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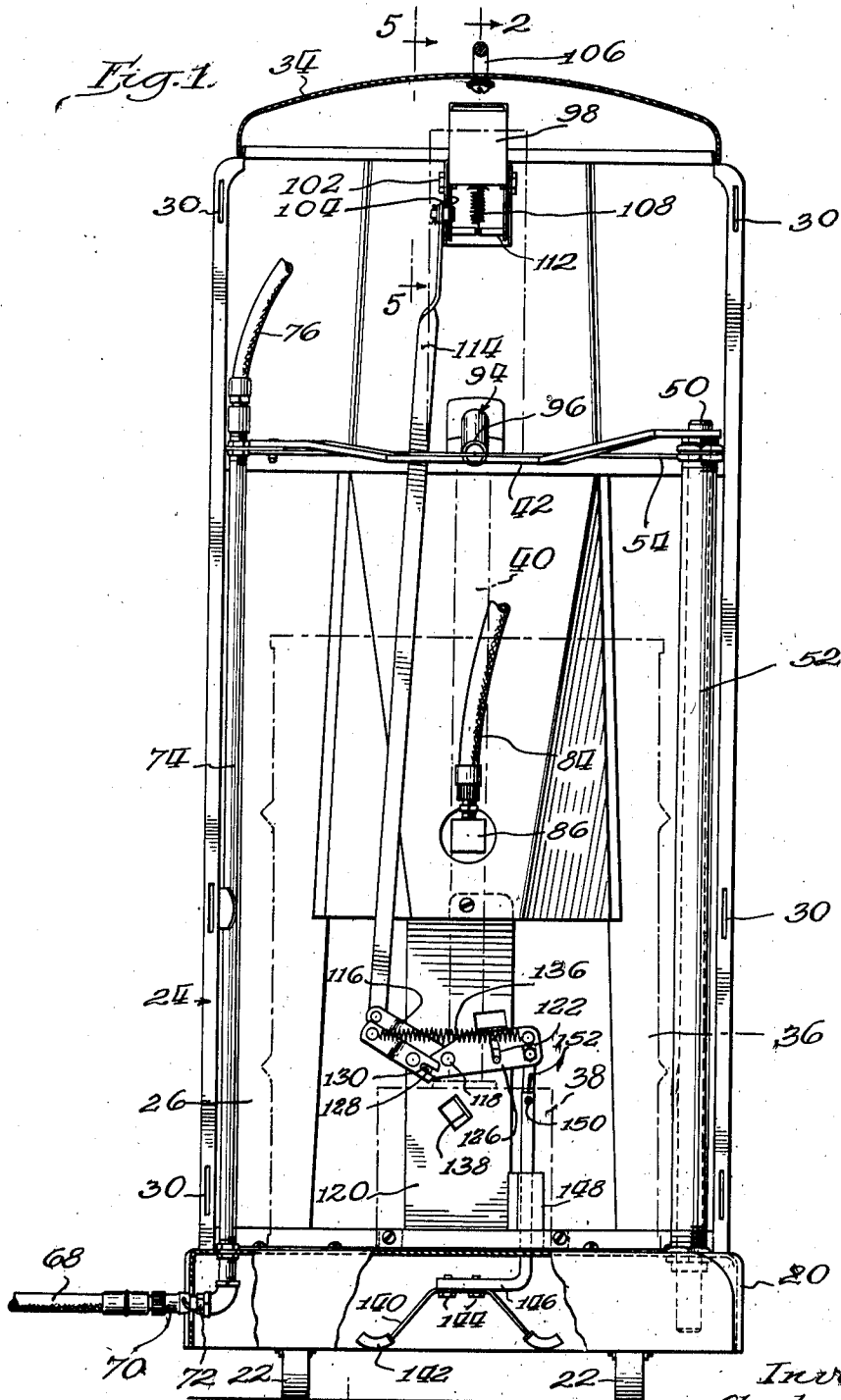
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2,335,401

BRAKING MECHANISM FOR MOBILE CONTAINERS

Filed Aug. 9, 1939

3 Sheets-Sheet 1



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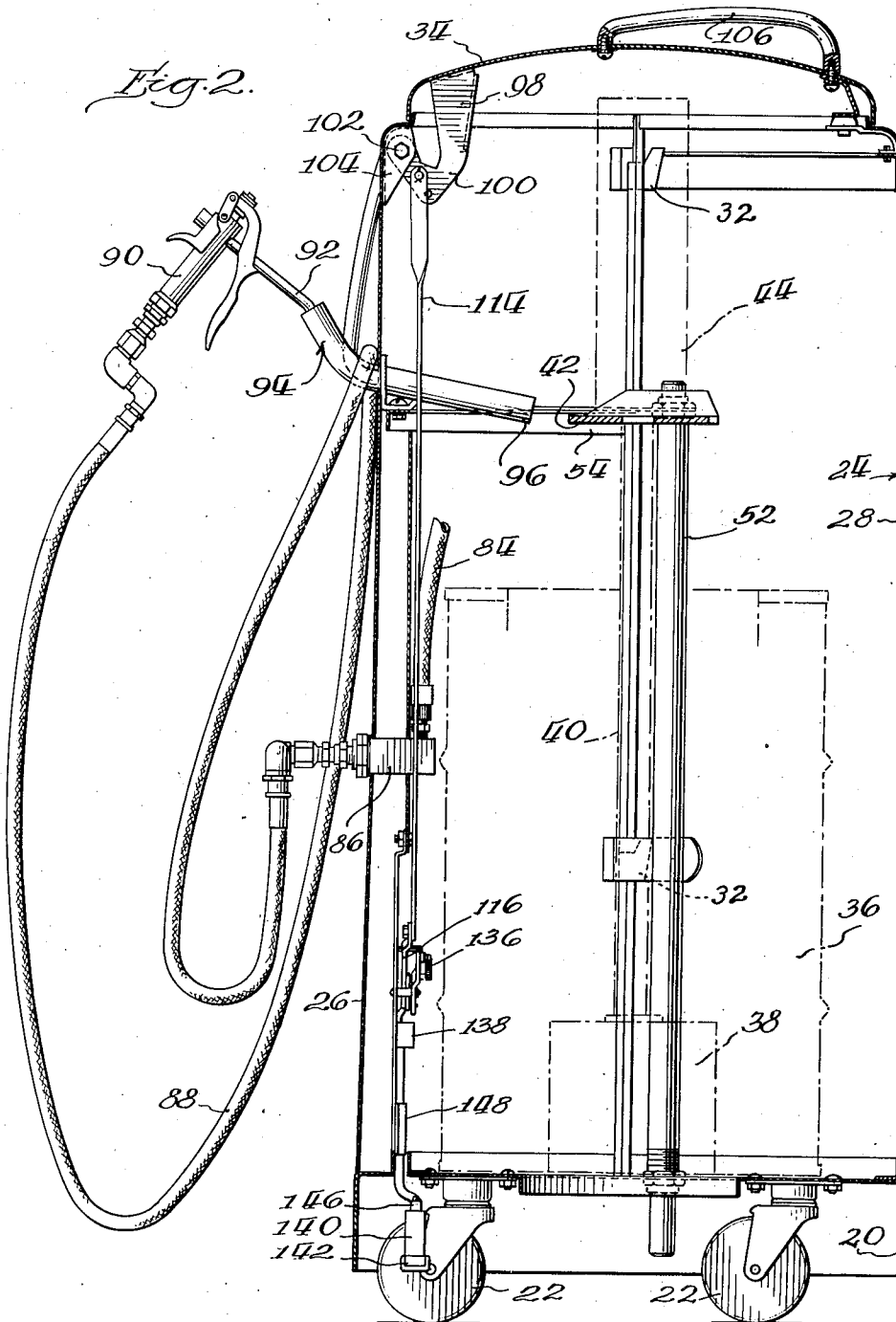
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2,335,401

BRAKING MECHANISM FOR MOBILE CONTAINERS

Filed Aug. 9, 1939

3 Sheets-Sheet 2



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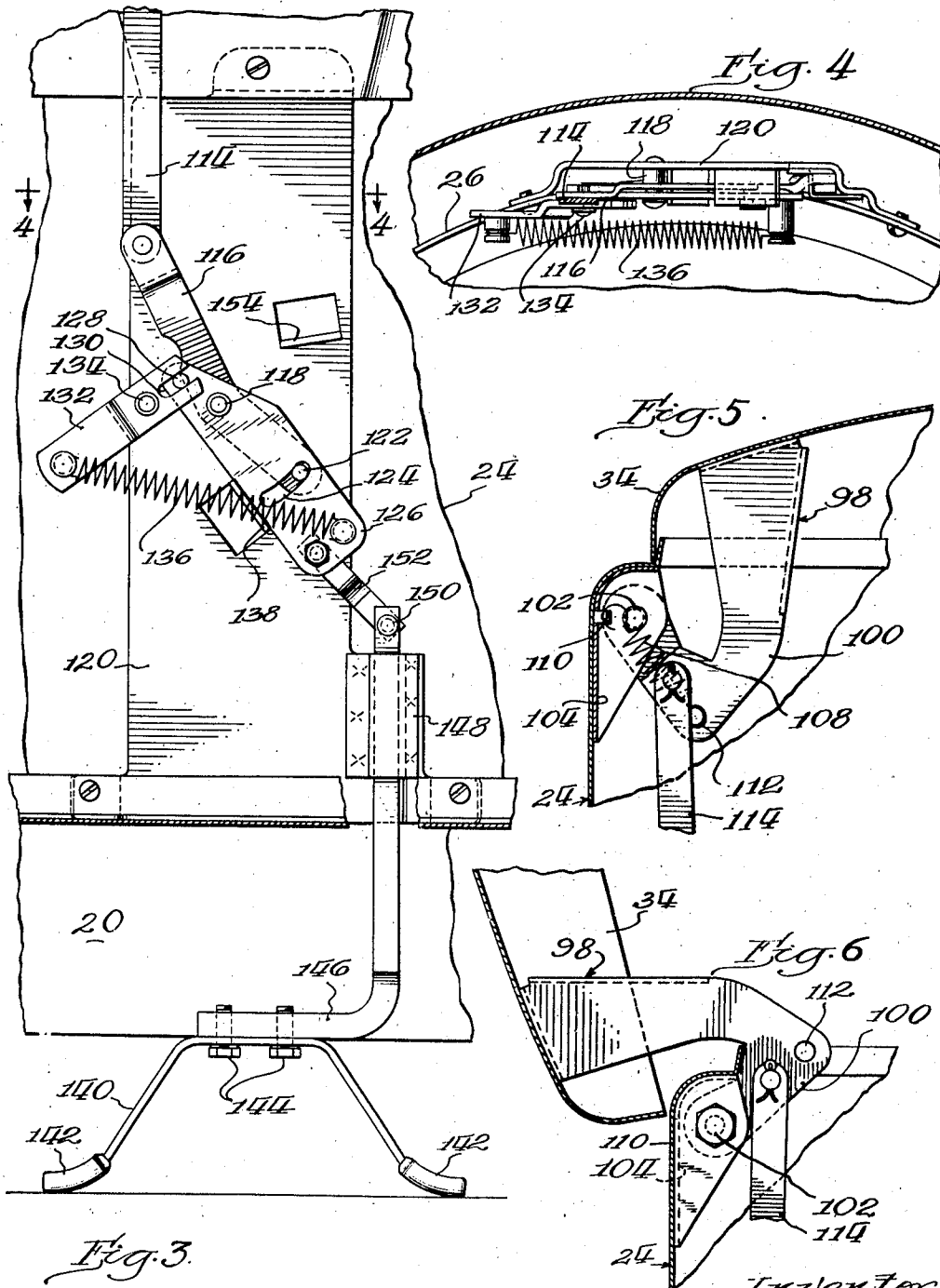
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BRAKING MECHANISM FOR MOBILE CONTAINERS

Filed Aug. 9, 1939

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,335,401

BRAKING MECHANISM FOR MOBILE CONTAINERS

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Application August 9, 1939, Serial No. 289,209

3 Claims. (Cl. 188—5)

My invention relates to braking mechanism for mobile containers and is illustrated as being applied to barrel pumps designed for use with steel barrels or drums in which lubricants are commonly shipped and wherein the pumping mechanism serves to dispense the lubricant from such barrels or drums to the point of application.

An object of my invention is to provide a new and improved braking mechanism for mobile containers.

Another object of my invention is to provide a new and improved braking mechanism for mobile containers which is particularly adapted for application to barrel pumps and similar devices.

Another object of my invention is to provide a new and improved braking mechanism for mobile containers which is connected to the cover of the container and automatically operated thereby.

Another object of my invention is to provide a new and improved braking mechanism for mobile containers.

Another object of my invention is to provide a new and improved braking mechanism for mobile containers which will provide adequate braking force to hold the container under all normal conditions regardless of the degree to which the container is filled or the position of the container parts and associated mechanism.

Another object of my invention is to provide a new and improved braking mechanism particularly adapted for barrel pumps and which is effective for all positions of the pump mechanism and for all quantities of lubricant in the barrels or drums associated therewith.

Another object of my invention is to provide a new and improved braking mechanism for barrel pumps which is automatically brought into action by the initial operation in changing lubricant drums and automatically returned to inoperative position by the final step in such operation.

Another object of my invention is to provide a new and improved braking mechanism for barrel pumps which compensates for the redistribution in weight occurring when a lubricant drum is removed.

Other objects and advantages will become apparent as the description proceeds.

In the drawings:

Figure 1 is a vertical section through a barrel and pump enclosure embodying my invention,

certain of the parts being illustrated in phantom outline to facilitate ease of understanding;

Figure 2 is a view similar to Figure 1 and taken on the line 2—2 of Figure 1;

Figure 3 is an enlarged view of the mechanism controlling the automatic support;

Figure 4 is a horizontal section taken on the line 4—4 of Figure 3;

Figure 5 is a detail view of the cover support showing the cover in closed position; and

Figure 6 is a view similar to Figure 5 showing the cover in raised position.

In the drawings I have illustrated my novel braking mechanism applied to a barrel and pump enclosure comprising a base 20 mounted on suitable wheels 22 and supporting a generally cylindrical sheet metal housing 24 comprising a semi-cylindrical portion 26 permanently secured to the base 20 and a semi-cylindrical removable portion 28. The stationary portion 26 of the housing 24 is provided with vertical slots 30 for receiving tongues 32 formed on the removable portion 28 of the housing whereby the two semi-cylindrical portions of the housing are normally held in interlocked relationship. The upper end of the housing is normally closed by a cover 34.

In Figure 1 I have illustrated a lubricant drum 36 as being located within the housing 24 and resting upon the base 20. It will be understood that the drum 36 is the usual metal shipping container for lubricants and that the plate which normally closes the essential opening in the upper head of the drum has been removed, thereby providing an opening through which a suitable pump may be inserted.

The pumping mechanism comprises a pump cylinder 38 having a lubricant inlet at the lower end thereof and provided, if desired, with a conventional screen for preventing impurities from reaching the pumping mechanism. The pump cylinder is suspended by means of a tube 40 from a supporting plate 42 carrying thereabove the air-operated motor cylinder 44. The supporting plate 42 is attached to the upper end of a rod 46 by screw 50, and the rod 48 telescopes in a tube 52 affixed to the base 20 and supported at its upper end in flange 54 integral with the fixed housing part 26. Suitable mechanism may be provided in conjunction with the rod 48 and tube 52 to permit the pumping mechanism to be raised and secured in raised position. In accomplishing this the pumping mechanism may be swung away from the stationary part 26 of the housing whereby

the weight of the pumping mechanism more than compensates for the removal of the movable part of the housing, thereby inhibiting upsetting of the entire structure during removal and replacement of the lubricant drum. After a new drum has been inserted, the pumping mechanism may be returned to its operative position.

Air is supplied to the pumping mechanism by a flexible air hose 68 provided with a suitable coupling member 70 for attachment to a nipple 72 permanently affixed to the base 20. The nipple 72 is connected to one end of a pipe 74 secured at its upper end to flange 54 and connected to a short flexible hose 76 which is connected to the motor cylinder 44.

The pump cylinder 38 discharges lubricant into the tube 40, an intermediate portion of which is connected to a flexible hose 84 leading to a lubricant discharge connection 85 attached to the fixed portion 26 of the housing. It will be noted that the flexible hose 84 is of sufficient length to permit raising and lowering of the pumping mechanism without uncoupling of this hose.

A flexible discharge hose 88 is normally connected to the discharge outlet 85. The discharge hose 88 may be provided with a suitable control valve 90 for regulating the discharge of lubricant through a nozzle 92 adapted to be successively brought into sealing engagement with nipples secured to bearing members or other machine parts requiring lubrication, such for example as the chassis bearings of automobiles and other machines. When the barrel pump is not being used to lubricate bearings, the nozzle 92 may rest in a tubular support 94 carried by the fixed portion 26 of the housing and having its lower end 96 located above the opening in the lubricant drum as best illustrated in Figure 2 whereby any leakage from the nozzle 92 will be returned to the drum.

My invention contemplates the provision of an automatic brake for rendering the entire unit immobile during the drum changing operation. This brake is lowered automatically when the cover 34 is swung to open position and automatically raised when the cover is swung to closed position. Referring to Figures 1, 2, 5 and 6, it will be seen that the cover is provided with a bracket 98 having spaced legs 100 pivotally attached by bolts 102 to a second bracket 104 provided by the upper end of the stationary portion 25 of the housing.

The cover 34 has a handle 106 to facilitate opening and closing of this cover and it will be noted from Figure 2 that when the cover is in closed position, it forms an additional means for holding the removable part of the housing in place. Referring particularly to Figures 5 and 6, it will be seen that I have provided a spring 108 having one end attached to a finger 110 integral with bracket 104, the other end of the spring being attached to a pin 112 attached to leg portions 100 of bracket 98.

The positions of the finger 110 and pin 112 are such that when the cover is closed as viewed in Figure 5, the spring 108 tends to hold the cover in this position, whereas when the cover is raised, as viewed in Figure 6, the spring 108 likewise tends to hold the cover in this position. It will be further noted from Figure 6 that when the cover is raised, the upper edges of the legs 100 engage the extreme upper end of bracket 104 to limit the opening movement of the cover. The legs 100 and bracket 104 are preferably made of

heavier or harder material than the housing 24, so that engagement of these parts upon opening movement of the cover creates no damage.

Opening movement of the cover 34 raises a link 114 pivotally connected at its upper end to a leg 100 of the bracket 98. The lower end of the link 114 is attached to one end of a lever 116 mounted on a fixed pivot 118 carried by a plate 120 attached to the fixed portion 26 of the housing 24. The other end of the lever 116 is provided with a pin 122 extending into an arcuate slot 124 in a second lever 126 also mounted on the fixed pivot 118.

The lever 126 has a pin 128 movable in a slot 130 and a third lever 132 mounted on a fixed pivot 134 also secured to the plate 120. A strong spring 136 connects the separated ends of the levers 126 and 132 and, in the position of the part shown, urges the lever 126 toward a stop 138 formed by a turned-up portion of the plate 120.

A ground engaging brake is attached to one end of the lever 126. This brake comprises a U-shaped strap 140 having rubber covered ends 142 or shoes 142 for engaging the floor or pavement. Bolts 144 secure the strap 140 to one end of an L-shaped rod 146 slidable in a guide 148 rigid with the plate 120. The upper end of the rod 146 is pivotally connected at 150 to an extension 152 rigid with the lever 126.

In Figure 3 the parts are shown in the positions they assume when the brake is in ground engaging position, which is the position it assumes when the cover 34 is raised. In Figure 3 the brake is firmly pressed against the ground or floor by the powerful spring 136 and the rubber covered ends 142 prevent movement of the barrel pump while the lubricant drums are being changed.

After the old drum has been removed and a fresh drum of lubricant inserted, the cover 34 is lowered. As the cover is lowered, the link 114 moves downwardly, thereby swinging the levers 116 and 126 in a counterclockwise direction about their pivotal support 118 and at the same time raising the brake 140. Simultaneously, the lever 132 is moved in a clockwise direction about its pivotal support 134. As soon as the spring 136 is raised above the pivotal supports 118 and 134, it snaps the lever 126 against the stop 154 and holds the brake in elevated or inoperative position.

It will be seen that the braking mechanism is so designed and connected with the cover that a powerful braking action is obtained with little effort on the part of the operator and that any effort exerted to raise or lower the brake is incidental to other operations necessarily involved in removing an exhausted drum and replacing it with a full drum of lubricant. The pin 122 and slot 124 provide a lost motion connection between levers 116 and 126 which compensates for manufacturing variations in the sizes of the parts and also compensates for variations in distance between the floor or pavement and base 20.

While I have illustrated and described the housing 24 as being generally cylindrical in cross-section, it will be understood that this housing may assume any other desirable and attractive shape. It will further be understood that this housing and other exposed parts may be painted, enameled or otherwise attractively finished and may bear any appropriate trade-mark, design or other indicia.

From the foregoing description considered in

connection with the accompanying drawings, it will be seen that I have provided a simple, inexpensive, durable and easily operated braking mechanism illustrated as being applied to a barrel and pump enclosure particularly designed for, but not necessarily limited to, handling of oils, greases, or other lubricants. Attention is also called to the fact that while the upper end of the lubricant drum remains open while the drum is located in my barrel pump, the housing 24 and cover 34 effectively exclude dirt, dust, water and other impurities and thereby maintain intact the lubricating qualities of the contents of the drum. While my novel braking mechanism is shown as being applied to a barrel and pump enclosure, it is not necessarily limited to this use but may be applied to other mobile containers.

While I have illustrated and described only one specific embodiment of my invention, it is to be understood that my invention may assume numerous forms and that the scope of my invention is defined in the following claims.

I claim:

1. A barrel and pump enclosure comprising a base, a housing carried by said base, wheels supporting said base, said base and housing being adapted removably to receive a shipping container holding material to be dispensed, said housing having a movable portion, and braking mechanism to prevent movement of said base connected to said movable portion of the hous-

ing and automatically operated thereby, said braking mechanism comprising a U-shaped member having rubber ground-engaging ends and spring applying and releasing means.

2. A barrel and pump enclosure comprising a base, a sheet-metal housing carried by said base, wheels supporting said base, said base and housing being adapted removably to receive a shipping container holding material to be dispensed, said housing having a sheet-metal cover, braking mechanism to prevent movement of said base connected to said cover and automatically operated thereby, a first bracket attached to said cover, a second bracket attached to said housing, a pivotal connection between said brackets, and hardened engaging parts provided by said brackets for limiting opening movement of said cover.

3. A barrel and pump enclosure, including a base adapted to hold a lubricant container, a movable support for said base, a brake for preventing movement of said base, applying means for said brake comprising a pair of interconnected levers, a spring for urging said levers toward either brake applying position or brake releasing position, a container enclosing housing mounted on said base, said housing having a pivoted cover, and brake control means connecting said levers and said cover and actuated by the pivotal movement of said cover.

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