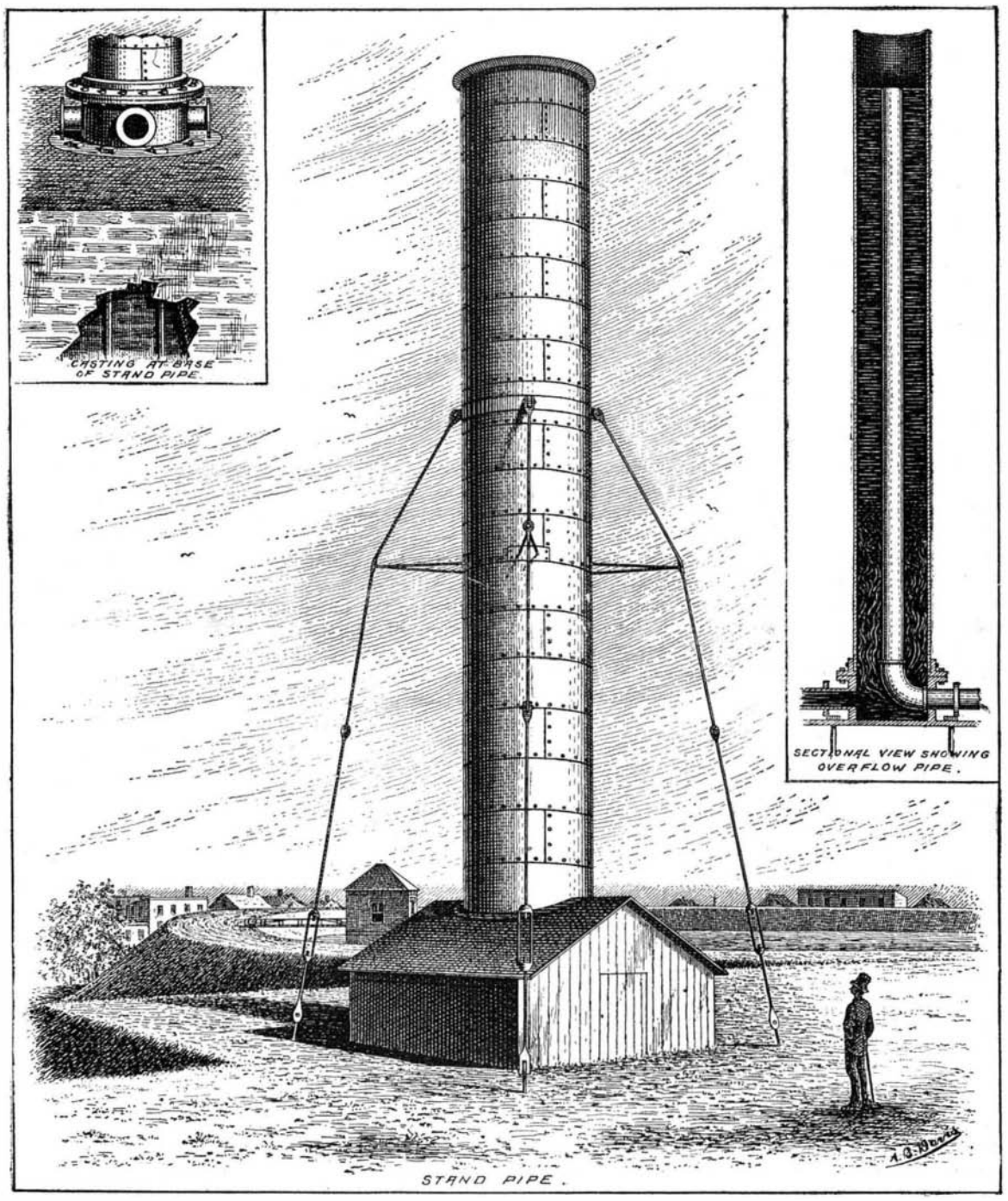
NEW HIGH SERVICE STAND PIPE, JERSEY CITY HEIGHTS.

This stand pipe was erected for the purpose of forcing water above the first floors of houses on Jersey City Heights. The pipe is 100 feet in height and 6 feet in diameter. It is put up in twenty-two courses of wrought iron, of three different thicknesses. The first seven courses are made of ½ inch iron, seven of the next out of ⅜ inch, and the last eight out of $\frac{5}{16}$ inch iron. Each course was put up in two separate pieces and riveted together. Each course is 4 feet in height. The stand pipe is riveted at the bottom to an iron casting, 8 feet in diameter. The casting has one 24 inch inlet and two 24 inch outlets. One outlet connects with the street pipe and the other to the overflow pipe.

The overflow pipe, which is erected inside and running up through the center of the main pipe, is 80 feet in height and 2 feet in diameter. This is connected to one of the outlets in the casting and runs out into the reservoir. The casting is bolted to a brick foundation 15 feet square. The bolts are eight in number and 2½ inches in diameter. They run through the foundation and are fastened on the under side to iron washers, 2 feet square. The weight of this casting is 12,000 pounds. The weight of pipe is 32,000 pounds. The pipe, when full of water, will hold 21,000 gallons. The water is forced up into the stand pipe at the bottom through a 24 inch pipe connected to the casting, by a Worthington duplex engine. The four iron supporting rods for the stand pipe are 1½ inch in diameter. The stand pipe was erected by Theodore Smith, of Jersey City, at a cost of $5,500.



NEW HIGH SERVICE STAND PIPE, JERSEY CITY HEIGHTS.

Color Blindness.

A railway engine driver, forty years of age, was dismissed from his situation because he was unable to correctly distinguish colors. Dr. M. Reich, who examined the man, and who afterward published the results of his examinations in a Russian paper, found sight, focus, and sensation of light normal, and discovered no disease by the ophthalmoscope, yet the patient could distinguish no colors when of a dark shade, and only yellow and blue when of a light shade. With the help of a red glass he could distinguish the figures on Tables II., III., VII., and VIII. (Stilling). The patient assured Dr. Reich that he had been able to distinguish colors correctly and with confidence up to the summer of 1889. He said that through over-exertion and insufficiency of sleep he had then suffered from violent headache for two weeks, and that afterward he saw everything as if it were red. The latter symptom had continued for three months, after which time he had lost all sensation of color. In the beginning of May, 1890, he presented himself again, declaring that he had perfectly regained the power to distinguish colors. A thorough examination completely confirmed the assurance given by the patient, who was consequently again fit for service. Dr. Reich believes that "erythropsy" is due to central mischief. The case seems to show that sensation of color is perfectly independent of the physiological function.—*Lancet.*

Colored Photos.

Beautiful effects may be produced with the new positive films, that will find ready sale; and as the process is so simple, and the results so beautiful, any one may produce good results from the first. Dealing with portraits may require a little more careful handling, still the process is not difficult. It will probably be as well to try on a landscape first. Procure a landscape negative and print slightly on albumen paper, making a very weak print when fixed—toning not necessary; washed and dried, by adding a small quantity of glycerine to the last wash water the print will lie flat when dry, and be less troublesome in after manipulations. After the print is dry, color according to taste, making the coloring as brilliant as possible. Now fasten to the colored side a film positive which has been printed from the same negative. The two combined will produce very artistic effects, and will meet with ready sale. To one who knows nothing of how they are produced, the effects are very puzzling, and when well and carefully done the picture is really artistic and beautiful.—*St. Louis Photographer.*

Spontaneous Fires.

The number of fires due to what is commonly called spontaneous combustion is probably much greater than is generally supposed. An innumerable number of substances are liable to undergo the process, and as a good deal of ignorance appears to exist in regard to the conditions which are necessary for its development, it seems worth while to offer a few hints on the subject. Many organic and some inorganic substances, when exposed to the air in a moist state, absorb oxygen, and so develop heat. The rusting of iron, the decay of leaves, and the putrefaction of nitrogenous matters, are examples of this kind of action. In ordinary cases the mass of oxidizing matter is small, and the heat, consequently, being speedily dissipated, has but little intensity, or is even quite insensible to ordinary tests. Heat is, however, always produced, and when, as in a hot bed, the mass is considerable, the intensity becomes notable. When large masses are concerned with sufficient supply of air, but without the possibility of free ventilation, the heat sometimes becomes so intense as to produce actual combustion. In a few well known cases this takes place in contact with water. Thus, cotton closely packed in a moist state, on board ship or in warehouses, has been known to become ignited, and serious fires have arisen from this cause. Hay stacked while moist always becomes greatly heated, and not unfrequently gets thoroughly charred, or even bursts into flame, and the same phenomenon has been observed in barns and granaries. Many fires in country places are, no doubt, due to this cause, and probably some that are ascribed to arson. Coal, which contains much pyrites, absorbs oxygen and becomes heated rapidly when moist, and although proof is commonly impossible, it is generally believed that fires particularly at sea, have often originated in this way. But the greatest danger arises when cotton, hemp, jute, flax, or even sawdust or charcoal, saturated with oil or turpentine, is stored in masses. Under such conditions, the supply of air being limited, spontaneous combustion is sometimes a matter of certainty. We do not wish to exaggerate the danger of spontaneous combustion. Most fires are probably due to gross carelessness, particularly in the matter of lucifer matches, which are often used with amazing recklessness, or to the too close proximity of woodwork to stoves and open fires. But it seems certain that risk of the kind we have indicated is constantly incurred in ignorance, and we hold it to be a public duty to point out to all, but particularly to warehouse men and ship owners, the character and the causes of the danger which besets them.—*Insurance Journal.*

Keeping a Steady Temperature.

Gentle reader, did you ever try to run an incubator in cold weather? If so, did you have thermometers in different parts of the machine, and note the remarkable variations in temperature and lines of currents of air. In a warm room, in cold weather, the slightest crack in the wall, or pin hole that lets in cold air, is sure to create a current that alters the temperature all along the banks of this current. Ordinarily we do not notice these things, but if you have several hundred eggs under your charge, and you know that a variation of four or five degrees of temperature will destroy them, you necessarily become a close student of temperature.

Now the dairyman is not in so close a hole as is the man who runs an incubator, but at the same time he is dependent to a very large extent for success upon the care with which he looks after the temperature he has to deal with. In the cheese vat he will find several different temperatures in different parts of the vat. So it is with the cream vat or churn. Not only do these different parts vary, but no one of them retains a given temperature for any length of time. All sorts of outside influences are constantly at work changing each part of the vat to a hotter or colder condition. For this reason, when you are getting a vat of milk or cream to a certain temperature, and you find you have reached the correct degree, it will not do to take out the thermometer and go about some other work. The chances are a hundred to one that the milk will not stop where you want it to, but it will go on getting higher or lower, and you must reverse the action to bring it back again. Eternal vigilance is the price of a steady temperature.

There is nothing of equal importance with temperature in the dairy, whether it be in the stable, in the milk room, in the factory, or in the utensils, everything should be done at stated degrees of heat or cold, and for this reason the man in charge should be a close and intelligent student of temperature.—*New Dairy.*

Explosive Medicine.

In the June number of the *Therapeutic Gazette* reference is made to an article which appeared in *La Pratique medicale* for May 5, calling attention to an accident that had happened from carrying chlorate of potassium tablets in the pocket. The tablets had been prescribed for a patient who was suffering from ulcerative stomatitis, and he was in the habit of carrying the medicine about with him. One day, as he sat down, a detonation was heard, and before he could remove his clothes he was seriously burned. The tablets, wrapped in a piece of paper, were carried in his pocket together with a penknife, and it is supposed they detonated under the influence of concussion and set fire to his garments.