

**THE STEAM PEANUT AND POP CORN INDUSTRY.**

The illustrations accompanying this subject were taken from the apparatus owned by H. Hummels, of Jersey City, N. J. This machine, of which Charles Cretor, of Chicago, is inventor, was designed with the idea of moving it about to any location where the operator would be likely to do a good business. The apparatus, which is light and strong, and weighing but 400 or 500 pounds, can be drawn readily by a boy or by a small pony to any picnic ground, fair, political rally, etc., and to many other places where a good business could be done for a day or two. The wagon is about 5 feet in length and about 2 feet in width and made entirely of metal, with the exception of the popcorn case, which is made of hard wood and glass. The running gear is made light and strong. It has three springs on the rear end and a strong V spring in front. The hind and front wheels, which are made the same as bicycle wheels, with nickel plated spokes and rubber tires, are 30 and 20 inches in diameter. The peanut roaster and corn popper, which are attached to the ends of the wagon, are both run by steam power, the appliances for making the steam being all connected to the wagon bed. The water tank from which the boiler is supplied is made of sheet iron, about 2 feet square and about 5 inches in depth, and holds about four gallons. The water is drawn or forced into the boiler from the tank by means of a small steam pump connected to the machinery at the back of the wagon. The boiler is made of copper and is 2 feet in length and about 9 inches in diameter and holds about two gallons of water. The boiler is heated by gasoline which passes through a number of perforated pipes underneath, the pipes being supplied by means of a gasoline reservoir above, which also furnishes the gas for heating the peanut roaster and popcorn pan. This reservoir holds about one gallon and will burn about twelve hours. The peanut roaster is made of sheet iron and revolves inside of a stationary cylinder connected to the back end of the wagon. The roaster is about 2 feet in length and about 14 inches in diameter, and holds about fifteen pounds of peanuts. The popcorn pan is made of sheet iron, 12 inches in diameter and about 2 inches in height. This pan rests on and over a conical shaped hollow piece of sheet iron containing a number of perforated pipes which connect with the gasoline reservoir. These perforated pipes heat the pan when in operation. Connected to the bottom of the pan are a number of flat movable iron rods, which connect to a circular shaft running down from the top of the popcorn case. This shaft is geared to another running horizontally across the top, connecting itself to the engine by means of a belt at the back of the wagon. The roaster shaft is also connected to the engine in the same manner. The engine, which is situated midway between the roaster and the corn popper, is about 22 inches in length and nickel plated, and runs with from ten to fifteen pounds of steam and makes a 4 inch stroke. The cylinder is about 4 inches in length and about 2 inches in diameter. The fly wheel is about 8 inches in diameter. Geared to this fly wheel is a horizontal shaft which passes out at the back of the wagon. Around the pulley at the end of the shaft the belts are placed, which, when the engine is in motion, causes the roaster and corn popper to revolve. The roaster revolves at a slow rate of speed, making about one revolution every twelve seconds. The peanuts, when roasted, which takes about from twenty to thirty minutes, are then tested by running a long scoop-shaped instrument in a hole in the center of the roaster from the outside, the tester, when withdrawn, having a number of the roasted nuts in it. If

the nuts are sufficiently roasted, a slide is removed from the cylinder and it is turned bottom up by the operator, and the nuts fall out and slide down into the 2 foot pan, which holds about fifty pounds, on the top of the water tank. This tank is heated by the waste steam which keeps the peanuts hot in the pan above. Two or three gallons of water will furnish enough steam to run the engine for one day. About one pint of rice corn is placed in the popper at a time. The shaft which connects with the flat rods in the bottom of the pan when in motion causes the rods to revolve, which stirs up and keeps the rice corn moving to prevent its burning. These rods revolve at the rate of about 250 revolutions per minute. The corn when popping is prevented from flying out of the pan by means of a circular piece of network about 2 inches in height resting over it, and of the same diameter as the pan. When the popping is completed, which takes about five minutes, the gas is turned off, the network raised up and the pan taken out and dumped and then replaced with another supply of corn, to go over the same operation. It takes about one half hour to get up steam to run the engine. The steam and gas pipes range in size from one half to one inch in diameter. Peanuts cost wholesale from 4½ to 6 cents per pound. A clean profit of 10 cents

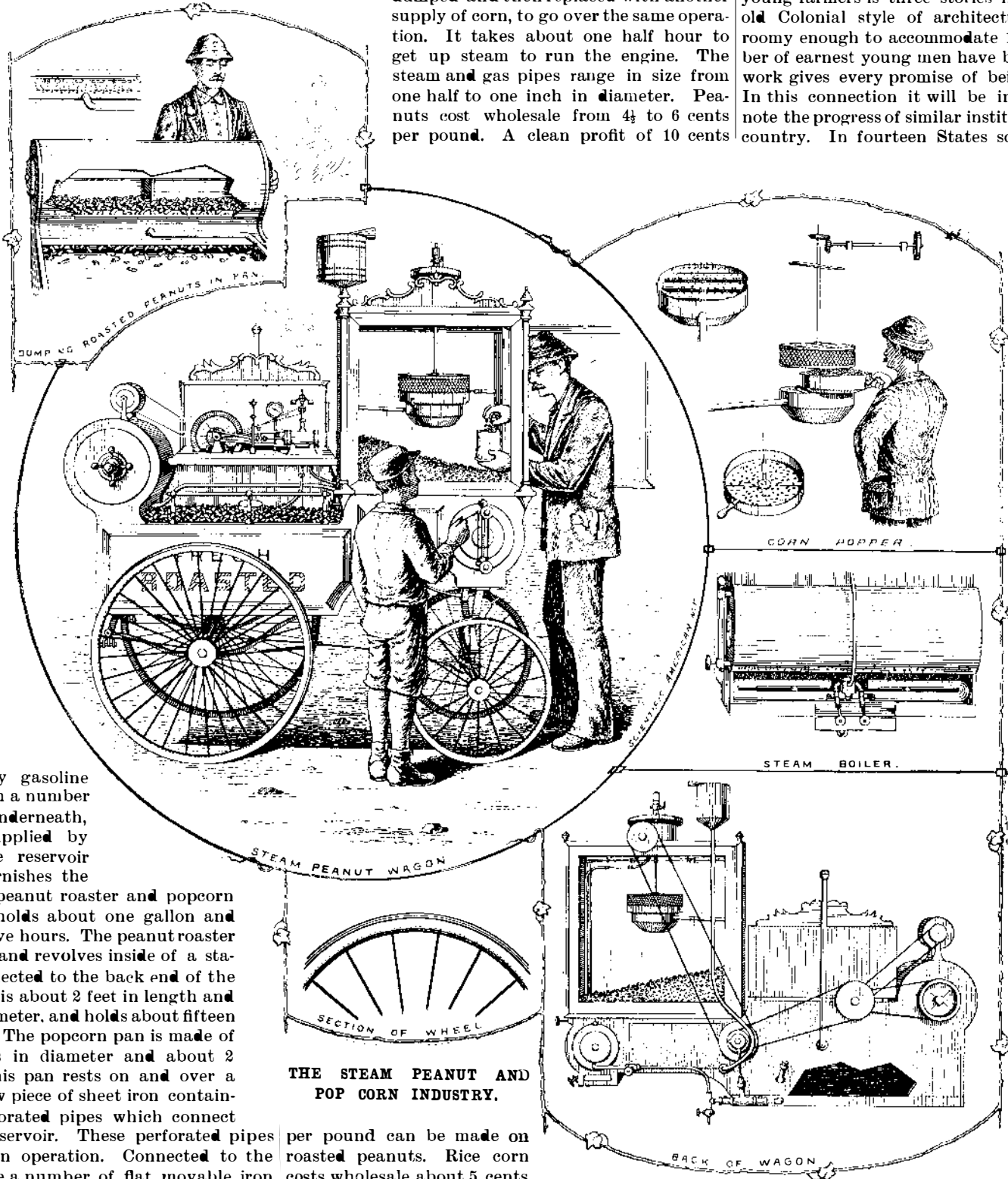
giant powder and dynamite promises, unless strong measures be adopted, eventually to destroy this famous feature of Hudson River scenery. The Palisades should be guarded with every possible care, and the preservation of the beauty they lend to the Hudson should be a matter of national pride. Their face is covered with glacial grooves and scratches, which are the hieroglyphics of the written geological history of the past.

Unless this beautiful region be set aside for a public park, or some similar provision be made, it is impossible to tell where the work of destruction will end.

**The Growth of Agricultural Schools in the United States.**

A very gratifying announcement is that of the opening recently of a well equipped agricultural school at Kensico, in Westchester County, N. Y. The school has been established and will be maintained by a private bequest, and is to be known as the "Brace Memorial Training Farm." The building which is to shelter the young farmers is three stories in height, built in the old Colonial style of architecture, and is large and roomy enough to accommodate 100 students. A number of earnest young men have been enrolled, and the work gives every promise of being highly successful. In this connection it will be interesting, perhaps, to note the progress of similar institutions throughout the country. In fourteen States schools devoted to this

special work are maintained for both white and colored students. The total number of institutions offering courses in agriculture is 65. In these institutions the college course leading to a degree in agriculture extends over a period of three or four years, while there are shorter courses in dairying and similar work, which cover only a few months. Besides these there are courses of lectures on farming given in various localities by members of the faculties of these colleges. These courses are particularly popular. Some idea of the extent of this work may be gained from the following figures taken from the United States Agricultural Report: The total number of professors in the faculties of these several colleges numbered in the past year 1,282; the total number of students, 17,623; the total revenue of these institutions for the year was \$4,024,132; and the value of



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per pound can be made on roasted peanuts. Rice corn costs wholesale about 5 cents per pound, the corn after being popped bringing a profit of from 10 to 15 cents per pound. To sweeten pop corn about two and one half pounds of sugar dissolved into a sirup is rapidly stirred into about ten pounds of popped corn. The wagon costs \$400

**The Palisades of the Hudson River.**

Along the entire length of the Hudson River there is scarcely to be found any more beautiful natural feature than the Palisades. Beginning nearly opposite to New York, they extend along the west bank of the river for a distance of 15 miles, rising perpendicularly from the very edge of the water to a height varying from 300 to 500 feet. The face of the trap rock, of which they are formed, is broken and jagged, and this makes it possible for abundant vegetation to spring up, which adds much to its ragged and massive beauty. It is to be observed, therefore, with very serious regret that the work of blasting and quarrying along the Palisades has already done irreparable injury. And, judging by the appearance of the rock in the vicinity of Fort Lee, which is opposite to the city, the work of

additions to their equipment is placed at \$1,481,637.

**A New Use of Compressed Air.**

A novel use of compressed air has recently been made by some Western railroads. Jets of air discharged from flexible hose are made to do the work of brooms, whisks and cloths in removing dust and cinders in passenger cars. The hose may readily be carried to any part of a car and is used in the same manner as an ordinary hose carrying water. The new application has many advantages. In many cases passenger cars on reaching the terminals are only allowed to stand a few minutes before being again filled with passengers, and it is impossible in this time to clean or even dust them thoroughly. This work is usually done by women, who hastily brush off the upholstered parts and wipe the woodwork. A stream of air will effectively remove all dust and dry dirt from cloth and even from glass and wood, and it has the additional advantage of reaching cracks and crevices which otherwise would not be touched. The stream of air is especially effective, it is said, in clearing the cars of flies.