

# Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME VIII.]

NEW-YORK, AUGUST 27, 1853.

[NUMBER 50.

## THE Scientific American,

PUBLISHED WEEKLY

At 128 Fulton street, N. Y., (Sun Buildings),

BY MUNN & COMPANY.

Hotchkiss & Co., Boston.  
Dexter & Bro., New York City.  
Stokes & Bro., Philadelphia.  
Le Count & Strong, San Francisco, Cal  
Gooke, Kinney & Co. ditto.  
B. Dawson, Montreal, G. E.  
M. Boulemet, Mobile, Ala.  
E. W. Wiley, New Orleans, La.  
E. G. Fuller, Halifax, N. S.  
M. M. Gardissal & Co., Paris.  
Avery Bellfield & Co., London.

Responsible Agents may also be found in all the principal cities and towns in the United States.  
Terms—\$2 a year—\$1 in advance and the remainder in 6 months.

## USEFUL RECEIPTS.

### Preserving Fruits in their Own Juice.

Thirteen bottles of preserved fruit were exhibited lately at Rochester, New York, by William R. Smith, of Wayne County, viz:—five of cherries, two of peaches, one of different varieties of currants, one of blackberries, and one of plums.

They were examined by a committee, and found of fine flavor, and the committee expressed the opinion that the art of preserving fruit in this manner is practicable, and that the fruit, when carefully put up, can be made to keep as long as may be desirable.

The method of preserving is thus given to the New York State Society by Mr. Smith:

"They are preserved by placing the bottles, filled with the fruit, in cold water, and raising the temperature to the boiling point as quickly as possible; then cork and seal the bottles immediately. Some varieties of fruit will not fill the bottle with their own juice—these must be filled with boiling water and corked as before mentioned, after the surrounding water boils."

[Fruits can also be preserved by carbonic acid gas. The bottles after the fruit is put into them, should be charged with this gas under pressure, to expel all the air, then sealed up.

### Preservation of Grapes.

We find the following translation of an article in a German paper, in the "New York Agricultor," which contains an account of the preservation of grapes in Russia:—

"A traveller who lived at St. Petersburg during the winter season, states that he ate there the freshest and most beautiful grapes he had ever seen. To preserve them they should be cut before being entirely ripe. Do not handle the berries, reject all the damaged ones, then lay the grapes in a large stone jar holding about thirty gallons: the mouth should be narrow so that the grapes will not touch each other; fill the spaces between them with millet; cover closely with a stone cover well fitted and cemented. Over this paste a thick paper, and let it be hermetically sealed so as to entirely exclude the air. In this air-tight jar the grapes ripen fully, and acquire a flavor seldom attained by any other method and are preserved for two years in the best condition.

### A New Anæsthetic Agent.

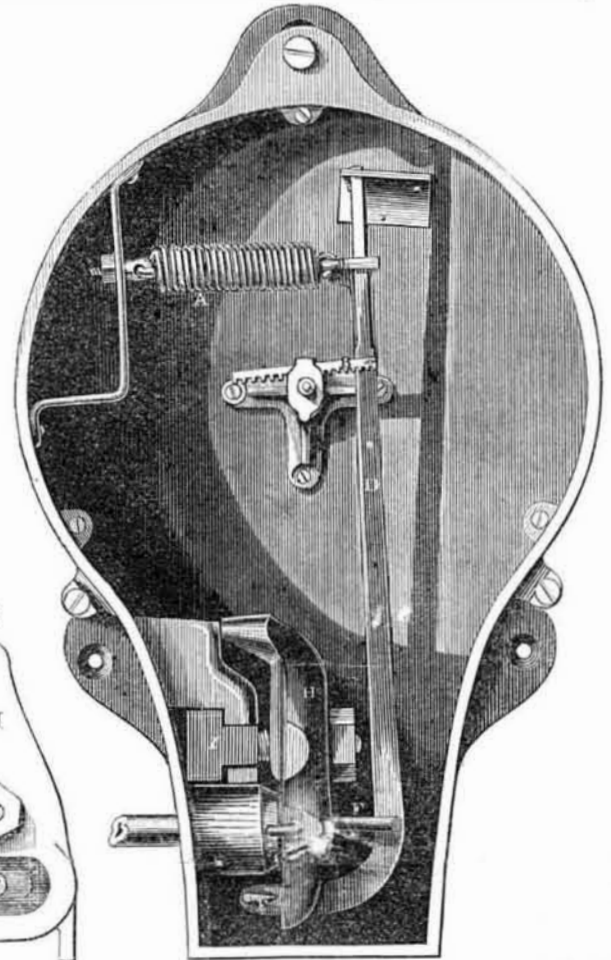
From a report of a recent meeting of the London Medical Society, it appears that a new anæsthetic material has just been discovered, but whether it is superior to chloroform or other agents remains to be ascertained. It consists of the common puff-ball, an indigenous fungus in this country, and was detected by a Mr. Richardson, whose attraction was called to it by the fact that in some localities it is a common practice to stupefy bees with it before extracting the contents of the hive. The mode of administration is to burn it while in a dried state, and to cause its fumes to be inhaled.

## EASTMAN'S STEAM GAUGE.

Figure 1.



Figure 2.



The annexed engravings are views of an improved gauge for steam engines, invented by J. L. Eastman, of East Boston, Mass., who has taken measures to secure a patent for the same.

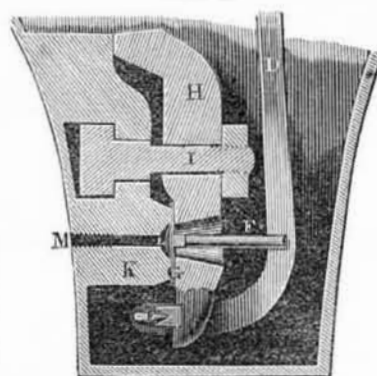
Figure 1 is an outside front view; figure 2 is a view of the interior of the gauge; figure 3 is a front view of the button and elastic cushion seat; figure 4 is a section of the lower part of figure 2. The same letters refer to like parts.

The front view merely shows the dial plate with the index around it, marked from 0 to 130; and the pointer or hand, according to the number at which it points gives indication of the pressure of steam in the boiler to which the instrument is attached. The gauge consists of a small iron box like the one represented, and may be placed either close to or at a distance from the boiler, such as the counting house in a factory or foundry, or in the captain's office of a steamboat. A is a coiled spring firmly secured at one end by a nut to a bar fastened to the case. It is secured at the other end to the working lever, D; B is a small rack attached to this lever; it gears into a small pinion (not seen) the axis of which is also the axis of the pointer or hand of the dial plate. The action of lever D, sideways, moves the rack, B, and the pinion mentioned, and consequently the pointer on the dial. This lever, therefore, is actuated by the steam and moves the rack to the right farther from the pinion spindle according as the pressure of the steam increases, and vice versa.

K is a small close steam chamber into which the steam pipe at M (as shown in figs. 2 and 3) from the boiler enters; H is a metal block or button firmly secured by a screw bolt, I, to form a seat to the small steam box, K, and a fulcrum for the spring lever, D, at E, where the foot of the lever is made sharp and is held in a notch made in the lower part of the said button; F is a stem

on the lever, D; J is an aperture in the button, and G is a cushion of prepared india rubber, attached to the stem, F, covering the aperture at cavity, L, between the passage, M, and the aperture, J, in the button. This india rubber cushion, G, is secured between the end of the chamber, K, and the inside of the button, H. The steam, therefore, pressing upon this elastic cushion, will actuate the lever, D, through the stem, F, according to its pressure, and thus operate the rack, B, and consequently the index hand on the dial plate. This gauge in construction and operation is simple and durable, and will be easily understood from the engravings and the description given. Such gauges are made with dials ranging for different pressures as required, such as one kind for 40 lbs. pressure, another for 100 lbs., another for 130, and another for 200 lbs.

FIG. 4.



This is a spring gauge, the operation of which is not due to an expansion of metal, but simply the pressure of the steam acting upon an elastic medium through which it operates the indicating lever. It is this much different from the Salter Balance, that the lever is not operated by a movable valve, which oftentimes becomes so fixed in its seat that no dependance can be placed upon it.—

The elastic cushion having the butt of the stem, F, of lever, D, bearing upon it, is acted upon by the pressure of the steam through the passage, M, in precisely the same manner as the leather bag "at the bottom of the portable barometer" is acted upon by the pressure of the atmosphere on the mercury. These gauges are sold by the inventor in Orleans street, East Boston, Norris Gregg, & Norris, Gold street, this city, (N. Y.) and Scaife, Atkinson, & Okely, Pittsburgh, Pa. We are not able to give the prices of such gauges, but further information may be obtained by letter addressed to Mr. Eastman.

### Steam Power on Farms.

The Marquis of Tweedale has succeeded perfectly in working plows by steam power. The distinguished English agriculturist, Mr. Meche, in a late article, says, "there can be no doubt but that very shortly every agriculturist must use steam power if he is to stand his ground in the race of agricultural competition. The want of it is already felt if not seen, by those who have not the means or inclination to use it. The time is approaching when a steam engine on a farm will be as common as the drill or threshing machine, although like them, it has to pass through the ordeal of disbelief, doubt, and prejudice. A committee of the Royal Agricultural Society give the most extraordinary accounts of the rapid introduction of farm locomotive engines, during the last three years.

### Back Numbers Wanted.

If any of our subscribers or local agents have copies of Nos. 48 and 49, present volume, which are not wanted, they will greatly oblige us by returning them to this office. Four cents a copy will be paid for all numbers returned in good condition.

The yellow fever is still very fatal in New Orleans, and the cases exceedingly numerous: far the week ending the 6th inst., there were 1,277 deaths.