



(12)

EUROPEAN PATENT APPLICATION

- (88)

Date of publication A3:
30.10.2024 Bulletin 2024/44
- (51)

International Patent Classification (IPC):
D03D 45/00 (2006.01) B21F 27/02 (2006.01)
B65H 81/00 (2006.01) D03J 5/00 (2006.01)
- (43)

Date of publication A2:
07.08.2024 Bulletin 2024/32
- (52)

Cooperative Patent Classification (CPC):
D03J 5/00; B21F 27/02; B65H 81/00
- (21)

Application number: 24176641.9
- (22)

Date of filing: 17.05.2024

(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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR Designated Extension States: BA Designated Validation States: GE KH MA MD TN	(71) Applicant: Changchun Huibang Technology Co., Ltd Changchun City Jilin Province 130102 (CN) (72) Inventor: XIAO, Feng Changchun City, Jilin Province, 130102 (CN) (74) Representative: Ipside 7-9 Allée Haussmann 33300 Bordeaux Cedex (FR)
(30) Priority: 29.12.2023 CN 202323621594 U	

(54)

SHUTTLE AND ROTOR ASSEMBLY WITH A BALANCING DEVICE

- (57)

The present invention discloses a shuttle and rotor assembly with a balancing device, comprising a rotor assembly. The rotor assembly comprises a housing and multiple eccentric sleeves symmetrically arranged on the housing. The eccentric sleeves are connected to an inner cylindrical cam and an outer cylindrical cam via an adjusting component, with the inner cylindrical cam and the outer cylindrical cam being of different sizes and opposite directions. This invention relates to the field of loom technology. The shuttle and rotor assembly with the balancing device, during the high-speed operation of the rotor shuttle, the spool is subjected to a centripetal pulling force, causing frictional conflict in the area of the cam disc at the other end of the spool. The adjustment slot is an annular groove, and the ball is placed on the surface of the adjustment slot. The ball, inner cylindrical cam, and outer cylindrical cam are all installed inside the eccentric sleeve. The ball can contact the inner wall of the eccentric sleeve and make fine distance adjustments. The inner cylindrical cam and outer cylindrical cam can rotate, thereby offsetting the impact of manufacturing errors and achieving the requirements for normal operation at low precision, thus reducing production costs.

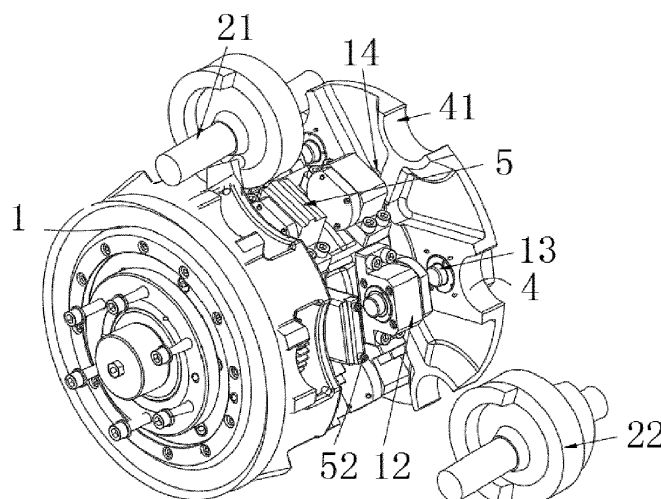


FIG. 1



EUROPEAN SEARCH REPORT

Application Number

EP 24 17 6641

5

10

15

20

25

30

35

40

45

50

55

1

EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	CN 214 830 959 U (CHANGCHUN HUIBANG TECH CO LTD) 23 November 2021 (2021-11-23) * abstract * * claims 1-6 * * figures 1-7 * * paragraph [0002] - paragraph [0033] * * paragraph [0037] * * paragraph [0040] - paragraph [0048] * * paragraph [0055] - paragraph [0070] * * paragraph [0073] - paragraph [0083] * * paragraph [0091] * -----	1-6	INV. D03D45/00 B21F27/02 B65H81/00 D03J5/00
X	CN 112 935 155 A (CHANGCHUN HUIBANG TECH CO LTD) 11 June 2021 (2021-06-11) * the whole document * -----	1-6	
			TECHNICAL FIELDS SEARCHED (IPC)
			D04C D03J B21F D03D B65H B21L
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 13 September 2024	Examiner Heinzelmann, Eric
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	

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

EP 24 17 6641

5 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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13 - 09 - 2024

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
	CN 214830959 U	23-11-2021	NONE	

15	CN 112935155 A	11-06-2021	NONE	

20				
25				
30				
35				
40				
45				
50				
55				

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82