

UNITED STATES PATENT OFFICE.

AARON C. VAUGHAN, OF RAINSBURG, PENNSYLVANIA.

IMPROVED BURNING-FLUID.

Specification forming part of Letters Patent No. 53,709, dated April 3, 1866.

To all whom it may concern:

Be it known that I, AARON C. VAUGHAN, of Rainsburg, Bedford county, Pennsylvania, have invented an Improvement in Burning-Fluids; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists, first, in treating benzine with common resin in the manner described hereinafter, so as to render the said benzine less volatile and less liable to explode; second, my invention consists of an economical burning-fluid composed of benzine treated as above, and ordinary illuminating-petroleum.

In order to enable others skilled in the art to practice my invention, I will now proceed to describe the manner of carrying it into effect.

The production of benzine is so extensive and its use is so limited that the average price for sometime past has been as low as twenty cents per gallon, while good illuminating-oil is at present sold at an average rate of fifty-five cents per gallon.

After many careful experiments made with the view of utilizing benzine, I have found that if treated with common resin in the manner described hereinafter it would become, when mixed with petroleum, an economical burning-fluid.

I take the refined benzine and add to each barrel of about forty gallons from ten to twenty pounds of common resin, and allow the mixture to remain quiescent from eighteen to twenty-four hours, when the benzine will be in a great measure deprived of its volatile and explosive properties. To the forty gallons of benzine thus prepared I add about eight hundred gallons of ordinary petroleum as prepared for illuminating purposes, when the mixture becomes an available burning-fluid capa-

ble of standing the fire-test adopted by the United States Petroleum Association.

The following calculation will exhibit the economy attained by the use of my invention:

40 gallons of benzine at 20 cts.....	\$8 00
20 lbs. of resin at 10 cts. per lb.....	2 00
800 gallons of burning-oil at 55 cts..	440 00
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	\$450 00

As the same number of gallons of ordinary illuminating-oil no better or safer than that prepared as above costs four hundred and sixty-two dollars, it will be evident that by the use of my invention a saving of twelve dollars is effected in the production of eight hundred and forty gallons of a safe burning-fluid.

It should be understood that benzine alone may be converted into a safe burning-fluid by the use of resin, but that the quantity of resin required for the purpose at its present price would not justify the practice of such treatment, which may, however, be adopted with good results when resin is reduced in price.

Without confining myself to the exact proportions of the ingredients herein set forth, I claim as my invention and desire to secure by Letters Patent—

1. Treating benzine with common resin in the manner and for the purpose set forth.

2. A burning-fluid composed of benzine treated with resin and mixed with ordinary illuminating-oil, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AARON C. VAUGHAN.

Witnesses:

HENRY HOWSON,
W. J. R. DELANY.