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J. B. BLAW

FIRE APPARATUS

Filed Oct. 6, 1924

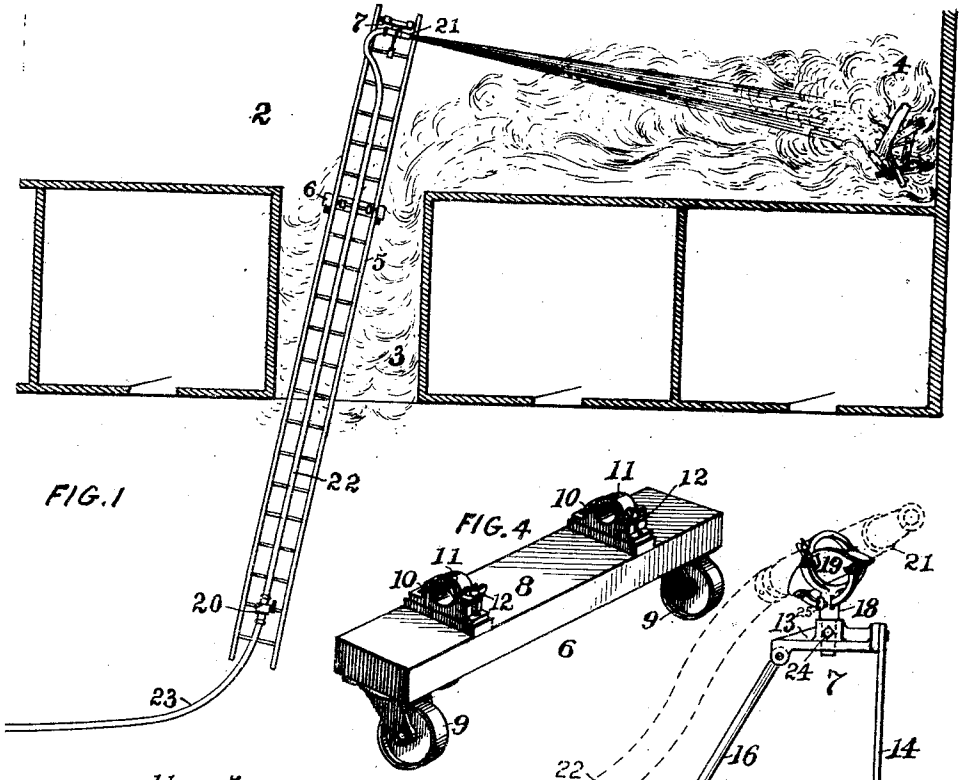



FIG. 1




FIG. 4




FIG. 3

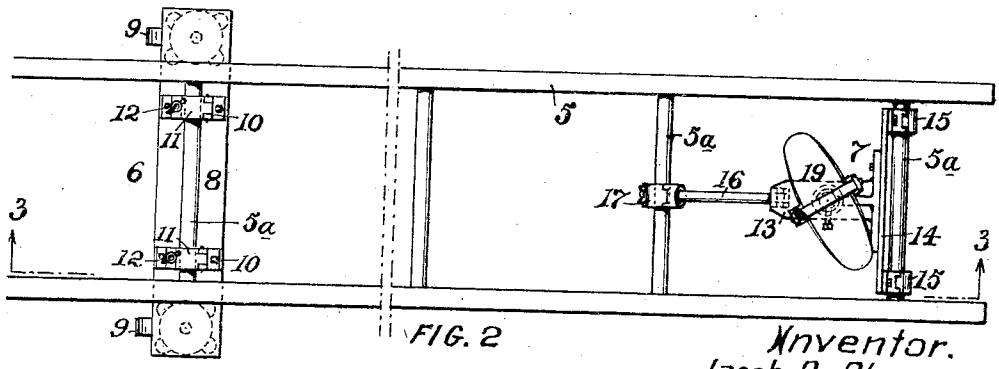



FIG. 2

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# UNITED STATES PATENT OFFICE.

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## FIRE APPARATUS.

Application filed October 6, 1924. Serial No. 741,798.

The object of my invention is to provide a suitable equipment for extinguishing fires arising in inaccessible locations such as in garages where there is usually only a single doorway communicating with the street and through which the smoke and fumes are compelled to escape and thus make it impracticable for firemen to enter and operate in the usual manner.

My invention has a further object in providing portable devices adapted to be carried with the fire truck (or made part of an equipment with the garage) whereby an ordinary ladder may be utilized for supporting the fire nozzle and hose and adjustably positioned for accurate directing of the water stream upon the fire without the necessity of firemen entering the building.

My improvements comprehend a detachable truck upon which the ladder is clamped intermediate of its ends and preferably to one of the rungs thereof and by which the ladder may be moved longitudinally or swung around at various angles in a horizontal plane, the said ladder being further provided with a fire hose adjustable clamp also adapted to be carried upon the rungs of the ladder at its extreme end portion, the hose from the nozzle being preferably supported lengthwise of the ladder upon the rungs thereof and furnished near the other end of the ladder with a control valve, the whole operating in such manner that the ladder may be extended through a smoke filled passage with the nozzle directed laterally so that its stream may reach a fire which otherwise is inaccessible and the stream controlled from outside of the building without danger to the firemen.

The improvement will be better understood by reference to the drawings in which: Fig. 1 is a plan view of a building showing my improvements in operative relation thereto; Fig. 2 is a plan view of a portion of the ladder with my improvements applied thereto; Fig. 3 is a vertical section taken on line 3—3 of Fig. 2; and Fig. 4 is a perspective view of the detachable truck which supports the ladder.

2 represents the interior of a garage building of which 3 is the entrance and through which access is alone possible to the interior thereof. 4 indicates a position of fire which may be so located within the building that it cannot be reached through the entrance passage 3 and the problem to be accomplished is to play a stream upon the said fire without the necessity of the firemen entering the passage 3.

The application for accomplishing this consists of the following: A ladder 5 may be part of the equipment of the fire department or any other suitable ladder that is available. 6 is a truck of the general character illustrated in Fig. 4 which is detachably clamped to one of the rungs of the ladder at such position along its length as found convenient and upon which the ladder may be supported while being moved longitudinally or swung around in various positions and by which it may primarily be introduced through the entrance passage 3 to the garage. As shown, the truck consists of a transverse wooden block 8 provided on its underside with widely spaced supporting wheels 9 which may be of any of the usual types such as employed under warehouse trucks, said wheels being universally jointed so that they may swing about a vertical axis for easy adjustment of the supporting load. The block 8 is provided with a pair of clamps 10 having adjustable hinged clamping parts 11 and locking screws 12 whereby the block may be attached to a rung of the ladder while the ladder itself may directly rest upon the block to support the main weight of the ladder and equipment. In this manner, the ladder and the truck move as a unit and permit the ladder to be balanced upon the truck and easily shifted to whatever position may be desired. At the extreme end of the ladder is arranged a fire nozzle clamp 7 which is also detachably clamped to the rungs of the ladder and adapted to support the fire nozzle at any angle desired. As shown in Figs. 1 and 2, the fire nozzle is directed transversely of the ladder so that the stream may be thrown laterally upon the fire at 4 in Fig. 1, said fire being at an inaccessible part of the building. The fire nozzle clamp is detachably fastened to the rungs of the ladder and may be constructed as shown, consisting of a head block 13 formed with arms 14 having at their lower parts clamps 15 for detachable connection with the rung of the ladder. Hinged to the head block is a rearwardly extending arm 16 having at its lower end a clamp 17 for attachment to another of the rungs of the ladder. Pivoted upon the head block 13 is a yoke 18 adjustable about

a vertical axis and upon which is pivoted on a transverse axis a saddle clamp 19 for receiving and clamping the fire nozzle 21, as shown in Fig. 3. The yoke 18 may be clamped in adjusted position by a clamping screw 24 and the saddle clamp 19 may be clamped in adjustable position by a clamping screw 25. In this manner the fire nozzle may be set at any horizontal and vertical adjustment which may be necessary to insure the stream being thrown in the direction desired.

I do not restrict myself to the particular details of the nozzle clamp. A suitable construction of such means being set out in my application Serial Number 680,094, filed December 12, 1923, and the details there shown may be employed, if so desired.

The hose 22 leading from the nozzle 21 may be allowed to trail upon the ground or more conveniently may be supported upon the ladder so that it is moved into position with the least possible friction and at a distance from the nozzle and adjacent to the outer end of the ladder, said hose is provided with a control valve 20 of any suitable construction to permit the control of the stream from the nozzle. 23 represents the fire hose leading the water to the valve 20.

In using this apparatus, the nozzle is clamped in the desired position required to project the water stream where needed and with the valve 20 closed, the ladder with its equipment is pushed through the passage 3 and adjusted to any particular horizontal angle that may be desired. The water may then be turned on by the valve 20 and the stream thrown upon the fire as indicated. It will also be understood that, if desired, the stream may be partly put on when introducing the ladder through the passage 3 if it should be necessary to provide a water screen to protect the firemen where excessively high temperatures are encountered.

It will also be understood that while I have shown a single nozzle clamp and hose line leading thereto, a plurality of such nozzle clamps may be adjusted to the ladder if so desired, and it is also to be understood that the head block 13 may be provided with more than one nozzle clamp so that more than one stream may be supplied, such capacity being provided by the nozzle supports shown in my application aforesaid, and the construction of which may be adapted to the present invention, if so desired.

As a further possible use of my invention, it will be understood that where the passage 3 is very great in length, a second ladder and supporting truck may be employed with the two ladders temporarily lashed together so that the second ladder may be utilized in pushing the forward end of the first mentioned ladder and its fire nozzle into position for effective operation of the stream.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that I do not restrict myself to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a fire apparatus, the combination of a substantially horizontal ladder with a detachable truck arranged under the ladder intermediate of its ends and whereby it may be balanced upon the truck and freely adjusted horizontally with the truck as a pivotal support, said truck provided with clamping means adapted to be attached to a rung of the ladder so as to be adjustable to different places along its length, a detachable nozzle clamp having means whereby it may be adjustably secured to the rungs of the ladder adjacent to one end thereof and extend upwardly therefrom, and means including a fire nozzle held by the nozzle clamp to provide a stream of water, said clamp being adjustable to position the nozzle to direct the stream in any desired direction, the horizontal ladder together with the fire nozzle being movable over the ground and capable of being extended through a passage to bring the fire nozzle into an ordinarily inaccessible operative position.

2. The invention according to claim 1, wherein further, the means for supplying the water to the fire nozzle comprises a hose line extending horizontally along the ladder and supported upon the rungs thereof by gravity, and a water control valve is arranged in the hose line adjacent to the end of the ladder most distant from the fire nozzle.

3. The invention according to claim 1, wherein the truck comprises a body frame provided with universally adjustable supporting wheels on its lower part, and the means for attachment to the ladder comprise a plurality of widely spaced detachable clamps having apertures in alinement and adapted to detachably receive and clamp the ladder rung.

In testimony of which invention, I hereunto set my hand.

JACOB B. BLAW.