

IMPROVED LEATHER-DRESSING MACHINE.

The annexed engraving represents a novel machine, designed to dress leather by the pressure of moving rollers. Either of these rollers may be adjusted or thrown into or out of action at will, independently of the other, and each has an independent depressing device, by which more or less force can be applied.

The apparatus consists of a main frame, in the top of which there is mounted a spring bar, A, which is supported only at its ends and at its middle. To the under side of this bar are hinged the upper ends of two hanging rods, B, on the lower extremity of each of which is attached a roller. These rollers work over the face of curved stationary beds, as shown, and their rods are actuated by connections from two eccentrics or equivalent devices, driven by a transverse shaft. In the top of the frame are two sliding pins, which are pressed down upon the spring bar, A, by the short arms of the elbow levers, C. Cords from the long arms of these levers lead down to foot levers, one of which is shown at D. When the machine is in operation the two rollers are carried to and fro above the beds, being suspended clear of the same in order to permit the introduction and adjustment of the leather. The attendants, after placing the latter, bring down the rollers, with more or less force, by pressing the treadles with their feet.

The two rollers always move in opposite directions, so that the strain and reaction caused by the change of direction or movement of one is overcome by the other. They may be very easily governed, and their pressure regulated without interfering with the continuous action of the machine.

Patented January 4, 1876. For further information, address the inventor, Mr. W. H. Rosensteel, Johnstown, Cambria county, Pa.

WATER REGULATOR AND INDICATOR FOR STEAM BOILERS.

We illustrate herewith a new automatic apparatus for regulating the supply of feed water to a boiler so as to maintain a constant level therein, and which also is arranged to sound an alarm whistle in case of the supply falling short. The essential feature of the device consists in a tank communicating with the boiler, and in which the water stands at the same level as in the latter. This tank, with its contents, is balanced by an upward acting spring; and therefore, when said contents are increased or diminished, the fact is indicated by the falling or rising of the tank, plainly shown upon a suitable index. The movement of the tank governs the valve which admits water to the boiler.

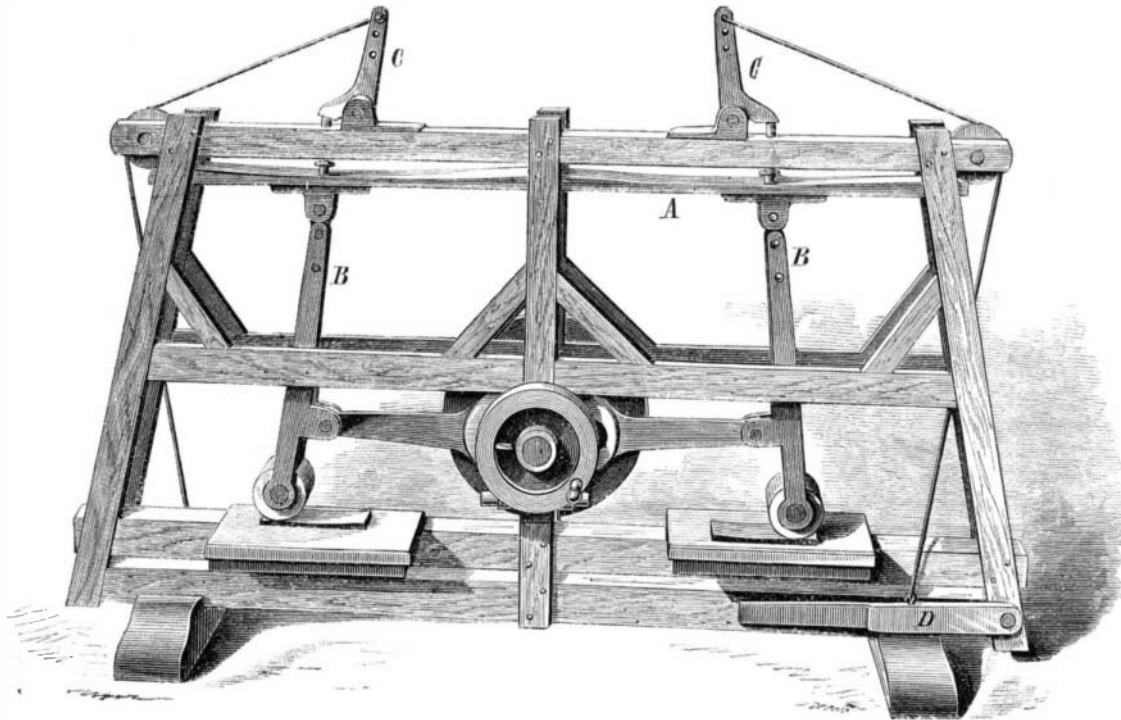
In the annexed engraving, A is the tank, which travels in curved guides in the U shaped frame. It is supported by the strong spiral spring shown, the tension of which may be regulated by the hand wheel, B. C is a pipe communicating with the steam space, and passing over an elbow on the stand, D. E leads from the water space, and is similarly connected with the stand. Both of these pipes, by this arrangement, readily turn on the elbows as the tank rises and falls. They are continued, as shown, from the stand, D, respectively to the upper and lower portions of the tank. Consequently, the water in the tank will always stand at the same level as that in the boiler. F is the feed water pipe leading into the latter, and having a valve, G, which is secured to the lower part of the tank. A pointer is fastened to the U frame and rests near a graduated scale on the side of the tank, so that, when the latter rises or falls, the distance it has moved may be readily observed. The zero of this scale corresponds to the proper water level (dotted line) in the boiler.

When the water rises above the water line, the increased weight will cause the tank to fall and operate the lever wrench, G, and so shut off some of the water. When the supply in the boiler falls short the diminished weight in the

tank will allow of the rising of the latter and the operation of the lever in the opposite direction to let on the water, so that the boiler will thus be fed uniformly.

At the top of the tank is situated a valve lever, which is to be fastened under a hook when the valve is closed. Should the feed pump cease, from any cause whatever, to do its duty, the tank will rise, and a tripping rod, H, suitably adjusted in the U frame, will trip the hook and so release the valve lever, which, by the action of a spring, will fly up and so open a valve leading to a whistle. The latter then sounds until the pump again resumes its proper action.

Patented through the Scientific American Patent Agency,



ROSENSTEEL'S LEATHER-DRESSING MACHINE.

November 9, 1875. For further information, address the inventor, Mr. Dexter Cook, Elmira, Fulton county, Ohio.

Spontaneous Generation an Impossibility.

Professor Tyndall has lately read before the Royal Society a very important paper "On the Optical Department of the Atmosphere, with reference to the Phenomena of Putrefaction and Infection"—a lengthy title, says the *English Mechanic*, but one which does not adequately convey an idea of the subjects treated. It has been known for some time that air might be rendered free from floating particles by passing it through fire, acids, or cotton wool; and the Professor showed, not very long ago, that air thus purified will not transmit light, and a glass chamber filled with it remains dark, when placed in a beam of concentrated light, simply

of optically pure air remain unaltered for months, while portions of the same or of similar solutions, when exposed to the atmosphere, swarm with bacteria in a few days. From his experiments, Professor Tyndall concludes that spontaneous generation is an impossibility, and that putrefaction and infection would be unknown in an optically pure atmosphere. We defer comment on these important conclusions until the full text of Professor Tyndall's lecture, with the record of his experiments, reaches us.

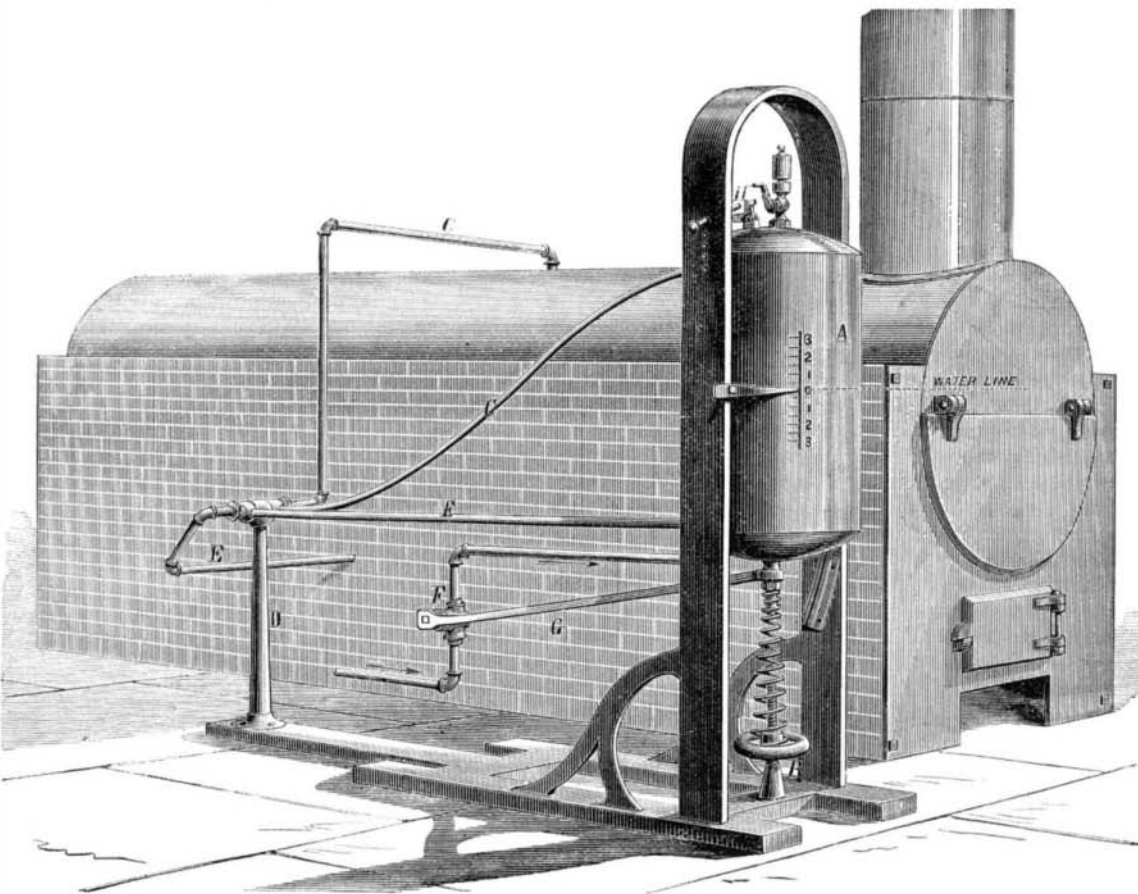
Rheumatism Recipes.

The *Journal of Health* has recently patiently collected all the recipes for rheumatism floating through the papers, and spreads them before its readers in the following: "Rochelle salts. Guaiacum. Rub with chloroform liniment. Sleep with your head toward the north. Nux vomica. Wear a chest protector. Nitrate of potash. Nitrate of sodium. Fowler's solution of arsenic. Sleep with a big dog, and give it to him. Kill a big dog, and, after taking out his intestines, put your feet where they came from. Magnetism. Galvanism. Bromide of ammonium. Iodide of ammonium. Mustard plasters. Spanish fly plasters. Bromide of potassium. Iodide of potassium. Lemon juice. Sage tea. Wear sulphur in your shoes. Hard rubbing. Oleate of mercury. Common soda. Capsicum. 'Radway's Ready Relief.' Wear silk. Wear flannel. Wear buckskin. Cin and hemlock. Reynolds' specific. Make a necklace of the knots produced by the sting of an insect on 'Golden Rod,' and wear it next the skin. Citrate of lithia. Exercise and keep it off. Keep as quiet as possible. Colchicum. Morphine. Water

cures. Angel's rheumatic gum. Pray fervently. Soft soap bandaged with flannel. Do not eat meat. Do not eat eggs or potatoes. Eat anything you please. Opium. Do not smoke at all. Smoke all you like. Take camphor. Drink nothing but beer. Do not drink anything but whisky. Do not drink anything at all. Do not leave the house. Take a ride out whenever you can. Carry a piece of alum in your pocket. Take Turkish baths. The Turkish bath is one of the worst things for rheumatism. De Soto spring water. Acetate of potash. Burdock seed. Bathe in hot water with pearl ash in it. Bathe in cold water frequently. Do not bathe at all until you are nearly well. Catnip tea. Wrap fresh lamb's entrails around your neck. Drink brandy. Brandy is very bad for rheumatism. Sleep next to flannel. Go to Arkansas Hot Springs. Go to Doolittle Springs—to Saratoga, to Florida, to Bermuda, to the Sandwich Islands, to California, to the South of France, to Mexico, to the Azores, to South America. Wear a horse chestnut in your left hand breeches pocket. Wear a potato in the other. Take 'Constitution Water.' Take carbolic acid. Wrap joints with cotton, and cover with oiled silk. Glen Flora water. Get out on the prairies. High land is best for rheumatism. Balm of life. Magnetic salve. Rub with kerosene. Mustang liniment. Read Job. Put on hot poultices. Apply hop mashes. Do not swear. Put mustard plasters over the heart. Drink Friedrichshall bitter water. Seidlitz powders. Take a quart of alcohol with a dozen lemons in it. Take spirits of turpentine. Rub with spirits of turpentine. Slippery elm poultice. Electric oil."

A New Insecticide.

At a recent meeting of the Royal Horticultural Society attention was called to a new insecticide, which consists of camphor dissolved in methylated spirits to saturation, and mixed with soft soap to the consistence of cream. When diluted so as to be fit for use with a syringe, this has been found an efficacious substitute for fumigation in the



COOK'S WATER REGULATOR AND INDICATOR FOR STEAM BOILERS.

because there is nothing to reflect or scatter, or in other words to render visible, the light. Since then Professor Tyndall has discovered that air enclosed in a glass chamber and left undisturbed for three or four days deposits all the floating particles and becomes optically clear and dark to the beam of light. In this paper, Dr. Tyndall has apparently put the finishing stroke to the hypothesis of spontaneous generation, for he shows that solutions confined in chambers

case of mealy bug, scale, red spider, etc.

A VERY common reason for the failure of muck, when used as an absorbant or in compost heaps, is that it has already taken up all the water it can hold. It should therefore be thoroughly dried before forming into compost heaps. In building the heap, place muck and manure in thin layers, and use about twice as much muck as manure.