

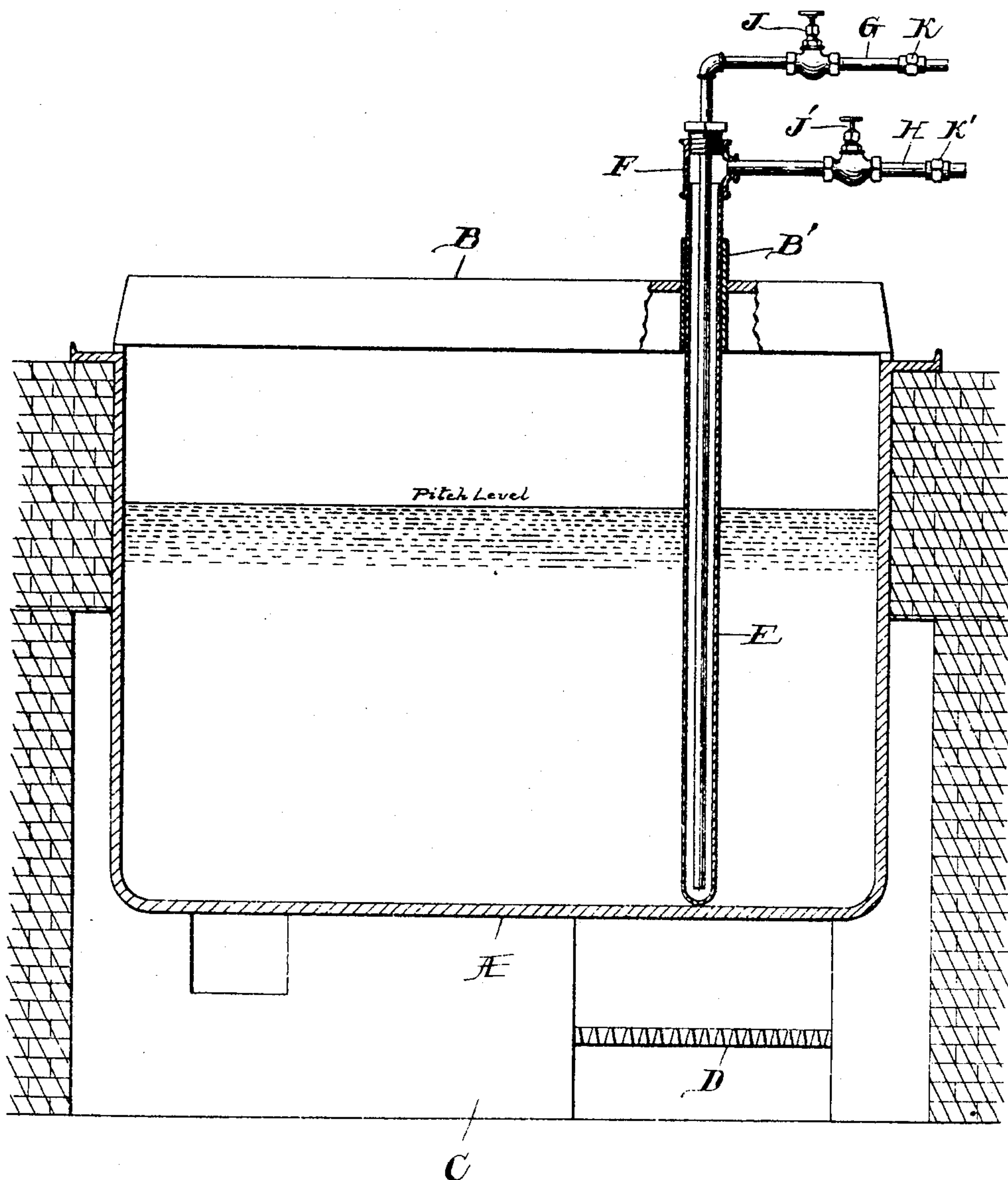
J. PENNINGH & H. KLEINER.

PITCHING MACHINE.

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Patented Aug. 3, 1909.



WITNESSES:

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UNITED STATES PATENT OFFICE

JOHN PENNINGH AND HERMANN KLEINER, OF DETROIT, MICHIGAN.

PITCHING-MACHINE.

No. 929,978.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed December 19, 1906. Serial No. 348,616.

To all whom it may concern:

Be it known that we, JOHN PENNINGH and HERMANN KLEINER, citizens of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Pitching-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates more particularly to a method of melting pitch and to an apparatus or attachment to the pitching kettle of a pitching machine for carrying out the method and has for its object to prevent danger from fire and to human life and also to save time, labor and expense in the operation of a pitching machine.

The danger from fire arises more particularly in cold weather when the pitch left over in the kettle from the previous use of the machine becomes very hard and firmly united with the walls of the kettle and since it has to be heated to a temperature of about 500° F. for pitching, it requires the application of direct heat from a fire built under the kettle. As pitch is a poor conductor of heat it melts first at the bottom at the place where it gets the most heat while the bulk of the pitch remains hard and firmly united with the side walls, thus the pressure from the expansion of the melted pitch and from the gases generated by the heat acts against the bottom of the kettle and bursts out part or the whole of it. The melted pitch thus coming in contact with the fire explodes like powder endangering human life and giving rise to a serious fire.

According to our invention we first melt the pitch within the area of a small column extending from the bottom up through the mass at the place where the pitch melts first when the fire is applied. The portion thus melted forms a vent as it readily yields to the pressure of the expanding pitch at the bottom when the fire is started. To this end we provide an apparatus in the form of a small heater of suitable form adapted to heat the pitch within the restricted area required to form the described vent, all as more fully hereinafter described and shown in the accompanying drawings, in which our apparatus is shown in vertical central section as applied to a pitching kettle of known description.

Referring to the drawings A represents

the pitching kettle, B the cover thereof, C the furnace and D the fire grate all of well known construction and operation.

The apparatus comprises a casing E 60 formed preferably of a brass tube of a length to extend from the bottom up through the cover of the kettle, the cover having a suitable opening formed or provided with a guide bearing B' adapted to 65 removably hold the tube in position. The lower end of the tube is closed and the upper end is provided with a T-coupling F for connecting the tube with suitable steam supply and exhaust pipes G and H. The steam 70 supply pipe extends down within the tube and both pipes are provided with controlling valves J J' and with couplings K K' for disconnecting the pipes to allow the apparatus to be readily removed. 75

The apparatus thus constitutes a portable steam heater and if disposed in the hardened pitch in the kettle as shown, the pitch around the tube if steam is admitted from a suitable source will quickly soften and melt and form 80 a small column of softened or melted pitch right through the hardened mass from the bottom up and the fire under the kettle may then be started in full force and the further use of the apparatus discontinued, whereas 85 in the present practice when the heat from the fire alone is used a very slow fire has to be started and maintained for twenty-four hours.

While it may be possible in certain forms 90 of pitching machines to make the apparatus a permanent fixture its general availability to pitching machines in present use requires it to be removable. After the pitching is accomplished, the apparatus is then 95 replaced in position before the pitch hardens again although it is obvious that it may be introduced into the hardened pitch.

To accomplish the object of our invention the tube E need not be larger than one inch 100 outside diameter with a $\frac{3}{4}$ inch steam pipe inside, the apparatus is thus easily portable and can be readily removed before the work of pitching can be commenced, besides it dispenses with the necessity of providing an 105 extra opening in the cover, since a suitable opening is already provided for inserting a thermometer, the use of which for the time being can be dispensed with.

It is obvious that instead of steam any 110 other suitable heating medium may be used in our apparatus.

Having thus fully described our invention what we claim is:—

1. The herein described method of melting pitch in the pitching kettle of a pitching machine by means of a fire under the kettle which consists in first softening by means of heat applied within the kettle, a small portion of the pitch extending vertically through the body thereof and thereby form a duct or vent of softened pitch therein adapted to form an escape for the gases and vapors in melting.

2. The herein described method of melting pitch in the pitching kettle of a pitching machine provided with a furnace for heating the kettle, the same consisting in first forming a duct or vent of softened pitch through the body of the pitch by means of a heated body immersed in the pitch at the place where the bottom of the kettle is exposed to the greatest heat from the fire in the furnace, and then in completing the operation by means of the fire under the furnace.

3. In a pitching machine, the combination with the kettle containing the pitch and pro-

vided with a cover having an opening therein above the place where the bottom of the kettle is exposed to the greatest heat from the fire in the furnace, of a heater adapted to be removably supported in said opening and extend down to the bottom of the kettle, said heater having an outer casing adapted to heat and soften the pitch by contact with said casing in the operative condition of the heater.

4. In a pitching machine, the combination with the pitching kettle having a cover provided with an opening therein, of a heater consisting of a tubular outer casing adapted to be inserted into the pitching kettle through said opening and to reach to the bottom thereof, and means for circulating steam through said casing for heating the same.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN PENNINGH.

HERMANN KLEINER.

Witnesses:

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