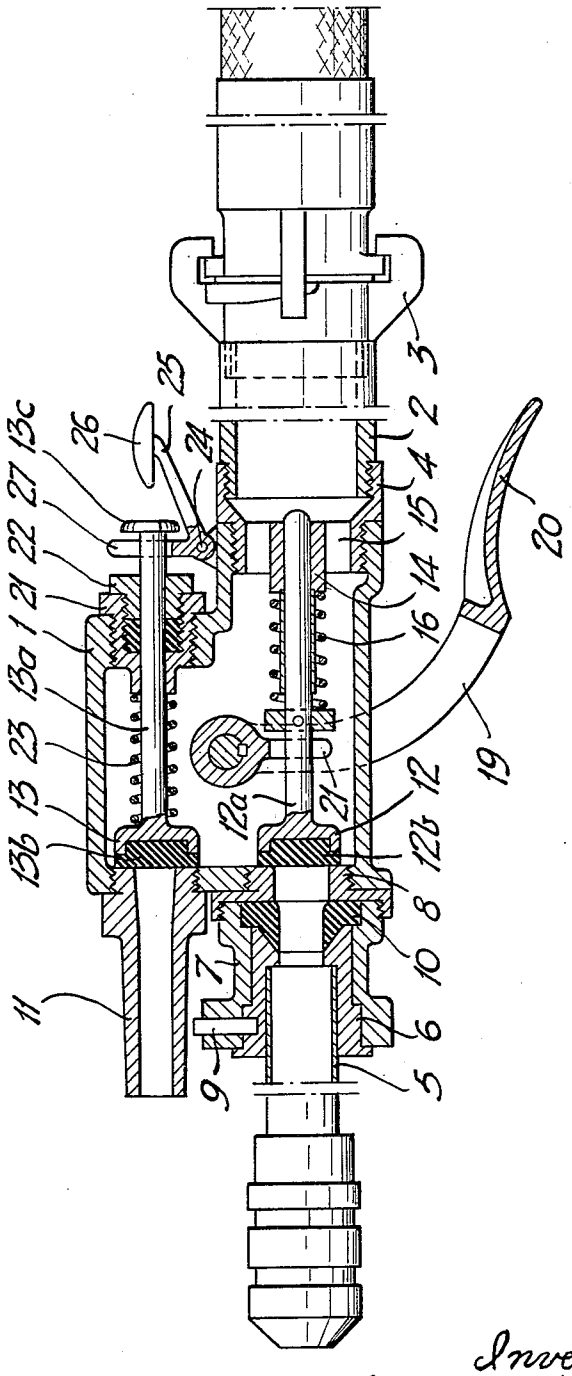
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NOZZLE ATTACHMENT FITTINGS FOR FIRE ENGINE HOSES

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NOZZLE ATTACHMENT FITTINGS FOR FIRE ENGINE HOSES

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This invention relates to a nozzle attachment fitting for fire engine hoses of the type, comprising a valve box or hollow body, to one side of which is attached a handle tube for connection with a hose and to the opposite side of which is attached both a connection piece for connection with an extension tube (applicator tube) carrying a fog nozzle, and a nozzle for ejecting a solid stream, wherein the connection piece of the extension tube and the solid stream nozzle are controlled by separate valves operated by handles.

The object of the invention is to create an automatically closing nozzle attachment fitting of said type and of such structure that the operator by one and the same hand holding the handle tube can easily cut in either the fog nozzle or the solid stream nozzle or both as desired, still maintaining the grip on the handle tube.

A nozzle attachment fitting of said type is, according to the invention, characterized chiefly in that the fog nozzle extends substantially on a line with the handle tube while the solid stream nozzle extends alongside of the handle tube, above the same, as well as in that the connection piece for the extension tube and the solid stream nozzle are each controlled by one of two spring-pressed lift-valves which are disposed substantially in an axial plane of the handle tube, in parallel with each other, and each provided with a separate operating handle, these two operating handles being disposed on opposite sides of the handle tube in positions allowing actuation by the fingers and the thumb of one and the same hand holding the handle tube.

Thus, when using a nozzle attachment fitting according to the invention it will be possible easily to change from operation with the fog nozzle to operation with the solid stream nozzle or to use both said types of nozzles simultaneously. For instance, in case of fire in rooms one usually tries to extinguish the fire by means of fog, but if the fire has penetrated deeper into walls, floors and ceiling, the fog will only damp the smoke and the flames so that it will be necessary to change over quickly to operation with the solid stream. Now, the invention makes it possible to cut in the solid stream very quickly, without interrupting the extinguishing operation.

A particular advantage of the nozzle attachment fitting according to the invention is gained thereby that the valve springs will close the valves automatically when the operating handles are allowed to return from the position of operation to the position of rest. This feature is of great importance especially in cases in which the extinguishing work is performed by means of water obtained from tank cars, as one in such cases has to be economical with the water.

One embodiment of a nozzle attachment fitting for fire engine hoses is by way of example illustrated in the accompanying drawing which shows a longitudinal section through the fitting.

In the drawing, reference numeral **1** indicates the hollow body or valve box, **2** the handle tube, **3** the hose-connection member of the same, **4** a screw bushing by

means of which the handle tube is attached to the valve box, **5** the extension tube (applicator tube) which carries on its terminal a fog nozzle (which may be of any well-known type), **6** the clutch sleeve secured to the rear end of the extension tube, **7** the connection piece for the extension tube, **8** a screw bushing by means of which said connection piece is attached to the valve box, **9** a locking pin for locking the extension tube in position of connection, **10** a packing ring, **11** the nozzle for ejecting a solid stream, **12** the axially movable spring-pressed lift-valve for controlling the passageway extending to the extension tube carrying the fog nozzle, **13** the axially movable spring-pressed lift-valve for controlling the passageway extending to the solid stream nozzle.

The connection piece **7** and the lift-valve **12** are disposed on a line with the axis of the handle tube **2**. The lift-valve **12** has its stem **12***a* guided in a stepped sleeve **14** provided centrally in the screw bushing **4** and carried by the same by means of arms **15** or the like so that the water supplied from the handle tube can pass through the spaces formed between said arms. The helical valve spring **16** is disposed between the shoulder of the guiding sleeve **14** and a ring **17** provided on the valve stem and fixed to the same by means of a pin. Thus, said ring forms a shoulder on the stem and said spring tends to hold the valve **12** in closed position. The head of the valve **12** may comprise a packing disc **12***b*. In the valve box above the stem **12***a* a transverse shaft **18** is mounted, which can be rotated by means of a fork-shaped swinging arm **19** provided with an operating handle **20**. Inside the box the shaft **18** is provided with a fork-shaped driver **21** disposed in such way that said driver will engage the ring **17** and open the valve **12** against the action of the spring **16**, when the operator by means of the fingers of the hand holding the handle tube **2** forces the handle **20** towards the handle tube.

The solid stream nozzle **11** and the lift-valve **13** are disposed alongside of the axis of the handle tube **2**, at a higher level than the same, and the stem **13***a* of the lift-valve **13** projects from the rear wall of the section of the box, containing said valve. The valve stem **13***a* is guided in a screw bushing **21** which is screwed into the box **1** and in which a packing box **22** is provided. The helical valve spring **23** engaging the interior end of the screw bushing **21** tends to hold the valve **13** in closed position. Also the head of the valve **13** may comprise a packing disc **13***b*. Behind the section of the box, containing the valve **13**, a transverse shaft **24** is mounted, which can be rotated by means of a swinging arm **25** provided with a push button **26**. This swinging arm **25** is provided with a fork-shaped driver **27** which engages around the projecting part of the stem **13***a*, inside a shoulder **13***c* on the same. The driver **27** is adapted to engage the shoulder **13***c* and open the valve **13** against the action of the spring **23**, when the operator by means of the thumb of the hand holding the handle tube **2**, forces the push button **26** and thereby the swinging arm **25** towards the handle tube.

From the drawing it will be understood that the geometrical axes of the valves **12**, **13** and of the handle tube **2** lie in a common plane, this arrangement being very clear and simple. Moreover, the drawing illustrates the feature that the operating elements **20**, **26** proper lie on the opposite sides of the handle tube **2**, and it is just this arrangement—in combination with the provision of spring-pressed lift-valves—that allows the easy operation of the valves by the same hand that holds the handle tube.

What I claim is:

1. A nozzle attachment fitting for fire engine hoses, comprising, in combination, a valve box, a handle tube for connection with a water supply hose being attached

to one side of said box, a connection piece for connection with an extension tube having a fog nozzle, being attached to an opposite side of said box and extending on a line with the axis of the handle tube, a nozzle for ejecting a solid stream being attached to said opposite side, alongside of the axis of the handle tube and higher than the same, a spring-pressed lift-valve for controlling the connection piece of the extension tube being provided in said box on a line with the axis of the handle tube, and another spring-pressed lift-valve for controlling the solid stream nozzle being provided in said box, alongside of the axis of the handle tube and higher than the same, said two lift-valves being provided substantially in a common axial plane of the handle tube and extending in parallel with each other, an operating handle for lifting the first-mentioned valve and a different operating handle for lifting the last-mentioned valve, said two operating handles being provided on opposite sides of the handle tube and being disposed in positions allowing actuation by the fingers and the thumb of one and the same hand holding the handle tube.

2. A nozzle attachment fitting for fire engine hoses, comprising, in combination, a valve box, a handle tube for connection with a water supply hose attached to one side of said box, a connection piece for connection with an extension tube having a fog nozzle attached to an opposite side of said box and extending on a line with the axis of the handle tube, a nozzle for ejecting a solid steam attached to said opposite side alongside of the axis of the handle tube and higher than the same, a spring-pressed lift-valve for controlling the connection piece of the extension tube provided in said box on a line with the axis of the handle tube, and another spring pressed lift-valve for controlling the solid stream nozzle provided in said box, higher than the axis of the handle tube, said two lift-valves being provided substantially in a common axial plane of the handle tube and extending in parallel with each other, a rockable operating arm having a finger pressure grip below the handle tube for lifting the first-mentioned valve so as to open the valve when urged towards the handle tube, and a different rockable operating arm having a thumb pressure grip above the handle tube for lifting the last-mentioned valve provided so as to open the valve when urged towards the handle tube.

3. A nozzle attachment fitting for fire engine hoses, comprising, in combination, a valve box, a handle tube for connection with a water supply hose, said tube being

connected with said box, an extension tube having a fog nozzle, a connection piece for connecting said extension tube, said box opposite said hose and extending on a line with the axis of the handle tube, a nozzle for ejecting a solid stream attached to said box alongside of the axis of the handle tube and at a higher level than said solid stream nozzle, a spring-pressed lift-valve for controlling the connection piece of the extension tube provided in said box on a line with the axis of the handle tube, and a second spring presed lift-valve for controlling the solid stream nozzle provided in said box, at a higher level than the axis of the handle tube, said two lift-valves being located substantially in a common axial plane of the handle tube and extending in parallel with each other, a rockable operating arm having a finger pressure grip below the handle tube for lifting and opening the first-mentioned valve when urged towards the handle tube, said finger pressure grip being mounted on a transverse shaft extending within the valve box between the two valves, and a second rockable operating arm having a thumb presure grip located above the handle tube for lifting the last-mentioned valve provided so as to open the valve when urged towards the handle tube, said thumb pressure grip being mounted on a transverse shaft extending outside the valve box behind the same.

4. Apparatus according to claim 3, and in which each of said valves has a stem extending rearwardly therefrom, each of said stems having abutment means thereon, and said operating arms each being connected with a second arm engaging the respective abutment means.

5. Apparatus according to claim 3 and in which the one of said operating handles extends along the handle tube in position to be engaged by the operators fingers of one hand and the other located in position to be engaged by the thumb of the same hand without displacement of the hand.

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