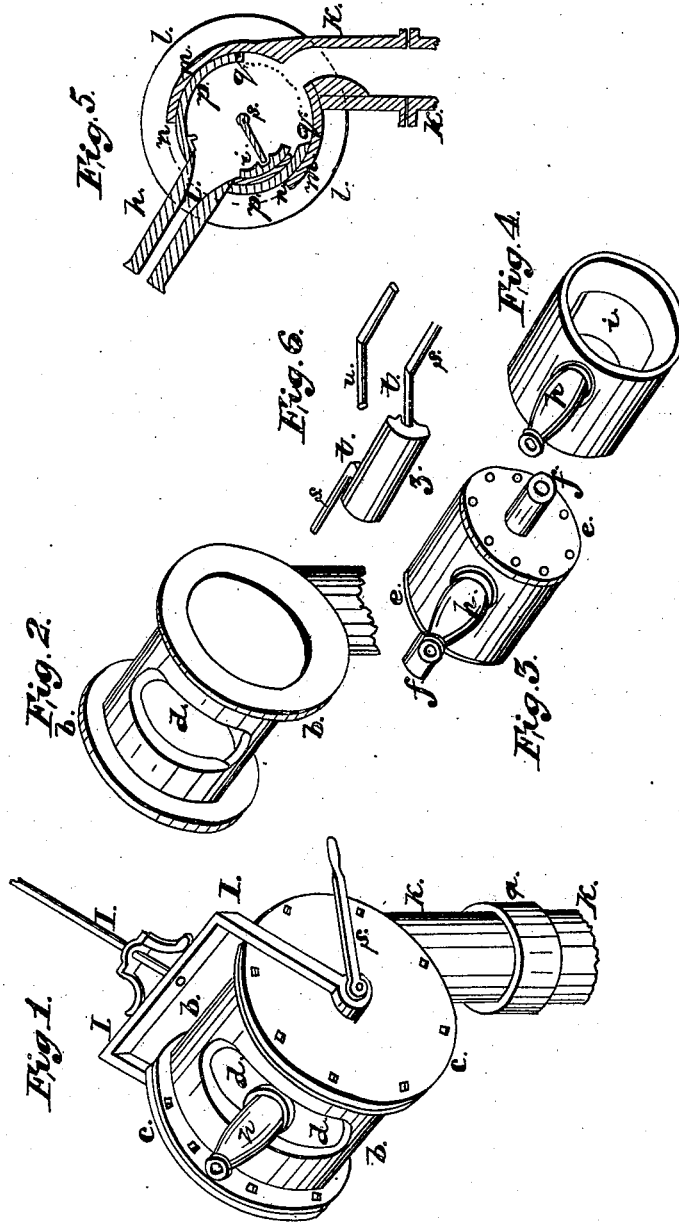


A. Barrett,
Fire Engine.

N^o 1982.

Patented Feb. 18, 1841.



Attest:
John Demmitt

Inventor:
A. Barrett

UNITED STATES PATENT OFFICE.

ASA BARRETT, OF BALTIMORE, MARYLAND.

METHOD OF CONSTRUCTING FIRE-ENGINES.

Specification of Letters Patent No. 1,982, dated February 18, 1841.

To all whom it may concern:

Be it known that I, ASA BARRETT, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement on Fire-Engines, the improvement being an hydraulic ejector; and I do hereby declare that the following description with the accompanying drawing is a full and exact specification.

The usual manner of ejecting water from the engine, is by means of the goose-neck pipe, which is from 5 to 11 feet long; the bore having a uniform taper through its whole length, whereas I contract the length of the joints and the eject pipe to the short length of from 14 to 17 inches, the eject pipe itself being from 3 to 6 inches long.

Figure 1 represents a perspective of the ejecting apparatus.

a, is the usual lower joint, the same as the lower joint of the goose-neck pipe.

b, *b*, is a cylinder and *c*, *c*, the heads bolted to it by means of flanges, as heads are usually fixed on cylinders. The cylinder may be from 6 to 9 inches diameter, and from 5 to 8 inches long, to suit the engine to which it is to be applied.

b, *b*, Fig. 2, is the cylinder without the heads.

d, shows a slot in the cylinder, corresponding with *d*, *d*, Fig. 1. In this cylinder is placed the water cylinder, Fig. 3, of which *e*, *e*, are the heads without flanges, but secured or screwed fast, so as to make an even fit, both at the periphery and the ends.

f, *f*, are journals fastened or joined to the heads, and they pass out through the heads *c*, *c*, Fig. 1, or the outer cylinder. On these journals is fitted the branched handle or lever *g*, *g*, *g*, by which the cylinder is moved. *h*, in Figs. 1 and 3 is the eject pipe.

Fig. 4 is the same as Fig. 3, without the heads and journals.

i, is a slot in the inner cylinder opposite the eject-pipe, to receive the water from the pipe *k*, *k*, Fig. 1, which pipe is connected with the outer cylinder. These slots are sufficiently long to admit a play of the eject-pipe nearly or about 90 degrees, or from a horizontal line to a perpendicular without shutting off the water from the pipe *k*, *k*.

Fig. 5, is an end view of the apparatus, and a section of the eject *h*, and the pipe *k*, *k*, corresponding with the same, at Fig. 1, the heads of the cylinders being removed.

l, *l*, is the flange of the outer cylinder;

m, *m*, the body of the outer cylinder, and *k*, *k*, the pipe which is connected with it. From *n*, to *n*, is the opening or slot in the outer cylinder through which the eject-pipe (which is attached to the inner cylinder) projects, and as stated before allows the eject-pipe to play 90 degrees.

p, *p*, is the inner cylinder, with the eject-pipe *h*, attached to it.

From *q*, to *q*, is the opening or slot through which the water is received from the pipe *k*, *k*.

r, *s*, represents a valve to close the mouth of the eject-pipe; the part *v*, is a piece of metal sufficiently large to cover the pipe and is formed to fit the inner curve of the inner cylinder.

S, is a journal as at *s*, *s*, Fig. 6, of which *r*, is the same as *v*, Fig. 5. *S*, passes out through a hollow of journal as at *f*, *f*, Fig. 3. On this journal *S*, is a handle to work the valve, as seen at *s*, Fig. 1. The piece *S* has a crank-like form the bends *t*, *t*, lying close up against the inner sides of the inner heads; this crank may consist of 2 distinct pieces, as (one) represented by *w*; the inner end merely lying in a recess at the ends of the piece or valve. When the valve covers the mouth of the pipe, the pressure of the water will keep it snugly closed.

It is understood that the cylinders are to be properly fitted to each other both as to the peripheries and heads so as to effect a water tight joint.

It will be perceived that by means of the handle *g*, *g*, *g*, and the joints made by the union of the cylinders and the joint *a*, the eject-pipe may take any point of the compass and any inclination between the horizon and an elevation of 90 degrees.

The inner form of the tube or pipe as seen at Fig. 5, is of a uniform size from *t*, outward, say from 1, to 3 inches; the throat from *t*, inward enlarging gradually with a curve. The reason of this construction is to throw water a greater distance than is done by means of the tapering pipe; as well as to produce a more compact and manageable apparatus.

I have described my apparatus as having two cylinders, one within the other; but I have contemplated various forms of universal joints, through which the water may pass to the short eject-pipe which I adopt. Two cylinders may be joined after the manner of the two parts of the common snuff-box, the

water entering into the underside of one part and out at the top of the other. I could also make a globe joint, as seen in the surveyor's staff, but it is deemed unnecessary to specify
5 forms, as the leading object I have in view is the use of the short eject-pipe; the handle to manage it, and the compactness of the whole apparatus.

I claim as my invention and desire to se-
10 cure by Letters Patent,

The combination of the eject-pipe as above described, with a compact universal-joint pipe or duct, managed by a handle or lever, all constructed in the manner, and for the purpose above specified.

ASA BARRETT.

Witnesses:

JAMES BLAIR,
JOHN DEMUTH.