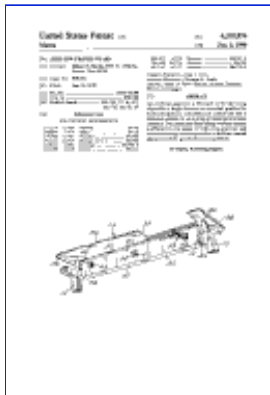


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High-low profile guard Robert P. Martin



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An overhead guard for a lift truck or the like being adjustable in height between an extended position for maximum operator convenience in normal use and a retracted position for use in areas of restricted overhead clearance. Full protection from falling overhead objects is afforded by the guard in both of its positions and counterbalancing means is provided to facilitate manual adjustment of the guard between its positions.

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B62D 2506

Claims

What is claimed is:

1. In combination, an industrial vehicle for material handling or the like having an operator station including a seat, and an overhead guard for protecting an operator seated in the seat from falling objects, the guard including a rigid metal frame as one component generally surrounding the operator station, the frame including rigid supporting elements at points forward and rearward of the operator station and extending upwardly from the main body of the vehicle to a zone generally above the operator station, and a rigid metal roof barrier as another component supported by the frame and including a generally planar main section substantially completely overlying said operator seat, said roof barrier being shiftable on the frame between an extended position for maximum head room and a retracted position for maximum clearance of overhead structures, said roof barrier main section maintaining its overlying relationship with said operator seat and being disposed in generally horizontal planes in both of said positions, and means on one of said components for selectively maintaining said roof barrier at either said extended position or said retracted position, said rigid frame and roof barrier being constructed and arranged on said vehicle in such a manner that falling objects striking said roof barrier are prevented from entering said operator station as a result of the physical obstruction to such objects formed by said roof barrier.
2. An overhead guard for a lift truck or the like comprising a rigid metal frame including a plurality of generally vertical legs at the front and rear of the guard and a set of generally horizontal bars interconnected between each of said legs at points adjacent their upper ends, said frame having an upper generally horizontal face and including generally horizontal supporting surfaces at its upper face, a generally planar metal roof barrier carried on said frame in a generally horizontal plane, means for selectively supporting and maintaining said roof barrier both in a horizontal elevated extended position on said frame and alternatively in a horizontal retracted or lower position on said frame, said retracted position of said roof barrier being adjacent said upper frame face, said roof barrier being constructed and

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Citations

Patent Number	Title	Issue date
1715379	(unknown)	Jun 1929
1964894	(unknown)	Jul 1934

2795458	(unknown)	Jun 1957
2911232	(unknown)	Nov 1959
3259211	(unknown)	Jul 1966
3455599	(unknown)	Jul 1969
3841213	(unknown)	Oct 1974
3841698	(unknown)	Oct 1974
4032187	Energy absorbing joint for protective frame	Jun 28, 1977

Referenced by

Patent Number	Title	Issue date
5326148	Operator compartment protecting device for construction vehicles	Jul 5, 1994
6002333	Alarm system to assist in gauging the size of a door opening	Dec 14, 1999
6220656	Cab with improved overhead vision	Apr 24, 2001
6322133	Falling object protective apparatus for an industrial vehicle	Nov 27, 2001
6561572	Cab enclosure construction	May 13, 2003
D544889	High visibility roof for tractor cab	Jun 19, 2007
7252325	Work vehicle cab screen	Aug 7, 2007
7306280	Overhead guard for materials handling vehicle	Dec 11, 2007

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arranged to be supported by the support surfaces of said frame face when struck by an overhead load whereby the structural integrity of said frame limits the displacement of said roof barrier below said retracted position and the strength and impenetrability of said roof barrier prevents entry of such load into a zone below said roof barrier.

3. An overhead guard as set forth in claim 2 including guide means for substantially limiting movement of said roof barrier relative to said frame in a vertical direction.

4. An overhead guard as set forth in claim 3 wherein said guide means includes means for permitting said roof barrier to be raised or lowered one-half at a time.

5. An overhead guard as set forth in claim 3 wherein said guide means is an elongated element extending in a generally horizontal direction along a substantial portion of said roof barrier and provides direct structural support for said roof barrier in both said extended and retracted positions.

6. An overhead guard as set forth in claim 5 wherein said roof barrier has a generally rectangular configuration, said guide means being provided at areas adjacent both long edges of said roof barrier.

7. An overhead guard as set forth in claim 5 wherein said generally horizontal bars of said frame form a generally rectangular array and said roof barrier has a generally rectangular configuration substantially coextensive and superposed with said rectangular array, said guide means including U-shaped stirrup elements depending from a lower face of said roof barrier and encircling an opposed pair of said horizontal frame bars.

8. An overhead guard as set forth in claim 2 including counterbalancing means carried by said frame for supporting the weight of said roof barrier whereby said roof barrier is readily manually manipulable between said extended and retracted positions.

9. An overhead guard as set forth in claim 8 wherein said counterbalancing means is arranged to provide a force at least as great as the weight of said roof barrier.

10. An overhead guard as set forth in claim 8 wherein said counterbalancing means comprises a compression spring in each of said legs and being operative to apply an upwardly directed force on said roof barrier.

11. An overhead guard as set forth in claim 10 including anti-friction means disposed between said compression springs and said overhead guard.

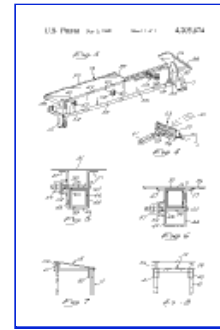
12. An overhead guard as set forth in claim 9 including guide means for limiting movement of said roof barrier relative to said frame in a generally vertical direction, said guide means comprising U-shaped stirrup members depending from said roof barrier and encircling a pair of said horizontal frame bars, the upper limit of movement of said roof barrier relative to said frame being determined by interengagement between the stirrups and the underside of said pair of horizontal roof bars and the lower limit of said roof barrier being determined by interengagement between the roof barrier and the top side of said horizontal roof bars.

13. An overhead guard for a lift truck or the like comprising a frame and a roof barrier, the frame including four generally vertical legs, the legs being formed of tube stock, four generally horizontal header bars interconnected at their ends between the upper ends of the legs, the roof barrier including a generally planar body having dimensions sufficiently large to cover a vertical zone bounded by said header bars, a pair of U-shaped stirrups fixed on an underside of the roof barrier along opposite edges thereof, each of said stirrups having a pair of vertical sidewall portions depending from said roof barrier and embracing one of said header bars, a bight wall portion of each stirrup being disposed beneath the associated header bar, the interior of the legs being exposed at their upper ends, a compression spring being disposed in the interior of each of said legs, means associated with each of said springs being arranged to telescope within the legs and support the roof barrier through said springs, said springs collectively counterbalancing the weight of the roof barrier, said roof barrier having extended and retracted operational positions on said frame, the extended position being limited by engagement of the bight wall portions of said stirrups with the undersides of their respective header bars, the retracted position being limited by engagement of the underside of the roof barrier with the upper surfaces of the header bars, and means for releasably locking said roof barrier in said lower position against the action of said springs.

Drawings



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