



(11)

EP 4 074 875 A1

(12)

EUROPEAN PATENT APPLICATION

published in accordance with Art. 153(4) EPC

(43) Date of publication:
19.10.2022 Bulletin 2022/42

(51) International Patent Classification (IPC):
D05B 75/00 (2006.01)

(21) Application number: **22709168.3**

(52) Cooperative Patent Classification (CPC):
A47B 29/00; D05B 75/00

(22) Date of filing: **09.02.2022**

(86) International application number:
PCT/KR2022/001975

(87) International publication number:
WO 2022/177225 (25.08.2022 Gazette 2022/34)

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
 GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
 PL PT RO RS SE SI SK SM TR**
 Designated Extension States:
BA ME
 Designated Validation States:
KH MA MD TN

(71) Applicant: **Ryu, Si Yang**
Gangdong-gu
Seoul
05271 (KR)

(72) Inventor: **Ryu, Si Yang**
Gangdong-gu
Seoul
05271 (KR)

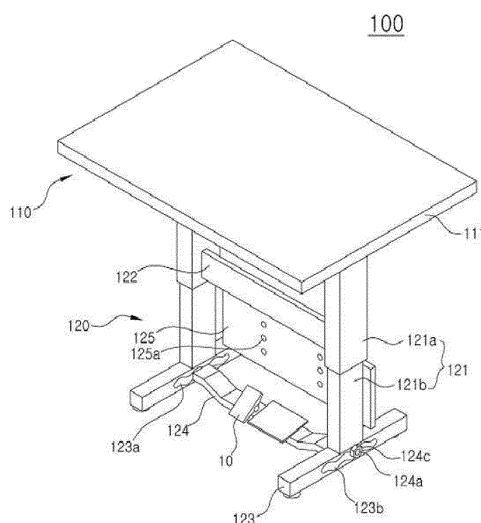
(74) Representative: **M. Zardi & Co S.A.**
Via G. B. Pioda, 6
6900 Lugano (CH)

(30) Priority: **16.02.2021 KR 20210020586**

(54) **SEWING MACHINE TABLE**

(57) The present invention relates to a sewing machine table. The sewing machine table with a rotatable operating foot pedal connected to a driving motor for a sewing machine, comprises: an upper frame provided with a top plate on which the sewing machine is installed, and a lower frame including: height adjustable supports provided at bottom ends of the upper frame for supporting the top plate and adjusting a height of the top plate; lower supports coupled to bottom ends of the height adjustable supports, and a first lower connecting plate coupled between the lower supports, the first lower connecting plate on which the operating foot pedal is installed. With this configuration, the sewing machine table is provided with an upper support coupled to a top plate and a cylinder inserted in the upper support and capable of adjusting a height, thereby enabling a height of the top plate to be adjusted according to a body size of an operator and increasing work efficiency.

【Fig. 1】



Description

FIELD OF THE INVENTION

[0001] The present invention relates to a sewing machine table, more particularly, to a sewing machine table in which a sewing machine body and a sewing machine foot pedal are installed.

BACKGROUND OF THE INVENTION

[0002] In general, a sewing machine is a machine used to make or sew clothes using various fabrics and thread with a needle. The sewing machine can make clothes within a short time beyond the time limitation of human hands.

[0003] A sewing machine table is composed of a top plate on which a sewing machine and fabric are placed and legs supporting the top plate to perform a sewing operation.

[0004] More specifically, the sewing machine table is manufactured by combining a flat top plate having a predetermined area with a long shape and legs having a predetermined length on a bottom surface of the top plate.

[0005] However, such a sewing machine table with legs having predetermined length has a problem in that it is difficult for some operator to work if the body size of an operator does not fit with the table dimensions.

[0006] In addition, since a foot pedal of the sewing machine is not fixed, when the operator uses the foot pedal, the foot pedal is pushed forward by the operator's foot. Accordingly, the operator cannot properly step on the foot pedal or uses the foot pedal with difficulties, and thus, work efficiency decreases.

DETAILED DESCRIPTION OF THE INVENTION

TECHNICAL PROBLEMS

[0007] The present invention has been devised to solve the above problems, and the object of the present invention is to provide a sewing machine table capable of adjusting a height of a top plate and fixing a foot pedal of the sewing machine.

SUMMARY OF THE INVENTION

[0008] To achieve the object above, a sewing machine table according to a preferred embodiment of the present invention is provided with a rotatable operating foot pedal connected to a driving motor for a sewing machine and comprises: an upper frame provided with a top plate on which the sewing machine is installed, and a lower frame including: height adjustable supports provided at bottom ends of the upper frame for supporting the top plate and adjusting a height of the top plate; lower supports coupled to bottom ends of the height adjustable supports, and a

first lower connecting plate coupled between the lower supports, the first lower connecting plate on which the operating foot pedal is installed.

[0009] In addition, the first lower connecting plate is coupled to the lower supports in a movable and rotatable manner along a longitudinal direction of the lower supports.

[0010] Furthermore, the height adjustable supports include operational cylinders coupled to the top plate, and piston rods operated by the operational cylinders.

[0011] In addition, an upper connecting plate is coupled between the operational cylinders so that both are supported by each other; a second lower connecting plate extended upward to be disposed in parallel with the upper connecting plate is coupled between upper portions of the lower supports; a first fixing protrusion drawn out by elasticity and formed of magnetic material is formed on a side surface of the upper connecting plate, which faces the second lower connecting plate, and locking holes that are formed at an equal interval in a vertical direction and that the first fixing protrusion is inserted into and magnetically fixed to are formed on a side surface of the second lower connecting plate, which faces the upper connecting plate.

[0012] Moreover, second fixing protrusions to which rollers are coupled are formed on both sides of the first lower connecting plate, respectively; slide grooves to which the rollers are movably coupled are formed on side surfaces of the lower supports, which face each other; a moving groove connected to the slide groove is formed on each outer side surface of the lower supports so that the second fixing protrusions protrude to the outside, and a fixing member fixing the first lower connecting plate is engaged with the second fixing protrusion protruding to the outside through the moving groove.

TECHNICAL EFFECTS OF THE INVENTION

[0013] According to a sewing machine table of the present invention, the sewing machine table is provided with an upper support frame coupled to a top plate and a cylinder coupled to the upper support frame and capable of adjusting a height, thereby enabling a height of the top plate to be adjusted according to a body size of an operator and increasing work efficiency.

[0014] In addition, the sewing machine table is provided with a lower connecting plate that allows an operating foot pedal to be fixed between lower supports, thereby enabling the operating foot pedal to be rigidly fixed and not to be pushed by the operator's step.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

FIG. 1 is a perspective view illustrating a sewing machine table according to a preferred embodiment of the present invention.

FIG. 2 is a side view of FIG. 1 according to a preferred embodiment of the present invention.

FIGs. 3 and 4 are an operational view of an upper connecting plate according to a preferred embodiment of the present invention.

FIGs. 5 and 6 are an operational view of a roller according to a preferred embodiment of the present invention.

FIGs. 7 and 8 are an operational view of a first lower connecting plate according to a preferred embodiment of the present invention.

BEST MODE FOR THE INVENTION

[0016] Advantages and features of the present invention and methods for achieving them will become apparent with reference to the embodiments described in detail below in conjunction with the accompanying drawings.

[0017] However, the present invention is not limited to the embodiments disclosed below and may be implemented in various forms. These embodiments are provided to allow disclosure of the present invention to be complete and to fully inform one of ordinary skill in the art to which the present invention pertains, and the present invention is defined by the scope of the claims. Like reference numbers refer to like components or elements throughout the specification.

[0018] Hereinafter, the sewing machine table of the present invention will be described in detail with reference to the embodiments in conjunction with the accompanying drawings.

[0019] FIG. 1 is a perspective view illustrating a sewing machine table according to a preferred embodiment of the present invention. FIG. 2 is a side view of FIG. 1 according to a preferred embodiment of the present invention. FIGs. 3 and 4 are an operational view of an upper connecting plate according to a preferred embodiment of the present invention. FIGs. 5 and 6 are an operational view of a roller according to a preferred embodiment of the present invention. FIGs. 7 and 8 are an operational view of a first lower connecting plate according to a preferred embodiment of the present invention.

[0020] Referring to these drawings, a sewing machine table according to the present invention is height adjustable and an operating foot pedal thereof can be rigidly fixed.

[0021] The sewing machine table 100 according to the present embodiment that can provide such an effect, is provided with an operating foot pedal 10 connected to a driving motor for driving the sewing machine and includes an upper frame 110 and a lower frame 120.

[0022] The upper frame 110 is provided with a top plate 111 on which the sewing machine can be installed.

[0023] The lower frame 120 is coupled to a bottom portion of the upper frame 110. That is, a height adjustment support 121 of the lower frame 120 is coupled to both bottom ends of the top plate 111.

[0024] Operating cylinders 121a of the height adjust-

ment support 121 are coupled to both bottom ends of the top plate 111 to adjust the height of the top plate 111. A piston rod 121b of the height adjustment support 121 is provided at a bottom end of the operating cylinder 121a.

[0025] A lower support 123 of the height adjustment support 121 is coupled to a bottom end of the piston rod 121b.

[0026] Although not shown, the height adjustment support 121 is operated by a separate motor and a switch.

[0027] An upper connecting plate 122 is coupled between the operating cylinders 121a.

[0028] A first fixing protrusion 122b drawn out by elasticity is formed on a front surface of the upper connecting plate 122.

[0029] In this case, it is desired that the first fixing protrusion 122b is formed of magnetic material.

[0030] In addition, a first lower connecting plate 124 is coupled between the lower supports 123.

[0031] An operating foot pedal of the sewing machine is installed on the first lower connecting plate 124.

[0032] In this case, the first lower connecting plate 124 is movably coupled to the lower support 123 and moves along a longitudinal direction of the lower support 123.

[0033] Furthermore, the first lower connecting plate 124 is rotatably coupled to the lower support 123 so that an angle of the operating foot pedal can be adjusted.

[0034] Second fixing protrusions 124a are formed on both sides of the first lower connecting plate 124.

[0035] A roller 214b is formed on the second fixing protrusion 124a.

[0036] In this case, the roller 124b is formed in an elliptical shape.

[0037] In addition, a slide groove 123a which the second fixing protrusion 124a can be inserted into and the roller 124b can move along is formed on side surfaces of the lower support 123 that face each other.

[0038] In this case, the slide groove 123a has a wavy shape to form a curve.

[0039] Accordingly, when the roller 214b moves along the slide groove 123a, an angle of the first lower connecting plate 124 can be adjusted.

[0040] In addition, a moving groove 123b is formed on each outer side surface of the lower support 123 so that the second fixing protrusion 124a protrudes to the outside.

[0041] The moving groove 123b is formed to correspond to the slide groove 123a so that the second fixing protrusion 124a moving along the slide groove 123a is movable.

[0042] In this case, a fixing member 124c for fixing the position and angle of the first lower connecting plate 124 is engaged with the second fixing protrusion 124a, which protrudes out of the moving groove 123b.

[0043] In addition, a second lower connecting plate 125 disposed in parallel with the upper connecting plate 122 is coupled between upper portions of the lower supports 123.

[0044] The second lower connecting plate 125 in-

cludes locking holes 125a formed on a side surface facing the upper connecting plate 122.

[0045] The locking hole 125a is formed of metal material and is magnetically coupled to the first fixing protrusion 122b.

[0046] In this case, the first fixing protrusion 122b may be fixed by being caught on a top end of the second lower connecting plate 125 or by being inserted into the locking hole 125a.

[0047] In addition, a moving wheel (not shown) may be coupled to a bottom end of the lower support 123.

[0048] According to a sewing machine table of the present invention, the sewing machine table is provided with an upper support frame coupled to a top plate and a cylinder coupled to the upper support frame and capable of adjusting a height, thereby enabling a height of the top plate to be adjusted according to a body size of an operator and increasing work efficiency.

[0049] In addition, the sewing machine table is provided with a lower connecting plate that allows an operating foot pedal to be fixed between lower supports, thereby enabling the operating foot pedal to be rigidly fixed and not to be pushed by the operator's step.

[0050] One of ordinary skill in the art to which the present invention pertains can understand that the present invention may be embodied in other specific forms without changing the technical spirit or essential features thereof. Therefore, it should be understood that the embodiments described above are illustrative and not restrictive. The scope of the present invention is indicated by the claims described below rather than the above detailed description, and it should be construed that the meaning and scope of the claims and all changes or modifications derived from their equivalent concepts are included in the scope of the present invention.

Claims

1. A sewing machine table with a rotatable operating foot pedal connected to a driving motor for a sewing machine, the sewing machine table comprising:

an upper frame provided with a top plate on which the sewing machine is installed, and
a lower frame including:

height adjustable supports provided at bottom ends of the upper frame for supporting the top plate and adjusting a height of the top plate;

lower supports coupled to bottom ends of the height adjustable supports, and
a first lower connecting plate coupled between the lower supports, the first lower connecting plate on which the operating foot pedal is installed.

2. The sewing machine table of claim 1, wherein the first lower connecting plate is coupled to the lower supports in a movable and rotatable manner along a longitudinal direction of the lower supports.

3. The sewing machine table of claim 1, wherein the height adjustable supports include:

operational cylinders coupled to the top plate, and
piston rods operated by the operational cylinders.

4. The sewing machine table of claim 3, wherein an upper connecting plate is coupled between the operational cylinders so that both are supported by each other,

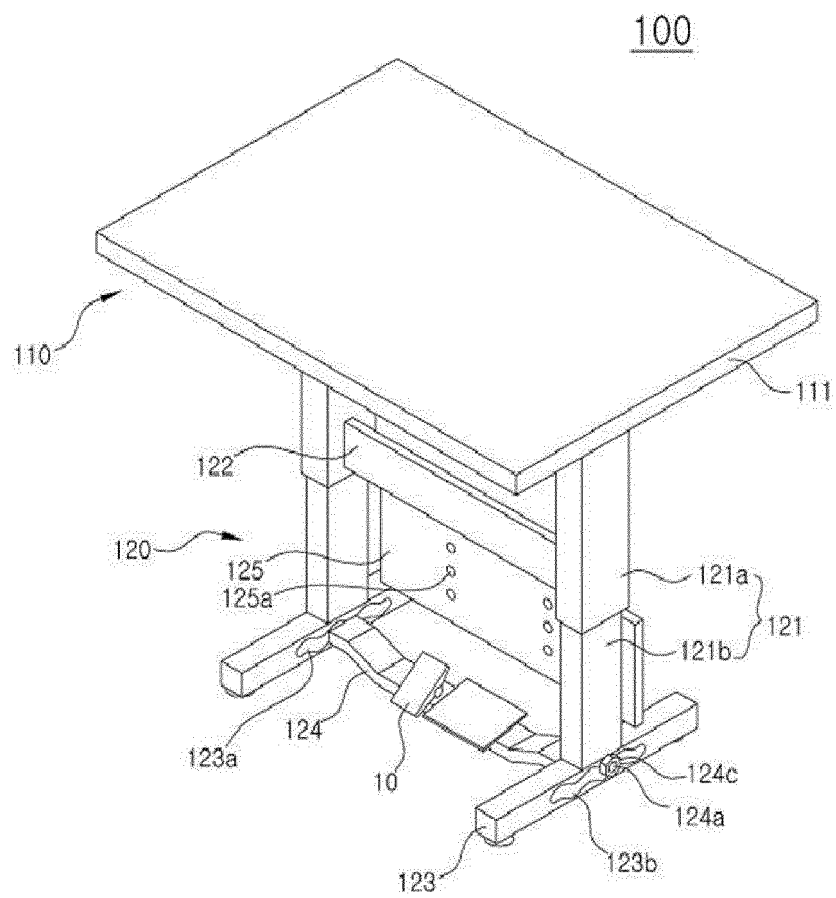
wherein a second lower connecting plate extended upward to be disposed in parallel with the upper connecting plate is coupled between upper portions of the lower supports, wherein a first fixing protrusion drawn out by elasticity and formed of magnetic material is formed on a side surface of the upper connecting plate, which faces the second lower connecting plate,

wherein locking holes that are formed at an equal interval in a vertical direction and that the first fixing protrusion is inserted into and magnetically fixed to are formed on a side surface of the second lower connecting plate, which faces the upper connecting plate.

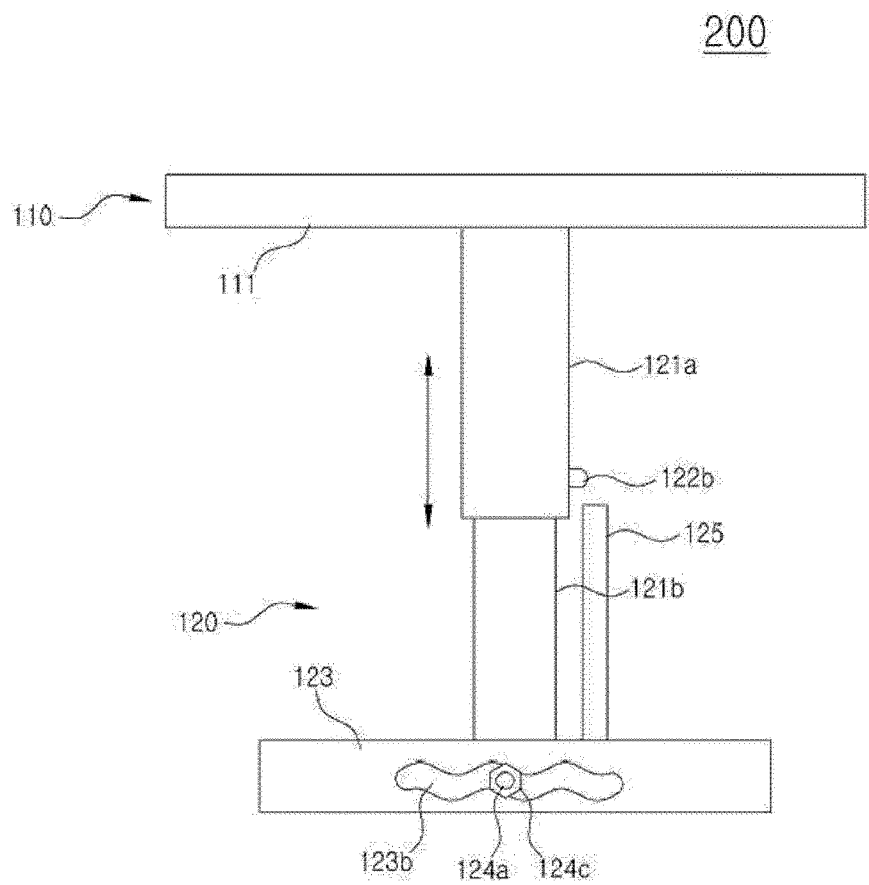
5. The sewing machine table of claim 1, wherein second fixing protrusions to which rollers are coupled are formed on both sides of the first lower connecting plate, respectively,

wherein slide grooves to which the rollers are movably coupled are formed on side surfaces of the lower supports, which face each other, wherein a moving groove connected to the slide groove is formed on each outer side surface of the lower supports so that the second fixing protrusions protrude to the outside, wherein a fixing member fixing the first lower connecting plate is engaged with the second fixing protrusion protruding to the outside through the moving groove.

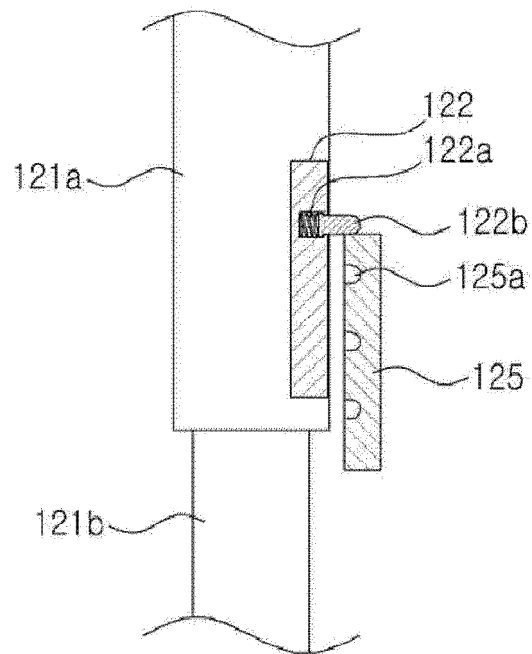
【Fig. 1】



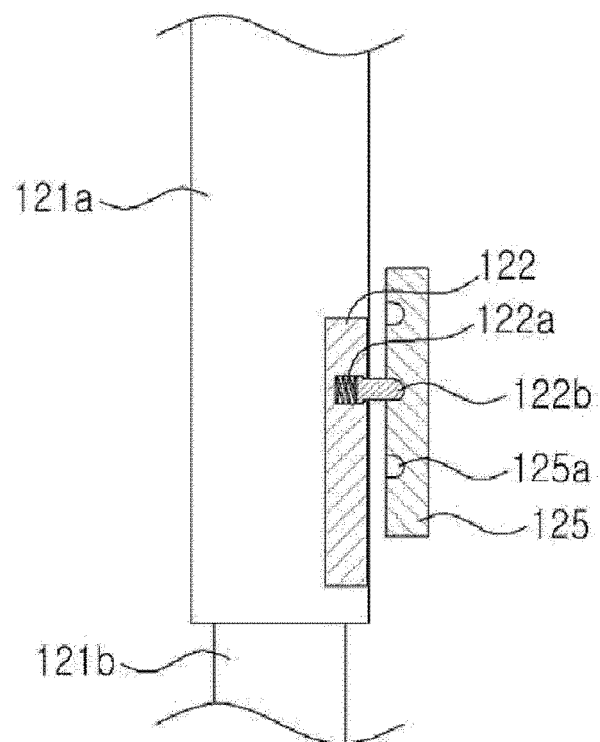
【Fig. 2】



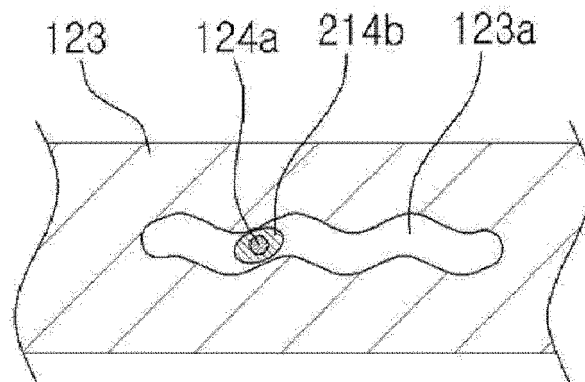
【Fig. 3】



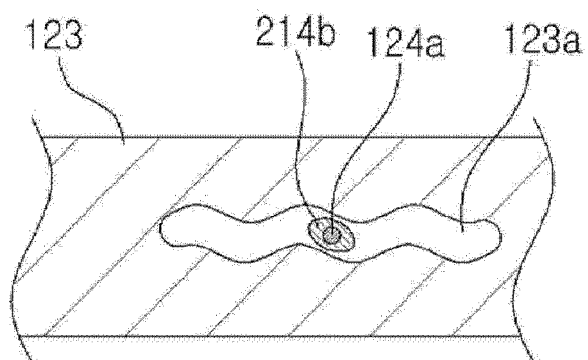
【Fig. 4】



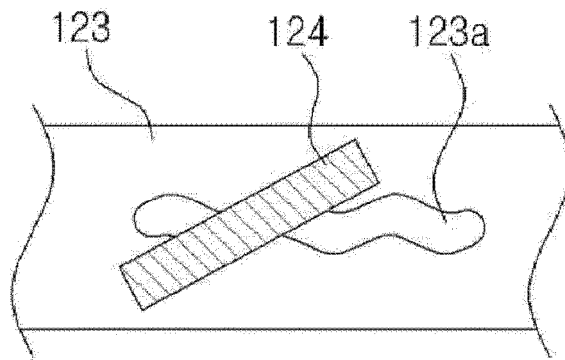
【Fig. 5】



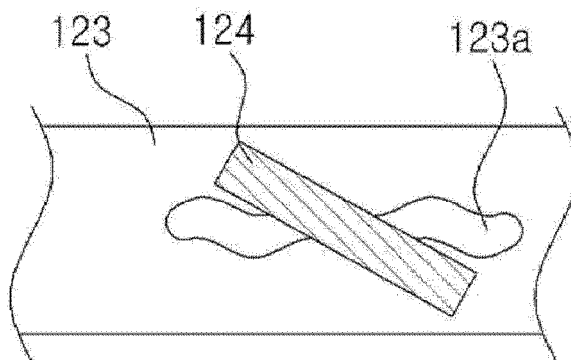
【Fig. 6】



【Fig. 7】



【Fig. 8】



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2022/001975

A. CLASSIFICATION OF SUBJECT MATTER**D05B 75/00**(2006.01)i; **A47B 29/00**(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

D05B 75/00(2006.01); A47B 29/00(2006.01); D05B 69/18(2006.01); D05B 69/36(2006.01); D05B 83/00(2006.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models: IPC as above

Japanese utility models and applications for utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & keywords: 재봉틀(sewing machine), 테이블(table), 높이조절 지지대(height adjustable support), 구동 발판(driving footboard), 구동 실린더(driving cylinder), 연결판(connecting board)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 06-327877 A (BROTHER IND., LTD.) 29 November 1994 (1994-11-29) See paragraphs [0010]-[0012]; and figure 1.	1-5
Y	JP 2004-113690 A (JUKI CORP.) 15 April 2004 (2004-04-15) See paragraphs [0011]-[0014]; and figure 1.	1-5
Y	CN 105420956 A (JACK SEWING MACHINE CO., LTD.) 23 March 2016 (2016-03-23) See paragraphs [0038]-[0041]; and figures 1-4.	2,4,5
A	KR 10-1990-0010118 A (MITSUBISHI DENKI KABUSHIKI KAISHA) 06 July 1990 (1990-07-06) See entire document.	1-5
PX	KR 10-2307604 B1 (RYU, Si Yang) 05 October 2021 (2021-10-05) See claim 1. This document is a published earlier application that serves as a basis for claiming priority of the present international application.	1-5

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“D” document cited by the applicant in the international application

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

31 May 2022

Date of mailing of the international search report

31 May 2022

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon Building 4, 189 Cheongsaro, Seo-gu, Daejeon 35208

Facsimile No. +82-42-481-8578

Authorized officer

Telephone No.

Form PCT/ISA/210 (second sheet) (July 2019)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2022/001975

5

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
JP	06-327877	A	29 November 1994	None			
JP	2004-113690	A	15 April 2004	None			
CN	105420956	A	23 March 2016	None			
KR	10-1990-0010118	A	06 July 1990	JP	02-172496	A	04 July 1990
				US	5067368	A	26 November 1991
KR	10-2307604	B1	05 October 2021	None			