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TAKEJI ARAI

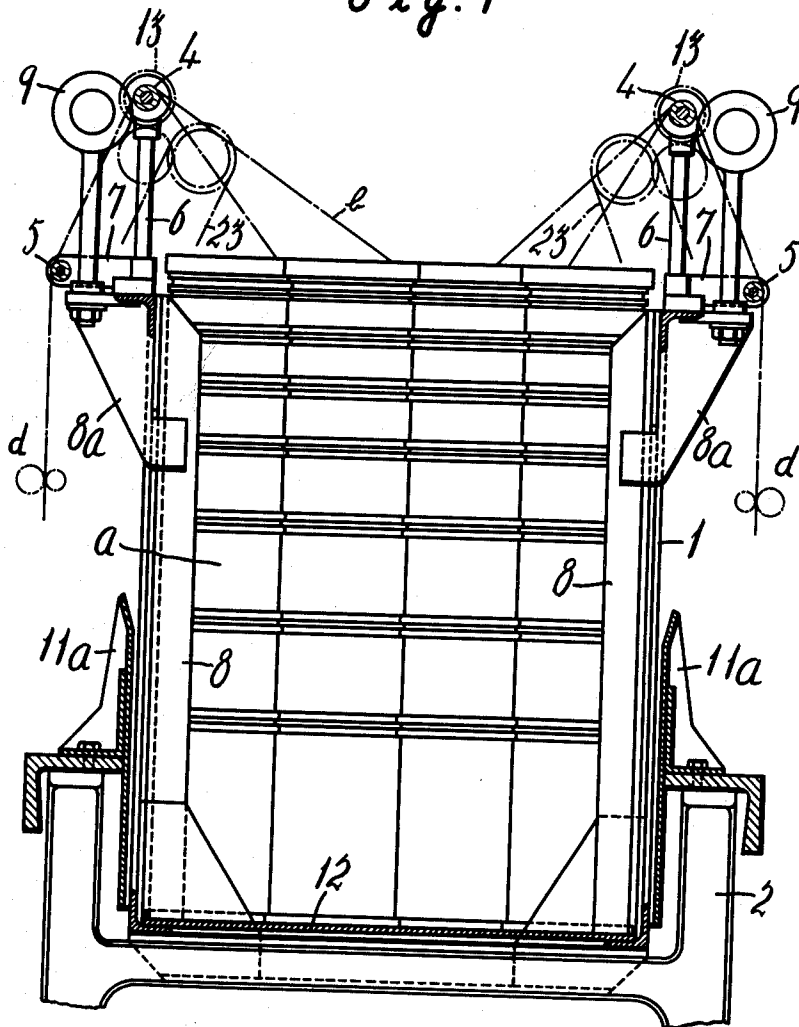
3,132,461

CAN-CONVEYING CASE FOR A SPINNING MACHINE

Filed Sept. 19, 1962

2 Sheets-Sheet 1

Fig. 1



Takeji Arai,

INVENTOR.

BY Wendroth,
Lind and Pnack
Attorneys

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TAKEJI ARAI

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Fig. 2 A

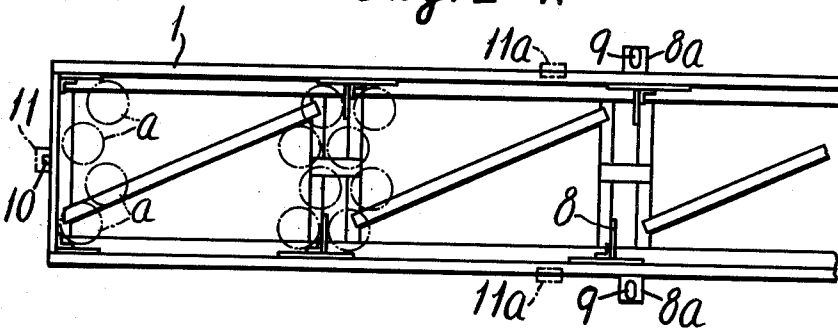


Fig. 2 B

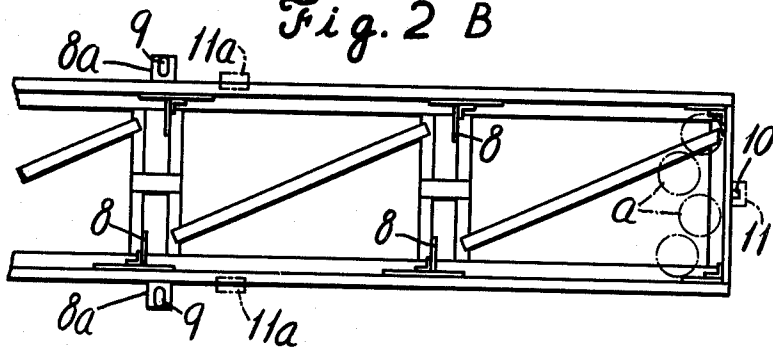


Fig. 4

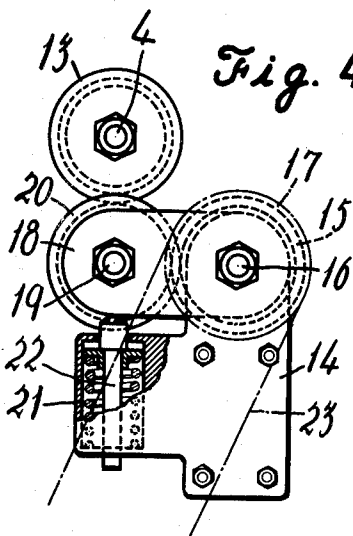
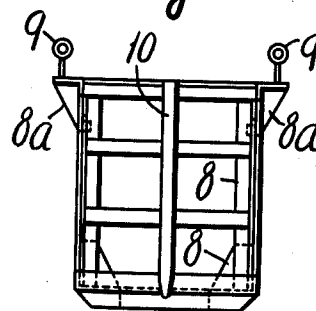


Fig. 3



Takeji Arai,

INVENTOR.

BY Wenduath Lind
and Ponack, Attorneys

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3,132,461

CAN-CONVEYING CASE FOR A SPINNING MACHINE

Takeji Arai, Toyonaka, Japan, assignor to O-M Ltd.,
Osaka, Japan, a company of Japan
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Claims priority, application Japan Nov. 20, 1961
3 Claims. (Cl. 57-1)

This invention relates to a can-conveying case to be used for exchanging cans in groups in a spinning machine. In this invention all cans for one spinning machine, for example 400 in number, are placed in one case and are exchanged at the same time for cans full of slivers when the slivers in the cans on the machine have been exhausted, and the cans which are exchanged are conveyed in groups in the case which is handled by means of an overhead crane in the mill.

The main object of this invention is to provide a case for conveying cans in groups, which case has a device by means of which the slivers in all cans are drawn out at the same time to be supplied to draft zones on the spinning machine frame.

Another object of this invention is to provide a can-conveying case which can be set in its proper working position on the spinning machine frame when the case is brought down on the frame.

This invention will be described further, reference being made to the accompanying drawings, wherein:

FIG. 1 is a front view of the can-conveying case according to this invention which is placed in its proper position on the spinning machine frame;

FIG. 2A is a plan view of the left hand part of the case on a reduced scale;

FIG. 2B is a plan view of the right end of the case, the central part being omitted;

FIG. 3 is an end elevation view of the case of FIG. 2; and

FIG. 4 is a detail view of parts of a spinning machine, on an enlarged scale, which coact with parts of the conveying case.

Referring to FIG. 1 in the drawings, 1 denotes a can-conveying case set on the upper part of the frame 2 of a spinning machine. The case extends along the whole length of the machine frame, and a group of cans *a* for one spinning machine are placed in four lines in staggered positions. The slivers *b* taken from the cans of two rows on each side of the case are led to draft zones *d* on the sides of a spinning machine passing over guide rollers 4 and guide rods 5. The guide rollers and the guide rods extend along the whole length of the conveying case 1, and the rollers are rotatably mounted on the members 6 standing on each side of the case, and the guide rods 5 are held on brackets 7 on the members 6.

The case is made of angle and flat bars built in a truss, and ribs 8 are affixed to the inside of the truss in order to divide and hold rows of cans placed in the case. The bottom of the truss is closed by plates 12. Eye bolts 9 are fixed on brackets 8a provided at the upper edge of the case to facilitate handling of the case with a crane. A rod 10 with a pointed end is provided at each end of the case, and guide slots 11 are provided at corresponding positions on the spinning machine frame to guide the rods 10 when the case is lowered onto the spinning machine frame by means of a crane. In FIG. 1, 11a are guide plates provided on each side of the frame which guide the sides of the case when the latter is lowered onto the spinning machine frame. Referring to FIG. 4, 13 denotes a gear fixed on an end of

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the guide roller 4, and a bracket 14 is rigidly fixed at the gear end of the spinning machine frame 2. There is a pin 16 provided on the bracket and a gear 15 and a sprocket wheel 17 coaxially connected to each other are mounted on the pin. The sprocket wheel is driven by a rotating shaft, for example, the back bottom roller, not shown, of the spinning machine through the agency of a chain 23 so that the gear 15 is rotated.

An arm 18 is pivoted on the pin 16, and a gear 20 is provided on a pin 19 fixed on said arm and meshes with the gear 15. The free end of the arm 18 is raised upwardly by a pin 22 under the influence of a spring 21 provided in the bracket 14 so that the gear 20 yieldingly meshes with the gear 13. When the case 1 is lowered to its proper working position guided by guide members 10, 11 and 11a, the gear 13 meshes with the gear 20 so that the guide roller 4 is connected with the driving member of the spinning machine through the sprocket wheel and the gear 20.

In operation, a case with a number of full cans for one spinning machine is placed on the spinning machine frame, and the slivers *b* drawn from the cans *a* in the case are led to the draft zones *d* over the rollers 4 and the rods 5, being divided into two rows on each side of the case.

When the slivers in the cans are substantially exhausted, the machine is stopped, and the case is carried away by a ceiling crane in the mill and another case with full cans is positioned in place of the removed case.

Two cases are provided for each spinning machine and are used alternately, one case being loaded with cans of full sliver at a place, while another one is positioned on the machine to supply slivers to the spinning zones.

What is claimed is:

1. In combination with a can-conveying case having a length almost equal to the length of a spinning machine frame and a width sufficient to receive a plurality of rows of cans and having a guide roller and a guide rod which extend along the whole length of the case on each side thereof, a gear fixed at one end of said guide roller, and a further gear coupled to a rotating shaft of the spinning machine which meshes with said gear on the guide roller when the case is set in its proper working position on the spinning machine frame for driving said guide roller.

2. The combination as claimed in claim 1, further comprising guide members on each end of the case and coacting members positioned at the corresponding positions on the spinning machine frame so as to position the case in its proper working position when the case is lowered onto the spinning machine frame.

3. The combination as claimed in claim 2, further comprising a bracket on the spinning machine frame, an arm pivoted on said bracket, said further gear which is coupled to the rotating shaft of the spinning machine being rotatably mounted on the free end of the arm, and a spring in said bracket acting on the free end of said arm so as to urge said further gear into meshing engagement with the gear on the end of the guide roller.

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