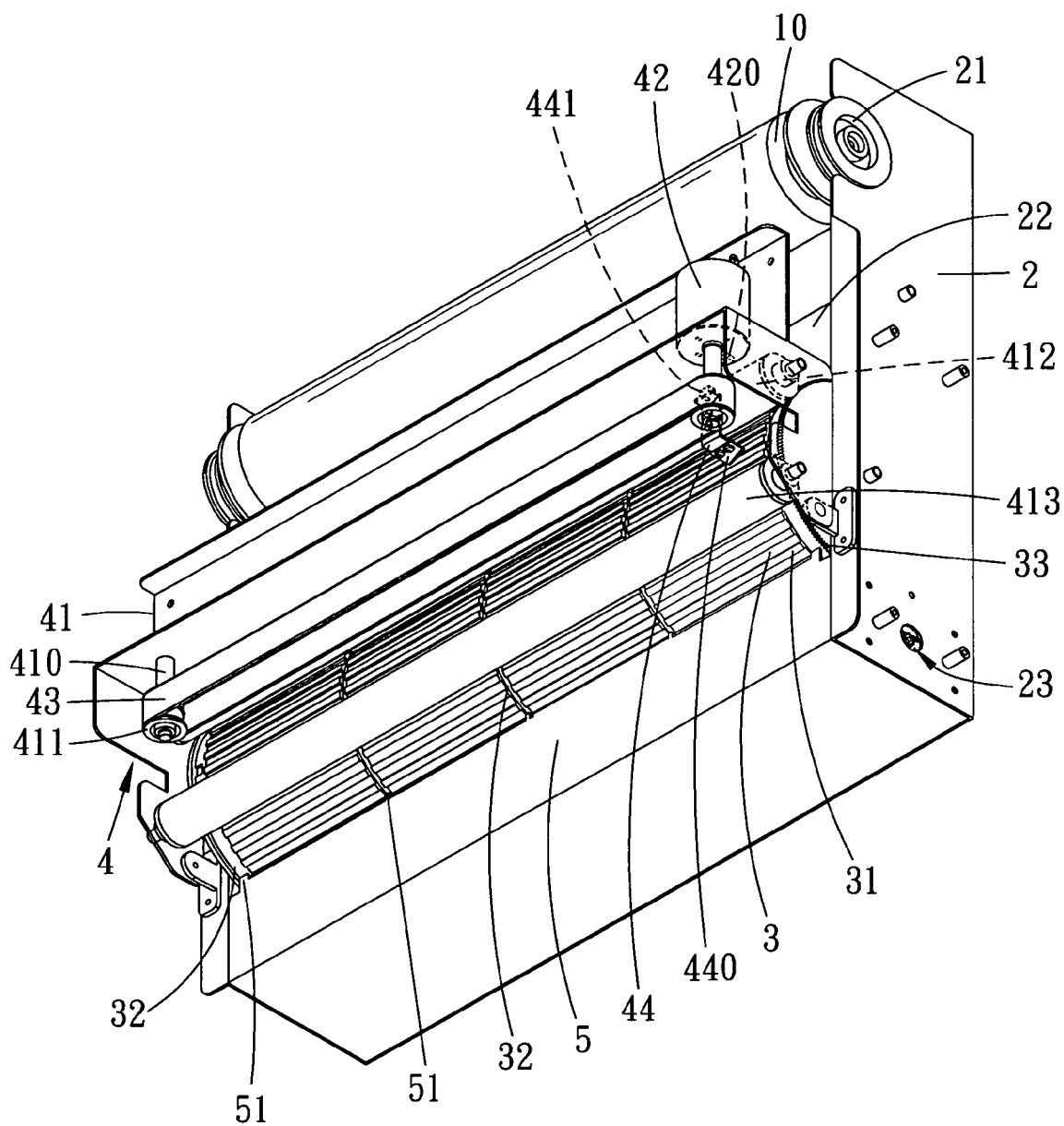


FIG.2

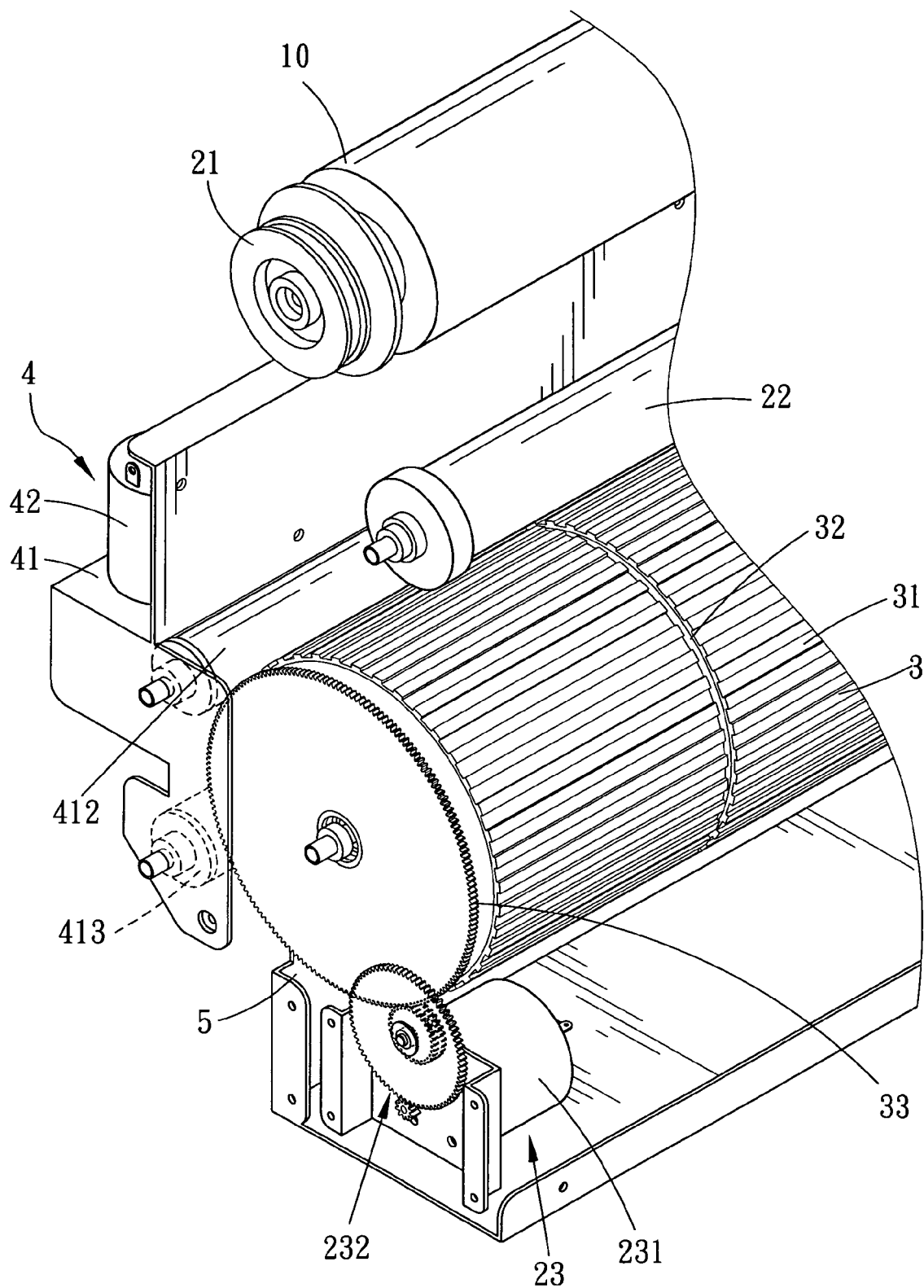


FIG.3

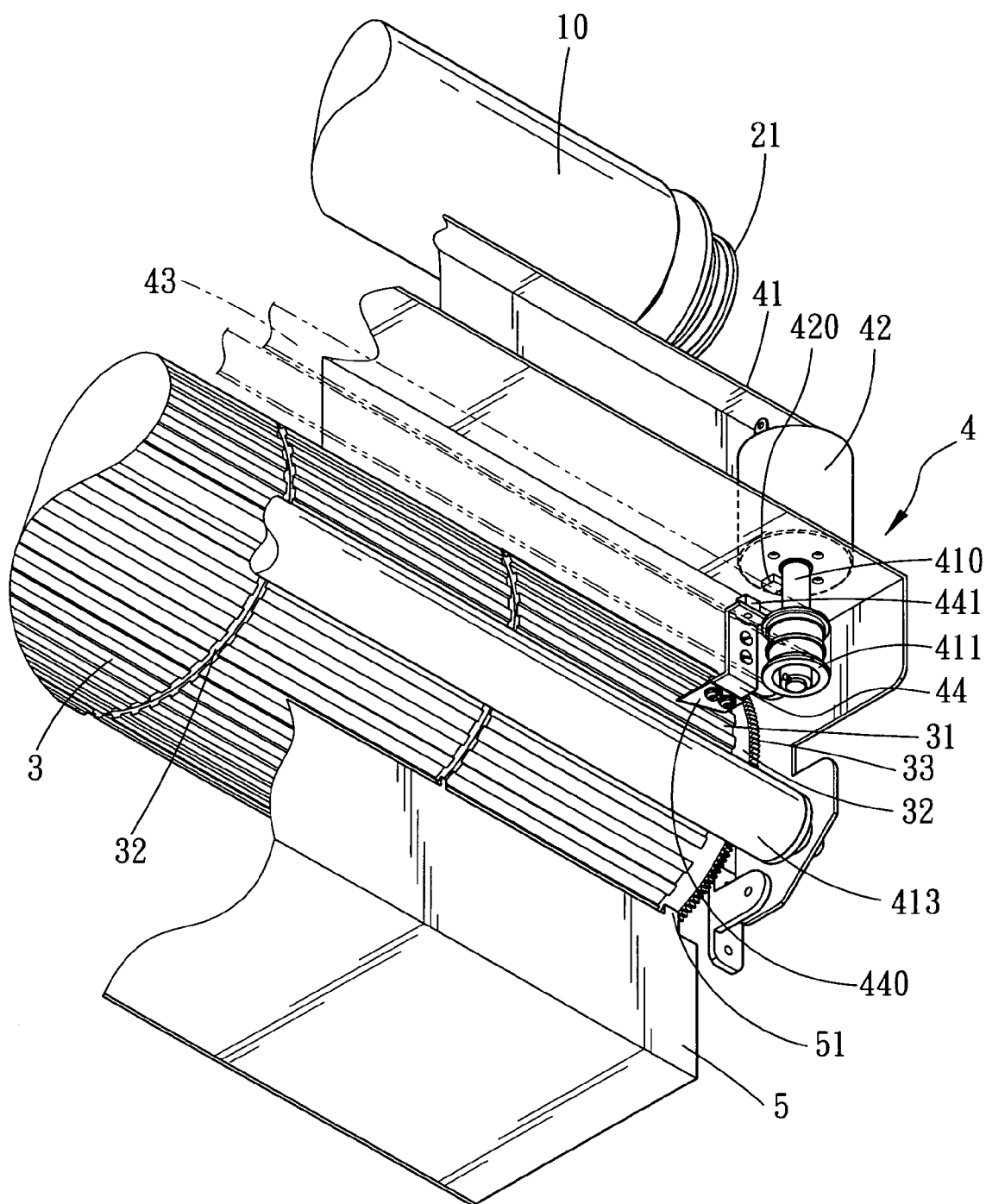


FIG.4

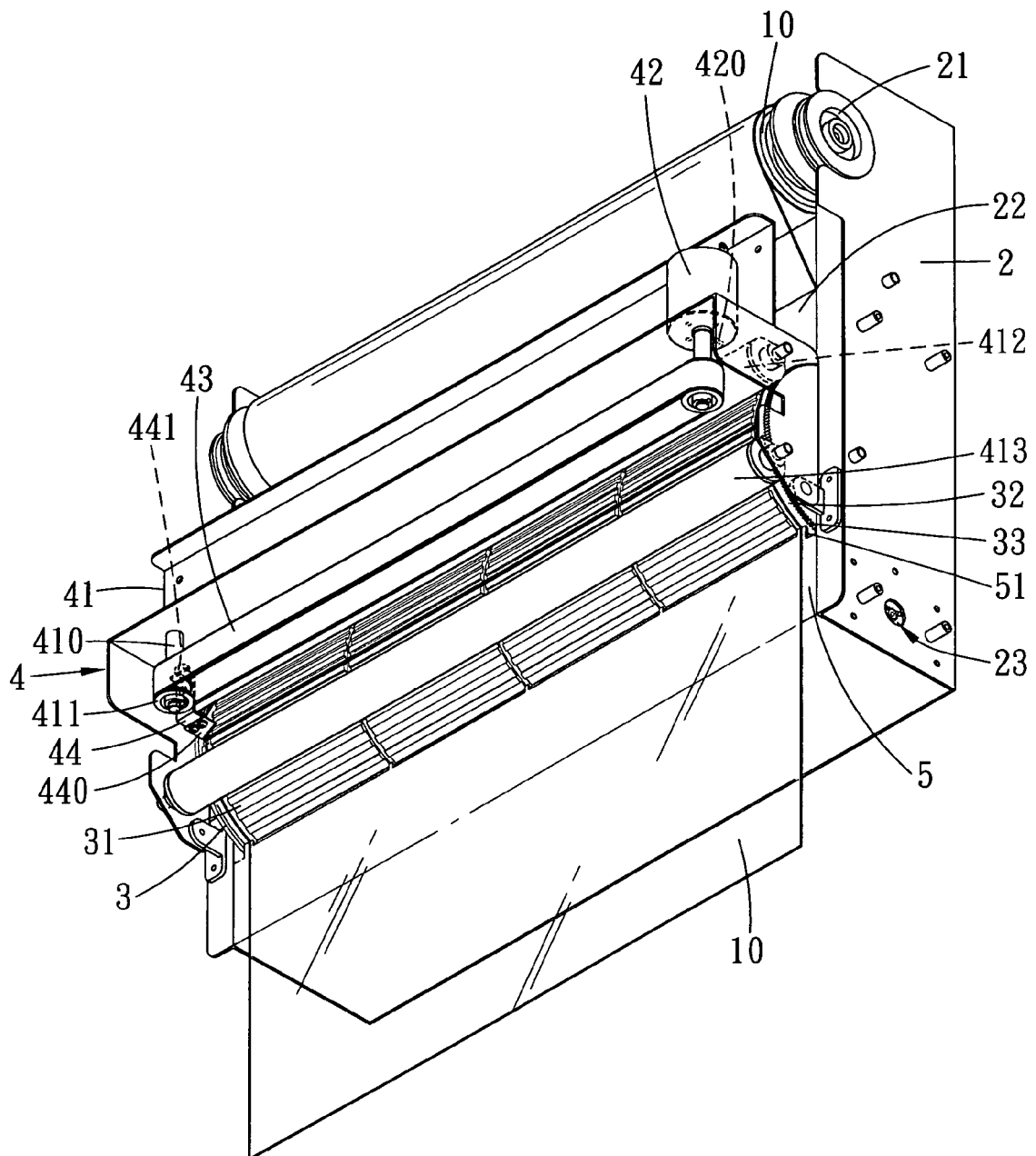


FIG.5



EUROPEAN SEARCH REPORT

Application Number
EP 08 00 9567

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 4 817 483 A (ARMBRUSTER JOSEPH M [US]) 4 April 1989 (1989-04-04) * column 3, line 27 - line 40; figures 2,3,11,12 *	1-3	INV. B26D7/20 B65B41/12 B65H35/00
Y	US 5 813 305 A (MIAZGA JAY [US] ET AL) 29 September 1998 (1998-09-29) * figure 11 *	1-3	ADD. B26D1/04
A	SU 1 440 741 A2 (TS KT B TSENTROSOYUZA [SU]) 30 November 1988 (1988-11-30) * the whole document *	1-3	
A	EP 1 584 427 A (KIEFEL EXTRUSION GMBH [DE]) 12 October 2005 (2005-10-12) * the whole document *	1-3	
			TECHNICAL FIELDS SEARCHED (IPC)
			B26D B65B B65H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 10 October 2008	Examiner Wimmer, Martin
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 00 9567

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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10-10-2008

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