

A NEW SWEEPER.

The annexed engraving represents an improved sweeper recently patented by Mr. R. G. Pittman, of Rocky Mount, N. C. It is designed for sweeping streets, lawns, walks, floors, or carpets, and is provided with an adjustable brush which may be used until it is worn out; its driving gear, which is large and efficient, is placed entirely outside of the sweeper case.

Fig. 1 is a perspective view of the sweeper, with parts broken away to show internal parts, and Fig. 2 is a detail view of the brush.

The drum, A, is provided with sockets containing spiral springs attached to the bars, B, which carry the brushes, C. The springs are retained under compression by screws at the ends of the bars, B. As the brushes wear, the screws are retracted, allowing the springs to expand and carry the brushes outward.

The brush is supported by the axle, D, upon the ends of which there are wheels, F, provided with rubber tire. These wheels revolve loosely on the axle, and one of them has attached to its inner side an internal gear wheel, G, that gears into a wheel, H, which revolves on a stud projecting from the sweeper frame, and meshes into a pinion, I, on the end of the drum, A.

The rear portion of the sweeper frame is supported by a caster wheel, and the front carries a dust receptacle, M, which is suspended from the front of the brush cover, and may be readily removed when filled. The dust receptacle is provided with a hinged apron, L, that nearly touches the floor, and guides the dust into the receptacle as it is thrown up by the brush.

Among the several good features possessed by this sweeper, perhaps the most noteworthy are the adjustable brush, the large driving wheels, and the removable dust pan.

Bamboos as Food.

The young shoots of the bamboo, according to *Les Mondes*, form in Japan one of the principal aliments of all classes of people during the spring and a portion of the summer. Those gathered on poor soil are hard and but little esteemed; but those, on the contrary, which grow in rich soil and under careful culture, are large, quite tender, and even suit the palates of a large number of Europeans. Their quality naturally lessens where they grow on mountains; and yet they are edible even at altitudes where the plant does not succeed so well as it does in Provence. For this reason, the journal above mentioned thinks there is reason to hope that this valuable article of food will be introduced and successfully cultivated in the south of France. To form a forest of edible bamboos, the country people in the vicinity of Kioto begin by breaking up the soil to a depth of about three feet, and then plant therein two-year old bamboos of a species called "Moso." The latter are then cut back to a height of about nine feet, and the plantations are afterward kept carefully free from weeds for two or three years. No crop is gathered till after the fifth year, and then only sparingly, since the forest does not attain its full growth till ten years after planting. At the latter period the annual crop is said to amount to 22,000 pounds of young shoots per hectare (2½ acres). The importance of this product leads the peasantry (who undertake the culture near large cities) to devote very good lands to it, and to manure them thoroughly in order to obtain early crops. Every year a new shoot appears on each spreading root, and the old plants, which no longer yield scions, are cut down. If care be taken not to exhaust it, a forest will renew itself indefinitely. The culture of the plant requires the use of much compost, and the plantations are also watered every year in the months of February and September with liquid manure. It is due to constant care and trouble of this kind that tender and delicate products are obtained. The stems that are allowed to grow attain considerable dimensions, often reaching a height of 24 feet, and a circumference of 35 inches at their swollen base.

Changes in Epicurean Tastes.

It is curious, says an English journal, to observe the change of taste that epicures have experienced with regard to different birds. Even to-day the tastes of two neighboring people—the English and the French—are much more unlike in this respect than one would imagine. In England, for example, the goose is held in almost as much esteem as the turkey, while across the channel the former is sold at scarcely half the price of the latter, and is regarded as nothing better than a vulgar dish. But if we compare our present habits with those of seventeen or eighteen centuries ago, the contrast will be much more remarkable still.

To-day we never see a poulterer's shop adorned with rows of peacocks, and should one of these beautiful birds appear upon the table at some grand public or private dinner, none of the guests would go into ecstasies over the dish, as if its

delicacy was a fact universally known. But at Rome, no banquet was complete without the presence of the peacock. Among the other large birds, the cranes, the swans, and even the ostrich, were held in high esteem. Geese were also highly prized, and they were eaten not with a sauce, but stuffed with small green apples. The duck and teal were served with the juice of the orange and not that of the lemon, and they were preferred to the heathcock and woodcock. As for larks and thrushes, they were usually eaten at the end of the meal, with the idea, true or false, that it would prove a sovereign remedy against affections of the bowels. But the bird most in esteem among all the subjects of the Cæsars was the common thrush. These birds were raised and fat-

Dorscher, of Homestead, Iowa. It is intended for the use of housekeepers, country school teachers, manufacturers, and others who require a fire at a stated time. When this device is used personal presence is not required; all that is necessary is to prepare the kindlings and fuel beforehand and set the apparatus. By reference to the engraving it will be seen that the mechanism is controlled by a clock, upon the hour hand arbor of which there is an adjustable disk similar to that of an alarm clock, which carries an arm capable of engaging pins projecting from the periphery of the wheel, A. This wheel carries seven pins corresponding with the seven days of the week, and arranged so that they may disengage a pawl from the ratchet wheel,

B, at any prescribed time in the day. The ratchet, B, is upon the shaft of a small windlass that is propelled by a weight when the pawl releases the ratchet wheel. This windlass winds a cord that may be extended in any direction to the stove or furnace where there is a lighter, C, consisting of a horizontal wheel, around the periphery of which is wound the cord from the windlass, and upon the upper surface of which there is a coating of sand or sandpaper. The wheel is protected by an iron cover, which also supports a clamp, D, for holding one or more matches, so that they press lightly upon the sanded surface. A piece of paper or other combustible material extends from the match to the kindlings in the fireplace. The operation of this

apparatus is obvious. At the prescribed time the pawl is released, the weight drops, the sanded wheel revolves, and the fire is lighted. If it is desired to skip a day or so, the pins in the wheel, A, which represent the days to be skipped, are removed.

Sanitary Conventions in Michigan.

At a recent meeting of the Michigan Board of Health arrangements were made for the holding of two sanitary conventions in that State the coming winter. The first is set down for the second week in January, and will be held at Detroit; the second, at Grand Rapids, will be held in February. The subjects for discussion at Detroit will be: Abattoirs for cities; school hygiene; ventilation of living and sleeping rooms; cooking schools; plumbing for dwellings; prevention and limitation of contagious diseases; inspection of food; water supply for the family. At Grand Rapids the subjects will be: Public interest in and importance of general sanitation; school architecture in respect to its hygienic aspects and importance; sewerage, its importance, its benefits, and its dangers; sanitation of the sick room; infection, the every-day dangers of it and how to prevent it.

Accompanying these conventions will be a free exhibition of sanitary appliances, which manufacturers are invited to send. Articles of exhibit will be received by the secretary of the convention, at Detroit, by Dr. C. H. Leonard, 50 Lafayette avenue, from December 15, 1879, to January 6, 1880. The time for entering articles at Grand Rapids has not yet been determined. The judges will be invited to examine the articles exhibited, and certificates of merit will be awarded.

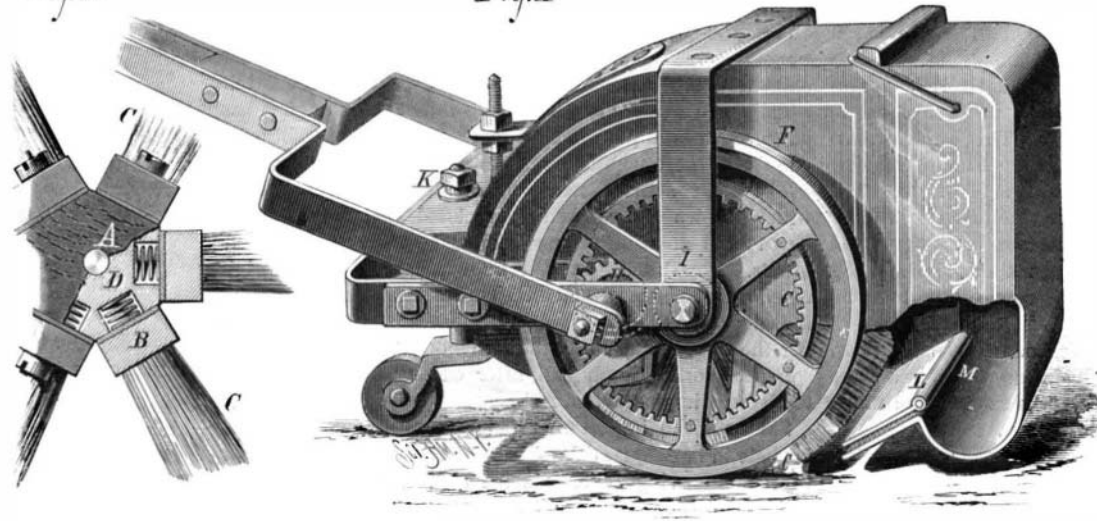
Harrington's Muffling Contrivance.

In our recent notice of inventions connected with elevated railways, on exhibition at the Mechanics' Institute Fair, that of Mr. John R. Harrington, of Brooklyn, was unintentionally omitted. Mr. Harrington's invention consists in a fibrous packing interposed between the base of a rail and the ties, also between the tops of the flange of the rail, and secured by caps of wood to protect the packing from the weather and against fire. Mr. Harrington also muffles the floors and sides of cars with the same material. The inventor informs us that the method is about to be put to practical test on a considerable length of elevated road.

In the course of experiments with Bower's process for coating iron with magnetic oxide by a current of hot air, it was found, Mr. G. R. Tweedie says, that the action was due to the combination of atmospheric oxygen with the carbon of the iron to form carbonic anhydride, which was then reduced by the iron according to the well known equation $4CO_2 + Fe_3 = Fe_3O_4 + 4CO$. Hence this process was found to be unsuitable for coating wrought iron or steel. The mode of procedure now adopted is to heat the articles to be coated in a current of impure carbonic anhydride, obtained by the combustion of small coal. By this means a coating of magnetic oxide is obtained slightly contaminated with red oxide, the conversion of which into magnetic oxide is then effected by adjusting the air supply of the furnace, so as to substitute a current of carbonic oxide for the carbonic anhydride, $3Fe_2O_3 + CO = 2Fe_3O_4 + CO_2$. The coating thus produced is very hard, homogeneous, and withstands ordinary oxidizing influences.

Fig. 2

Fig. 1



PITTMAN'S SWEEPER.

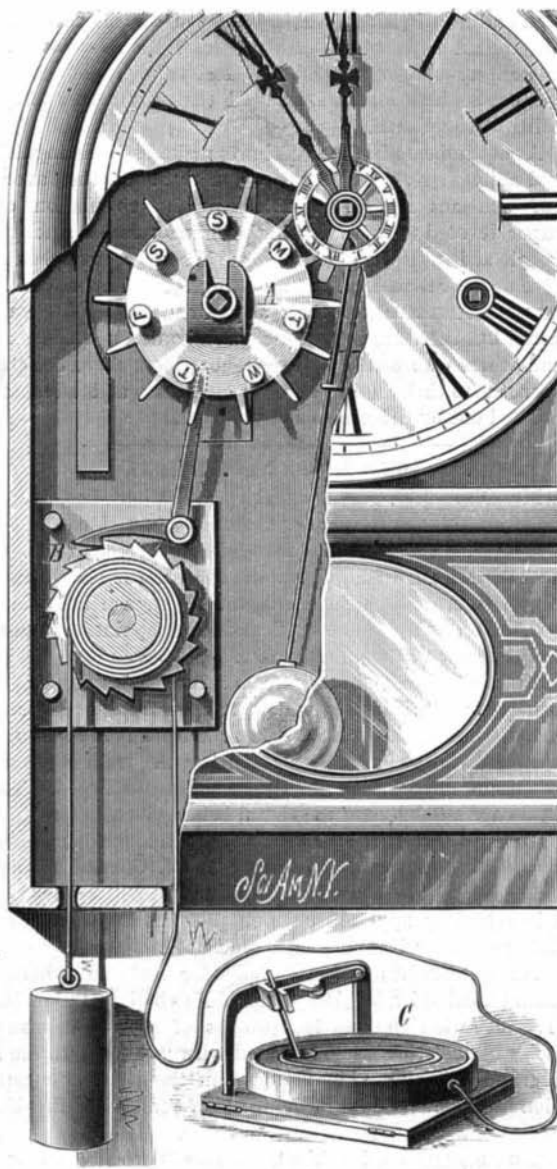
tened in large establishments near Rome, and brought very high prices. The artificial rearing of these birds, which are excellent for the table, would prove an easy matter.

Hog Cholera.

Dr. D. N. Kinsman, Professor of the Practice of Medicine in the Columbus Medical College, has been making an elaborate study of this disease, by which, he states, \$20,000,000 are lost annually in the United States. He concludes that the affection is a specific, contagious disease, peculiar to the species, and always accompanied with extensive peritonitis. It is not, as has been claimed, any form of anthrax or typhoid fever.—*Medical and Surgical Reporter.*

NEW AUTOMATIC FIRE LIGHTER.

A novel device for lighting fires automatically at any prescribed time has recently been patented by Mr. E. H.



DORSCHER'S FIRE LIGHTING APPARATUS.