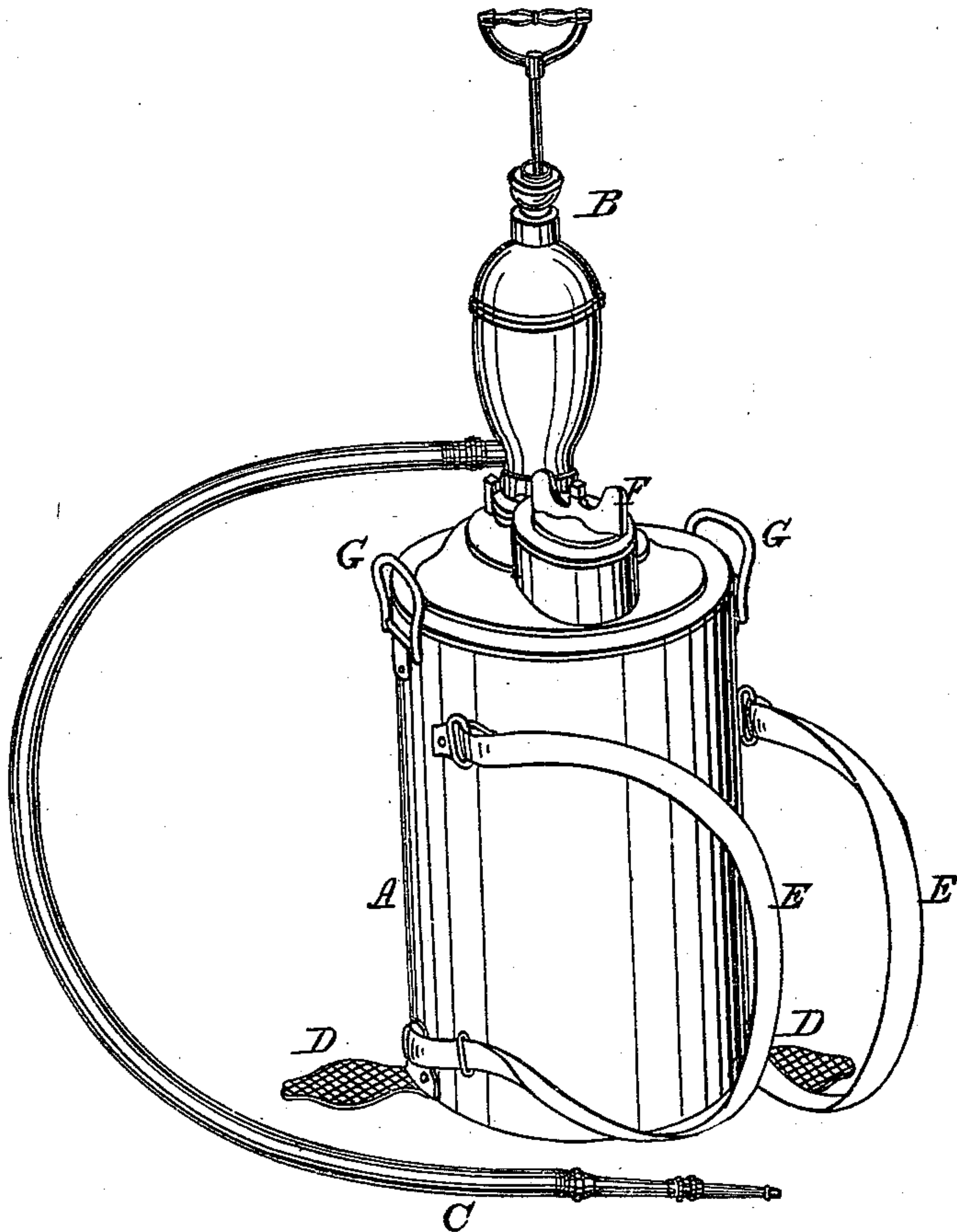


*J. W. Douglas.*

*Fire Engine*

*N<sup>o</sup> 93,974.*

*Patented Aug. 24, 1869.*



*Witnesses:*  
*A. Egan*  
*C. E. Allen*

*Inventor:*  
*J. W. Douglas*  
*Per his attorney*  
*W. D. G.*

# United States Patent Office.

JOSEPH W. DOUGLAS, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR  
TO W. & B. DOUGLAS, OF SAME PLACE.

*Letters Patent No. 93,974, dated August 24, 1869.*

## IMPROVEMENT IN KNAPSACK-ENGINE.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JOSEPH W. DOUGLAS, of Middletown, in the county of Middlesex, and State of Connecticut, have invented a new hydraulic machine, for the purpose of extinguishing fires, which I denominate "The Knapsack-Engine," adapted to be strapped upon the back of an individual, and to carry only a few gallons of water, not enough to prevent a man from carrying the same up a pair of stairs, or through the scuttle of a roof, or up a ladder, through a window, where incipient fire may have made a commencement.

It is well known, and often stated in the newspapers, and by experienced firemen, that no inconsiderable portion of fires, when first discovered, might have been extinguished by a pitcher of water, applied in the right place.

Here is the combination of a force-pump and a portable reservoir, capable of being used wherever a man can go, especially upon the exposed and dangerous parts of a building, where, but for this machine, effort might be made in vain.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation.

The reservoir holds about a cubic foot of liquid, and has the form of a cylinder, rigged to be carried on the back.

In the drawing, let A represent the cylinder; B, the force-pump; C, the discharge-pipe; D D, the feet for holding the reservoir in place; E E, the belts for strapping the reservoir upon the back; F, the feed-opening for supplying water; and G G, handles for lifting the reservoir.

The pump is the ordinary force-pump, and takes its

supply from the bottom part of the reservoir, and is supplied with the usual air-chamber for equalizing the current.

To operate the pump, wherever there is a flat or partially-inclined roof, the reservoir, duly charged, is set upon the roof, and the feet of the operator are placed upon the feet D D. The handle of B is grasped by the right hand; and the pipe C by the left, and the nozzle pointed to the fired part of the building, and the force-pump worked vigorously.

The smallness of the size, and the consequent quickness of movement, will enable this instrument to do its work before other and larger instruments can be brought to the place and got into position.

This invention covers a legitimate combination of individual devices, not before used in the same way, to produce the same effect. It is a machine to all intents and purposes. It is adapted and designed to be carried, on a man's back, to every part of a building where a fire may occur. It is always in readiness for operation at a half-minute's notice.

Having explained the nature of the invention, and the mode of using the machine,

What I claim as my invention, and desire to secure by Letters Patent, is—

The reservoir A, armed with foot-pieces D D and belts E E, in combination with the force-pump B and pipe C, arranged and operated substantially in the manner, and for the purpose herein set forth.

JOS. W. DOUGLAS.

Witnesses:

JNO. M. DOUGLAS,  
D. W. RAYMOND.