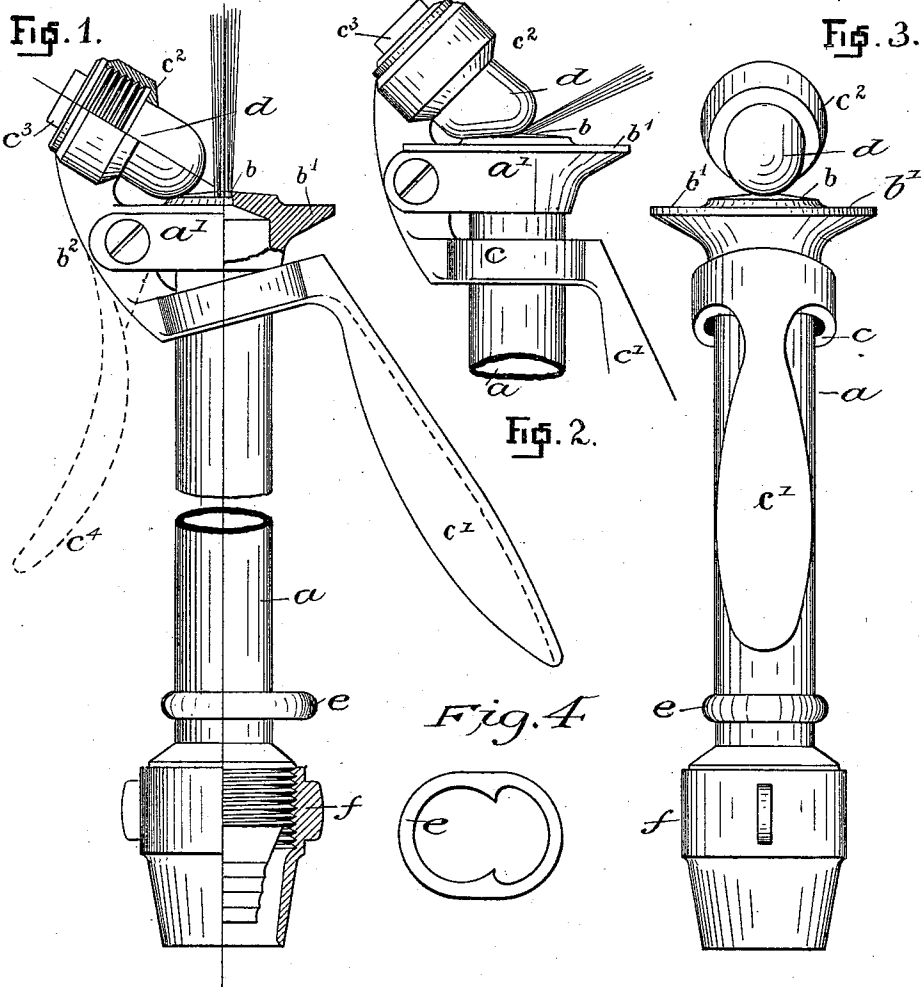


(No Model.)

G. OULTON.
JET DIFFUSER.

No. 540,818.

Patented June 11, 1895.



WITNESSES:

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GEORGE OULTON, OF LIVERPOOL, ENGLAND.

JET-DIFFUSER.

SPECIFICATION forming part of Letters Patent No. 540,818, dated June 11, 1895.

Application filed March 8, 1894. Serial No. 502,881. (No model.) Patented in England October 10, 1893, No. 21,386.

To all whom it may concern:

Be it known that I, GEORGE OULTON, a subject of the Queen of Great Britain, residing at Liverpool, in the county of Lancaster and Kingdom of England, have invented certain new and useful Improvements in Jet-Diffusers, (patented in Great Britain October 10, 1893, No. 21,386,) of which the following is a specification.

This invention relates to nozzles and devices in connection therewith for spreading out or diffusing jets or streams of fluids or converting them into spray as they issue from the nozzle, and the object of my improvements is the production of a simpler and more effective device than has hitherto been made, by means of which the diffusion of the jet and the density of the spray can be instantaneously regulated at will while the jet is issuing from the orifice in an analogous manner as can be done by covering or partly covering the orifice with the thumb of the hand, and which at the same time acts as a valve for stopping the jet or closing the orifice completely and thus renders the use of another stop valve or cock in connection with the nozzle superfluous.

On the accompanying drawings a nozzle fitted with my improved device is represented, Figure 1 showing a side view thereof, partly in section; Fig. 2, a similar view of the end part with the orifice partly closed; Fig. 3, a front view; Fig. 4, a plan of the sliding loop, hereinafter referred to.

The improved jet diffuser consists of a tubular barrel or nozzle *a* having an end-plate with a contracted orifice *b* and a flange *b'* and formed with a lug *a'* to which is hinged a lever *c* having a finger-plate *c'* at the lower end and a socket *c²* at the upper end. Into the socket is fitted a block *d* which forms the stopper or spreader made of some elastic material such as india-rubber preferably and secured by a screw plug *c³* or by any other suitable means. The block *d* may be solid or hollow.

The lever *c* surrounds the tubular barrel *a* to enable the device to be operated by a pull-to movement. An alternative arrangement is indicated by the dotted lines showing a thumb-plate extension *c⁴* of the lever *c* on the

fulcrum side of the barrel *a*. In this latter case the lever is pressed away from the barrel.

The lever *c* is so formed that when free, a jet issuing from the orifice *b* shall pass the block *c²* without striking it, as shown by Fig. 1. Upon moving the finger-plate *c'* of the lever toward the barrel *a* or pressing the thumb-plate *c⁴* away from the barrel, the block is moved toward the orifice *b* and brought first into contact with the edge of the orifice next to the fulcrum of the lever and gradually covers the orifice, so that a jet issuing from *b* strikes the block *c²* and is more or less diverted and diffused accordingly as the orifice is more or less closed or covered by the block, as shown by Fig. 2. The block or spreader *c²* being of an elastic nature and presenting also an inclined face to the orifice the amount of contact between it and the edges of the orifice, and the partial closure of the latter can be varied by moving the lever *c* nearer to or farther from the barrel *a* and the jet diffused and the spray projected as may be desired. The flange *b'* serves to protect the hand against liquids dripping upon it.

In order to close the orifice entirely and stop the issuing of the jet a shackle *e* is placed round the barrel *a* which can be slipped over the finger plate *c'* of the lever and thus relieve the hand from having to press the lever. Obviously other ordinary means for stopping the flow of liquid to the nozzle may be used instead of or in addition to the same.

A coupling *f* may be formed at the end of the barrel *a* for readily connecting a hose or other pipe to the barrel. Any suitable coupling or means for coupling the parts together may be used, the arrangement shown on the drawings being the well known cone coupling.

I claim as my invention—

1. The combination of a tubular barrel having an orifice at its end, a flange at the orifice formed with a lug, a lever pivoted to the lug, a ring formed upon one arm of the lever and surrounding the barrel, the lever being extended to form the handle, a socket formed on the other end of the lever, and a hollow block of elastic material secured in the socket by a screw plug and extending to the edge of the orifice.

2. The combination of a tubular barrel

having an orifice at its end, a flange at the orifice, formed with a lug, a lever pivoted to the lug and extended to form the handle, a ring for surrounding one end of the handle
5 and the barrel, a socket formed on the other end of the lever and a block of elastic material secured in the socket by a screw plug and extending to the edge of the orifice.

3. The combination of a tubular barrel
10 having an orifice at its end, a flange at the orifice formed with a lug, a lever pivoted to the lug and extended to form the handle, a

socket formed on the other end of the lever and a block of elastic material secured in the socket by a screw plug and extending to the 15 edge of the orifice.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

GEORGE OULTON.

Witnesses:

THOMAS WILLIAMS PUGH,
RIDLEY JAMES URQUHART.