

with attached generator. This can be moved from farm to farm, the same as is now done with steam threshing machines, the wagon itself doing the hauling. Where a portable generating plant is used as the source of electricity, an engineer will be required in addition to the man that drives the wagon. With coal at \$4.50 per ton, the total expense of running this plant for 12 hours will not be more than \$10, including wages, fuel, depreciation and interest on capital. This plant will develop a tractive or pulling power equal to 22 span of horses for that length of time.

For THE CANADIAN ENGINEER.

THE WM. GOLDING WATER TUBE BOILER.

BY WM. GOLDING, C.E.

The accompanying sketches illustrate a new type of steam boiler, the invention of Wm. Golding, of New Orleans, La. The leading feature of this boiler consists

in making the lower section no longer than need be to roll the lower ends of tubes. One or more of these boilers will be placed in line as shown, and connected by steam and water pipe in the usual manner. Doors will be placed in the brick walls to admit of removing the dust and soot that may be deposited by the escaping gases. These boilers may be made of any size desired, preferably of the following dimensions :

Diameter, 36 inches, having 84 2-inch tubes, 6 feet long, thickness of plates 5-16 inch, there being 75 horse-power, which evaporate 30 pounds water per hour per horse-power.

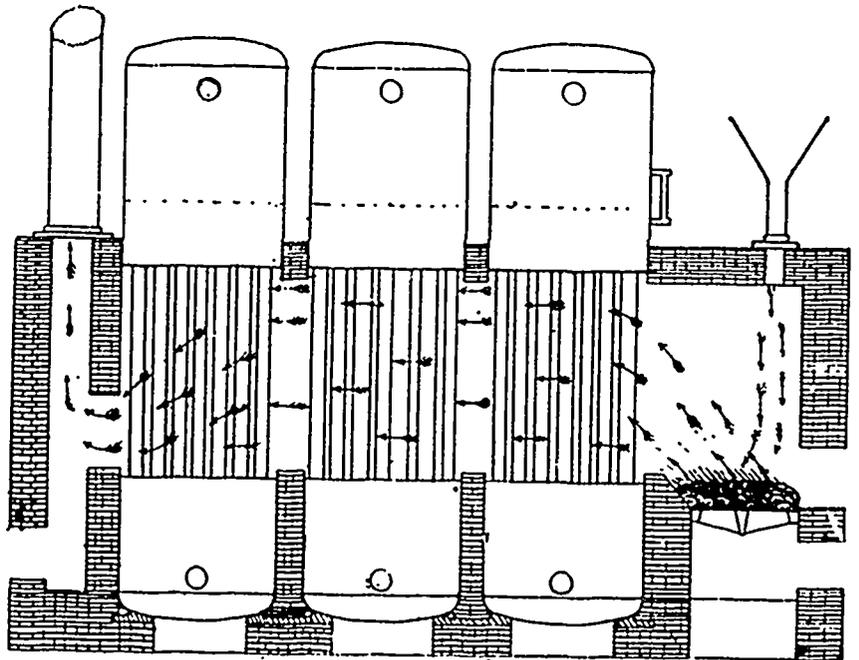
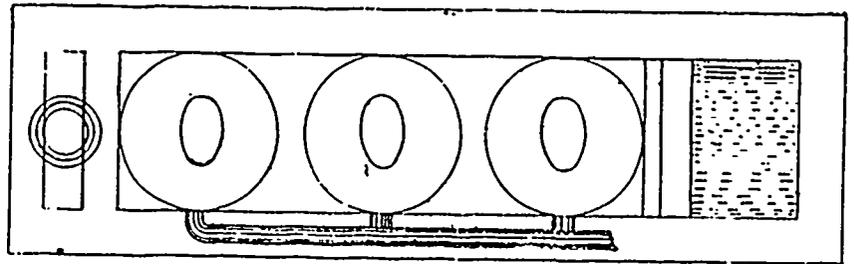
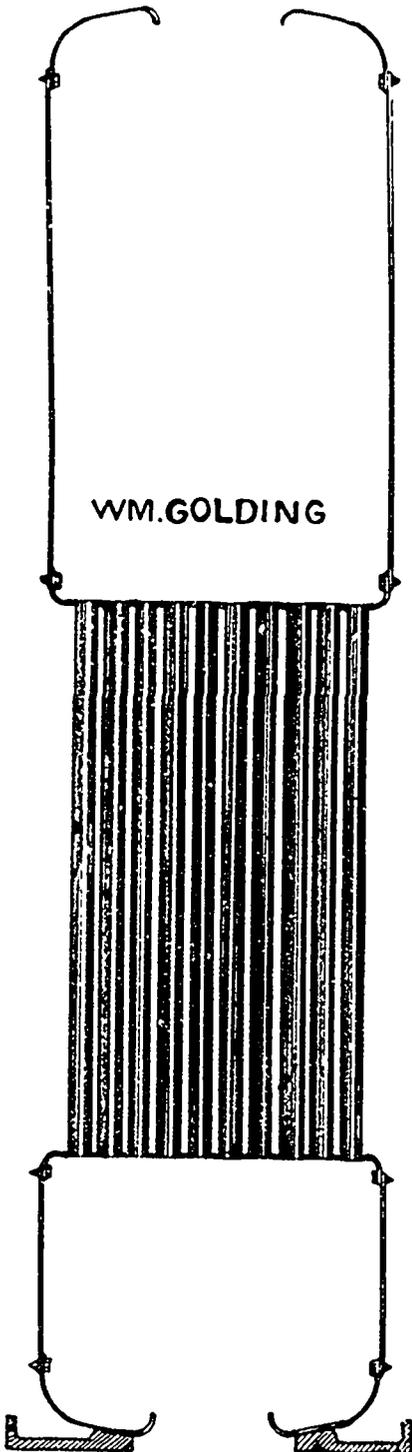
Diameter, 42 inches, having 112 2-inch tubes, 6 feet long, thickness of plates 3/8 inch, there being 100 horse-power.

Diameter, 48 inches, 156 tubes, 2 inches by 6 feet, plates 3/8 inch thick, there being 140 horse power.

Diameter, 54 inches, 204 2-inch tubes, 6 feet long, thickness of plates 7-16 inch, there being 180 horse-power.

Diameter, 60 inches, 248 2-inch tubes, 6 feet long, thickness of plates, 7-16 inch, there being 225 horse-power.

Diameter, 66 inches, 320 2-inch tubes, 6 feet long



thickness of plates 1/2 inch, there being 288 horse-power.

Diameter, 72 inches, 388 2-inch tubes, 6 feet long, thickness of plates 1/2 inch, there being 348 horse-power.

The plates will be made of the best material and double riveted. There will be a manhead in both the upper and lower section ; the heads will be of the dished type, so as to dispense with bracing.

They will rest upon heavy cast iron plates, having openings to give access to manheads. These plates will rest upon the foundations of the two side walls, and will be securely bolted together so as to form one continuous plate. Safety valves, water glasses, etc., etc , will be of the usual type.

in making the upper section sufficiently long to admit of renewing, cleaning, and repairing all of the tubes, and