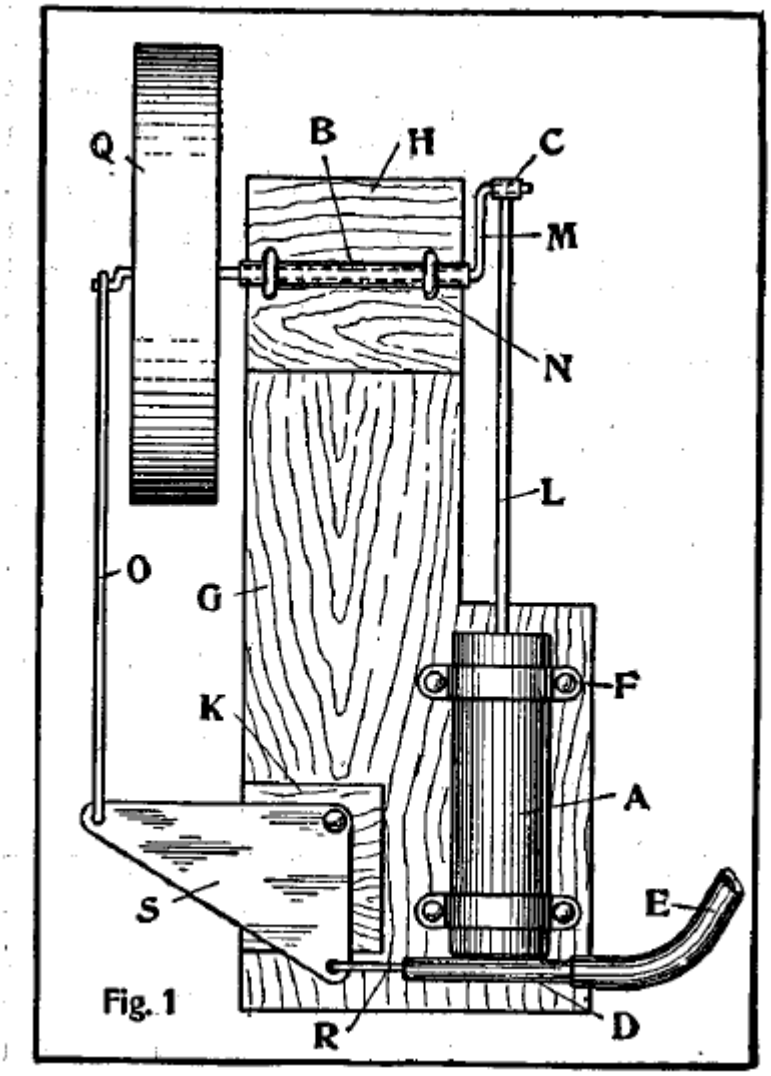
How to Make a Toy Steam Engine

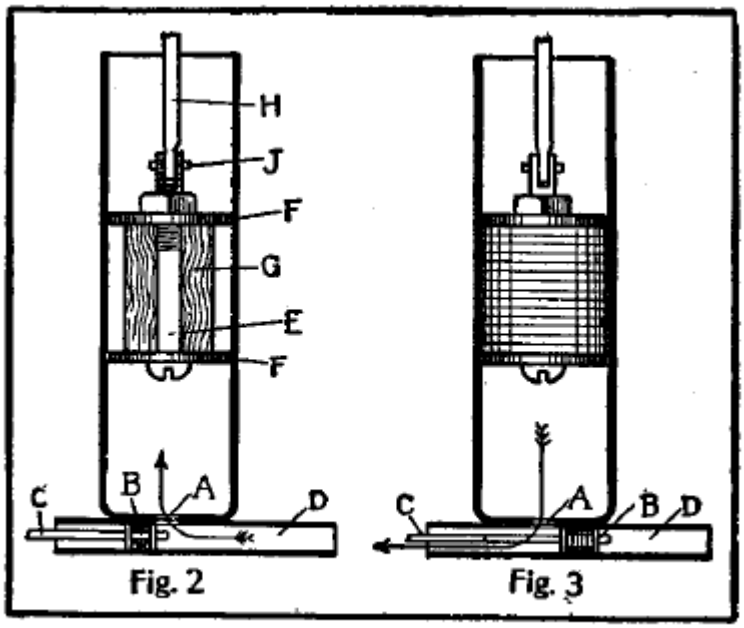
A toy engine can be easily made from old implements which can be found in nearly every house.



Toy Steam Engine Assembled

The cylinder A, Fig. 1, is an old bicycle pump, cut in half. The steam chest D, is part of the piston tube of the same pump, the other parts being used for the bearing B, and the crank bearing C. The flywheel Q can be any small-sized iron wheel; either an old sewing-machine wheel, pulley wheel, or anything available. We used a wheel from an old high chair for our engine. If the bore in the wheel is too large for the shaft, it may be bushed with a piece of hard wood. The shaft is made of heavy steel wire, the size of the hole in the bearing B.

The base is made of wood, and has two wood blocks, H and K, 3/8 in. thick,



Valve Motion and Construction of Piston

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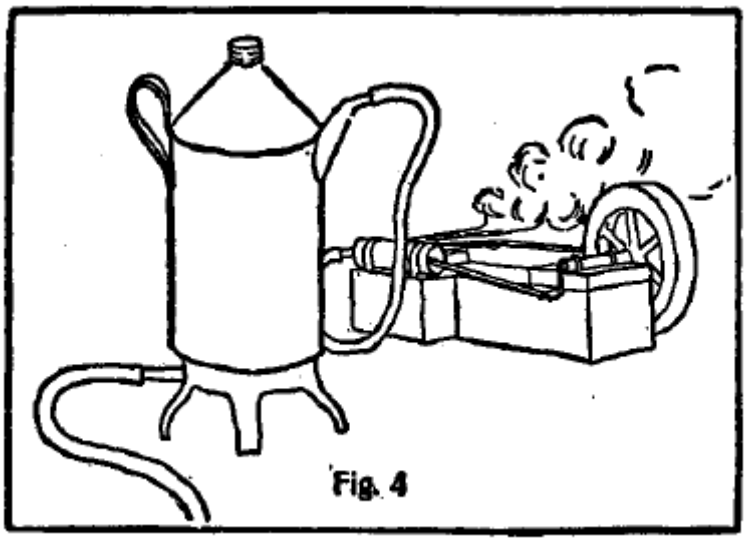
to support bearing B, and valve crank S, which is made of tin. The hose E connects to the boiler, which will be described later. The clips FF are soldered to the cylinder and nailed to the base, and the bearing B is fastened by staples.

The valve motion is shown in Figs. 2 and 3. In Fig. 2 the steam is entering the cylinder, and in Fig. 3 the valve B has closed the steam inlet and opened the exhaust, thus allowing the steam in the cylinder to escape.

The piston is made of a stove bolt, E, Fig. 2, with two washers, FF, and a cylindrical piece of hard wood, G. This is wound with soft string, as shown in Fig. 3, and saturated with thick oil. A slot is cut in the end of the bolt E, to receive the connecting rod H. The valve B is made of an old bicycle spoke, C, with the nut cut in half and filed down as shown, the space between the two halves being filled with string and oiled.

The valve crank S, Fig. 1, is cut out of tin, or galvanized iron, and is moved



Engine in Operation

by a small crank on the shaft. This crank should be at right angles to the main crank. The boiler, Fig. 4, can be an old oil can, powder can, or a syrup can with a tube soldered to it, and is connected to the engine by a piece of rubber tubing. The heat from a small gas stove will furnish steam fast enough to run the engine at high speed.