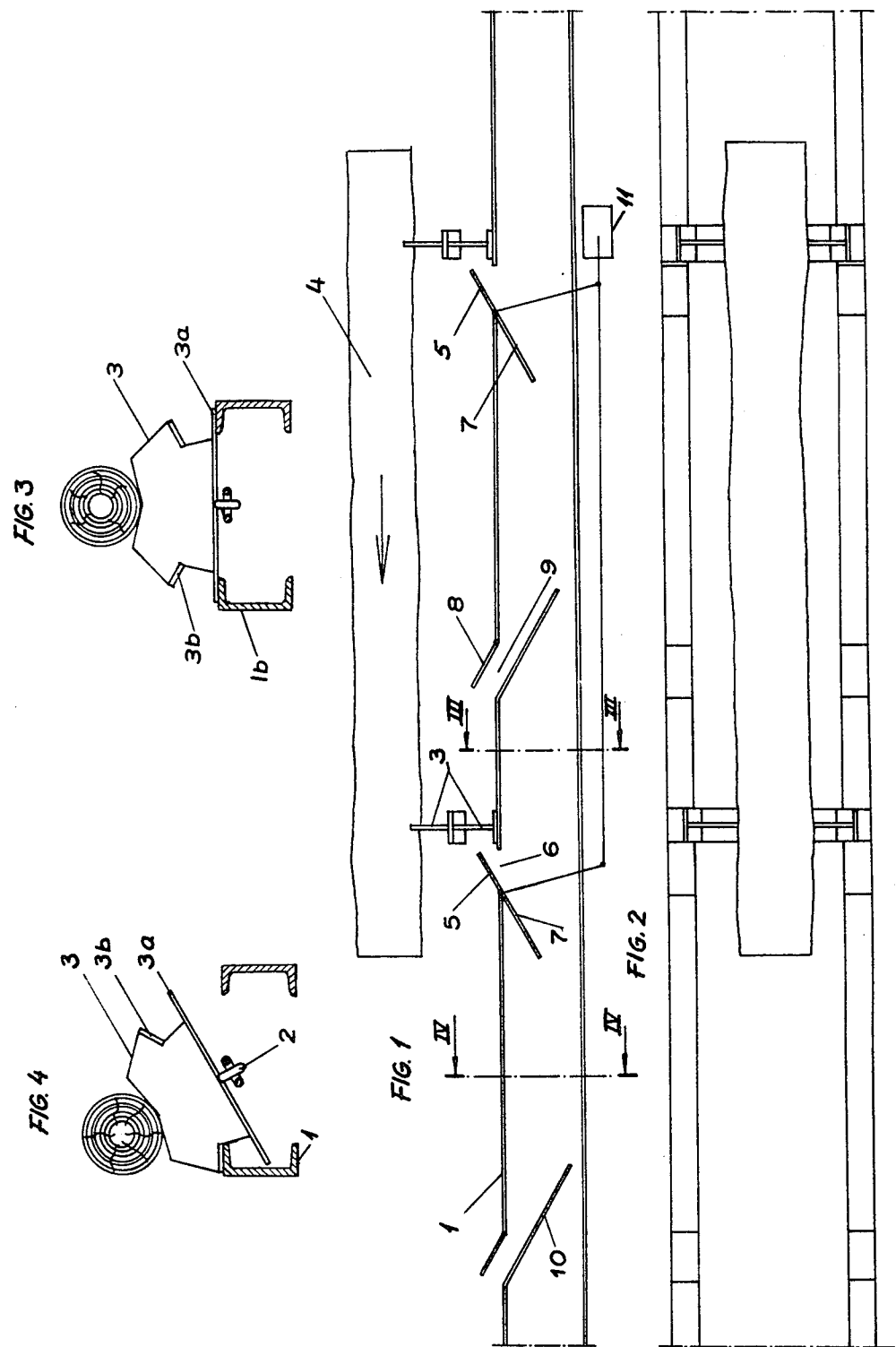


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A. RYSTI
ARRANGEMENT OF SORTING DEVICE FOR TIMBER, IN
PARTICULAR FOR LOGS
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INVENTOR: A. Rysti
by *Richard & Geier*
ATTORNEYS

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ARRANGEMENT OF SORTING DEVICE FOR TIMBER, IN PARTICULAR FOR LOGS

Alpo Rysti, Frisans, Finland, assignor to Sateko Oy,
Helsinki, Finland, a corporation of Finland
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ABSTRACT OF THE DISCLOSURE

A device for sorting timber includes toggles which carry logs and which are movable upon parallel guides. Flaps are provided upon the guides at each sorting station which can be opened to tilt a toggle and thereby discharge a log into the selected sorting station. Guiding surfaces restore tilted toggles to their initial positions.

The invention has reference to an arrangement of sorting devices for timber, in particular for logs, the sorting device partly including a conveyor provided for transport of timber in its longitudinal direction most appropriately by means of dogs or toggles moving along two guides placed in parallel, and partly compartments for the timber to be sorted which are located on one or both sides of the conveyor, the conveyor being fitted opposite to each compartment with said arrangement, adjusted to set a piece of timber free from the conveyor opposite to any desired compartment.

The purpose of the invention is to obtain a positive sorting arrangement for timber and which operates rapidly as required.

A sorting arrangement according to the present invention is mainly characterized in that in the guide or guides furnished for the toggles flaps have been provided opposite to each compartment, which can be opened with the effect that the dogs or toggles supporting the timber can be made, at the sorting station desired, to assume an oblique position causing the piece of timber to be fed into the desired compartment.

In the following the invention is described with reference to the attached drawing showing one embodiment of the sorting arrangement according to the present invention.

In the drawing, FIG. 1 shows a sorting arrangement according to the present invention, viewed from the side at a point opposite to one sorting station. FIG. 2 shows the arrangement according to FIG. 1, viewed from above. FIG. 3 is a sectional view through the arrangement at III—III in FIG. 1, with the toggle in transport position, while FIG. 4 is a section at IV—IV in FIG. 1, the toggle being depicted in oblique position.

The conveyor assembly includes two U beams placed in parallel and most appropriately placed on edge, which constitute the guides 1. The conveyor chain has been denoted with 2, and the toggle proper with 3. The toggles 3 are comparatively high, most appropriately 0.3–0.7 times the required length. The toggles or dogs move in transport position, normally, resting with their lower parts 3a on the guides 1. In order to make the piece of timber 4 drop into the desired compartment, openings 6 have been provided in the upper flange of guide 1 opposite to the compartment, these openings being closeable by means of flaps 5 against the toggles 3 supporting pieces of timber. When the piece of timber 4 carried on toggles 3 arrives opposite to the compartment, the flaps 5 have been arranged so that they may be opened with the effect that the terminal parts of the toggle pointing toward the compartment may drop through the openings 6 and the toggles will assume an oblique position to discharge the piece of timber 4 into the compartment. The toggles 3 have, above their guiding portions 3a, additional guiding

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portions 3b, and the terminal parts of the toggles dropping down at the discharging station are arranged, after their oblique position, to come to rest once more on these guiding parts on the upper surface of rail 1. In order to open the flaps or equivalent 5 with the purpose of discharging a piece of timber, they are actuated in suitable manner. The flaps 5 may be arranged to be governed automatically or manually from a special control point, suitably in such a way that each flap or pair of flaps is governed by an electromagnet 11, which is suitably energized in order to open the flaps. For this to be achieved, the flaps 5 are suitably pivoted by one end to the guide 1 and extended past the pivoting point to form an arm 7, which for opening of the flaps is acted upon by the electromagnet 11 e.g. by means of a linkage. After the piece of timber has dropped off the conveyor, the toggles are restored to normal transport position. In order to achieve this, the guides 1 have been fitted, at a given distance from the openings 6, with openings 9 closeable by means of flaps 8 or equivalent. The toggles are then arranged to return to normal transport position upon the guiding surface 3a under the effect of extra guides 10 fitted to the U beams and engaging with the guiding portion 3b of toggles 3. The flaps 8 are arranged to open under action of the toggles and to close by their own weight and/or under the action of a special counterweight.

The arrangements for discharging timber at other sorting stations include arrangements similar to those described above.

The invention is by no means restricted to the embodiment presented in the drawing; variations of different kinds are conceivable within the scope of the subsequent claims. For instance, the pivoted flaps 5 may be provided with a special counter-organ preventing them to open too far, and ensuring more reliable action. Instead of providing and using the guiding portions 3b, the ends of the toggles 3 may be arranged to assume an oblique position at the unloading stations in that the guiding surfaces 3a come to rest against the lower edge 1b of guides 1. In such an arrangement the guides 10 have to be made to extend from the lower edge of the U beams to their upper edge. If required, the toggles may be arranged to assume an oblique position at the timber unloading stations by such means that when one end of the toggle drops down the other end is lifted up and is detached from the upper surface of the guides 1. It may be advantageous, particularly in the latter case, to provide at the middle of the toggle a third, stationary guide around which the toggles pivot.

I claim:

1. A device for sorting logs, comprising in combination, two parallel spaced guide rails having guide surfaces, a plurality of spaced log carrying toggles mounted upon said surfaces, driving means interconnecting and moving said toggles upon said surfaces, said guide rails having openings formed in said guide surfaces at specific sorting locations, whereby a toggle reaching one of said openings tilts in the course of its movement so that a log carried thereby rolls off the toggle and drops into a sorting location, flaps swingably mounted upon said guide rails for opening and closing said openings and means actuating said flaps.

2. A device in accordance with claim 1, wherein said flap actuating means comprise an electromagnet.

3. A device in accordance with claim 1, wherein the height of each toggle is substantially 3 to 7 times its length.

4. A device in accordance with claim 1, wherein said guide rail surfaces have additional openings spaced from the first-mentioned openings and inclined guides extending upwardly in the direction of movement of said toggles

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to an edge of the additional openings for restoring a tilted toggle to its untilted position upon the guide surface.

5. A device in accordance with claim 4, wherein each of said toggles comprises guiding surfaces engaging said guide surfaces of the guide rails when the toggle is in its untilted position and other guide surfaces located above the first-mentioned guide surfaces.

6. A device in accordance with claim 5, wherein said other guide surfaces of the toggles engage said inclined guides during movement of the toggles from tilted to untilted positions.

7. A device in accordance with claim 6, comprising ad-

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ditional flaps swingably mounted upon said guide rails for opening and closing said additional openings, said additional flaps being swung open by the toggles moving upwardly upon said inclined guides.

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RICHARD E. AEGERTER, *Primary Examiner.*