April 17, 1951 H. C. FOWLE 2,549,680

SAFETY CARRIER FOR FIRE EXTINGUISHERS

Filed April 21, 1949 2 Sheets-Sheet 1

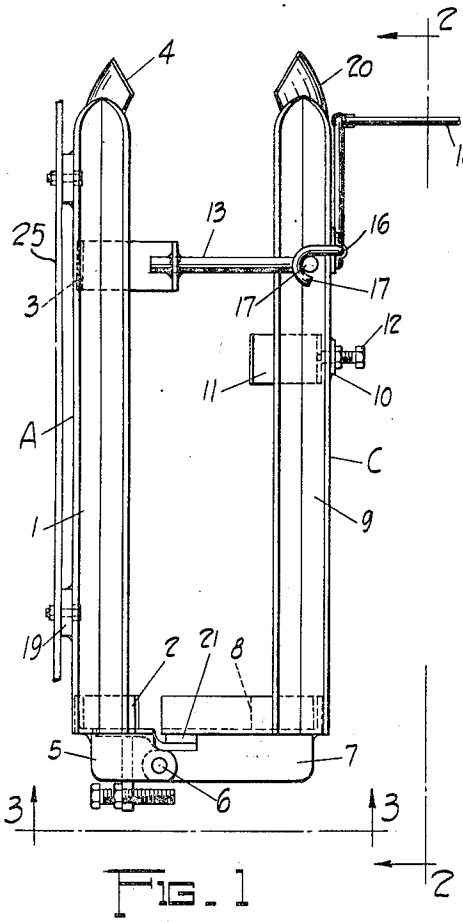


FIG. 1

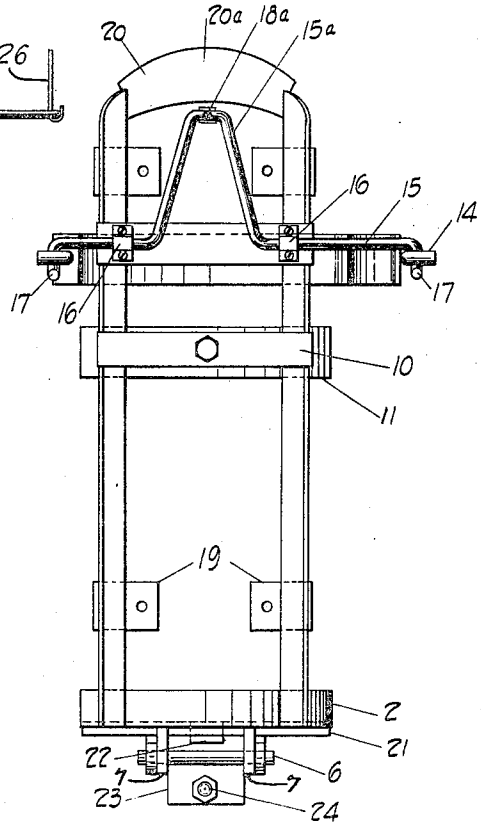


FIG. 2

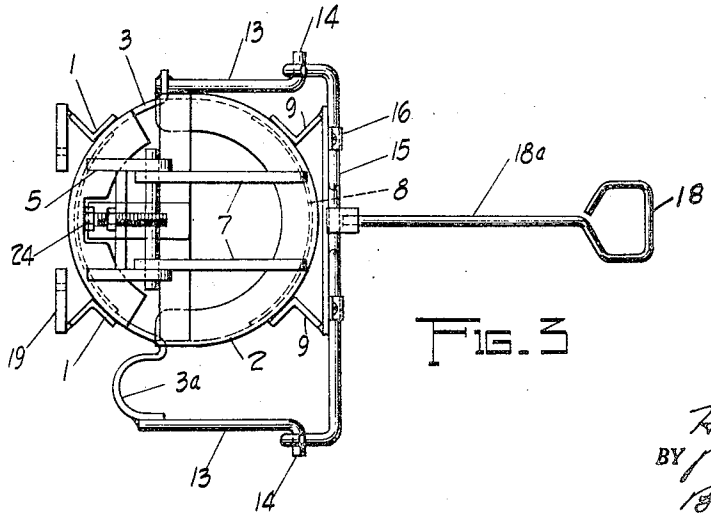


FIG. 3

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SAFETY CARRIER FOR FIRE EXTINGUISHERS

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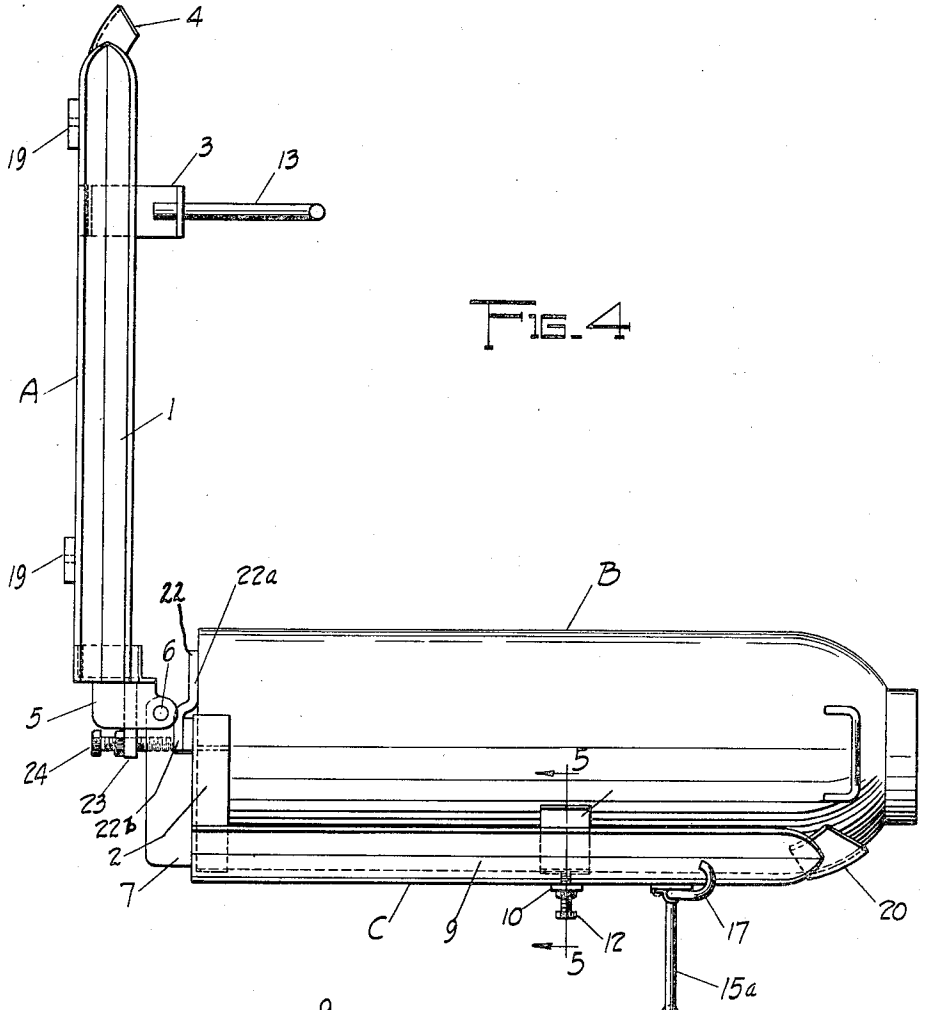


FIG. 4

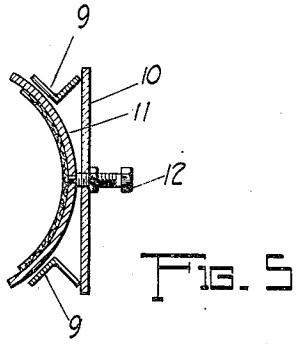


FIG. 5

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SAFETY CARRIER FOR FIRE EXTINGUISHERS

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9 Claims. (Cl. 248—309)

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The purpose of my present invention has been to devise an improved construction of safety carrier designed to be mounted upon tank trucks or similar vehicles used for transportation of highly combustible liquids such as gasoline, oil, or the like, for supporting a fire extinguisher such as commonly used as a part of the equipment of the vehicle, for putting out fires in case of emergency.

At the present time, tank trucks are usually supplied, when proper precautions are taken, with a carrier or holder in the form of a stationary cradle member attached securely to the chassis of the truck, the fire extinguisher being supported on said cradle member and held in place by fastening straps which must be unloosened or unfastened before the operator of the vehicle can pull the fire extinguisher away from the cradle and make the same ready for use. It has been found in practical experience that not infrequently a truck, the tank of which is filled with highly inflammable liquid gets on fire so quickly that considerable time is lost in demounting the fire extinguisher from the cradle customarily used, so as to render the extinguisher operable for its purpose. Moreover, in the ordinary form of holder or carrier used today, the operator has to reach in some distance from the side of the chassis or frame of the vehicle on which the extinguisher is mounted, before he can unfasten the fastening means and thus detach the extinguisher to make it ready for use.

With the foregoing disadvantages of present equipment understood, the primary object of my present improved construction of safety carrier has been to utilize a special type of cradle for supporting the fire extinguisher, which cradle includes a movably mounted cradle member normally associated with a stationary cradle member so as to enable the fire extinguisher to be supported between these two members against normal displacement. In my invention I design the movable cradle member in such a manner that it may be rocked outwardly from the adjacent side of the chassis of the vehicle by the use of a manually operated handle, the said handle being not only adapted to perform the above function, but also adapted simultaneously when pulled outwardly to unlock the movable cradle member and swing the latter downwardly

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to a substantially horizontal position with the fire extinguisher resting horizontally thereon and in a position in which it may be readily grasped at the handle of said extinguisher and pulled off the vehicle quickly so as to be ready for immediate use.

With a construction of safety cradle or carrier of the type of my invention, the handle for releasing or unlocking the movable outer section or member of the cradle is supported in a horizontal position by a suitable hook or the like, and in such position its outer end is so disposed as to be quite accessible outwardly of the vehicle, to be grasped and actuated in the manner above described, and, when pulled, to simultaneously release and shift the movable cradle member to the position in which the fire extinguisher is horizontal with the handle thereof readily available with which to pull the extinguisher off the vehicle in the manner previously mentioned. The simultaneous operation involved in the release and shifting the cradle to position carrying the fire extinguisher from a vertical position alongside the chassis to a horizontal position in which it projects outwardly for convenient removal, is a particularly advantageous and important feature of my invention because in some instances it is obvious that the quickness with which the fire extinguisher may be removed from the tank vehicle may mean the saving of the vehicle once it has been set afire.

My invention involves other details of construction involving a clamping feature on the cradle structure whereby to hold the fire extinguisher in place against rattling or loose mounting thereof, and the employment of a special tilt arm which is designed to positively tilt or rock the fire extinguisher to its outward horizontal position incident to the unlocking of the movable cradle section, and other details, the construction of which will appear more fully by reference to the following detail description in conjunction with the accompanying drawings, in which:

Figure 1 is a side elevation of a safety carrier embodying the essential features of my invention, the operating handle for the movable cradle section being disposed in a horizontal position as when the carrier is mounted upon a truck and therefore readily accessible for the pull out

movement of the fire extinguisher on release of the locking means of said movable section of the cradle.

Figure 2 is a view of the safety carrier looking toward the same from the right, as the carrier is seen in Figure 1, being a section on the line 2—2 of Figure 1.

Figure 3 is a bottom plan view of the carrier taken approximately on the line 3—3 of Figure 1, looking upwardly.

Figure 4 is a side view of the carrier similar to Figure 1, but showing the outer cradle section rocked to its downward position assumed thereby after it has been simultaneously unlocked and pulled outwardly, the fire extinguisher being shown disposed in its position ready to be pulled off of the carrier and put into use.

Figure 5 is a detail sectional view taken about on the line 5—5 of Figure 4, showing the adjustable spring clamping member used for engagement with the fire extinguisher mounted in the carrier for holding the extinguisher against looseness or rattling movement.

Referring now to my drawings and describing a preferred construction of my invention as illustrated therein, it is noted that the carrier of the invention comprises the inner stationary or fixed section generally denoted as A and comprising primarily spaced upright angle members 1, the lower ends of which are connected by an angularly shaped base plate made in arcuate form so as to conform with the shape of the lower round end portion of the fire extinguisher B which is seen in Figure 4 of the drawings. Said base plate is denoted 2.

At the upper portion thereof the spaced members 1 of the fixed cradle section A are also rigidly connected by a curved or arc shaped connector bar or plate designated 3. At the top of each of the members 1 I provide a holding or seat plate 4 which seats over the upper rounded end portion of the container in which the fire extinguishing fluid is received, such container being designated B as previously identified.

On the under side of the angle shaped base plate 2 of the section A of my carrier I provide spaced horizontal brackets 5 which project slightly outwardly from the plane of the fixed section A and are apertured to receive a pivot bolt or member 6. The pivot bolt or member 6 passes through the inner ends of two brackets 7 which are attached to the under side of the curved base member of the outer section C of the carrier or cradle, said base member 8 being somewhat similarly shaped as to arcuate form in plan view, as the base or bottom member 2 of the fixed cradle section A. The section C of the carrier is the movable section thereof and is adapted to swing outwardly away from the section A. It is made up of vertical angle members 9 similar to the angle shaped members 1 of the fixed cradle member A, and the base member 8 rigidly connects these members 9 together at their lower extremities, together with the brackets 7 acting supplemental to the parts 8. Between the upper and lower ends of the members 9 I provide a cross plate 10 which not only connects the members 9 rigidly together but forms a support for an arcuate shaped clamp member 11 made of spring metal and curved to conform with the round outer surface of the fire extinguisher container B. An adjustable screw 12, turnable by a suitable wrench, passes through the plate 10 and has a screw thread operating in a threaded opening in said plate or member 10, the clamping member 11 being swivelled onto the inner end of said screw 12 and thus adapted to be pushed by the screw toward the fire extinguisher container B when clamping the latter in position against the fixed cradle section A of my carrier when the fire extinguisher is supported on the carrier with the extinguisher disposed vertically in position locked in the carrier.

Near the upper end portions thereof, the fixed cradle members 1, as before stated, are connected by the curved plate or bar 3. At one end the bar 3 is formed with a half-looped portion 3a which allows space for passage or holding therein of the hose which ordinarily leads from the fire extinguisher B. On opposite ends of the member 3 are provided horizontal arms 13 which extend in a direction outwardly from the members 3 and the members 1, in spaced relation, each of the arms 13 being equipped with an outwardly extending lock projection 14, seen best in Figures 2 and 3 of the drawing.

Pivotally mounted on the outer movable cradle section C at a point opposite the member 3 on the inner cradle section A is a locking crank shaft 15, the crank of which is designated 15a, and which shaft is mounted in bearings 16 on the outer side portions of the members 9 of said cradle section C. At its ends the crank or rocker shaft 15 is equipped with locking hooks 17 which are adapted to engage over the locking projections 14 of the arms 13 by rocking the shaft 15 in a manner to shift its crank arm 15a inwardly toward the upper portion of the section C. By pulling outwardly on the crank arm 15a as seen in Figures 1 and 2, it is obvious that the rocking hooks 17 will be rocked upwardly out of engagement with the projections 14. Connected with the crank arm portion 15a of the shaft 15, which arm portion is formed by bending the intermediate portion of the shaft 15, is a pull handle 18 comprising a rod section 18a directly attached to the member 15a. When the parts of my carrier are in the positions of Figures 1, 2, and 3, the handle rod 18a and its handle 18 will be disposed substantially horizontal and preferably supported by a hook carried by the vehicle or tank truck on which the fire extinguisher carrier of my invention is mounted. Thus the handle will extend outwardly toward one side of the truck in a position for convenient reaching by the truck operator in the event of the emergency of fire.

The entire carrier as above described by me, including the fixed section A and the movable section C and the other parts set forth is mounted so that the fixed section A is attached to one side of the chassis or frame of the tank truck or vehicle. For this purpose, on the inner or rear sides of the members 1 of the fixed section A of the carrier or cradle I provide stationary lugs or plate members 19 apertured to receive bolts by which these members may be attached to the chassis of the truck or a bracket of substantial nature on said chassis.

At the upper ends of the members 9 of the movable cradle section C, I provide plates 20 similar to and for the same purpose as the plates 4 at the upper ends of the members 1. At the lower end of the movable cradle section C, and supported by a cross plate 21 adjacent to the parts or brackets 7, is a combined tilt and stop arm designated 22, 22a as respects the tilt portion thereof and 22b as respects the stop portion. Supported on the underside of the bracket parts 5 of the fixed cradle member is a cross member

23 which supports an adjustable limit or stop screw 24 disposed in a horizontal normal position which it retains under all conditions of use, the inner end of the screw having the turning head and the outer end thereof being adapted to engage with the stop portion 22*b* of the combined tilt and stop arm when the movable cradle section C is pulled outwardly so as to assume the horizontal position illustrated in Figure 4 of the drawings.

With the above construction of my invention in mind, the operation thereof may be readily understood in conjunction with the following description. As seen in Figure 1, when the fire extinguisher is mounted upon the tank truck, the cradle section A is rigidly attached to the chassis of the truck as set forth. The fire extinguisher will be embraced or held within the space between the cradle sections A and C, and will be locked in place in a vertical position by the locking action of the lock hooks 17 engaging the lock projections 14, thus maintaining the cradle parts A and C in vertical position preventing normal displacement of the fire extinguisher from the carrier. This is the condition of the extinguisher, and its ordinary position, during the regular travel or transportation movement of the tank truck equipped with the cradle means of my invention. The handle rod 18*a* and its handle 18 are disposed horizontally extending outwardly from the side of the chassis of the vehicle to a convenient point where the handle 18 may be quickly grasped in case of fire. Assuming that the emergency takes place, the operator can quickly reach the side of the vehicle at which the fire extinguisher is disposed, and, by grabbing the handle 18, may pull outwardly on the handle, thus rocking the crank arm 15*a* outwardly and downwardly, and rocking the hook members 17 upwardly and outwardly to disengage these hook members from the lock projections 14. Thus the action of releasing or unlocking the fire extinguisher from the vertical position in which it is held on my carrier, and the pulling out of the movable section C of the carrier, will take place substantially simultaneously. In the action of pulling the section C outwardly, said section is of course rocked outwardly and downwardly about the pivot axis 6 previously mentioned, and the bracket members 7 at the base of the section C rock or tilt the tilt and stop arm 22*a*—22*b* in an outward direction. The bottom of the fire extinguisher rests upon the portion 22*a* of the tilt and stop arm so that as the section C of the cradle or carrier is moved outwardly, the part 22*a* acting on the bottom of the fire extinguisher B will tend to shift the latter into an outward and downwardly located horizontal position, as illustrated in Figure 4 of the drawings. The outward movement of the section C effected on pulling the handle 18 is limited by the stop 22*b* engaging the screw 24 as self-evident. This position, of course, brings the upper end of the extinguisher as previously disposed in its vertical position, some distance outwardly from the chassis when the fire extinguisher reaches its horizontal position, and the horizontal position of the extinguisher makes the upper end thereof readily available to be quickly grasped by the operator to pull the extinguisher off the movable section of the cradle and put it into immediate use.

As a minor detail of the invention, the parts 20 which are previously referred to herein may be connected by a cross web 20*a* integral therewith so that they constitute a single plate as distinguished from the members 4 which are separately formed and attached each to the upper end of one of the parts of the fixed cradle member A.

By use of the members 20—20*a*, it will be seen that when the cradle member is pulled to the position of Figure 4, the fire extinguisher will not immediately slide off of the carrier member C but will be retained in place ready to be pulled off by bodily outward and lifting movement.

In Figure 1 the fire extinguisher carrier of my invention is shown secured to a bracket 25 on the truck, and pull handle rod 18*a* is shown held in normal horizontal position by hook 26 attached to the truck and engaging handle 18.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is—

1. A fire extinguisher carrier comprising, in combination, a fixed cradle section, and a movable cradle section between which a fire extinguisher may be supported, means supporting the movable section to rock outwardly from the fixed section, lock means normally to hold said sections in vertical positions to hold an extinguisher therebetween, and means to rock the movable section to a position to deliver the extinguisher to a removing position.

2. A fire extinguisher carrier comprising, in combination, a fixed cradle section, and a movable cradle section between which a fire extinguisher may be supported, means supporting the movable section to rock outwardly from the fixed section, lock means normally to hold said sections in vertical positions to hold an extinguisher therebetween, and means to pull the movable section and to unlock said lock means and also rock the movable section to a position to deliver the extinguisher to a removing position.

3. A carrier as claimed in claim 1, combined with a tilt arm operable by the movable section to shift an extinguisher located between the sections to a horizontal delivery position as the movable section is rocked outwardly.

4. A carrier as claimed in claim 1, combined with a tilt arm operable by the movable section to shift an extinguisher located between the sections to a horizontal delivery position when the movable section is pulled outwardly, and a stop on one of the sections to coact with said tilt arm to limit the rocking movement of the movable cradle section.

5. A fire extinguisher carrier comprising, in combination, a fixed cradle section, and a movable cradle section between which a fire extinguisher may be supported, means supporting the movable section to rock outwardly from the fixed section, lock means normally to hold said sections in vertical positions to hold an extinguisher therebetween, and means to simultaneously pull the movable section and to unlock said lock means and also rock the movable section to a position to deliver the extinguisher to a removing position.

6. A carrier as claimed in claim 1, combined with a combined tilt and stop arm on the movable section to forcibly move an extinguisher in the carrier to an outwardly extending position and limit the rocking movement of the movable section.

7. A carrier as claimed in claim 1, each section having a bottom supporting part for an extinguisher placed between the sections, and having vertical members in spaced relation.

8. A fire extinguisher carrier comprising, in

combination, a fixed cradle section, and a movable cradle section between which a fire extinguisher may be supported, means supporting the movable section to rock outwardly from the fixed section, lock means normally to hold said sections in vertical positions to hold an extinguisher therebetween, and a handle common to the movable section and lock means to unlock the lock means and to rock the movable section to a delivery position.

9. A carrier as claimed in claim 1, combined with a tilt and stop arm on the movable section to shift a fire extinguisher supported by the carrier, to a horizontal position, when the movable

section is rocked, and a member on the fixed cradle section to engage the stop arm to support the movable section in a horizontal position.

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