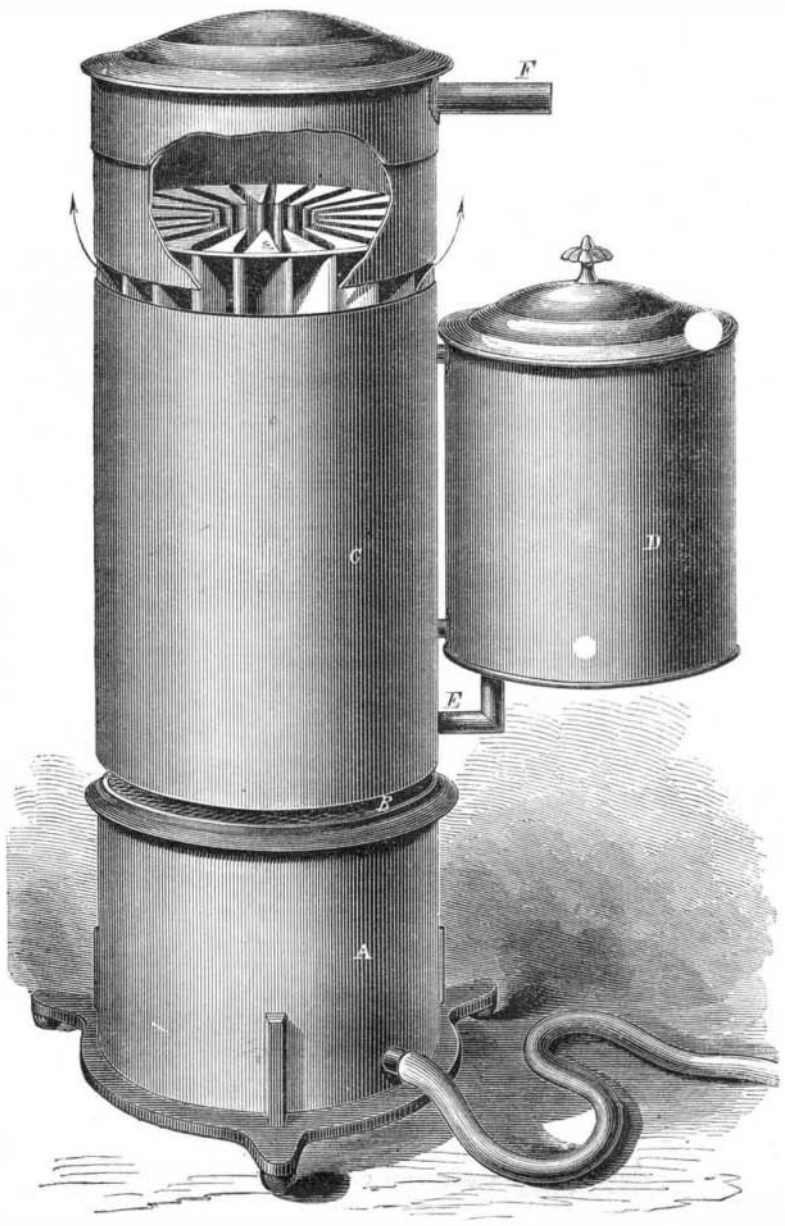
Improved Steam Cooking Apparatus.

It is well known that steam is a valuable agent in the cooking of food, and it is utilized, to a great extent, not only in large establishments, where food is cooked by wholesale, but in private families. The design of the apparatus shown in the accompanying engraving, is not only to afford a means for generating steam for this purpose, but to generate it rapidly and continuously, with the expenditure of but little fuel.



DAVIS' PATENT CULINARY STEAM GENERATOR.

The lower portion, A, is the furnace, or the compartment into which gas is introduced by the flexible pipe. The top of this department consists of a fine wire gauze, through which the gas passes and is rendered combustible by means of the oxygen of the atmosphere, that gains access through the space, B, between the gas chamber and the generator, C. The construction of this portion is peculiar. It is seen plainly near the top of the figure, where the shell is shown as broken away. The water spaces are radial, interspersed with similar radial spaces for the products of combustion, their cross-sectional area being two or three times greater than that of the water spaces. The latter communicate with a central cylindrical chamber.

It will be seen that the heat entirely envelops the water, and, passing up through the interspaces, escapes, as seen, in the direction of the arrows. The relative area of heating surface, compared with the water surface, is very great, insuring a rapid boiling, and a constant and equable heat of the fluid, notwithstanding the influx of water to supply that thrown off as steam. The water tank, or reservoir, is represented at D. This may be connected to the generator, as shown, or may be distinct and apart from it, as desired. The water passes from it to the water spaces of the generator by the pipe, E, by which the hight of water in the generator is kept always at the same hight as that in the reservoir. The steam is delivered to the food to be cooked through the pipe, F. The principal advantages claimed for this apparatus, are the rapidity and equability of the generation of steam for cooking purposes. The heating surface, compared with the water surface, is enormous. It is evident that gas is not absolutely necessary as a fuel, as any lamp, or even charcoal, may be employed with a slight modification of the furnace portion. The inventor has, also, other arrangements of this device, adapting it on a larger scale to the generation of steam for yielding power. Patents were issued to Job A. Davis, Nov. 3, 1868, and Feb. 2, 1869 Communications and orders should be addressed to the patentee, Watertown, N. Y.

Improved Three Wheeled Velocipede.

An objection strenuously urged by physicians against the velocipedes, now so popular, which are driven by the feet, is that the labor demanded by the lower limbs tends to produce hernia, or rupture. We question the ground for this objection, but if any exists, the vehicle shown in the accompanying engraving obviates it, being impelled wholly by the hands and arms, the feet and legs merely guiding the machine.

The front, or driving wheel, may be made of any size required, within practicable limits, that represented in the engraving being about four feet diameter, with which the inventor says he can make twenty-five miles per hour on a level. This wheel is held in the forks of an arched reach, the rear end of which is pivoted to an arched axle, the ends of which form journals for the two guiding wheels which are about two feet in diameter. The rider sits on a saddle connected to the reach by an upright sliding bar, and is sustained by a spiral spring to give ease of motion. Directly in front of the rider is an upright, through the crosspiece of which runs a shaft, having on each end hand cranks, from which rods run to corresponding cranks on the driving wheel shaft. These cranks are placed at right angles so that the machine may be put in motion from a state of rest, in whatever position the cranks may be.

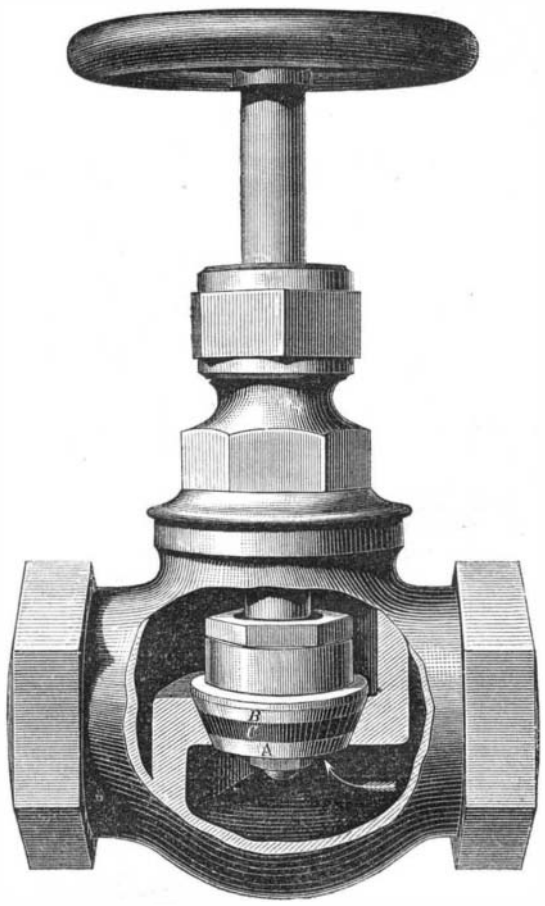
Stirrups, in which the rider places his feet, are attached to cords that run to the rear axle and serve to guide the machine, as may be plainly seen. When the vehicle is to be run straight forward a spring fixed to the center bolt of the rear axle, that passes through the end of the reach, holds the axle in the proper position. This yields when pressure is brought to bear on the stirrups, but when the pressure on either stirrup is released the spring brings the axle to its normal transverse position.

The inventor states his claims of superiority of his velocipede thus: Greater speed with less labor and fatigue; a more perfect control of the machine than has been obtained by others; in going down hill the speed of the machine is entirely under the control of the rider; capable of ascending steeper inclines than can be done by other machines; cannot be easily overturned and occupies less space and is lighter than others, one that he uses sustaining three hundred pounds and weighing only forty pounds, although clumsily constructed. By substituting a side saddle and shortening one of the stirrups, the vehicle may be adapted for ladies' use without change of the ordinary costume, and is adapted equally well to children or grown people of either sex. The inventor also considers rubber tires preferable to those of unyielding iron. Patented through the Scientific American Patent Agency, Feb. 23, 1869, by Isaac Samuels, of Marysville, Kansas, who may be addressed for rights, etc., as above, or Box 773 New York city.

SAMUELS' PATENT HAND CRANK VELOCIPEDE.

DOUGLAS' IMPROVED PATENT GLOBE VALVE.

One of the greatest annoyances to which the occupants of buildings fitted with steam and water pipes are subjected, is the leakage of the valves. It is a well-known fact that the best fitted metallic valve will become leaky very quickly, if a particle of scale or dirt from the pipe is caught between the valve and its seat while under pressure; and a leak, however slight, will cut a channel that continually grows larger. Devices have been contrived for re-grinding valves when leaky. This, however, is attended with inconvenience. The accompanying engraving illustrates a valve that seems to obviate these difficulties.



The shell is made in the usual way, but with somewhat greater depth of seat than others, the stem, stuffing-box, etc., being the same as those ordinarily used. The valve is attached loosely to the stem by ball and socket joint allowing slight play. The valve proper is composed of three parts, the lower disk, A, and the upper one, B, embracing between them a vulcanized rubber disk, C, held securely by a screw forming a part of the upper disk, and a nut, as seen. Either A or B, alone or combined, form perfect valve plugs as safe as any used on ordinary valves. In addition the flexible disk renders assurance doubly sure. The steam coming in the direction of the arrow and pressing upon the disk, A, expands this elastic disk, so that the greater the pressure the closer the fit. When worn or injured this disk may be quickly removed and another substituted. These parts are all manufactured in duplicates. This is valve adapted to steam, gas, water, and other liquids.

Patented March 17, 1868, by Frank Douglas, Norwich, Conn., who may be addressed for the right to manufacture or for the valves. They may be obtained also of Belknap & Burnham, who manufacture them at Bridgeport, Conn.

American Antiquities.

At the meeting of the American Association for the Advancement of Science, recently held in the city of Chicago, many of the papers indicated considerable activity in the researches into the antiquity and character of the early races of men who inhabited America. Col. Charles Whittlesey, in a paper on the "Geological Evidences of Man's Antiquity in the United States," maintained that four American races preceded the red man:—First, the mound-builders; second, a race in the territory now called Wisconsin; third, a warlike race in the region south of Lakes Ontario and Erie; and, fourth, a religious people in Mexico. Pottery, arrow-heads, etc., have been found in conjunction with and beneath the mastodon and megatherium. Human remains have also been found during excavations at New Orleans at a depth of sixteen feet. Mr. Foster exhibited a copper knife found in New Orleans, which he believed was a relic of the mound-builders. A water-jug, surmounted by a human head, and a statuette of a captive, with his hands bound behind him, both from Peru, and evidently of extreme antiquity, attracted much attention. It may also be mentioned, that the recent explorations of Mr. E. G. Squier, in Peru, and the curious photographs of ancient temples, dolmens, etc., which he has brought back, have renewed some old theories as to a connection in origin between the earliest inhabitants of America and those of the oriental countries.