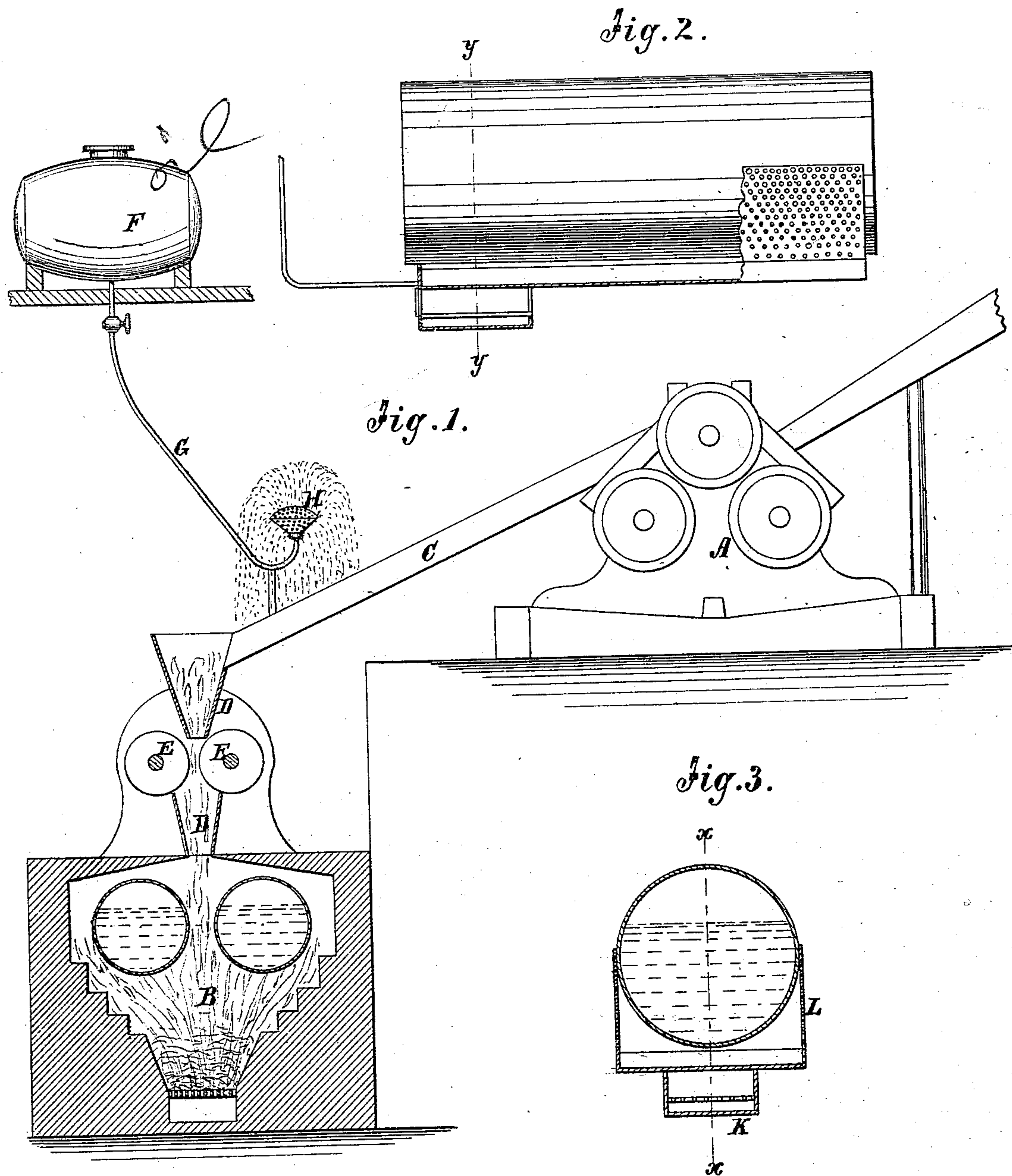


E. S. ROMAN.

Improvement in Burning Hydrocarbons and Bagasse.

No. 125,989.

Patented April 23, 1872.



Witnesses:

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# UNITED STATES PATENT OFFICE.

EUPHEMON S. ROMAN, OF CANTRELLE, LOUISIANA.

## IMPROVEMENT IN BURNING HYDROCARBONS AND BAGASSE.

Specification forming part of Letters Patent No. 125,989, dated April 23, 1872.

Specification describing a new and useful Improvement in Burning Hydrocarbons alone, or in combination with other fuel; invented by EUPHEMON S. ROMAN, of Cantrelle, in the parish of St. James and State of Louisiana.

My invention consists of a combination of hydrocarbons, with bagasse, as it comes from sugar-mill, and is fed to the furnace to facilitate the utilization of the bagasse for fuel without drying it. My invention also consists of a combination of hydrocarbon of every kind, with any other fuel, or the use of hydrocarbons alone as fuel, the same being burned in a pan having a safety-attachment, of the character shown in the "Dayy Safety-Lamp" improvement.

Figure 1 is partly a side elevation and partly a sectional elevation of one arrangement of apparatus by which the hydrocarbon may be combined with the crushed cane as it is delivered from the cane-mill, and directly supplied to the furnace, the use of the hydrocarbon with the bagasse rendering the latter immediately available, whereas, without the oil, the bagasse has to stand over to the next season to dry before it can be made available. Fig. 2 is partly a sectional elevation and partly a longitudinal section of apparatus that may be used for burning the hydrocarbons alone, the section being taken on the line *xx* of Fig. 3; and Fig. 3 is a transverse section on the line *yy* of Fig. 2.

As the bagasse is too wet to be used for fuel when it comes from the cane-crushing mills, it is either stored away at great expense for labor and sheds to protect it from the rain to dry until the next season after it is made, or it is entirely wasted, and other fuel used for driving the machinery and evaporating the juice, although it possesses sufficient combustible substance to furnish all the heat required for driving the machinery to crush it, and for evaporating the juice. Now, I have discovered that, by mixing hydrocarbons of any kind with it, as it comes from the mill, it may be immediately utilized for fuel with great economy by being fed directly into the furnace, and, in like manner, any other fuel, wet or dry, being combined with the said hydrocarbons, will give better results for generating steam and the like for a given cost of material; also, the said hydrocarbons may be successfully and economically burned alone with properly con-

structed apparatus. I therefore propose to mix oil, or any hydrocarbon, with the bagasse, and conduct the compound directly to the furnace, as the bagasse comes from the crushing-mill A, say, by a spout, C, passages D, and feed-rollers E, or any other suitable apparatus, using an oil-tank or fountain, F, of any kind, a conducting-pipe, G, and sprinkler, H, for applying the oil, the said fountain being placed higher than the sprinkler to let the oil flow by gravity, and the sprinkler being arranged directly above the conductor for the bagasse, or the oil may be forced through the sprinkler by a pump. I propose, however, to avail myself of any other suitable arrangement of apparatus for mixing the oil with the bagasse; also to mix it with any other fuel, whether in its passage to the furnace, or before, or afterwards. And I propose to use hydrocarbons alone for fuel, and for burning them I propose to use an oil-tight pan or furnace-bottom, K, with devices of any kind, say, narrow tubes and a force-pump, or the natural pressure, by which it may be distributed into a number of small compartments around the boiler or kettle, surrounded by a jacket of metal, from which reservoirs the heating process takes place in form of a fiery rain or spray, enveloping the boilers or kettle with flame, creating the most intense heat, and thereby economising largely. The pan or furnace holding the oil will be protected or surrounded, in whole or in part, by a safety wire-guard or finely perforated picket, L.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of hydrocarbons with bagasse, as it comes from the crusher and is fed into the furnace, substantially in the manner described.

2. The employment of hydrocarbons, either alone or in combination with bagasse or other fuel, substantially in the manner described.

3. The combination of a bagasse conductor and an oil-holder and sprinkler with a crushing-mill, A, and a furnace, B, substantially in the manner described.

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Witnesses:

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