

PatBase - Search results 02 May 2017

Search query (2): [SP]: we claim:1. an improved retractable access step for location under a vehicle body comprising: a base plate disposed for fastening to the body of said vehicle side plates fixedly positioned on opposite sides of said base plate side guides positioned on said side plates slide members disposed for sliding relationship with said side guides a step member positioned fixedly between said slide members at the first end thereof guide grooves positioned on the lower edge of said slide members and forming a part thereof at the second ends thereof said slide members and said guide grooves being disposed to engage said side guides said guide grooves being further characterized by a generally v-shaped contour spring means engaging said base plate with said step said spring means being disposed to bias said step in a retracted position under said vehicle body said spring means being further disposed to bias said slide members and said guide grooves against said side guides said slide members having stop means provided at said second ends, said side guides being further disposed to effect positive engagement with said stop means when said step is completely withdrawn whereby the combined action of said slide members, said side guides, said guide grooves and said spring means imparts a combined positive motion of rotation and translation to said step as it is withdrawn from under said vehicle body and provides positive locking of said step in a horizontal withdrawn position.

Results: 17

Search history

Search PN=(US3817554) (Results 1)

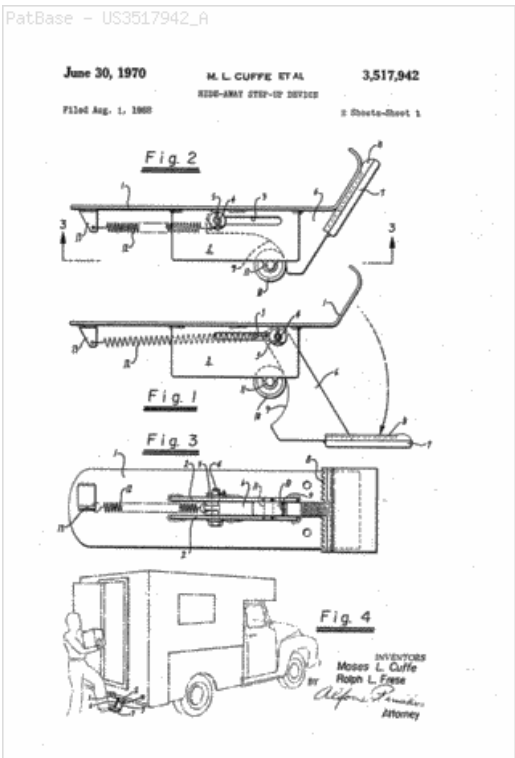
1:

Search [SP]: we claim:1. an improved retractable access step for location under a vehicle body comprising: a base plate disposed for fastening to the body of said vehicle side plates fixedly positioned on opposite sides of said base plate side guides positioned on said side plates slide members disposed for sliding relationship with said side guides a step member positioned fixedly between said slide members at the first end thereof guide grooves positioned on the lower edge of said slide members and forming a part thereof at the second ends thereof said slide members and said guide grooves being disposed to engage said side guides said guide grooves being further characterized by a generally v-shaped contour spring means engaging said base plate with said step said spring means being disposed to bias said step in a retracted position under said vehicle body said spring means being further disposed to bias said slide members and said guide grooves against said side guides said slide members having stop means provided at said second ends, said side guides being further disposed to effect positive engagement with said stop means when said step is completely withdrawn whereby the combined action of said slide members, said side guides, said guide grooves and said spring means imparts a combined positive motion of rotation and translation to said step as it is withdrawn from under said vehicle body and provides positive locking of said step in a horizontal withdrawn position.
(Results 17)

Title: HIDE-AWAY STEP-UP DEVICE

Abstract: Source: US3517942A ABSTRACT OF THE DISCLOSURE
An automatically rising and disappearing step-up device is permanently fixed to the running board rear end or other parts of motor vehicles such as trucks, station wagons, trailers, and campers. The combined action of pivot, slide guides, spring and cam provides positive movement of the step to a downward and horizontal position for safely mounting or boarding the vehicle and automatically returns it to an upward or vertical concealed position, free of interference when not in use.

Classifications:
International (IPC 8-9): B60R3/02 (Advanced/Invention);
B60R3/00 (Core/Invention)
International (IPC 1-7): B60R3/02
CPC: B60R3/02
European: B60R3/02
US: 280/166



Family:

Publication number	Publication date	Application number	Application date
US3517942 A	19700630	US19680749330	19680801

Priority:
US19680749330 19680801

Probable Assignee: MOSES L CUFFE
Assignee(s): (std): MOSES L CUFFE ; RALPH L FRESE
Inventor(s): (std): CUFFE MOSES L ; FRESE RALPH L
Inventor(s): MOSES L CUFFE ; RALPH L FRESE

Title: STEP-UP DEVICE

Abstract: Source: US3817554A A highly improved disappearing and retractable step for use with motor vehicle bodies such as mobile homes, trailers, campers, and the like combines a novel combination of slide, guide and operating means whereby a step which is normally safely positioned underneath the body while the vehicle is in transit may be rapidly withdrawn and positioned for safe access using a combined rotating and translation motion but eliminating the need for many mechanisms such as cams, slots, and guides which have characterized previous devices. At the same time the device permits for rapid return through spring action to its safe position under the vehicle.

Classifications:

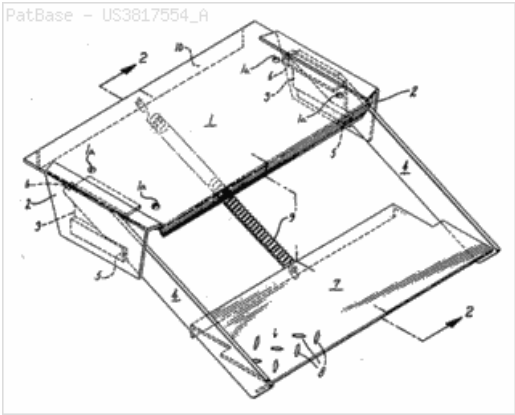
International (IPC 8-9): B60R3/02 (Advanced/Invention);
B60R3/00 (Core/Invention)

International (IPC 1-7): B60R3/02

CPC: B60R3/02

European: B60R3/02

US: 182/88 280/166



Family:

Publication number	Publication date	Application number	Application date
US3817554 A	19740618	US19720256414	19720524

Priority:

US19720256414 19720524

Probable Assignee:

CUFFE M

Assignee(s): (std):

CUFFE M ; FRESE R

Assignee(s):

FRESE R US ; CUFFE M US

Inventor(s): (std):

CUFFE M ; FRESE R

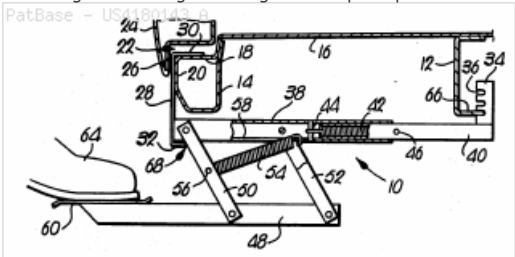
Inventor(s):

FRESE R US ; CUFFE M US

Title: Step for vehicles

Abstract: Source: US4180143A A safety step assembly for use with vehicles such as trucks or the like is provided with spring biased mounting brackets to removably mount the step assembly on a vehicle without resort to permanent attachment means, and includes spring biased parallelogram support linkage which is automatically operated upon mounting and dismounting of a step by a user to swing the step between an inward raised storage position thereof and an outward lowered position of use. Engageable holding structure interposed in the swing path of the linkage blocks movement of the latter when the step is in the use position and maintains such linkage in an inclined position to impose a stabilizing force on the step, thereby securely holding the step in the use position thereof without fear of shifting or instability. In one form, the step assembly is adapted to be mounted between a door opening and a chassis frame of a vehicle in a manner which discourages theft thereof, while another form of the step assembly is adapted for mounting on a swingable tailgate of a pickup truck.

Classifications:
International (IPC 8-9): B60R3/02 (Advanced/Invention);
B60R3/00 (Core/Invention)
International (IPC 1-7): B60R3/02
CPC: B60R3/02
European: B60R3/02
US: 182/91 280/166



Family:

Publication number	Publication date	Application number	Application date
US4180143 A	19791225	US19780926864	19780721

Priority:
US19780926864 19780721

Probable Assignee:	CLUGSTON GEORGE D
Assignee(s): (std):	CLUGSTON GEORGE D
Inventor(s): (std):	CLUGSTON GEORGE D

Search query (2): [SP]: we claim:1. an improved retractable access step for location under a vehicle body comprising: a base plate disposed for fastening to the body of said vehicle side plates fixedly positioned on opposite sides of said base plate side guides positioned on said side plates slide members disposed for sliding relationship with said side guides a step member positioned fixedly between said slide members at the first end thereof guide grooves positioned on the lower edge of said slide members and forming a part thereof at the second ends thereof said slide members and said guide grooves being disposed to engage said side guides said guide grooves being further characterized by a generally v-shaped contour spring means engaging said base plate with said step said spring means being disposed to bias said step in a retracted position under said vehicle body said spring means being further disposed to bias said slide members and said guide grooves against said side guides said slide members having stop means provided at said second ends, said side guides being further disposed to effect positive engagement with said stop means when said step is completely withdrawn whereby the combined action of said slide members, said side guides, said guide grooves and said spring means imparts a combined positive motion of rotation and translation to said step as it is withdrawn from under said vehicle body and provides positive locking of said step in a horizontal withdrawn position.

Results: 17

13) Family number: 32887839 (US2009008894A)

© PatBase

Title: STEP ASSIST BOX-SIDE

Abstract: Source: US2009008894A A step assembly is provided for a bumper of a motor vehicle. The step assembly includes a mounting bracket fixedly secured to the bumper. A step is operatively coupled to the mounting bracket and is movable between a retracted position disposed adjacent the bumper and a deployed position extending away from the bumper. A pivot arm is pivotally interconnected between the mounting bracket and the step. A spring is secured between the mounting bracket and the pivot arm for biasing the pivot arm. The spring creates a tensile force. A lock arm is pivotally interconnected between the mounting bracket and the step. The lock arm defines a lock surface engaging the pivot arm while the tensile force of the spring locks the step in order to retain the step in one of the retracted and deployed positions.

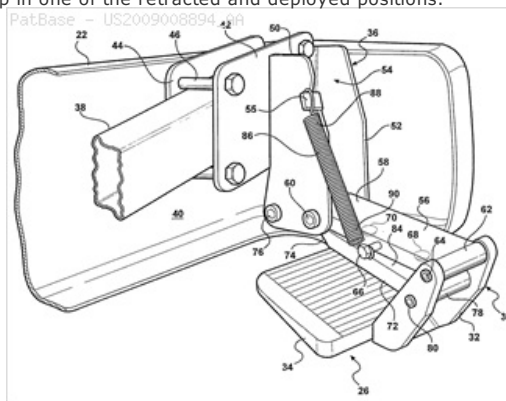
Classifications:

International (IPC 8-9): B60R3/00 B60R3/02 (Advanced/Invention);
B60R3/00 (Core/Invention)

CPC: B60R3/002 B60R3/02

European: B60R3/00A B60R3/02

US: 280/163 280/166 280/166P



Search history

Search 1: TAC=(vehicle step) (Results 696)

Search 2: TAC=(1 and spring*) (Results 55)

Title: Improvements in or relating to retractable steps for use on caravans or the like

Abstract: Source: GB936846A 936,846. **Vehicle steps.** C. H. MATTHEWS. Sept. 28, 1961 [July 31, 1961], No. 27639/61. Class 108(1). A **vehicle step** 6 has two sides 7 pivotally mounted on the frame 4 by pairs of 3 links 8, 9, so that it may be moved from the position shown to a stowed position during which the links rotate through 180 degrees.

Classifications:

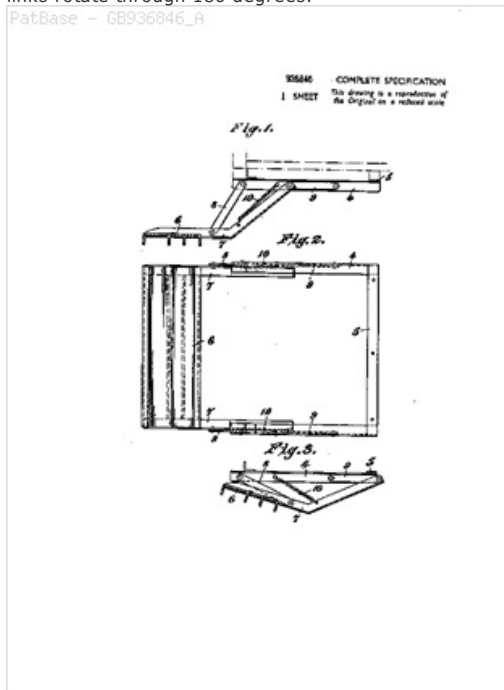
International (IPC 8-9): B60R3/02 (Advanced/Invention);

B60R3/00 (Core/Invention)

International (IPC 1-7): B60R3/02 B62D31/00

CPC: B60R3/02

European: B60R3/02



Family:

Publication number	Publication date	Application number	Application date
GB936846 A	19630911	GB19610027639	19610731

Priority:

GB19610027639 19610731

Probable Assignee:

CYRIL HARCOURT MATTHEWS

Assignee(s): (std):

CYRIL HARCOURT MATTHEWS

Title: Vehicle safety step

Abstract: Source: US3915475A A safety extension is provided for the relatively small slidably retractable step of a vehicle, such as a motor home or recreation vehicle. A safety step of considerably increased size is readily and securely attached to the existing retractable step when the latter is extended, and is quickly removed for storage and travel. No tools are required.

Classifications:

International (IPC 8-9): B60R3/02 (Advanced/Invention);

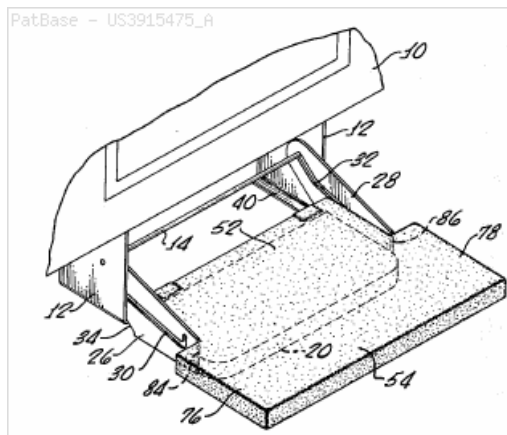
B60R3/00 (Core/Invention)

International (IPC 1-7): B60R3/02

CPC: B60R3/02

European: B60R3/02

US: 182/120 280/166



Family:

Publication number	Publication date	Application number	Application date
US3915475 A	19751028	US19740517183	19741023

Priority:

US19740517183 19741023

Probable Assignee: CASELLA WALTER

Assignee(s): (std): CASELLA WALTER ; HARDIE WILLIAM H

Inventor(s): (std): CASELLA WALTER ; HARDIE WILLIAM H

26) Family number: 12665770 (US5375864A)

© PatBase

Title: Fold-down step for vehicles

Abstract: Source: US5375864A A fold-down step arrangement is mountable to a vehicle to provide an intermediate step for the vehicle chassis. The invention includes a step plate that is pivotably mounted by parallelogram swing arms to a bracket secured to the vehicle chassis. The pivot axes of the arms are inclined to enable the step plate to be moved between a down and outward operative position and an up and inward inoperative position. A **spring** normally urges the step plate and arms attached thereto to the storage position. A connector linkage cable is also provided between the step plate and vehicle door such that the sliding enclosed cable will move in response to opening and closing of the vehicle door. The arrangement is such that opening of the door will cause corresponding motion of the step plate from the elevated storage position to the lowered operative position. Thus, when the door is open, the step plate is in an operative position for use. When the door is closed, the step plate is positioned in an inoperative position substantially at the ground clearance height of the vehicle chassis. A safety release is provided to allow separation of the cable from its connection to the plate should the step plate become bound in its storage position.

Classifications:

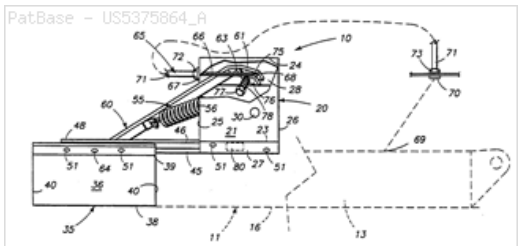
International (IPC 8-9): B60R3/02 (Advanced/Invention)

International (IPC 1-7): B60R3/02

CPC: B60R3/02

European: B60R3/02

US: 182/89 280/166



Family:

Publication number	Publication date	Application number	Application date
AU199471779 A1	19950117	AU19940071779	19940621
CA2165791 AA	19951220	CA19942165791	19940621
US5375864 A	19941227	US19930080952	19930621
US5498012 A	19960312	US19940263926	19940621
US5538269 A	19960723	US19950478499	19950607
WO9500359 A1	19950105	WO1994US07151	19940621

Priority:

US19930080952 19930621 US19940263926 19940621 WO1994US07151 19940621
US19950478499 19950607

Probable Assignee: VT HOLDINGS II INC

Assignee(s): (std): MCDANIEL GALE E ; MCDANIEL MFG INC ; MCDANIEL PATRICK K

Assignee(s): VT HOLDINGS II INC ; MCDANIEL MANUFACTURING INC ; MCDANIEL MFG ; COLUMBIA MFG ; COLUMBIA MFG INC

Inventor(s): (std): MCDANIEL GALE E ; MCDANIEL PATRICK K

Inventor(s): PATRICK K MCDANIEL ; GALE E MCDANIEL

Agent(s): RICHES MCKENZIE AND HERBERT LLP

Designated states: AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK ES FI FR GA GB GE GN GR HU IE IT JP KE KG KP KR KZ LK LU LV MC MD MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SI SK SN TD TG TJ TT UA US UZ VN