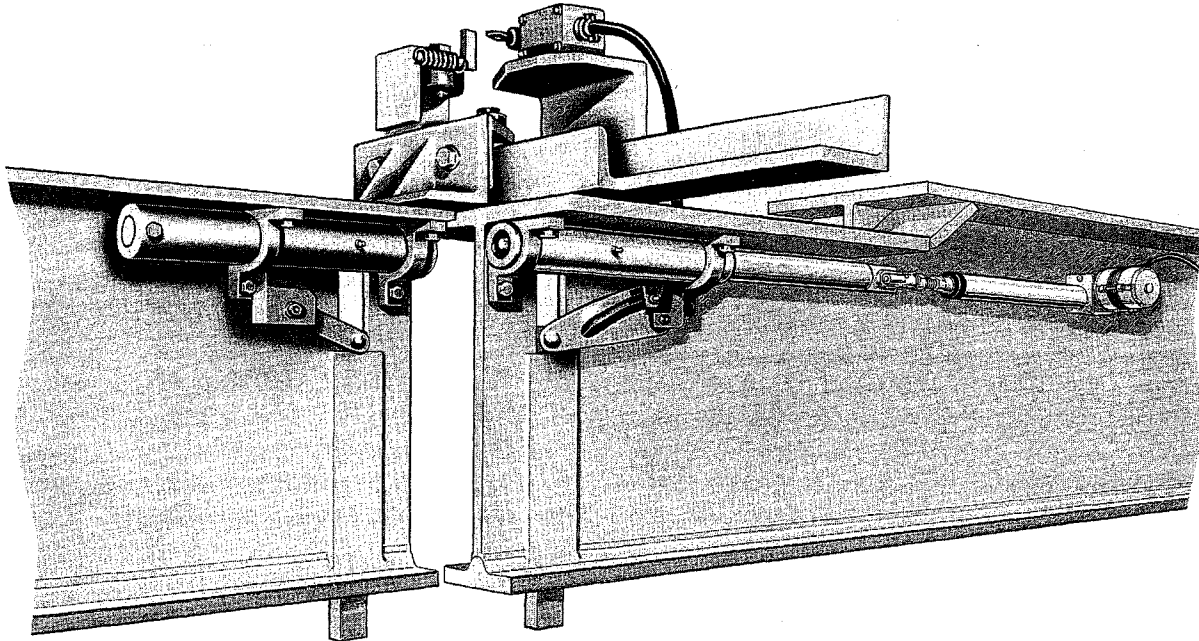


CRANE LATCHES

MOTOR OPERATED, FOR MOTOR PROPELLED CRANES



Catalog No. 505.7830 motor operated latch on crane at the right approaching the aligning position with the No. 505.7831 latch block on the spur track at the left.

FEATURES:

ALIGNMENT: The motor operated latch assembly is equipped with a flared guide channel which works in conjunction with a heavy duty guide roller mounted on the latch block. This arrangement will either pull together or force apart the ends of the crane bridge and spur track/transfer section. This arrangement assures proper gap spacing, therefore, preventing the stubbing of the two track ends.

Located directly above the guide roller and channel guide is a centering limit switch and cam device. The end of the crane and the end of the spur track/transfer section must be aligned horizontally before the contacts on the limit switch are closed. Until this alignment is accomplished and the limit switch is closed, the latch motor circuit is inoperative, preventing the operator from extending the latch pin.

Without additional bridge conductors, the centering limit switch can also be used to energize an indicating light circuit to give the operator a signal the crane is properly aligned for latching. The signal light can be mounted on the crane itself, in the operator's cab, or as an integral part of a pendant station.

SAFETY CIRCUIT: The latch should be provided with a safety circuit when: a crane is latched to a spur track; two cranes in adjacent bays are latched to the same transfer section; two cranes are directly interlocked end to end and there are two or more carriers operating on these cranes. Unlatching the cranes while there is a carrier on the transfer section or astraddle the interlock joint is prevented.

OPERATION: On floor controlled cranes the latch is controlled from a pendant pushbutton station. The pendant may be suspended from the crane structure itself or from the hoist carrier operating on the bridge. For the latter, additional bridge conductors and carrier collectors are required for the pilot circuits controlling the operation.

On cab operated carriers the pushbuttons are located in the cab. The requirement for additional control conductors and collectors is the same as for floor controlled units, depending on whether the cab is mounted on the carrier or on the crane itself.



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OPERATION (Cont'd.)

When the operator has aligned the crane with the spur or transfer section, he actuates the linear motor by depressing the latch pushbutton. The linear motor exerts sufficient force to cause the tapered pin, as it is driven into the latch block tube, to pull the ends of the two tracks into horizontal and vertical alignment for passage of the loaded trolleys across the gap.

A lug and cam roller on the latch pin operates a pivoted and slotted cam lever which is, in turn, connected to the upper end of the baffle bar. The stroke of the latch pin in a horizontal plane is transferred to a vertical motion in the baffle bar, sufficient to withdraw the baffle bar flush with the underside of the track. As the latch pin is driven forward, it enters the latch block guide tube and contacts the latch block pin which is forced back against a coil spring at the closed rear end. The latch

block pin is connected to a bell crank, the opposite end of which is, in turn, connected to the upper end of the latch block baffle. The baffle is raised in the same fashion as that for the latch itself.

The unlatching operation is set in operation by depressing the "unlatch" button and the function of the latch and block and block parts is the reverse of that described above for latching. The baffle on the latch is forced down by the motor and it's connecting system of levers, while the baffle on the block is driven by the coil spring behind the latch block pin.

The latch and unlatch position of the linear motor is limited by a limit switch which is actuated by a cam mounted on the linear motors shaft.

