July 4, 1933. J. C. JESSEN 1,916,573

FUEL PACKAGE FOR HEATERS

Filed Aug. 16, 1929

FIG. 1.

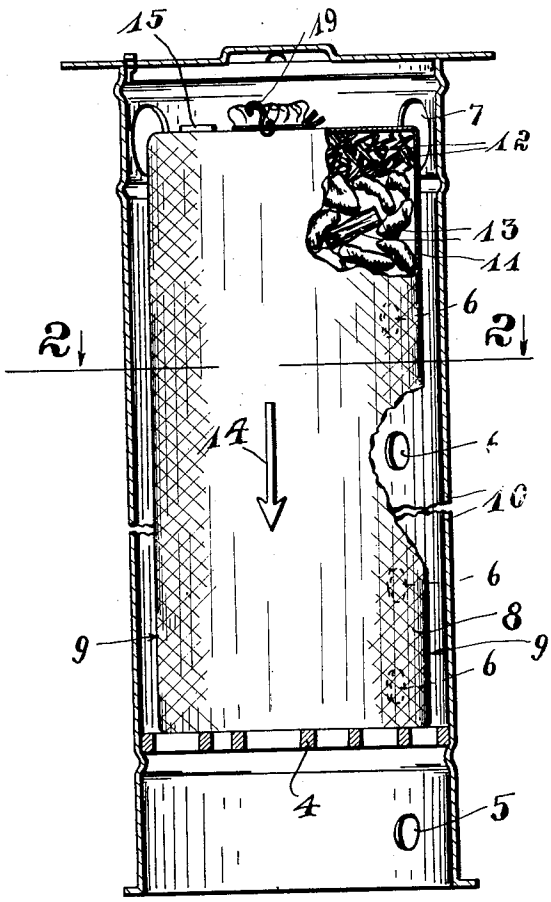


FIG. 2.

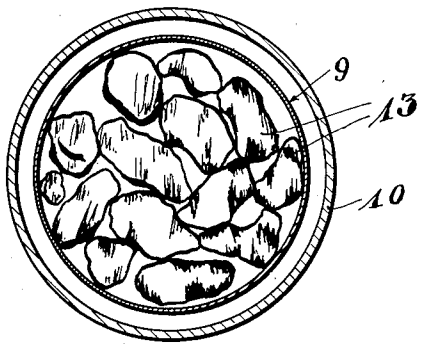
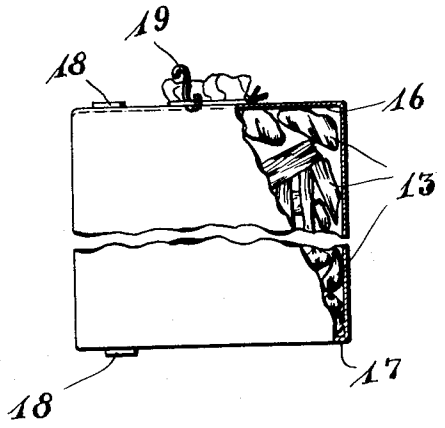


FIG. 3.



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UNITED STATES PATENT OFFICE

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FUEL PACKAGE FOR HEATERS

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This invention relates to devices that can be placed in an orchard heater as a heating medium.

One of the objects of this invention is to provide a heating medium that is complete in itself as to priming igniting and heating for a certain desired or required length of time.

Another object is to provide distinct fillers and refillers that can be placed in orchard heaters by unskilled help and assure a heating in a certain desired and required manner.

Another object is to provide positive indications by which the filler is placed positively in a correct manner in to a heater to assure a proper ignition and a proper burning.

Other objects will appear from the following description and appended claims as well as from the accompanying drawing, in which—

Fig. 1 is a vertical midsectional view of a typical orchard heater in which solid or the like fuel is burned, having a filler indicated therein of a certain form to leave a desired space for draft purposes, the filler being broken away at points to show inside parts and being generally designed to operate according to this invention.

Fig. 2 is a cross section on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary side elevation of a filler of a slightly modified form, the broken away section illustrating that the inside structure of this modified form is of equal or substantially similar structure throughout the whole length of the filler instead of different grade as indicated in the illustration of Fig. 1.

Orchard heaters are most generally ignited and heated either with liquid or comparatively solid fuel.

In either case as now most commonly practiced the heater is filled or prepared for the heating during day-time in order that during the night when the temperature is normally the lowest a mere ignition of the prepared fuel in the heater remains necessary to produce the required heat for the orchard.

However, conditions are liable to make it impossible to so prepare a heater during day-time, or weather conditions may necessitate an extended heating during exceptionally severe and long periods.

To insure against all eventualities, this invention features a means that facilitates instant ignition and heating of an orchard heater regardless of weather conditions or other possibilities.

Considering the requirements for a heater of the type illustrated in Fig. 1 in the drawing, in which the grate 4 is provided to support comparatively solid fuels such as wood, coal, paper, asphalt, coke, and burnable rubbish and in which certain draft holes 5, 6 and 7 are provided in order that the fuel can be caused to burn in a certain manner; a certain filler 8 is roughly outlined in this connection with its outer contours 9 spaced from the inside walls of the heater 10, so that a draft of cool air can circulate around the filler 8 to escape through the topmost holes 7, the other holes 5 and 6 being preferably placed so as to face the incoming draft of air.

Any filler or burning or heating medium for such a heater is preferably of such a nature to assure a heating for a certain period, and on the other hand to facilitate a proper ignition under all conditions.

Such a filler consists preferably of a burnable casing 11 of paper, cloth, or burnable composition for one thing and burnable material in the inside of the casing 11.

The inner burnable material is for one purpose in the large portion of coarser and slower burning grade and in its smaller portion of finer and easier igniting grade, while for another purpose it is throughout of the same coarse grade. The mixed grade is used most commonly, in Fig. 1, the finer grade being indicated at the top at 12 and the coarser grade at 13, the finer grade being of the kindling type.

Under certain weather conditions intense heat may be required right with the beginning of the heating as in case of sudden frost, or on the other hand a very light heating may be desirable over a comparatively long

period as in case of a light frost during all of a night. In the first case, the primer should preferably be placed at the bottom to assure an immediate burning of the whole matter of the filler; while in the second case, the primer should be placed at the top so that the material will merely smolder slowly from the top on downwardly.

To assure a proper placing of the filler into the heater the filler is provided with indicating means, as in form of a solid bar or arrow pointing in the direction in which the filler normally should be placed, as indicated on the side of the filler at 14, at the top end at 15, another indicating means being shown as near the primer. Either of these indicating means or similar suitable means can of course be provided, the means as illustrated merely being used to explain the principle of this feature, such indicating means however are preferably of a form to be easily graspable even in the dark in order to avoid a misplacing.

In case of extreme cold weather conditions lasting over an unexpected long period of time, in which case a refilling of the heater should become necessary without interruption, a special refiller is provided as illustrated in Fig. 3, having the same coarse and slow burning but strong heat producing medium 13 throughout its length from one end 16 to the opposite end 17. This type of a filler should preferably have equal indicating marks on both ends as indicated at 18, by which such a refiller may be recognized.

A suspending member, as in form of a hook 19 is provided on all fillers and refillers, by which this device may be suspended from the branch of a tree instead of being placed on the eventually damp ground.

It must be understood that a filler of this type can be used on any grate, or in a stove, as also for a heating medium in any convenient manner at a picnic.

Having thus described my invention, I claim:

1. In combination, a heater and a package of fuel placed in said heater, said package comprising, a burnable casing having a filling of inflammable material and a kindler of more readily inflammable material than the filling placed near the top of said filling in said casing, whereby when the kindler is ignited at the top of said package the fuel is caused to progressively burn downwardly in said heater covering an extended heating period and said package of fuel being spaced inwardly from said casing whereby an upward draft of air is created between the inner wall of said casing and the side of said package to assist combustion of fuel in said package.

2. In combination, a heater having a draft opening in its side wall and a package of fuel placed in said heater and extending above said draft opening, said package comprising, a burnable casing having a filling of inflammable material and a kindler of more readily inflammable material than the filling placed near one end of said package in said casing, whereby when the kindler is ignited the fuel is caused to progressively burn in said casing covering an extended period, and said package of fuel being spaced inwardly from said casing whereby an upward draft of air is created inwardly through said passage and upwardly between the inner wall of said casing and the wall of said package to assist combustion of fuel in the package.

In testimony that I claim the foregoing as my invention I have signed my name.

JESSE CARL JESSEN.