Nov. 3, 1953 J. S. DUDLEY ET AL 2,657,435

MECHANISM FOR BODILY ROTATING SLIVER CANS IN FIXED ORIENTATION

Filed June 8, 1948 2 Sheets-Sheet 1

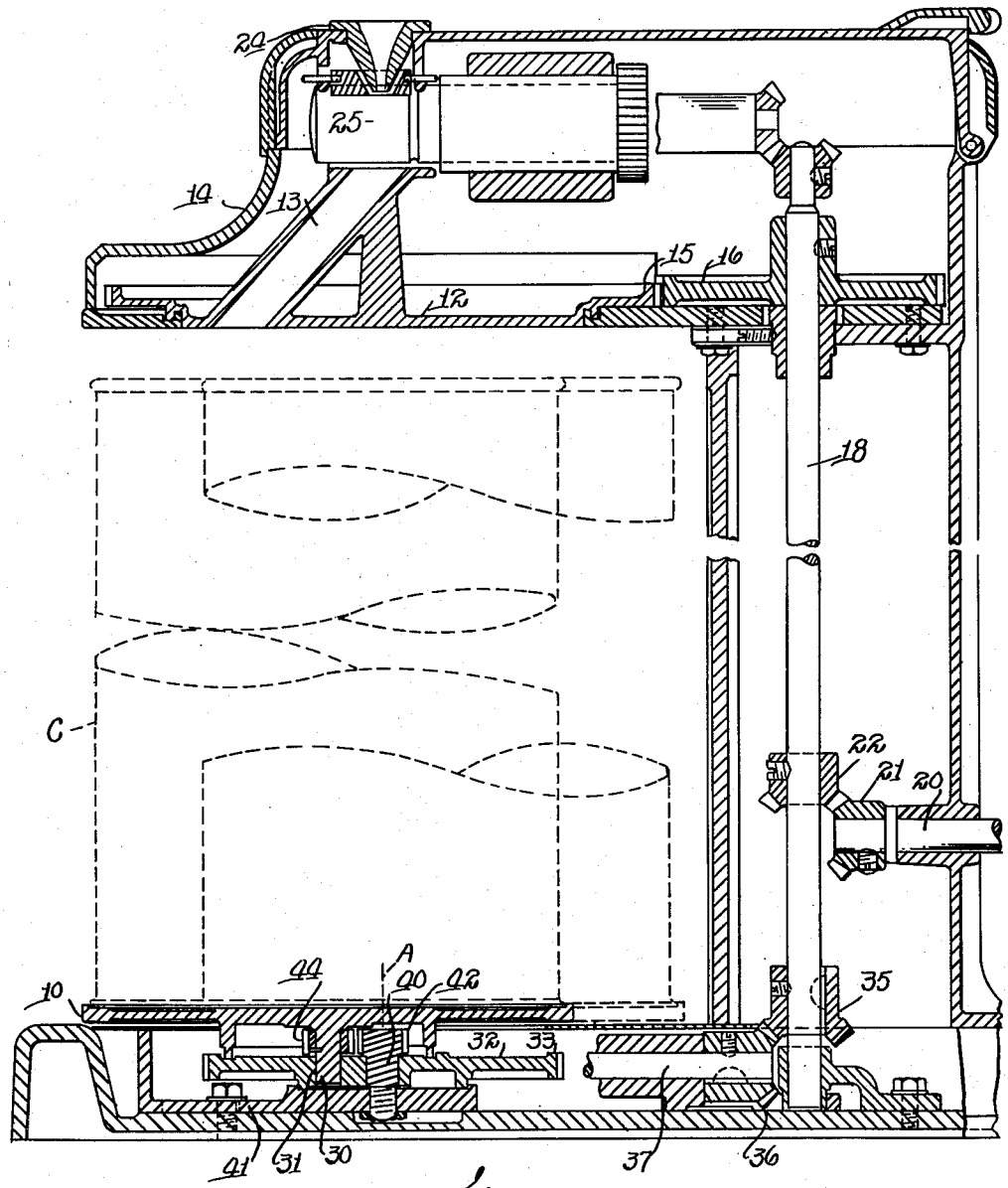


Fig. 1.

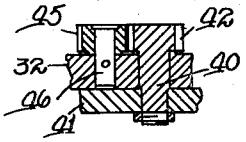


Fig. 4.

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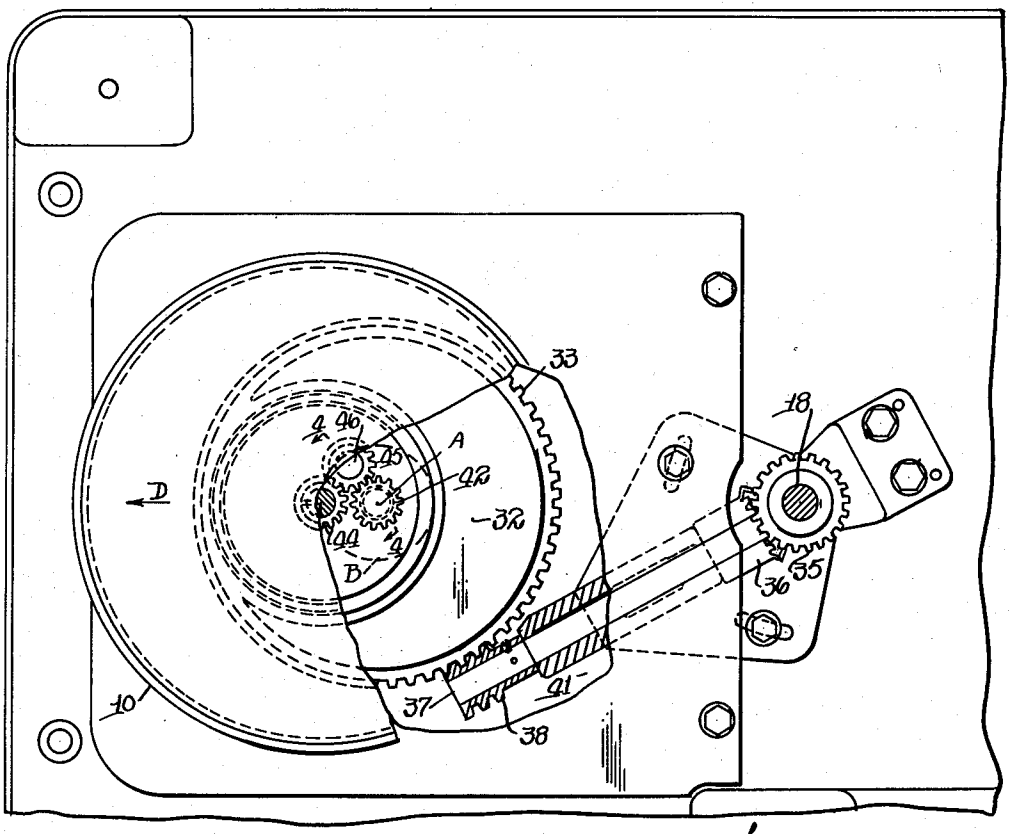


Fig. 2.

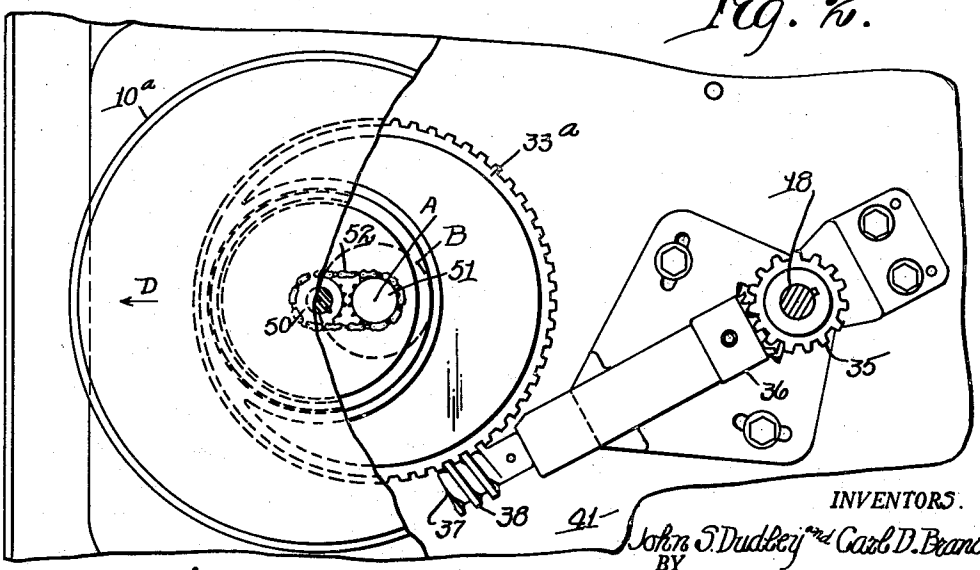


Fig. 3.

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MECHANISM FOR BODILY ROTATING SLIVER CANS IN FIXED ORIENTATION

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2 Claims. (Cl. 19—159)

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This invention relates to mechanism provided for continuously moving a sliver can during the operation of a drawing frame or other similar textile machine, and as the product of the machine is being coiled therein.

It is desirable that the sliver be deposited in the sliver can in superposed but circumferentially displaced coils, and it is also desirable that the sliver receive no twist from the motion of the can.

It is the general object of our invention to provide improved and very simple mechanism for producing a circular but non-rotational motion of a sliver can in a textile machine.

Our invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

Preferred forms of the invention are shown in the drawings, in which

Fig. 1 is a sectional side elevation showing portions of a coiling mechanism embodying our invention;

Fig. 2 is a plan view of our improved can-rotating mechanism, with certain parts shown in section;

Fig. 3 is a view similar to Fig. 2 but showing a modified construction; and

Fig. 4 is a detail sectional view, taken along the line 4—4 in Fig. 2.

Referring particularly to Fig. 1, we have shown a sliver can C mounted upon a rotatable can support 10 and located under a coiler head 12 having an inclined delivery passage 13. The head 12 is mounted in a fixed frame or casing 14 and is provided with a ring gear 15 engaged by a gear 16 on a drive shaft 18. The shaft 18 may be continuously rotated from a power shaft 20 through bevel gears 21 and 22.

The sliver is fed to the passage 13 through a trumpet 24 and between draft rolls 25, the rear roll only being shown in Fig. 1. The rolls 25 have gear connections to the drive shaft 18 and are continuously rotated thereby.

The parts thus far described in themselves form no part of our present invention, which relates particularly to the mechanism for rotating the support 10 and can C in a circular path but without change of orientation.

The rotatable support 10 for the can C has a pivot stud 30 fixed therein, which is received in a bearing opening 31 in the disc portion 32 of a worm gear 33. This gear 33 is continuously rotated about the point A (Fig. 2) by the drive shaft 18 through bevel gears 35 and 36, a worm

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shaft 37 and a worm 38 engaging said worm gear 33. The gear 33 is rotated on a stud 40 in a fixed frame member 41, and the support 10 and can C are moved bodily in a circular path B centered at the point A.

To maintain fixed orientation of the support 10 and can C, the fixed stud 40 is provided with a fixed small gear or pinion 42. The pivot stud 30 of the rotatable support 10 is provided with a small gear or pinion 44 of the same size and clearing the gear 42. An idle gear 45 is mounted on a stud 46 (Fig. 4) secured in the disc portion 32 of the ring gear 33. The idle gear 45 is loose on the stud 46 and meshes with both of the small gears or pinions 42 and 44 previously described.

With this construction, the idle gear 45 will be swung about the point A and the axis of the fixed gear 42 as the can support 10 is moved bodily in the circular path B which also has its center in the axis of the gear 42. The idle gear 45 is simultaneously rotated on its own axis by rolling on the fixed gear 42.

Such rotation of the idle gear 45 effects corresponding but reverse rotation of the gear 44 which is fixed to the rotatable can support 10, and which thus rotates the can C backward at the same angular rate that it would otherwise be rotated forward by rotation of its support 10.

Consequently, the can C maintains fixed orientation with respect to the base of the coiler, and no additional twist is imparted to the sliver by the can motion as the sliver is coiled and deposited in the can. The orientation of the can is indicated by the arrow D on the can support, which arrow points constantly in the same direction.

The construction shown in Fig. 3 is similar to that shown in Figs. 1 and 2, except that sprockets 50 and 51 and a chain 52 are substituted for the gears 42, 44 and 45 shown in Fig. 2. The sprocket 51 is fixed at the axis of the ring gear 33a, and the sprocket 50 is secured to the pivot stud of the can support 10a. The use and advantages are the same as with the construction shown in Figs. 1 and 2.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what we claim is:

1. In a textile machine having a rotated sliver-delivering device, in combination, a fixed frame member, a rotatable support for a can to receive the sliver, a single pivot for said support, means to move said pivot bodily in a circular path, a first gear fixed with respect to said frame member

and concentric with said circular path, a second gear of equal size secured to said rotatable support and clearing said first gear, and an idle gear meshing with and connecting said two gears, whereby said can is reversely rotated with respect to the direction of circular movement of said single pivot and at equal angular speed so that the orientation of said can with respect to said fixed frame member is maintained unchanged at all times.

2. In a textile machine having a rotated sliver-delivering device, in combination, a fixed frame member, a rotatable support for a can to receive the sliver, a member rotated about an axis fixed in said member, a pivot for said support mounted eccentrically in said rotated member, means to rotate said member on its fixed axis and to thereby move said pivot bodily in a circular path, a first gear fixed with respect to said fixed frame member and concentric with said circular path, a second gear of equal size secured to said rotatable support and concentric therewith and clearing said first gear, and an idle gear eccentrically mounted on said rotated member and meshing with and connecting said first and second gears, whereby said can is reversely rotated with respect to the direction of circular movement of said pivot and at equal angular speed, so that the orientation of said can with respect to said fixed frame member is maintained unchanged at all times.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,355,071	Hendrickson	Aug. 8, 1944
2,404,742	Polak et al.	July 23, 1946

FOREIGN PATENTS

Number	Country	Date
10,198	Great Britain	of 1844
478,162	Great Britain	Jan. 13, 1938