Aug. 16, 1966 R. L. WEHR 3,266,074

FLAT GLASS WASHER

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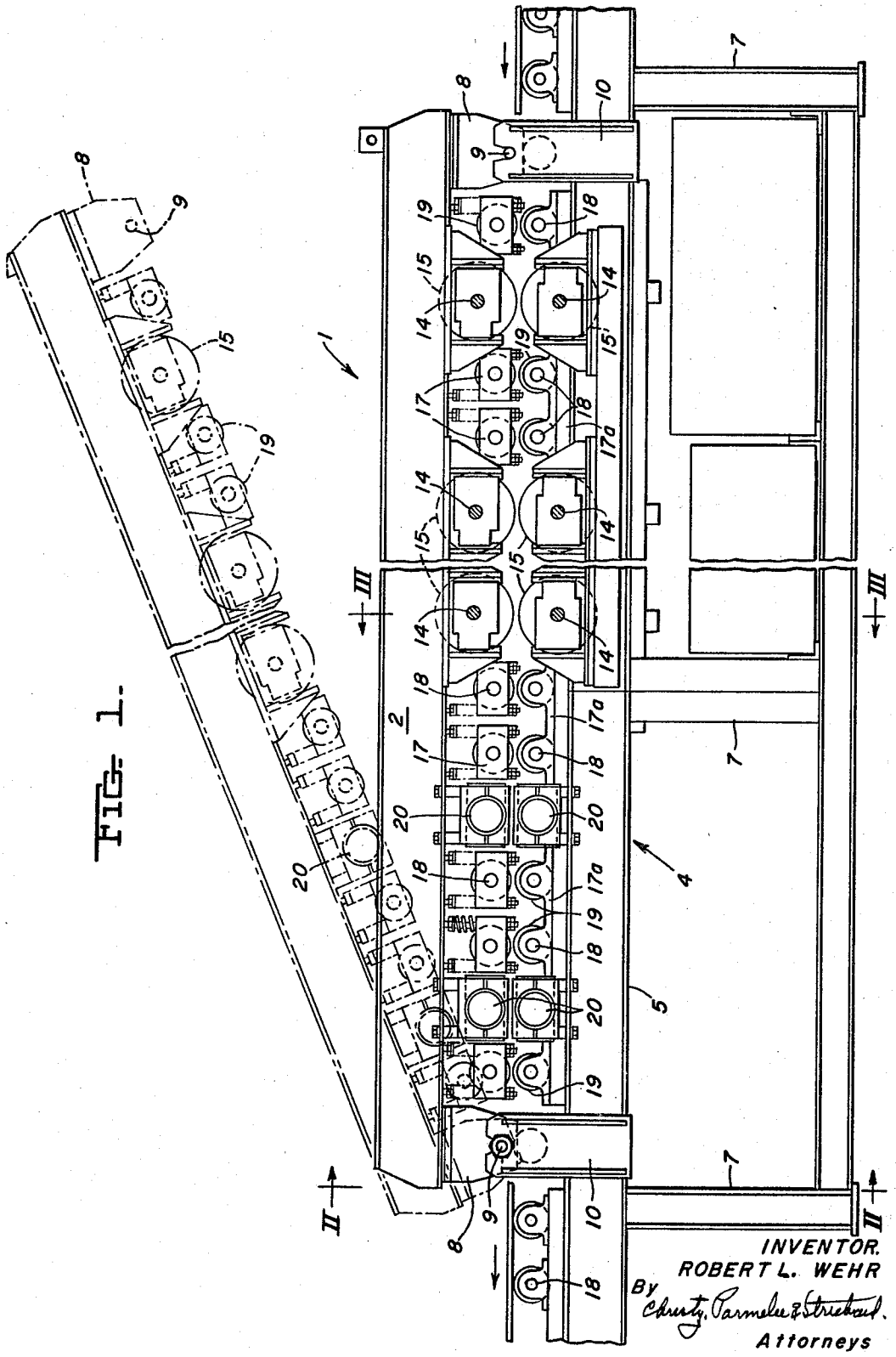


FIG. 1.

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FIG. 2.

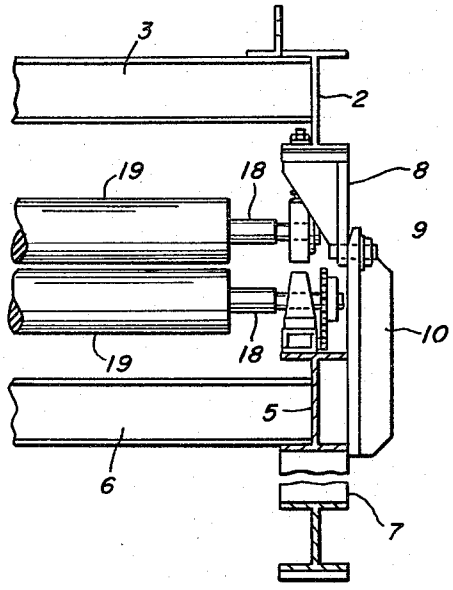
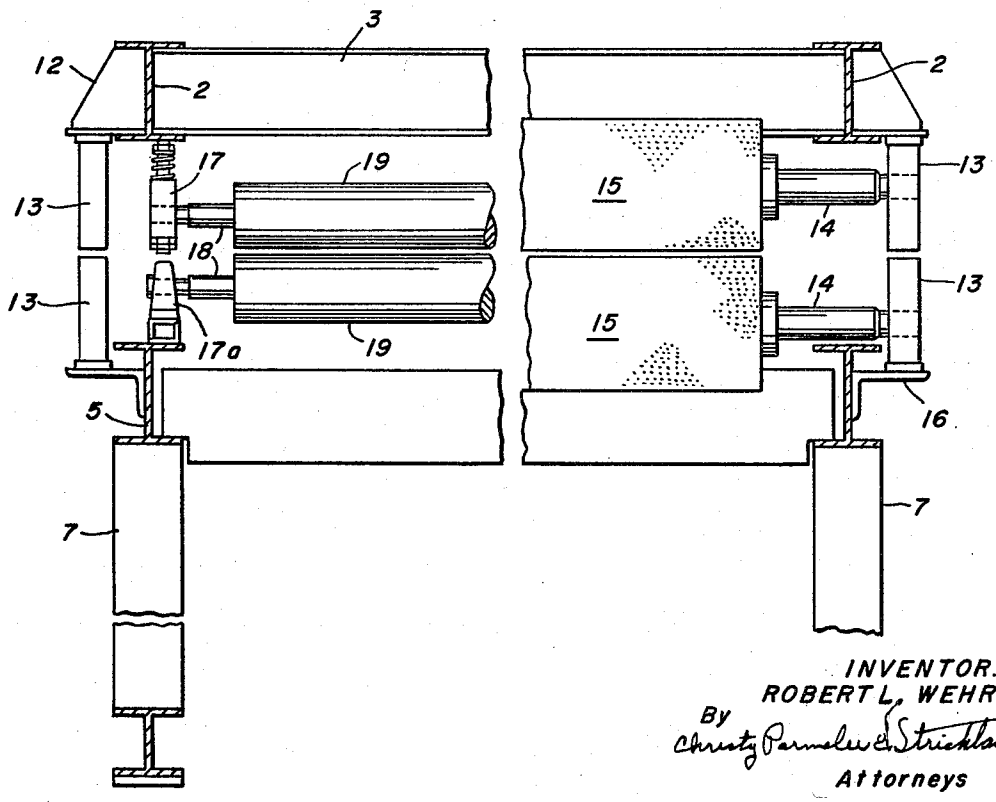


FIG. 3.



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FLAT GLASS WASHER

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2 Claims. (Cl. 15—77)

The present invention relates to improvements in flat glass washing machines and more specifically to improvements in such machines to facilitate cleaning thereof and removal of glass chips flushed from the glass during the washing operation.

Flat glass washing machines are old in the art and as generally constructed comprise an upper and a lower frame upon which are mounted brushes and glass conveying rolls whereby a plurality of glass sheets, after being cut to required sizes, are successively conveyed between the brushes and scrubbed or washed by a suitable detergent and water. The sheets of glass are then suitably dried and packed for shipment or other processing.

During the glass cutting operation, prior to feeding the cut sheets to the washer, small chips may adhere to the cut edges of the glass sheets and during washing are displaced from the sheets and collected in the machine. Should such chip be embedded in the bristles of the glass scrubbing brushes or become embedded in the rubber surface of the glass conveying rolls, they frequently cause scratches upon the surface of the glass sheets necessitating scraping thereof.

The objects of the invention is to provide for the mounting of the customary brushes and conveying rolls along with their driving means upon an upper and a lower washer frame member whereby one or both ends of the frame members may be pivotally connected to permit relative vertical pivotal movement of the upper frame upon the lower frame to provide ready access to the rolls and brushes thereon for cleaning said glass chips therefrom.

This and other objects of the invention will be made apparent from the following description and the drawing forming a part thereof, wherein:

FIG. 1 shows in side elevation one form of said glass plate washer, with the frame members in operating position;

FIG. 2 shows a partial cross section taken on lines II—II of FIG. 1, illustrating the pivotal connection between overlying frame members; and

FIG. 3 shows a cross section through the washer illustrating the rolls and brushes and their mounting upon the frame members.

Referring now in detail to the drawing, the washer upper frame **1** is comprised of longitudinally extending and transversely spaced side frame members **2** connected by end and intermediate members **3** to provide a rigid frame. A corresponding lower frame **4** is comprised of longitudinally extending transversely spaced side frame members **5** connected by suitable transverse member **6**. The lower frame **4** is preferably of greater length than upper frame **1** and has spaced along the length thereof suitable supporting legs **7**. Depending from adjacent each end of frame **1** and suitably secured to each frame member **2** are suitable bracket members **8** each having adjacent the lower ends thereof suitable trunnions **9** received in trunnion support members **10** secured to the lower frame members **5**. From the foregoing it is apparent upper frame member **1** may be readily vertically detached from lower frame member **4** or may pivot about an end thereof, as hereinafter described. As best shown in FIG. 1, lower frame members **5** may advantageousy be extended beyond the trunnion supports **10** for the support of suitable conveyor rollers **11** adapted for carrying glass sheets into or away from the frame **1**.

As best shown in FIGS. 1 and 3, upper frame side members **2** adjacent the right hand ends thereof are provided with suitable outstanding brackets **12** from which are suspended suitable bearings **13** for reception of the ends of shafts **14** of top brushes **15**. Similarly the bottom frame members **5** are provided with corresponding brackets **16** for support of similar bearings **13** for the shafts **14** of the bottom brushes **15**. It will be understood that each upper brush **14** disposed in contact with the top face of a glass sheet mates with a brush **14** in contact with a bottom face of the same glass sheet. Such bearings and brushes are of a conventional type known in the art. Three such pairs of brushes **14** are shown and have been found to be adequate for the scrubbing of the glass sheets; more or less pairs of brushes may be employed where desired.

Adjacent each side of each top and bottom brushes **15** are suitable upper and lower bearings **17** and **17***a* for reception of the shafts **18** for the pairs of conveyor rollers **19** for conveying the glass sheets between said brushes. These bearings and rollers are of conventional types known in the art.

As the scrubbed glass sheets leave the brushes **15**, the sheets pass between two opposing pair of longitudinally spaced conduits **20** disposed transversely of the upper frame and lower frame **4**. Each of these conduits have a longitudinally extending slotted opening therein for directing a blast of air against the passing glass sheets to dry same. A suitable blower (not shown) may be mounted upon said upper frame **1** and provided with suitable flexible conduits which extend to the said fixed conduits **20** for supplying air to dry said glass sheets.

Conventional means for driving the brushes and glass conveying rollers are well known in the art and are employed with the present washer. Since these form no part of the present invention they have not been shown. Customarily, the usual gears, sprockets, belts and driving wheels are mounted upon one side of the washer and upon the lower frame. The shafts of the brushes and rolls of the upper frame are provided with the usual sprockets to mate with those of the lower frame brushes and rolls when the frames are in overlying position. Since these form no part of the present invention they have not been shown.

I claim:

1. In a glass sheet washer for cleaning glass sheets or continuous ribbon passing therethrough, the combination of

(a) a rigid rectangular bottom frame having side members and spaced transverse connecting members,

(b) a rigid rectangular top frame having side members and spaced tranverse connecting members,

(c) a bracket member depending from each of the four corners of said top frame and corresponding bracket support members mounted on said bottom frame for supporting said top frame in overlying spaced relation with said bottom frame,

(d) means spaced longitudinally of said top and bot-

tom frames for washing and drying glass sheets moving therebetween, and

(e) means between said depending brackets at one end of said top frame and their bottom frame supporting brackets providing a pivotal support for vertical pivotal movement of said top frame relative to said bottom frame.

2. The glass washer as defined in claim **1**, wherein said pivotal support means between one end of said top and bottom frames comprises a laterally extending cylindrical trunnion member on said top frame brackets and an arcuate concave recess on said bottom frame brackets receiving said trunnion members.

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