Nov. 1, 1927. 1,647,572

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SHIELD FOR THE PROTECTION OF VALUABLES DURING TRANSFER

Filed Nov. 30, 1925 2 Sheets-Sheet 1

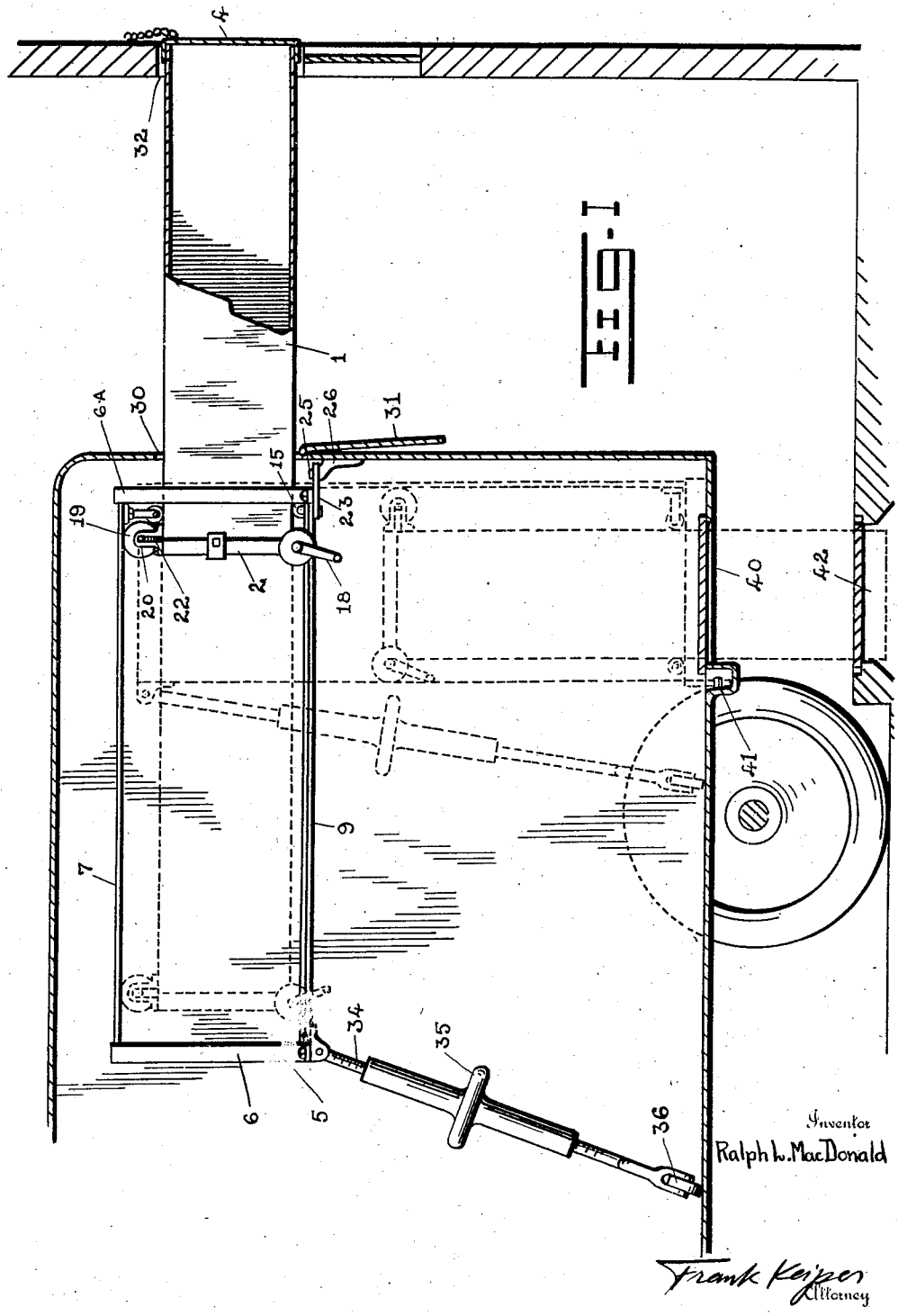


FIG. 1

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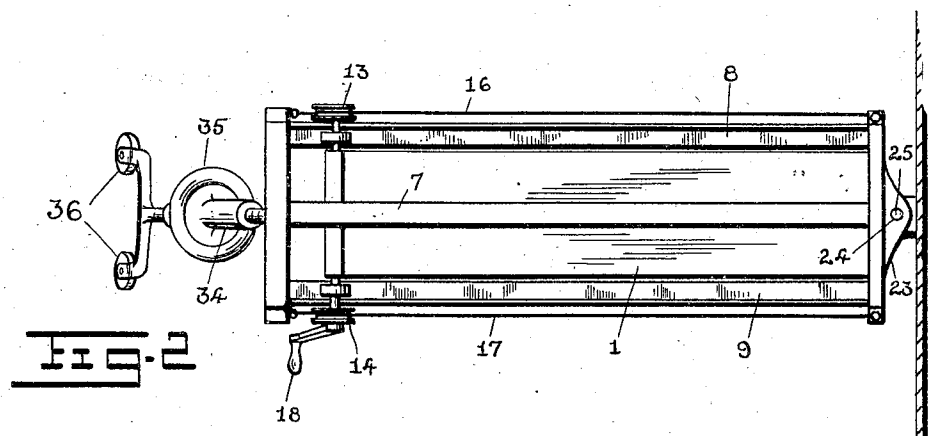


Fig. 2

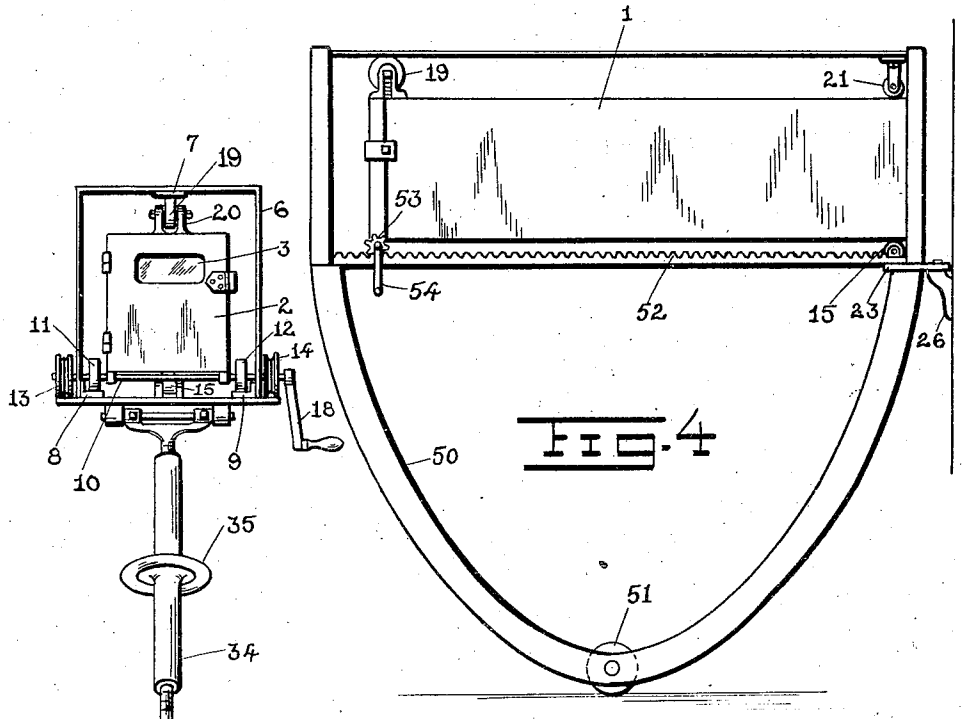


Fig. 4

Fig. 3

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UNITED STATES PATENT OFFICE.

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SHIELD FOR THE PROTECTION OF VALUABLES DURING TRANSFER.

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The object of this invention is to provide a protective transfer shield for use in connection with armored automobiles, express cars etc. for the purpose of transferring, loading and unloading valuables, money and jewels etc. from such vehicles and protecting them during such transfer. This protective shield is made tubular in shape with either a round or rectangular cross section and is made bullet, fire and theft resisting and is movable so that it can be readily extended thru an opening in the wall of a building, compartment or vehicle, and connected with another vehicle, building or compartment so that the valuables may be safely transferred thru the shield in either direction between the vehicle and the building or compartment.

These and other objects of this invention will be fully illustrated in the drawings, described in the specification and pointed out in the claims at the end thereof.

In the accompanying drawings:

Figure 1 is a vertical longitudinal sectional view of the rear end of a vehicle, the side wall of a building and the sidewalk adjacent to it illustrating how the protective shield carried with the vehicle is used to connect the vehicle with the building for the transfer of valuables from the one to the other.

Figure 2 is a detail top plan view of the protective shield and the frame supporting the same.

Figure 3 is an end elevation of the protective shield and its supporting frame.

Figure 4 is a side elevation of the protective shield supported in a modified form of supporting frame.

In the several figures of the drawings like reference numerals indicate like parts.

It is not uncommon that shipments of valuables, money jewels etc. are stolen while they are being transferred from a building or compartment to a vehicle. It is not difficult to protect such shipments during transit as the vehicles used for such purpose are generally constructed to resist any effort on the part of outsiders to break in and get hold of the shipment or any part thereof. It is when such shipments are transferred from one vehicle to another or to a building that the greatest danger arises because in almost every instance the shipment must be passed thru an open space that is open to an attack from outsiders for the purpose of getting possession of the valuables. The protective shield forming the subject matter of this invention is to protect shipments of valuables during such transfer so as to reduce the probability of theft or loss to a minimum.

The shield comprises a rectangular tube 1 of sufficiently large dimensions so that the valuables to be transferred therethru can be conveniently passed thru it from one end to the other. The metal used in forming the tube is bullet proof as well as fire resisting, and of course, is made as light as possible to facilitate an easy handling of it. The inner end of the shield is provided with a door 2 having a sight opening 3 provided therein. In the outer end of the shield is provided a similar door 4 so that nothing can be inserted therein until the end of the shield has been placed thru the opening in the building or compartment, and the door 4 opened. This is believed to be desirable as it prevents the placing of a bomb into the shield to blow it up before the shield is properly placed for the transfer.

As illustrated in Figure 1 the shield may be carried in the vehicle in which the shipment is made. For this reason the shield is mounted in a frame 5 in which suitable mechanism is provided that permits the placing and withdrawing of the shield with but little effort on the part of those handling it. The frame 5 is simply a skeleton frame having a rectangular outline with the ends 6 and 6A connected at the top by the longitudinal rail 7. The bottom of the rectangular ends of the frame 5 are connected by the runways 8 and 9 one at each corner thereof.

The inner end of the shield 1 carries a shaft 10 at the bottom thereof and this shaft has the rollers 11 and 12 as well as the grooved pulleys 13 and 14 keyed thereon. The rollers 11 and 12 are adapted to run on the runways 8 and 9 respectively and support the rear end of the shield within the frame. The front end of the shield is supported by the roller 15 located centrally of the frame at the front end thereof. The whole of the shield is thus supported on rollers that insures an easy movement thereof into or out of the frame during the placing or withdrawing of the shield. A pair of cables 16 and 17 are stretched between the front and rear end of the supporting

frame and these cables are wound around the grooved pulleys 13 and 14 respectively. When, therefore, these pulleys are rotated by means of the crank 18 keyed to the end of the shaft 10, they are moved along their respective cables and move the shield 1 with them.

To keep the rollers 11 and 12 in contact with the runways 8 and 9, the top of the shield is provided with a roller 19 mounted in the bracket 20 located at the inner end of the shield. This roller makes contact with the longitudinal rail 7 and serves to hold the rear end of the shield down and thus holds the rollers 11 and 12 on their respective runways. At the front end of the supporting frame 5 it is desirable to provide a roller 21 so as to hold down the front end of the shield and keep the bottom thereof in contact with the roller 15. The roller 21 also serves as a stop for the shield and prevents its complete withdrawal from the frame when it is being moved out from it as illustrated in Figure 1.

In order to keep the rollers 11, 12 and 19 in yielding contact with their respective runways, the bracket 20 is provided with bearings in which expansion springs 22 are mounted that yieldingly force the roller 19 into contact with the rail 7.

The front end of the frame 5 is supported by a bracket 23 having a hole 24 provided therein. A pin 25 carried by the bracket 26 is adapted to engage in the hole 24 of the bracket 23. The bracket 26 with its pin 25 is suitably fastened to the inside of the vehicle in which the shield is carried. The front end of the supporting frame of the shield is thus pivotally supported on the inside of the vehicle just below an opening 30 provided in the back of the vehicle so that the shield can be extended therethru. A sliding or swinging door 31 is used for closing the opening 30 before and after a transfer of valuables has taken place, and when the shield is withdrawn.

Pivoting the frame in the manner illustrated and described permits the pointing of the frame on the inside of the vehicle so that when the shield passes thru the opening 30 it can be pointed toward the opening 32 in the building or compartment with which connection is desired for transfer. This is illustrated in Figure 1. After the shield has been extended and the connection is made between the building and the vehicle, the shield is locked thereto. For this purpose the outer end of the shield that has been inserted thru the opening in the building is provided with a locking means such as a chain with which this end of the shield can be locked to the building and prevented from being withdrawn from the opening until after the transfer has been completed.

The rear end of the supporting frame 5 is provided with a standard 34 by means of which this end of the frame is supported within the vehicle. The standard comprises a turn buckle arrangement which is provided with a hand wheel 35 so that on the rotation of this wheel the standard can be lengthened and shortened in order to level, raise or lower the rear end of the supporting frame. The end of the standard resting on the floor of the vehicle is forked, and each leg of the fork is provided with a roller 36 which permits the standard to move over the floor easily in order to swing the supporting frame on the pivot pin 25 as above described.

From the foregoing description it will be seen that the supporting frame is very flexible in its adaptation to the vehicle by which it is carried as well as to the building that is to be connected with the vehicle. The shield can be supported within the vehicle in any desired position and extended thru a door or window by simply turning the crank 18 until the outer end of the shield has been passed thru the opening in the building or compartment. The shield is withdrawn in the same manner by turning the crank until the shield has been drawn back thru the opening into the vehicle and into the supporting frame therefor.

Instead of connecting a vehicle with a building or compartment by extending the shield horizontally it is sometimes desirable to make connection thru a manhole in the street or sidewalk adjoining the building. In this case the protective shield must be mounted vertically in the vehicle as illustrated in dotted lines in Figure 1 so that the shield can be passed thru an opening 40 provided in the bottom of the vehicle. To hold the supporting frame in this vertical position the bracket 23 is attached to a pivot pin 41 provided in the floor of the vehicle and the standard 34 is extended so as to brace the upwardly projecting end of the supporting frame and prevent its falling over. When using the shield in this position the vehicle is placed so that the opening 41 provided in the bottom thereof is located directly above the manhole 42 so that the shield when extended thru the bottom of the vehicle passes into the manhole and connects the compartment of which the manhole forms an outlet with the inside of the vehicle.

In Figure 4 I have illustrated a modified form of the shield and its supporting frame. In this form the standard 34 is replaced by the curved bracket or brackets 50. These brackets are provided with rollers 51 at the lower end thereof and support the frame at both ends instead of but the rear end thereof. The curved brackets make it possible to place the frame more readily from a horizontal position into a vertical position in that the sides of the bracket form rocking

members on which the frame can be rocked from one to the other position.

Instead of using the cable and pulley arrangement illustrated in Figure 1 to 3 for the purpose of extending the shield, the modified form thereof illustrated in Figure 4 is provided with the rack 52 and the pinion 53 which serve to move the shield in and out of the frame on the rotation of the crank 54.

I claim:

1. A shield for protecting the transfer of valuables from a vehicle to a building or other vehicle and vice versa comprising a tube, a swinging supporting frame for said tube, means for telescoping said tube in and out of said swinging supporting frame, and means for directing and placing said tube into a predetermined position.

2. A shield for protecting the transfer of valuables from a vehicle to a building or other vehicle and vice versa comprising a tube, a supporting frame for said tube, runways provided in said supporting frame, means for sliding said tube on said runways, a pivotal support at one end of said frame, and a swinging support at the other end of said frame.

3. A shield for protecting the transfer of valuables from a vehicle to a building or other vehicle and vice versa, comprising a tube, a door closing the end of said tube, a supporting frame, runways provided in said supporting frame, rollers provided at one end of said tube engaging said runways to support said tube within said supporting frame and allow it to slide in and out thereof.

4. A shield for protecting the transfer of valuables from a vehicle to a building or other vehicle and vice versa, comprising a tube, a door closing the end of said tube, a supporting frame, runways provided in said supporting frame, rollers provided at one end of said tube engaging said runways to support said tube within said supporting frame and allow it to slide in and out thereof, a fixed pivot pin, a bracket having a hole therein provided at the front end of said supporting frame, said pivot pin engaging the hole in said bracket to pivotally support the front end of said frame.

5. A shield for protecting the transfer of valuables from a vehicle to a building or other vehicle and vice versa, comprising a tube, a door closing the end of said tube, a supporting frame, runways provided in said supporting frame, rollers provided at one end of said tube engaging said runways to support said tube within said supporting frame and allow it to slide in and out thereof, a fixed pivot pin, a bracket having a hole therein provided at the front end of said supporting frame, said pivot pin engaging the hole in said bracket to pivotally support the front end of said frame, a standard attached to the rear end of said supporting frame, means for lengthening and shortening said standard, and means provided on said standard to allow its movement to one side or the other and swing said frame on said pivot pin.

6. A transport of the class described adapted to convey articles from one station to another, a tube carried by the transport and adapted to connect the same with the station, means for moving the same from the former to the latter, and manually actuated means for swinging the tube at various angles with respect to the transport.

7. A transport of the class described adapted to convey articles from one station to another, a tube movable by means positioned within said transport for connecting the same with a station, said tube adapted to convey article carriers from the transport to the station, and manually actuated means for supporting said tube and moving the same at various angles with respect to said transport.

In testimony whereof I affix my signature.

RALPH L. MacDONALD.