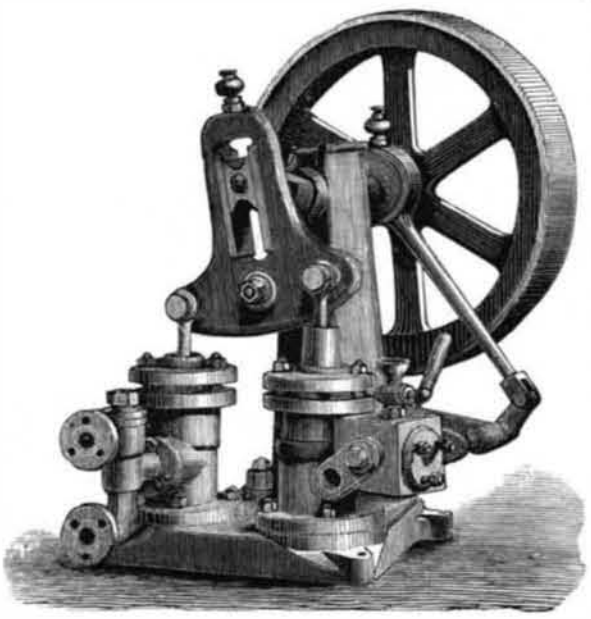
NEW PUMP.

The novel pump illustrated herewith may be operated either directly or by steam, by the intermediation of a belt or by hand. The advantages are its solid construction, the vertical movement of its pistons and the small motive power required. When steam is used, but one of the two pump bodies acts as a pump—the other serving as a steam cylinder to operate the machine. If the fly wheel is replaced by a pulley, and the steam cylinder by a pump cylinder, the capacity of the pump obviously becomes doubled. The normal speed is between 60 and 120 revolutions per minute. The weight is 303 lbs. when steam is directly used, or 242



lbs. when the belt pulley is substituted for the fly wheel. When single the capacity of the pump is from 2 to 4 gallons.

The apparatus is the invention of Mr. A Schmid, of Zurich, Switzerland. We take our illustration from the *Revue Industrielle.*

The Black Fly in the Adirondacks.

There is such an insect as the black fly in the Adirondacks. He is a quiet, orderly little fellow, a hard worker, who goes steadily about his business, and earns his living by constant application. There is much to admire in this little insect. In the first place, he is industrious; he is also a generous liver; he is orderly in his habits; he goes to bed regularly at sunset, and arises regularly at sunrise. We think that he is a little more regular in getting up than he is in going to bed. He is also friendly to man. He will cleave to you closer than a brother. The constancy of his affection is remarkable. Once having formed an attachment he never deserts you, but clings to you until death do you part. He is not by any means a gourmand. He has a taste, and discriminates. His favorite feeding spot is just back of the ear, although in case of necessity he is satisfied with the nose. He likes a large nose, and we have never seen one so small that he could not make it larger in less than two days. We saw a nose last summer—at least, we suppose it was a nose—the man who owned it said it was—that was so enlarged that the gentleman expressed grave doubts as to his ever being able to take it home with him. We are inclined to think that he succeeded, for when we came out we heard of that nose until we reach Martins, where we were told it took the stage for Plattsburg.

But to sober statement. The black fly is not a very troublesome insect. It ordinarily disappears the first week in July. In wet seasons it tarries a week or two longer. Care in selecting your camp ground, a piece of fine muslin three yards square to hang in front of your lodge, and a bottle of tar and oil for emergencies, give ample protection not only from black flies, but from the mosquito and gnat, which are, we think, far worse. It is the unanimous voice of our family that we have suffered more from mosquitos in Connecticut and Massachusetts, yes, and in the city of Boston even, than we have in the Adirondacks. With the precautions that we have suggested, and the exercise of a moderate amount of ingenuity, a party will not be greatly troubled.—*Golden Rule.*

Oyster Culture in France.

Under the fostering care of the Government, oyster culture in France is becoming more and more productive. A recent report by M. Bouchon-Brandely to the Minister of Marine contains a description of nearly thirty different localities, embracing some hundreds of beds, where the industry is carried on. One of the most curious facts in the report is that at Courseulles the oysters are actually trained to keep their shells closed, and thus retain their freshness while being carried to market. As regards the quantity of oysters which a small bed will produce, the following statistics may be quoted At Grand Camp there were, at the time of M. Brandely's visit, 3,000,000 of oysters ready to be delivered for consumption. In 1875 the owners of a bed at L'Orient sold 5,500,000 oysters, 2,500,000 of which were ready for consumption. In an establishment at Le Breneguy 4,401,000 dredged oysters were placed on the beds in 1875-6, of the value of 118,425f., and in the same period 7,538,150 oysters were sold out of the same beds, valued at 202,801f. The difference between these two figures represents, to a certain extent, the annual reproductive powers of the beds. The number of spat sold during the same time, either to the establishments on the coast or to strangers, and resulting from the clearing of the tiles used for collecting, was 26,176,309, representing a value of 192,385f. The growth of the oyster may be estimated from the fact that in 1873 there were placed on the beds at Regneville 83,000 young bivalves, measuring only two or three centimeters across. In 1874 no less than 65,000 of these same shellfish were sold in the markets, measuring seven to eight centimeters in diameter. The collectors used for catching the spat or infant oysters have been greatly improved during the last few years.

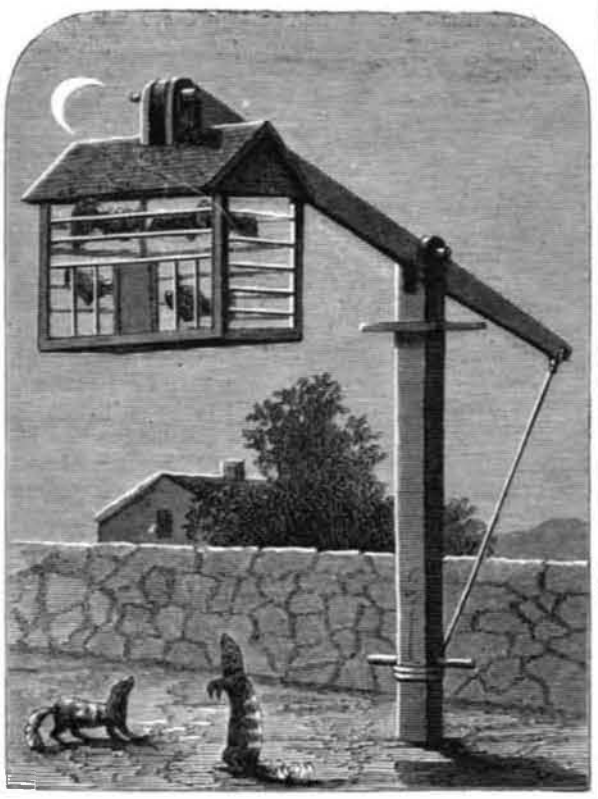
Portable Electric Light.

An ingenious little electric light apparatus has been invented by a Mr. Facio, of Paris, and is applicable to watches, walking sticks, and such like. The watch, for instance, to which it is applied, is united by a chain to a link bar, which may be placed in a buttonhole; another chain communicates with a pile which may be carried in the waistcoat pocket; to the link bar another chain is attached in communication with a receptacle or box containing wick, and a "Geissler" tube, which will transmit the spark produced by the electricity. Thus the time can be seen in the dark. The apparatus is composed of other conducting chains coming from the pile, and of a receiver which may be perfectly independent, the receiver being provided with a wick or bobbin, and the receiver may be made like a locket or other article, if desired; communication between pile and locket or other article may be produced by means of a button or other suitable appliance placed in any convenient position. The chains may be formed or composed of two wires and surrounded by insulating material, which latter may be covered with some precious metal or other material, as fancy or taste may dictate. The lighting material may be carried by the watch itself, or the light-generating apparatus may be provided with a case to hold the watch or other object to be lighted up, in such manner that the glass which covers the aforesaid case will receive the action of the lighting tube containing the "Geissler" tube, and the case itself will be independent of the object to be lighted.—*Exchange.*

IMPROVED CHICKEN COOP.

The object of the invention herewith illustrated is the preservation of chickens from the depredations of animals that prowl around during hours when the coops cannot be conveniently watched.

As shown in the engraving, an upright post bears upon its upper end a bar that is pivoted at the center. To one end of this bar is attached the coop, and to the other end a cord or line is fixed. When it is desired to place the coop in a position of safety, it is sufficiently raised by pulling on the cord, and is then held in place by belaying the cord to a cleat attached to the lower portion of the post. The at-



tempts of marauders will be futile to molest the poultry so protected.

This invention was patented June 5, 1877, by Robert L. and Nancy J. Todd, of Shamrock, Mo.

Iron Furnaces.

The whole number of completed furnaces in the country at the close of 1876, which were either active or capable of being transferred to the active list on short notice, was 714, against a similar total of 713 at the close of 1875. Ten new furnaces were completed in 1876, and 9 old furnaces were abandoned. The greatest activity in the erection of new furnaces has been shown in the Hocking Valley, in Ohio, where several bituminous furnaces have been built since the beginning of 1876, while others are now in course of erection or definitely projected. Of the furnaces which were built in 1875 and blown in in 1876, one of note was the Centennial furnace of the Cambria Iron Company, 75 feet high by 20 feet at the bosh. Of 714 completed furnaces at the close of 1876, 236 were in blast and 478 were out of blast. Of 713 furnaces at the close of 1875, 293 were in blast, and 420 were out of blast. The productive capacity of the furnaces of the country is at least twice the actual yield of either of the last two years. The consumption of pig iron in 1876 was equal to that of 1871, when the "iron famine" began.

SPELMAN'S IMPROVED ROWLOCK.

The improved rowlock herewith illustrated is claimed to be so constructed as to reduce friction between it and the oar to a minimum. The inventor informs us that it mate-

rially increases speed in rowing, and that, while it is specially applicable to racing boats, it is equally well suited to boats to the gunwale of which it is attached instead of upon outriggers.

The construction is exceedingly simple and scarcely needs description. The lock is made square, with an opening sufficient for the admission of the oar, the loom of which completely fills the inclosed space. Upon a side bar of the lock is a journal which works in the pin block, A. Said pin block, in turn, works upon the pin, B, which is secured to the outrigger or to the gunwale by the nut shown. The hole in the pin block for the lock journal is on the inboard side of the main pin.

Patented through the Scientific American Patent Agency, May 15, 1877. For further particulars address the inventor, Mr. William Spelman, 37 Portland street, Portland, Me.

Ice Water.

The Cincinnati *Commercial* has recently published a series of articles pointing out the evil effects of ice water, and condemning its use in the strongest terms. In one of its articles it says:

A man, who in a state of perspiration, with the sweat oozing from every pore in his skin, should suddenly strip off his clothing and shut himself up in a refrigerator would be set down in public estimation as a natural fool, who defied Providence itself to save him from death. Such a thing actually happened in this city a few years ago, and the man was taken out of his icebox dead as a herring and stiff as a pikestaff.

Ice water arrests digestion, if it does not absolutely drive out all animal heat, and it is not resumed till the water is raised to the temperature required to carry it on.

Habitual ice water drinkers are usually very flabby about the region of the stomach. They complain that their food lies heavy on that patient organ. They taste their dinner for hours after it is bolted. They cultivate the use of stimulants to aid digestion. If they are intelligent they read up on food and what the physiologists have to say about it—how long it takes cabbage and pork and beef and potatoes and other meats and esculents to go through the process of assimilation. They roar at new bread and hot cakes and fried meat, imagining these to have been the cause of their maladies.

But the ice water goes down all the same, and finally friends are called in to take a farewell look at one whom a mysterious Providence has called to a clime where, so far as is known, ice water is not used. The number of immortal beings who go hence to return no more on account of an injudicious use of ice water can hardly be estimated.

The article proceeds to show that in numberless cases fine teeth are totally destroyed by its use. It chills the teeth and cracks the enamel, then follows rapid decay and frequent visits to the office of the dentist.

In conclusion the article says: These remarks seem to be necessary, because ice is abundant and cheap this year, and the water drinkers are increasing in numbers, through the missionary efforts of the disciples of Francis Murphy. There is no objection, certainly, to the exclusive use of water, if taken as the Creator intended it should be. It is the excessive use of water, reduced below its average temperature with ice, that is to be condemned. It is an abuse of the stomach to use it, as it is an abuse of the stomach to put into it fluids that inflame its coatings and finally eat them away. We must put ice water and whiskey into the same *index expurgatorius.* They should be banished from private tables and banqueting halls, or used only to preserve articles of food in pickle or in the refrigerators.