United States Patent

[11] 3,630,487

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[21] Appl. No. **11,813**
[22] Filed **Feb. 16, 1970**
[45] Patented **Dec. 28, 1971**

[54] **WHEEL-RAISING DEVICE**
8 Claims, 7 Drawing Figs.

[52] U.S. Cl. **254/88,** 248/352
[51] Int. Cl. **B66f 19/00**
[50] Field of Search ..... 248/352; 254/5 A, 5 R, 45, 50, 88, 104

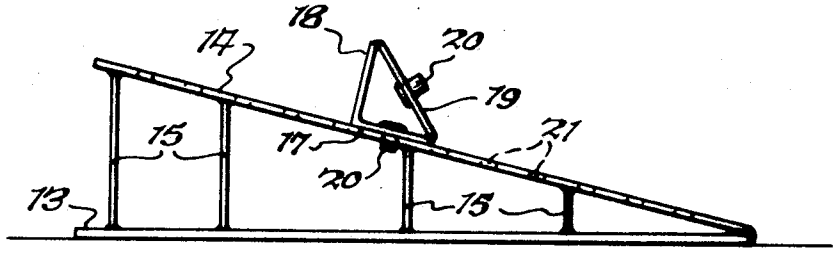
[56] **References Cited**

UNITED STATES PATENTS

1,503,781	8/1924	Baker	254/88 X
1,904,693	4/1933	Myers et al.	254/88 X
2,227,750	1/1941	Hinson	254/88

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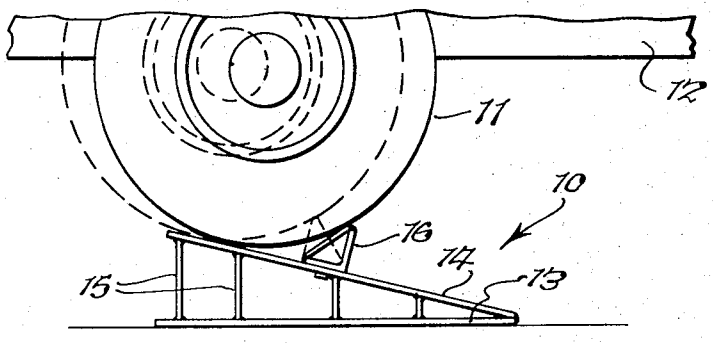
ABSTRACT: A wheel-raising device comprising a base member, a ramp member joined at one end to the base member, a plurality of spaced-apart vertical supporting members positioned between the base and ramp, and a wheel-blocking member positioned on the ramp. The height to which the wheel is raised is adjustable in both relatively large and small ranges. The wheel-blocking member is releasably positioned at various locations along the ramp member, and the orientation of the blocking member at each location can be changed to vary the angle between the ramp and the wheel-contacting surface of the blocking member. The base, ramp, and supporting member can be fixedly attached to each other or, alternatively, pivotally connected whereby the device is collapsible for storage.



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2 Sheets-Sheet 1

Fig. 1.



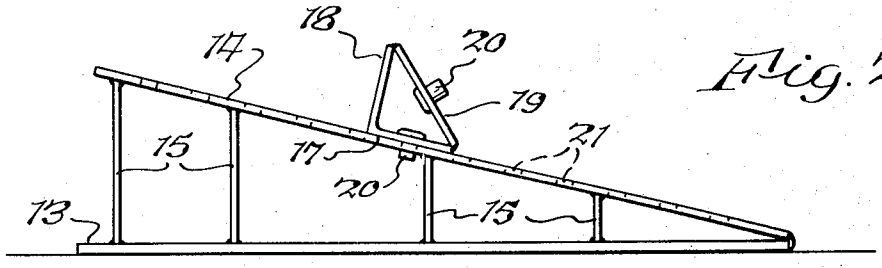


Fig. 2.

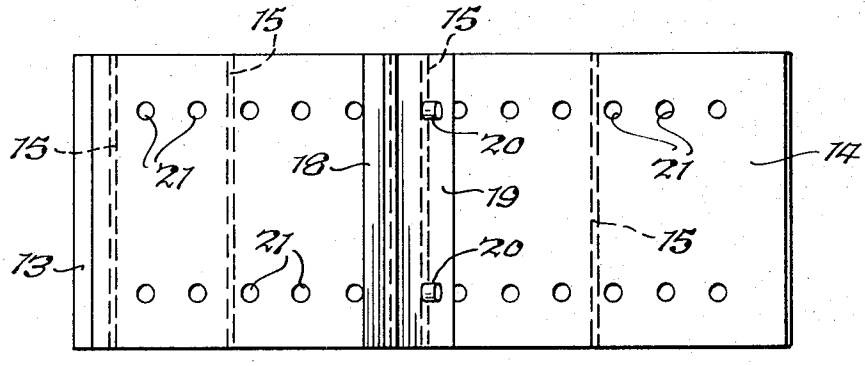


Fig. 3.

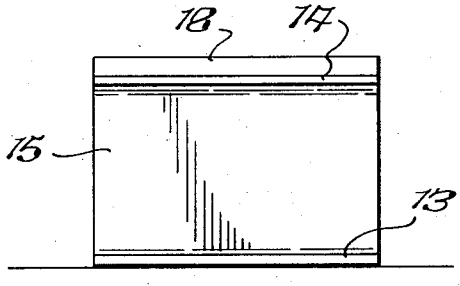


Fig. 4.

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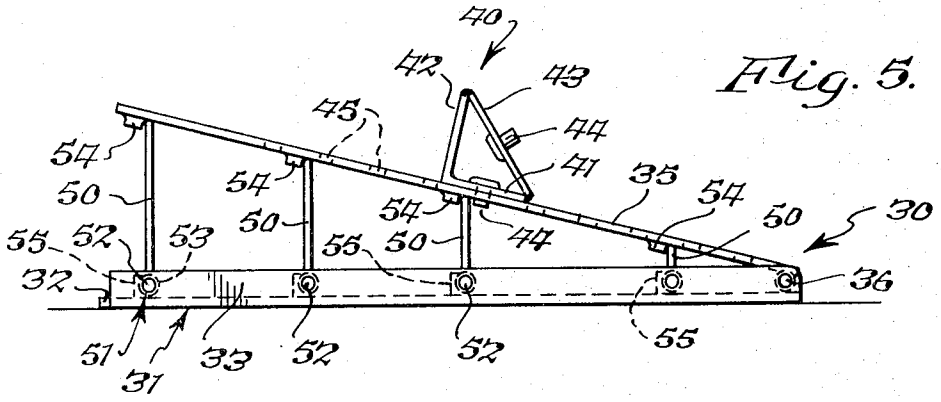
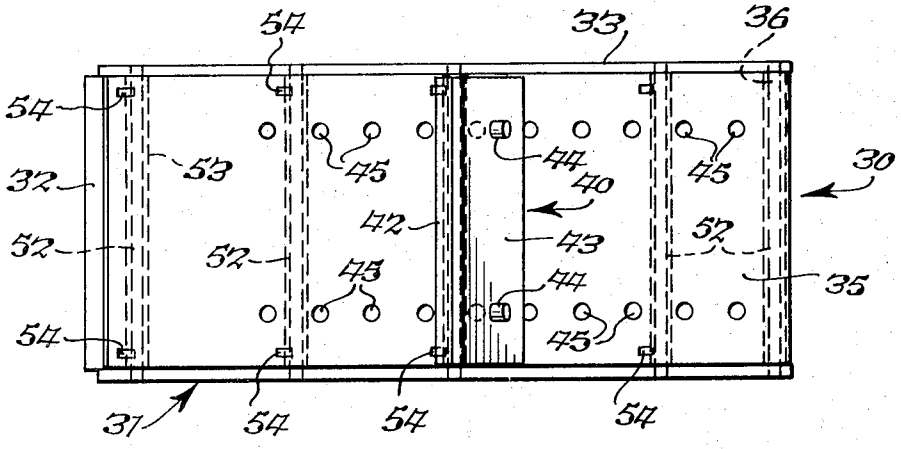


Fig. 5.

Fig. 6.



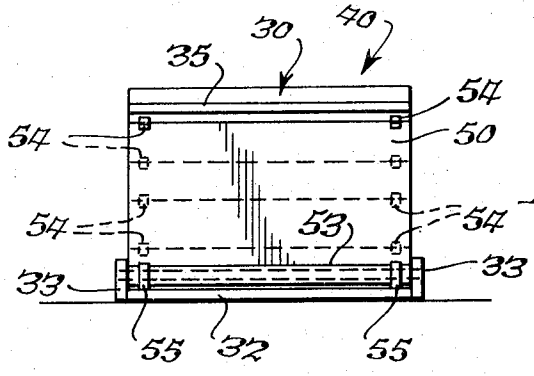


Fig. 7.

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WHEEL-RAISING DEVICE

BACKGROUND OF THE INVENTION

This invention relates to vehicle wheel-raising devices and, more particularly, to a wheel-raising device of the type onto which a wheel is driven whereupon it is supported and raised.

One area of use of the present invention is in conjunction with mobile homes or trailers. When such vehicles are parked or uneven ground, a common occurrence at camping sites, it is desired to raise one side or end of the trailer to provide a more level, comfortable condition of the floor.

Wheel-raising devices have been proposed as a solution to this problem. They must be sufficiently strong in order to support such heavy vehicles and the contents thereof. In addition, these devices should be adjustable in height to accommodate different degrees of uneveness in terrain at various locations. In some wheel-raising devices heretofore available, the components thereof which support the entire weight are movable into different positions to provide this height adjustment. As a result the attributes of structural rigidity and adjustability in height become conflicting. Other types of wheel-raising devices are constructed in a manner which requires that the height adjustment be made before the vehicle wheel is placed on the device. As a result, the vehicle operator must estimate the proper setting or adjustment for the device merely from a visual inspection of the terrain. This undesirably overburdens the operator and often results in an improper adjustment thus requiring the vehicle wheel to be moved off the device and another adjustment made. In addition, many devices heretofore available are cumbersome to assemble and other are not readily and easily stored in small places.

SUMMARY OF THE INVENTION

It is, therefore, an object of this invention to provide a wheel-raising device which allows height adjustment without sacrificing or limiting the structural rigidity of the device.

It is a further object of this invention to provide such a wheel-raising device which allows height adjustment to be performed while the wheel is on the raising device.

It is a further object of this invention to provide such a wheel-raising device in which the height adjustment provided thereby may be performed in both relatively large and small ranges.

It is a further object of this invention to provide such a wheel-raising device which is collapsible so as to be conveniently stored in small spaces and yet easily assembled into operative position.

The present invention provides a vehicle wheel-raising device including a base member adapted to be placed on the ground and a ramp member joined at one end to the base member. A plurality of vertical supporting members of unequal height extend between the ramp and base and are arranged in a manner whereby the ramp is inclined with respect to the base. The device includes a wheel-blocking member releasably connected to the ramp member at any one of a number of locations along the top surface of the ramp member whereby the height to which the wheel is raised may be varied. The angle between the plane of the ramp member and the surface of the blocking member which contacts the wheel also is variable so as to provide an additional range of adjustment. In addition, the ramp and base may be pivotally connected and the supporting members pivotally connected to the base whereby the device is collapsible to facilitate storage.

By way of illustration the present invention will be described with particular reference to trailers or mobile homes but the principles of the invention may be variously applied for raising wheels of other kinds of vehicles such as cars, trucks, buses, and airplanes to mention a few. The foregoing and additional advantages and characterizing features of the present invention will become clearly apparent upon a reading of the ensuing detailed description of two illustrative embodiments thereof together with the included drawing depicting the same.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of one embodiment of a wheel-raising device constructed in accordance with the present invention as it would appear in use;

FIG. 2 is an enlarged side elevational view of the wheel-raising device of FIG. 1;

FIG. 3 is a top plan view thereof;

FIG. 4 is an end elevational view thereof;

FIG. 5 is a side elevational view of another embodiment of the wheel-raising device provided by the present invention;

FIG. 6 is a top plan view thereof; and

FIG. 7 is an end elevational view thereof.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

FIG. 1 shows a wheel-raising device **10** provided by the present invention as it would appear in use under one wheel or tire **11** of a vehicle **12**, such as a mobile home or trailer. The device **10** comprises a base member **13** adapted to be placed on the ground or road and a ramp member **14** connected at one end to base member **13**. Wheel-raising device **10** further comprises a plurality of vertical supporting members **15** extending between and spaced along the base and ramp members **13**, **14**. Supporting members **15** preferably are spaced equally, and the number is merely a matter of choice and convenience, depending to a large extent on the length of base member **13** and ramp member **14**. In addition, vertical supporting members **15** are of unequal height and arranged as shown in FIG. **1** so that ram member **14** is inclined with respect to base member **13**.

Wheel-raising device **10** also comprises a wheel-blocking member **16** which is releasably connected to ramp member **14** at any one of a plurality spaced locations along the top surfaces thereof. Blocking member **16** is adapted to contact the circumferential or tread surface of wheel or tire **11** as shown in FIG. **1**, and depending upon where blocking member **16** is connected along the top surface of ramp **14**, the height to which wheel **11** is raised is adjustable within a first range. In addition, the plate, of blocking member **16** can be changed at each location, as shown by the dotted line representation in FIG. **1**, whereby the angle between the plane of ram member **14** and the plane of the surface of blocking member **16** which contacts or abuts against wheel **11** is adjustable. By virtue of this arrangement, the height to which wheel **11** is raised is adjustable in an additional range.

Referring now to FIGS. **2–4** there is shown in more detail a first embodiment of the wheel-raising device provided by the present invention. Base member **13** comprises a rectangular plate, preferably of sheet steel, and likewise ramp member **14** is a rectangular plate of sheet steel. In preferred form base **13** and ramp **14** each are **20** inches in length and **8** inches in width. It should be noted, however, that ramp **14** and base **13** can be made of different materials and in various sizes without departing from the spirit and scope of this invention. In this particular embodiment, ramp **14** is fixedly attached, as by welding, at one end to base member **13** as shown in FIG. **2** and is disposed in a plane extending at an acute angle relative to the plane of base member **13** so as to be inclined from the ground or road on which base member **13** is placed.

Each of the vertical supporting members **15** is fixedly attached at corresponding ends thereof to base and ramp members **13** and **14**, respectively. In preferred form each of the members **15** comprises a steel plate which is welded to base **13** and ramp **14** as indicated in FIG. **2**. Each plate **15** has a horizontal length preferably about equal to the width of base **13** and ramp **14**, which from the illustrative dimensions given earlier would be about 8 inches. Supporting members **15** have unequal vertical heights, however, and are arranged such that the height thereof progressively increases as the distance between base **13** and ramp **14** increases as shown in FIG. **2**. In preferred form the height of the device **10** measured along a line perpendicular to the plane of base member **13** from the bottom thereof to the uppermost point on ramp **14** is about 5 inches.

Wheel-blocking member **16**, as shown most clearly in FIGS. **2** and **3**, in preferred form has three surfaces or sides **17**, **18** and **19** which define at least two unequal included angles. In this particular illustration, wheel-blocking member **16** comprises an angle iron which provides sides **17** and **18** and an iron plate welded thereto to provide side **19**. The angle included between sides **17** and **18** is a right angle, and the other two angles are equal and acute.

The operative position of wheel-blocking member **16** is with the longitudinal axis thereof, in other words the axis parallel to the planes of surfaces **17**, **18** and **19** extending perpendicular to the direction of travel of a wheel along ramp **14**. The length of blocking member **16** should be about equal to the width of ramp **14** to provide an adequate amount of blocking surface in contact with the wheel. Spaced-apart lugs **20** are provided in wheel-blocking member **16** and project from two sides thereof. More particularly, as shown in FIGS. **2** and **3**, two lugs **20** project from side **19** and are spaced apart along a line parallel to the longitudinal axis of blocking member **16**. In a similar manner, two lugs **20** project from side **17** and are spaced apart along a line parallel to the longitudinal axis of member **16**. Lugs **20** conveniently can comprise rivets extending through apertures provided in the sides of blocking member and spot welded therein. In addition, lugs **20** should be spaced apart a distance less than the length of blocking member **16** but greater than the axial width of the wheels or tires which will be raised by the device.

When wheel-blocking member **16** is in an operative position on ramp **14**, lugs **20** projecting from one side, for example side **17** as shown in FIG. **2**, are received in a set of two of a plurality of apertures **21** provided in ramp **14**. In particular, each set comprises two apertures spaced along a line perpendicular to the direction of travel of a wheel on ramp **14** and the centers thereof are a spaced apart a distance equal to the distance between the centers of lugs **20** projecting from a side of wheel-blocking member **16**. A plurality of sets of apertures, in turn, are provided at spaced locations along ramp **14**. By virtue of this arrangement, wheel-blocking member **16** is releasably connected in ramp member **14** and at any one of a number of spaced locations along the length thereof.

In addition, wheel-blocking member **16** can be positioned in different orientations at any one of the locations along ramp **14** whereby the side thereof contacting the wheel extends from ramp **14** at selected different angles relative thereto. Wheel-blocking member **16** is positioned in the example of FIG. **2** with side **17** in contact with the top surface of ramp **14** and with side **18** providing the surface which contacts or abuts the tread portion of the wheel to be raised. The wheel-contacting surface is disposed in a plane perpendicular to the plane of ramp **14**. The angle between ramp **14** and the wheel-contacting surface of member can be changed simply by lifting member **16** from ramp **14** enough so that lugs **20** are no longer received in apertures **21** and then rotating member **16** about its longitudinal axis so that the next surface thereof which also has lugs extending therefrom can be connected on ramp **14**. More particularly, it member **16** as shown in FIG. **2** is removed from ramp **14** in the aforementioned manner, rotated clockwise about the longitudinal axis thereof until side **19** and ramp **14** are parallel and then lowered thereon so that lugs **20** from side **19** are received in corresponding apertures **21** in ramp **14**, said **17** will be the wheel-contacting surface and will extend from ramp **14** at other than a right angle. More specifically, side **17** of blocking member **16** in this position is disposed in a plane extending from the plane of ramp **14** at an angle greater than 90°.

It should be apparent, therefore, that with blocking member **16** in this other orientation, the height to which the wheel is raised is slightly less than that corresponding to the orientation shown in FIG. **2**, assuming that member **16** is connected in ramp **14** at the same location for both orientations. When wheel-blocking member **16** is constructed as shown in FIG. **2**, that is with two equal included angles and a third, different angle, two angles of adjustment are provided. Although this construction is preferred, blocking member **16** could have all three included angles of different sizes so as to provide three angles of adjustment between the wheel-contacting surface thereof and ramp **14**.

It will be noted that wheel-blocking member **16** preferably is formed from cast iron which provides sufficient structural rigidity while being economical to manufacture. Other materials can be substituted, however, without departing from the spirit and scope of this invention. For example, blocking member **16** could be a solid block of wood having a triangular cross section and provided with dowel pins to serve as lugs.

The wheel-raising device **10** of the present invention is used in the following manner. When the rest position of a vehicle, such as the one designated **12**, is determined and it is found necessary to raise one of the wheels thereof, such as wheel **11** in FIG. **1**, device **10** with blocking member **16** removed therefrom is placed behind wheel **11** with base **13** on the ground or road and oriented so that wheel **11** can be driven up onto ramp **14**. Vehicle **12** then is moved toward device **10** so as to drive wheel **11** up onto ramp **14**. When wheel **11** has traveled along ramp **14** a distance sufficient to raise wheel **11** to a height necessary to provide the desired degree of levelness in vehicle **12**, wheel **11** is blocked against travel down ramp **14** by connection of wheel-blocking member **16** in ramp **14** at a location therealong whereby a side of member **16** contacts the tread surface of wheel **11** in a manner similar to that shown in FIG. **1**. The location of wheel **11** along ramp **14** and hence the height to which the wheel is raised can be maintained quite exactly. This is because the location of the wheel-contacting surface of blocking member **16** is adjustable along the longitudinal axis of ramp **14** and, in addition, the angle between the plane of ramp **14** and that of the wheel-contacting surface of member **16** is adjustable by virtue of the aforementioned construction whereby the orientation of wheel-blocking member **16** can be changed.

FIGS. **5–7** illustrate a second embodiment **30** of the wheel-raising device provided by the present invention. In addition to having all the attributes of wheel-raising device **10** shown in FIGS. **1–4**, this embodiment is readily collapsible so as to be easily stored in small spaces and yet easily assembled into operative position. Wheel-raising device **30** includes a base member **31** which in this particular embodiment comprises a rectangular plate **32** and first and second upstanding flange members **33** extending from plate **32** and disposed in planes perpendicular to the plane of plate member **32** and parallel to the longitudinal axis of plate **32**. Plate **32** and flanges **33** preferably are of sheet steel, and base **31** may be about 20 inches in length and 8½ in width.

Wheel-raising device **30** further includes a ramp member **35** which comprises a rectangular plate connected at one end thereof to base member **31** by a pivotal connection designated **36** in FIG. **5**. In particular, ramp **35** is pivotally connected to upstanding flanges **33**, **34** of base **31** by any suitable means, for example a pin movable within a sleeve welded to ramp **35**, the pin extending perpendicular to the longitudinal axis of ramp **35** and journaled at each end thereof in corresponding apertures provided in flanges **33**. Ramp **35** preferably is about **20** inches in length and of a width, for example 8 inches, permitting it to fit between flanges **33** in the manner shown in FIG. **5**.

A wheel-blocking member **40** also is included and is similar to blocking member **16** of the first embodiment. Blocking member **40** in preferred from has three sides **41**, **42**, and **43** which define at least two unequal included angles, the angle between sides **41** and **42** being a right angle and the other angles being acute and equal. Blocking member **40** likewise is formed preferably from cast iron with an angle iron providing sides **41** and **42** and a plate welded thereto providing side **43**. The length of blocking member **40** should be about equal to the width of ramp **35** to provide an adequate amount of blocking surface in contact with the wheel when blocking member **40** is in an operative position wherein the longitudinal axis thereof extends perpendicular to the direction of travel of a wheel along ramp **14**. The longitudinal axis, of course, is parallel to the planes of sides **41**, **42** and **43**.

Blocking member **40** also is provided with spaced-apart lugs **44** two of which project from side **41** and another two from side **43**. Lugs **44** on each of the sides **41** and **43** are spaced apart a distance greater than the axial width of a wheel to be raised and along a line parallel to the longitudinal axis of member **40**. Lugs **44** likewise advantageously can be provided by rivets projecting through apertures in the sides of blocking member **40** and spot welded therein. Corresponding apertures **45** are provided in ramp **35** in sets of two spaced along a line perpendicular to the direction of travel of a wheel along ramp **35**, the centers of holes **45** being spaced apart a distance equal to the distance between the centers of lugs **44** projecting from a side of wheel-blocking member **40**. A plurality of sets of apertures **45** are provided along ramp **35**. By virtue of this arrangement wheel-blocking member **40**, like blocking member **16** included in the first embodiment, is releasably connected in ramp member **35** and at any one of a number of spaced locations along the length thereof. Also like member **16**, wheel-blocking member **40** can be positioned in different orientations at any one of the locations along ramp **35** whereby the side thereof contacting the wheel extends from ramp **35** at selected different angles relative thereto.

Wheel raising device **30** also includes a plurality of vertical supporting members **50** extending between and spaced along the base and ramp members **31**, **35**. The spacing between and number of supporting members **50** depends to a large extent on the length of base member **31** and ramp member **35**. In addition, vertical supporting members **50** are of unequal height and arranged as shown in FIG. **5** so that ramp member **14** is inclined with respect to base member **31**.

In this embodiment, each of the vertical supporting members **50** is pivotally connected at one end thereof to base member **31** whereby, in conjunction with the pivotal connection between base **31** and ramp **35**, the device **30** can be collapsed and thus easily stored in small spaces. In preferred form, each of the members **50** comprises a plate having a horizontal length slightly less than the width of plate **32**, and each plate is pivotally connected by suitable means at opposite ends thereof to flanges **33**, **34** of base **31**. For example, the pivotal connection designated **51** in FIG. **5** comprises a pin **52** rotatable in a sleeve **53** which sleeve is attached to plate **50** near the bottom edge thereof, sleeve **53** having a length slightly less than plate **32**. Opposite ends of pin **52** are rotatably received in corresponding apertures provided in flanges **33** and **34**. In addition, similar pivotal connections would be provided for the rest of the vertical supporting members **50** positioned between base **31** and ramp **35**.

Ramp member **35** is provided with a plurality of stops **54** on the underside thereof which stops are adapted to abut the other end of each of the vertical supporting members **50** and restrain further pivotal movement thereof. Stops **54** are provided in pairs near the outer edges of ramp **35** and spaced along a line perpendicular to the longitudinal axis of ramp **35**, as shown in FIG. **6**. In addition, each pair is located along ramp **35** so as to abut a corresponding plate or supporting member **50** when it is pivoted to a vertical position as shown in FIG. **5**. Stops **54** preferably are formed in ramp **35** by the well-known technique of gusseting in which a tool is forced or punched about halfway into ramp **35** so that the strength of the metal is not adversely impaired. Alternatively stops **54** can be separate elements attached to the underside of ramp **35** in a similar arrangement and by suitable means such as welding.

By virtue of this arrangement, when wheel-raising device **30** is not to be in use and it is desired to store the same, ramp member **35** is raised by hand slightly and vertical supporting members **50** are pivoted in a clockwise direction from their operative positions shown in FIG. **5** to a horizontal position where they rest on plate **32** of base member **31**. Alternatively, the entire device can be picked up by hand, rotated 90° clockwise from the orientation shown in FIG. **5**, and ramp **35** moved in a direction so as to increase the angle between it and base **31**, whereupon supporting members **50** by gravity move about 90° into contact with base **31**. Ramp **35** then is lowered to a similar horizontal position thereby resting on supporting members **50** and base **31**. Wheel blocking member **40** can be disconnected from ramp **35** if desired. As a result the entire device can be stored easily in small spaces.

When wheel-raising device **30** is to be put in an operative position such as that shown in FIG. **4**, ramp member **35** is grasped at the end and raised to an inclined position as shown in FIG. **5** and supporting members **50** are pivoted from horizontal to vertical position whereupon they contact or abut corresponding stops **54**. Alternatively, assembly can be aided by the action of gravity whereby the device is grasped at the end where base **31** and ramp **35** are pivoted and held in a vertical position allowing supporting member **50** to move about 90° into place. This assembly operation can be facilitated by the provision of additional stops **55** on plate **32** near each supporting member **50** whereby each member **50** is restrained against further pivotal movement in the same direction once a vertical position is reached. In addition, movement of supporting members **50** in unison can be accomplished by including a flexible pull cord (not shown) connected to each of the members **50** at corresponding ends thereof.

When placed in the operative position shown in FIG. **5** but with blocking member **40** removed, wheel-raising device **30** is used in the same manner as device **10** previously described. The vehicle is moved toward device **30** so that the wheel thereof is driven up onto ramp member **35** and stopped at a location which raises the wheel a distance sufficient to put the vehicle in the desired level condition. This location of the wheel on ramp **35** is maintained by connecting blocking member **40** therein so that a surface thereof contacts or abuts the tread of the wheel. This can be done rather exactly by virtue of the fact that additionally the orientation of member **40** can be changed so as to vary the angle between ramp **35** and the wheel-blocking surface of member **40**.

The present invention thus accomplishes its intended objects. Adjustability in height is obtained without sacrificing structural rigidity because vertical supporting members **15** and **50**, which support ramp members **14** and **35**, respectively, in the two illustrative embodiments, in no way are utilized also to provide the height adjustment. Instead a separate wheel-blocking member releasably connected in the ramp at spaced locations therealong allows adjustment. Instead a separate wheel-blocking member releasably connected in the ramp at spaced locations therealong allows adjustment in the height to which the wheel is raised. Moreover, this arrangement allows height adjustment while the wheel is on the device rather than requiring that the adjustment be performed beforehand. Two ranges in this adjustment are possible because the blocking member can be positioned at various locations along the ramp and at each of these locations the angle between the ramp and the wheel contacting surface of the blocking member can be changed. In addition, the device can be stored easily in small spaces by virtue of the pivotally connected ramp and base and pivotally connected supporting members.

While two specific embodiments of the invention have been described, this has been done by way of illustration without thought of limitation.

I claim:

1. A vehicle wheel raising device comprising:

a. a base member adapted to be placed on a supporting surface, for example the ground;

b. a ramp member connected at one end to said base member;

c. a plurality of generally vertical supporting members extending between and positioned along said base and ramp members, said supporting members terminating at the upper ends thereof along a plane inclined with respect to said base member and arranged so that said ramp member is inclined with respect to said base member; and

d. a wheel-blocking member having three sides which define at least two unequal included angles and provided on at least two sides thereof with two spaced-apart connecting means for releasable engagement with corresponding pairs of connecting means provided on and spaced along

said ramp member, whereby said wheel-blocking member is releasably connected to said ramp member at any one of a number of spaced locations along the top surface thereof, and whereby said wheel-blocking member is adapted to be connected in different orientations at each location on said ramp member whereby the angle between the plane of said ramp and the plane of the wheel-contacting surface of said wheel-blocking member can be varied.

2. The wheel-raising device as defined in claim 1 wherein said ramp member is fixedly attached at the one end to said base member and wherein each of said vertical supporting members is fixedly attached at corresponding ends thereof to said blade and ramp member.

3. The wheel-raising device as defined in claim 2 wherein said base and ramp member each comprises a generally rectangular plate and wherein each of said vertical supporting members comprises a plate having a width substantially equal to the width of said base and said ramp.

4. The wheel-raising device as defined in claim 1 wherein said ramp member is pivotally connected at the one end to said base member and wherein each of said vertical supporting members is pivotally connected at one end thereof to said base member.

5. The wheel-raising device as defined in claim 4 wherein said ramp member is provided with stops on the underside thereof adapted to abut the other end of said supporting members and restrain further pivotal movement thereof when moved to a vertical position.

6. The wheel-raising device as defined in claim 4 wherein said base member comprises a generally rectangular plate and two upstanding flange members on opposite edges thereof, said ramp member comprises a generally rectangular plate having a width slightly less than that of said baseplate and pivotally connected to said upstanding flanges, and wherein each of said vertical supporting members comprises a plate having a width slightly less than the width of said baseplate and pivotally connected to said upstanding flanges.

7. The wheel-raising device as defined in claim 6 wherein each of said vertical supporting members is attached along one edge to a sleeve extending perpendicular to and between said flange members and wherein a pin extending through said sleeve is rotatably connected at opposite ends in each of said flanges.

8. A vehicle wheel raising device comprising:

a. a base member adapted to be placed on a supporting surface, for example the ground;

b. a ramp member connected at one end to said base member;

c. a plurality of vertical supporting members extending between and spaced along said base and ramp members, said supporting members being of unequal height and arranged so that said ramp member is inclined with respect to said base member; and

d. a wheel-blocking member having three sides which define at least two unequal included angles and wherein at least two sides of said wheel-blocking member are provided with two spaced-apart lugs projecting therefrom, said ram member being provided with corresponding pairs of apertures being spaced along said ramp member, whereby said wheel-blocking member is releasably connected to said ramp member at any one of a number of spaced locations along the top surface thereof, and said wheel-blocking member is adapted to be connected in different orientations at each location on said ramp member whereby the angle between the plane of said ramp and the plane of the wheel-contacting surface of said wheel-blocking member can be varied.

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