DIRECTIONS

No. 2 Wagon. Improved No. 2 Wagon. Improved No. 2 Wagon with No. 1 Engine.

Tag Numbers

No. 1—Water Tank Filler Pipe.

No. 2—Plug on Top of Water Guage.

No. 3—Gasoline Tank Shut Off Valve.

No. 4—Water Pump By-Pass Valve.

No. 5—Generater Burner Valve.

No. 6—Boiler Burner Valve.

No. 8—Engine Throttle Valve.

No. 9—Boiler Safety Valve and Whistle Button.

No. 10—Steam Cylinder Oil Cup.

No. 11—Gasoline Torch Shut Off Valve.

No. 12—Roaster Burner Valve.

No. 13—Popper Burner Valve.

No. 14—Roasting Cylinder Push Button.

No. 16—Popper Lever Holding Wire.

No. 17—Popper Lever Knob.

No. 18—Air Shut Off Valve on Gasoline Tank.

Under no circumstances carry over Fifty (50) Pounds Boiler Pressure.

After receiving machine from transportation company examine it carefully and see that no parts have been broken or damaged en route, and if any damage has occurred, be careful to have the Agent endorse it on your railway expense bill, otherwise transportation company will not entertain any claim. THIS IS IMPORTANT.

To Fill Boiler Open throttle valve No. 8 one turn, loosen screw in oil cup No. 10 so as to permit escape of air in boiler while pouring in water. Next, remove plug No. 2 on top of water gauge casting and insert funnel with hose attached; fill about one-half full with the cleanest water to be had; *use rain water if possible.*

When the water gauge glass shows the boiler to be a trifle over half full remove hose and replace plug, screwing it down tight. During mild weather you can always leave sufficient water in your boiler when closing down at night for the next day's start, but be very careful and do not light fire under boiler without sufficient water in same.

Filling Water Tank You should only fill boiler as above explained when you first receive machine or during freezing weather. Fill water tank at Pipe No. 1 (rear of machine) about three-quarters full with strained rain water. It is best to strain water to eliminate check valve annoyances.

To Fill Gasoline Tank Close valve No. 3 immediately under gasoline tank by turning valve handle to the right as far as it will go without straining; all gasoline valves close in the same manner. *BE SURE THERE IS NO FIRE NEAR.*

Remove cap of gasoline tank and fill nearly full with No. 74 TEST gasoline; this is the best for heating purposes, but you could also use 72 or 76. Poor gasoline will cause trouble, through clogging up of burners—due to a deposit left in the gasoline passages during the process of vaporization; therefore, use the best gasoline to be had, as it is the cheapest in the long run. We recommend purchasing it by the barrel if suitable storage facilities

are to be had. Use separate measures and funnels for gasoline, and do not use these funnels for any other purpose, as a few drops of kerosene, water or other liquid will cause you annoyance. After filling gasoline tank, be sure and screw cap back, and if machine is equipped with air pressure, screw it sufficiently tight to prevent leakage.

If machine has air pressure equipment it will be necessary for you to open valve No. 18 and pump about 3 pounds air pressure on gasoline tank, as indicated by pressure gauge on the tank, then close valve No. 18 to prevent leakage. Approximately 2 pounds is sufficient. After pumping air on tank always *close valve No. 18,* for should the gasoline vapor come in contact with the rubber seat of air valve it would soon render same useless. Gasoline has a tendency to deteriorate the rubber washer on valve stem, which would cause a loss of air pressure.

Schrader universal valve stems can be procured at most any bicycle repair shop or garage, being of standard size.

This does not apply to the No. 2 Wagon or the Improved No. 2 Wagon, except as special equipment.

Gasoline Leaks

Sometimes joints will become loosened during transportation and it is advisable to examine all gasoline connections and fittings to see that they are tight. Make sure that valves Nos. 5, 6, 11, 12 and 13 are closed tight so they will not leak when gasoline is turned on at No. 3. To ascertain if these valves are closed or not, unscrew the needle, say one turn to the left, then turn to the right as far as it will go without straining. Now open main gasoline shut off valve No. 3 and examine the various pipes and fittings carefully for leaks (not with a match). Should a leak be encountered, disconnect fitting, soap threads thoroughly with ordinary soft bar laundry soap and screw up tight again. If all joints and connections are found tight you are ready to light fire under boiler. Open valve No. 3 about three turns if your gasoline tank is under gravity feed, or about one-fourth turn if under pressure. If gasoline tank is under air pressure, follow directions on separate tag explaining air pump, etc.

To Start Generator No. 5

Open valve No. 5 slowly (No. 3 previously opened) and fill the iron drip cup with gasoline: after filling drip cup, CLOSE No. 5. Re-examine all the above named connections and valves connected with the gasoline supply. Being positive there are no leaks, ignite the gasoline in drip cup—being careful to hold your face back. When gasoline in drip cup has almost burned out, open valve No. 5 again slowly and be careful and do not let it burn at the tip: if necessary, shut No. 5, blow out the flame in drip cup and ignite the burner with a match or taper at the top of generator casting. Let No. 5 burn a few moments before lighting No. 6, which is the main boiler burner, in order that the generator No. 5 may become thoroughly heated. During a high wind you may find it necessary to fill drip cup twice before No. 5 will become sufficiently heated to generate properly. See Valve No. 6 lights all along the pipe burner under the boiler; notice how it burns and *never let it burn at the tip or inside the pipe* where gas enters the burner. If you do, it will form soot and clog burners, thus preventing your securing the full benefit of fire. The blaze should be blue, which produces an intense heat. To stop burning at the tip, close valve and re-open. Should this remedy prove inadequate, you will find a small sharp pointed wire in the Roasting Cylinder for cleaning orifice or holes in burner tips, of any accumulation which may have lodged therein; but in using the wire *be extremely careful, not to enlarge the orifice in tip,* which would result in a yellow, smoky fire with little heat.

Generator Valve No. 5 must be kept burning at all times when machine is in operation.

Steaming Up

After steam begins to escape from oil cup No. 10 (you will remember that you opened it when you were filling boiler), close throttle valve No. 8 and screw in oil cup No. 10. While steam is raising as indicated by steam gauge, proceed to oil the engine and various other running parts. Oil the steam cylinder of engine by removing cap No. 10 in oil cup (throttle closed) and filling it with a good grade

of engine cylinder lubricating oil; turn fly wheel of engine to your right, if No. 2 or Improved No. 2 Wagon, or to the left if No. 1 Engine, which will suck the oil down into the cylinder: refill cup and replace cap; after a while you can let the oil which remains in the cup down into the cylinder by loosening cap a little, but do not screw all the way off. Oil the cylinder and other running parts frequently while machine is new so as to eliminate the natural stiffness and prevent heating or cutting of wearing surfaces. DO NOT RUN ENGINE TOO FAST, as it will only unnecessarily shorten its life and use more fuel than necessary. Regulate speed of engine by throttle valve No. 8 and burners under boiler. For economy, only generate what steam you actually need; 20 to 25 pounds should be ample after you have had your machine in operation for a while, and in all probability you will not need to exceed 15 pounds, and perhaps less.

Starting Engine When the steam gauge registers 20-25 pound open throttle valve No. 8 slowly; turn the fly wheel of engine to the right or left, as the case may be, a few times by hand so as to work condensation out of steam pipes until engine starts of its own accord—after which throttle to desired speed.

Popping Corn See special directions sent herewith. Follow them carefully. We recommend the use of creamery butter, prepared as we instruct, although some of our customers use percentages of cocoanut oil or cooking oil in lieu of the lard, although we are adverse to eliminating the creamery butter entirely as it imparts a superior flavor and also an attractive odor. With proper observance of our instructions and the handling of good stock, you will soon command the entire popcorn trade of your town. Hand out samples freely at first, as people are hard to convince that the corn is buttered and salted unless they taste it for themselves—being accustomed to the antiquated method of pouring the butter on afterwards, but will not be slow in demonstrating their approval of the "NEW METHOD" if you carry out our instructions. Be careful to keep your popper pan and lid scrupulously clean and sanitary.

Roasting Peanuts First raise sliding lid over Roasting Cylinder: take the lid lifter (found with other tools in roasting cylinder) and remove roasting cylinder lid by engaging lifter in the slot and pushing towards rear side of machine until the sliding lock is free. Remove lid and fill cylinder about three-quarters full of nuts: do not fill cylinder so full that they will not mix or rattle. See that machine stands approximately level. Replace lid and be extremely careful that the sliding lock is properly and securely fastened. Pull down sliding lid and push in on knob No. 14, which will start cylinder revolving. Always start cylinder before lighting fire. After starting cylinder, open door in roasting cylinder jacketing (in peanut pan) and then open valve No. 12 and light burner under cylinder by means of a match or taper; open No. 12 sufficient to give desired fire. To post yourself on the progress of the roasting nuts, remove a peanut or two occasionally by means of the tester, which enters the cylinder at the front end. When the kernel begins to turn a little yellow, or light orange, turn out the fire at No. 12, but let the cylinder continue revolving; watch them closely as they will continue roasting with their own heat, and when the kernel has attained the desired color disconnect roasting cylinder by pulling out on No. 14. Rapidly remove lid of cylinder and dump nuts into peanut pan, by turning the cylinder forward on its bearings, and spread the nuts as rapidly as possible in order that they may not continue roasting. You will understand all that is necessary when you wish to dump nuts is to turn cylinder forward after removing the lid, and the nuts will fall down into the peanut pan.

Peanuts should roast in about 30 to 35 minutes. If at any time the fire under roasting cylinder should not burn well, raise the sliding lid on back directly over said cylinder about one inch to give the fire more ventilation. In case the fire under roasting cylinder can not be made to roast evenly, see that machine is standing approximately level and that you have not been filling cylinder too full. If this does not remedy the trouble you will find a small envelope in roasting cylinder containing some small rivets: place a few of these rivets in every other hole on the side where fire is too strong, thus evening up the fire; only use such brads as may be necessary to even up the fire. Do not shut off any part of the fire entirely or your peanuts will remain raw at that point.

Torch Keep valve No. 11 closed when torch on engine bed is not in use. When you wish to light your torch open valve No. 11 and ignite the torch the same as you would any gasoline torch, but first generate with a small amount of gasoline in the drip cup of torch.

Safety Valve-Whistle *Bear in mind that your safety valve is immediately underneath the whistle and under no circumstances must you screw whistle bell down tight,* which would prevent the escape of steam and render your safety valve absolutely useless. See direction tag attached. TO BLOW WHISTLE.—Pull out on knob No. 9. If steam leaks at whistle tap on pipe leading to same to settle valve in place. Dirt may get under valve seat and cause it to leak; clean if necessary. Regulate tone of whistle by screwing bell up or down (but not all the way down). If whistle does not blow well, take apart and clean. *Don't snap stem of whistle roughly* as you are liable to injure valve seat and cause it to leak. Instructions for adjusting of safety valve are attached to the valve. Set at 35 pounds. *Under no circumstances are you to carry over 50 pounds pressure.*

Water Pump Don't let water become too low in boiler for fear of melting the soldered end. The pump on this machine runs continuously, and the amount of water which is forced into the boiler is "regulated" by means of the "By-pass Valve" No. 4. When handle on No. 4 is screwed *"DOWN" as far as it will go,* all the water being pumped is forced into boiler—but when No. 4 is turned to the left or "RAISED," part or "ALL" of water returns to the water tank—*according to how much No. 4 is raised or turned.* After a little practice the operator can so adjust or regulate No. 4 as to keep practically a uniform water level in boiler all the time. As a rule, we find No. 4 should be opened or raised about one-sixteenth turn. Read special instructions attached to pump carefully and retain for future reference.

Pump Troubles Are generally caused by some foreign substance beneath the check valves and the first remedy to try is to loosen the cap on valve next to water tank and tap on same so as to allow the grit or whatever may be there to pass on. If this does not overcome the trouble, remove the cap entirely and clean the check and valve seat—exercising care not to scratch same. Then, again, speeding up the engine may assist you or possibly the packing gland on top of pump is too loose or needs lubrication. Perhaps the feed water is too hot: refill the water tank. If the above does not overcome the trouble, close the shut off valve next to boiler; remove checks in check valves; replace caps; open shut off valve next to boiler slightly so as to blow steam down through the check valves and on into the water tank: thus cleaning the fittings thoroughly; after doing this close shut off valve next to boiler, replace checks in check valves, being careful to get each check back in the same valve from which it was taken, screw caps down tight and then *open shut off valve next to boiler.* Don't attempt to operate pump unless valve next to boiler is open, or when frozen—thaw it out if necessary.

Burner Troubles Any time the burners do not work properly the general trouble is attributable to poor gasoline, dirt, sediment or scale which has become lodged in the burner tips, castings or pipes. If you can not remedy the difficulty through cleaning out orifice in burner tip with the sharp wire, previously mentioned, turn out all fire about the machine and vicinity and remove needle valves Nos. 5 and 6; one at a time; let a little gasoline run through so as to wash the dirt, etc., out. Before replacing the needles take a small piece of soft wood and sharpen the end the same as you would a lead pencil, run the sharp end up into the valves, revolving it between your fingers, thus cleaning out tip without danger of enlarging it, or in case of removing tip, unscrew it from the burner casting entirely and clean thoroughly: then rub ordinary laundry soap on threads of needle and screw same back into place, being careful not to get any soap on the point of needle or where it would be forced up into the tip. BE SURE THERE IS NO FIRE IN OR ABOUT MACHINE WHEN DOING THIS. Be careful that any gasoline which may have run on inside of machine or on sheet iron has evaporated before re-lighting fire.

Where only a poor grade of gasoline is obtainable, machines which ordinarily come equipped with gravity feed, can at a reasonable additional expense have an air pressure gasoline equipment installed, which will pro-

duce better results. The additional cost is slight and enables one to burn a lower grade of oil in extreme cases. When you fill the glass cylinder on top of peanut roaster with peanuts, place a piece of paper at each end to prevent the nickel plated heads from discoloring the peanuts intended for display.

In Ordering Repairs, always specify *ENGINE NUMBER,* which will be found on name plate attached to engine bed, and model of machine. A rough sketch of part wanted is also desirable.

Important Special Notice

If upon receipt of machine you should find any part defective or experience difficulty in operating *DO NOT CALL A MACHINIST OR OTHER MECHANIC TO YOUR ASSISTANCE.* First, re-read your directions carefully and see if anything given therein covers the case in hand: if not, write us immediately, fully explaining, and we will promptly advise you how to proceed. In no case will we be responsible where outside assitance is accepted, for through ignorance of the machine and its construction they invariably cause more harm than good. Follow our instructions YOURSELF and you will experience no trouble in successfully operating your machine.

We Assume No Risk Whatever Where Outside Assistance Is Employed, and will not honor any claims for repairs or services unless previously ordered by ourselves. We build our machines as near perfect as experienced workmanship and the best of materials can make them, and will gladly replace any part which indicates defective material or workmanship within a reasonable length of time. Each and every machine receives a thorough steam test prior to shipment and is known to be in perfect running order when it leaves us.

Do Not Run Popper Too Fast, as it throws the corn to the outer edge of pan, which should not be, especially at the beginning of the popping. On your machine be positive that the leather belt which drives the popper IS CROSSED OR NOT CROSSED, according to direction tag attached thereto; so as to drive the popper blades forward with knife edge down. It is of great importance to yourself that you prepare your butter and popcorn as we direct.

Your machine can be fitted with air pressure equipment at a slight additional expense.

Do not neglect cleaning your machine thoroughly each and every day, especially the popper pan and popper case. People will not patronize you unless your machine and self present an inviting and cleanly appearance.

Should you have occasion to open a union, be careful and see that the rubber gasket is put back in place if other than a ground joint is used.

Take up any lost motion or wear promptly.

Whenever link belt chain stretches sufficiently you can easily remove a link; reversing the chain also takes up the slack somewhat. Tighten chain driving roasting cylinder by means of friction roller for that purpose. Tighten chain for driving pump and popper by means of the movable strap which holds the stud on which the pump sprocket revolves.

It is advisable to clean boiler occasionally by dissolving about one-quarter pound of sal soda in a pail of water and syphoning or pouring it direct into the boiler. Let this solution boil along with about 5 pounds of steam for about one hour: then raise steam pressure slightly: shut off all fires under boiler and open blow off cocks and let remain opened until boiler is dry: close cocks and throttle and the vacuum created will suck water into boiler from water tank.

When the boiler fills with water over night, it is caused by a vacuum created by the condensation of steam in the boiler after shutting down: to stop, open throttle valve and remove screw in oil cup No. 10, thus admitting air to boiler and preventing the vacuum. In extreme cases of pump failure

this method can be resorted to for filling boiler, by first turning out fire and blowing off all steam.

Never start fire under boiler without ample water in same.

Never let water get too low in boiler for fear of melting soldered end, and in case of an accident of this kind send to us for the special solder we use for this purpose.

If your water connections freeze in winter thaw them out before starting pump. Drain water tank by means of the small plug between pump and water tank on feed water pipe.

Do not attempt to pop unseasoned corn with a dry pan. If you wish plain corn without any butter or salt, use a little lard or cooking oil to act as a lubricant. Don't strike pan on anything while hot. If revolving lid of popper pan sticks, remove the lower half of stirring rod and clean the threads on the inside of the Popper lid center casting thoroughly: this should be done frequently.

Popper pan and lid should be cleaned in scalding hot water daily so as to keep them in a sanitary condition.

Whenever lighting any of the burners about machines, keep your face back.

Be extremely careful not to have any fire about when you are filling gasoline tank or working with gasoline in an exposed position and never attempt to fill gasoline tank when any burners are ignited about the machine.

Use a good grade of machine oil on engine bearings.

Remember that common laundry soap (softened) rubbed on threads of needles or pipes where gasoline connections are made is one of the best things to use to prevent their leaking.

If burners do not work right when you receive machine it is either through dirt in same or poor gasoline. We always test each and every machine thoroughly before shipping, but occasionally the action of gasoline in the pipes loosens a fine scale afterwards. In no case do we ship a machine unless it works as it should in every respect.

SEE THAT THE PARTY OF WHOM YOU PURCHASE YOUR GASOLINE DOES NOT DRAW KEROSENE OR ANY OTHER LIQUID IN THE SAME MEASURE.

Fires should all burn a nice blue flame.

Never let burn at needle points where gas enters pipe burners—close valve and re-open.

Do not permit engineers or others to tamper with your machine or its adjustments. Pay no attention to their dictations and you will fare better.

Bear in mind that your Generator No. 5 must be burning at all times when you wish to burn any of your other burners, as it converts the liquid gasoline into a gas and imparts pressure for forcing said gas to the various parts of machine.

All repairs must have your name and address on them and come prepaid to avoid delay. Kindly give engine number and model.

Write us fully of any trouble you might encounter and we will promptly advise you how to overcome it.

If you should wish to unscrew any of the burner castings or joints, tap lightly about same so as to loosen threads and prevent breakage. Do not attempt to loosen joints when hot as brass is very brittle when heated.

If your machine is equipped with air pressure it is possible that the rubber seat attached to the stem of air valve to which you attach pump hose, may become ineffective and leak, due to the action of gasoline vapor from

the tank or through leaving valve No. 18 open: a new stem can be procured at most any bicycle repair shop.

In some localities it is necessary to dampen popcorn somewhat to secure the best popping results. With a first class grade of corn the waste is either nominal or practically none at all. It must be borne in mind that the climate has a considerable effect on popcorn, and in some localities it is necessary to dampen the corn as above suggested, while in others it is necessary to dry it somewhat.

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