THE WOOL SORTER'S DISEASE.

The danger which lurks in the dust and dirt of old rags, and especially hair and wool, is, during their manipulation preparatory to being transformed into paper, felt, or cloth, a very serious matter for the workmen employed. The exceedingly unclean condition in which the bales of rags and hair are received in the factories necessitates their being first cleaned and sorted by hand, and this operation is often fraught with the gravest consequences, scattering sometimes the seeds of loathsome and fatal diseases. The sorting room is provided with tables, at each of which is a worker, usually a woman; at her side is an open bale, from which she chooses a handful at a time and deposits on the table; this liberates a great deal of dust. In many cases the dust contains the germs of the horrible disease called "anthrax," "malignant pustule," "charbon," and "Siberian plague." These germs possess singular vitality and virulence, developing in the human subject the loathsome and fatal malady called "wool sorter's disease." It is not, however, confined to wool, as the germs of the fungoid organism, "*Bacillus anthracis*," are found in every description of hair and wool, and most frequently in the Siberian horse manes, which are largely imported in England for the manufacture of hair cloth. Neither is the disease confined to the sorters; the infected dust is mingled with the air and gets outside the works, or it is distributed among manure dealers who buy the refuse dirt. This has recently been conclusively proved by cases in Glasgow, Bradford, and elsewhere.

Manufacturers in England are therefore contemplating the disinfection of all dangerous hair and wools. It is proposed to empty the bales in a fanning arrangement, burn the coverings, or, soaking them in refuse sulphuric acid, changing them into manure by the addition of gypsum as a drier. The fine dust blown out by the fan is to be discharged under the fire bars of a steam boiler, where it will be promptly and effectively destroyed. The heavier dust falling on the bottom, and now sold for manure making, is to fall at once into a lead tank with sulphuric acid and treated like the coverings; this dust from hair and wool is rich in phosphates and ammonia, and is, therefore, a valuable fertilizer, while the acid increases its fertilizing properties and utterly destroys any germs present. Carbolic acid is to be used for disinfecting the hair, as chloride of lime or bleaching powder injures the fiber.

In order to show the urgency of these precautions we recite some of the details of one of the cases lately reported in an English medical journal: William Otley, aged 63, employed by Mitchel Brothers, Bradford, to prepare mohair after it had passed through a washing and scouring process necessary to manufacture it into yarn. He had first a small pimple upon his chin; this increasing and making him feel unwell, he staid home. A physician was sent for, and found swelling of the under jaw setting in. As the pustule increased rapidly, and constitutional symptoms showed themselves, the malignity of the case was soon recognized and all hope of staying the disease was lost. Three days later the patient died. On the morning of that day the doctor took a little blood and serum from the affected part, and, submitting it to a microscopic examination, discovered the organism known as "*Vacellus anthracis*," now universally recognized among pathologists as the cause of splenetic fever in cattle, and that form in which it is identical with wool sorter's disease.

No doubt the pimple on the chin had been innoculated by the virus, the development of which caused the man's death. After his decease the upper part of his body underwent a most rapid decomposition.

A NEW FIRE APPARATUS.

The portable standpipe fire extinguishing apparatus, invented by Abner Greenleaf, of Baltimore, appears to be the most meritorious original addition to the armory of firemen that has been made for many years. It has been on trial in this city during the past year, and on several occasions has proved of the highest practical utility. It is made in three sections, the lower being mounted permanently on trunnions, while the other two are carried on a side rack. On reaching the fire the two upper sections are coupled with the first, making a pipe fifty feet long. The pipe is raised in a minute by means of a hand wheel at the rear of the truck, and quickly connected at the base with the water supply. A shorter substitute for the upper section of the pipe is carried for use when the fire is so low that the nozzle height of thirty-five feet is sufficient. Different sized nozzles can be used with both lengths of pipe. The apparatus is supported by the truck wheels, and weighs 6,500 pounds. The great advantage of the tower lies in its getting a solid stream of water forty or fifty feet nearer the fire by raising the point of delivery. By means of a flexible pipe at the top of the tower, operated from the ground, the stream can be projected in any direction, sweeping an entire block if necessary. This contrivance presents a marked advantage over self-supporting ladders for several reasons. It is not necessary to provide for the weight and safety of men aloft. The man on the truck, in comparative safety, has full freedom of action, and can be cool enough to direct the stream to the points most needing attention. Less power is required at the engine to raise the water to the desired height, the friction of the pipe being less and the course more free from bends. The pipe can be put in working condition in three minutes after its arrival in front of a building on fire; and in several instances in this city it has been the means of saving valuable property in which the fire would otherwise have been beyond control. It is intended eventually to have one portable pipe to each battalion of the fire service, so located that two or three can be brought to bear at any fire.

FALL OF A METEORIC STONE.

It has been doubted by some if ever a meteoric stone has been found which had also been seen to fall. It is well known that the meteorites in our mineralogical cabinets have been picked up in various parts of the world, and it is by their chemical composition that they are judged to be of cosmical origin. At the other side the observation of falling meteors is quite common, but seldom, if ever, has the falling body been found, hence the doubt in regard to them which exists still in many minds. Any record, therefore, of the observed falling of such a stone and its finding, while still hot, on the spot where it fell, is of interest. Such a record was recently furnished by Mr. W. Emerson Mead, of New York, the tenant of whose cottage near Schroon Lake makes the following report, dated September 23:

"Last night, while it was dark outside, the clouds being black and heavy, it became at once light as noonday. I jumped to the window, and saw the barn plain as during the day time, at the same time the house was shaken from cellar to garret. I went out of the house to investigate, and found, twenty feet from the house, a red-hot stone weighing about 125 pounds, and having indented the soil about six inches, and in a direction as if it had come from the northeast. I threw kerosene on it, and this burned up at once, so did sulphur. The next day it was seen by a number of people, and $25 offered for it. It was not sold, however."

By order of the owner a little house is being built over the spot, and the stone left in position for the benefit of scientists to study its position and peculiarities.

Petroleum Abroad.

The *American Mail* predicts a vast increase in the consumption of petroleum during the next five years. It has been forcing its way among the "exclusive races," such as the Chinese, the Persians, the Moors, etc. The natural persistence of those eminently conservative peoples, who worship old things and old usages, was considerably strengthened by their fear of kerosene. Both the British and American consuls in China and Persia now report that the people are surmounting their fears and their prejudices and taking to the use of petroleum. A late report from our consul at Tripoli, of Barbary, states that petroleum is daily becoming more popular in that country, and the fears at first entertained in regard to its explosiveness are gradually disappearing. It is now used by all the city Arabs, and gradually reaching out to the country people. The same is true of India. Wherever our petroleum goes, our exporters should see that our lamps go with it. They should also remember that, in addition to its utility and superiority as an illuminator, its cheapness is its principal recommendation to those Eastern millions. Cheap petroleum and simple, safe, and inexpensive lamps should be our motto.

The New Comet.

On every evening since its announcement, interesting observations have been made at my observatory of the splendid telescopic comet now visible in the western evening sky.

The comet was discovered in this country at the Ann Arbor Observatory on the 13th of September, 1880, in R. A. 14 hours 38 minutes, north declination 29 degrees 20 minutes, and so announced in the papers last Saturday morning. On Saturday afternoon, however, a telegram was received by me from Europe via Washington, announcing its discovery by Hartwig at Strasburg, on the 29th ult., one day previous to its discovery in this country, in R. A. 14 hours 8 minutes, north declination 29 degrees 45 minutes. It is a superb telescopic object, and when seen by me on the evening of its announcement it was situated about 3½ degrees below Alphecca, or Alpha Corona Borealis. The next evening (October 3) it was in the same field of the telescope with that star, and presented a very fine appearance. Last evening—October 4—it was very close to the star Delta Corona Borealis. It is just visible to the naked eye, but it is not growing any brighter as was at first hoped, although it will doubtless be visible for some time. It has a large bright head with a sparkling nucleus, and a faint tail about two degrees in length. The head is nearly as bright, in the telescope, as the great cluster in Hercules. The tail points upwards or away from the sun. It is moving about 3 degrees daily in an easterly direction, or nearly in a line drawn from Alphecca to Altair in the Eagle. It is a beautiful object, and its scientific value will be very great. By following the direction of its motion just given no one will have any trouble in finding the comet with quite a small telescope, and it will be well worth the search.

WILLIAM R. BROOKS.

Red House Observatory, Phelps, N. Y., October 5, 1880.

The Wrong Journal Credited.

An article designating the qualifications incident to "a model workman," which appeared in this paper a few weeks ago, should have been credited to the *American Machinist*, instead of the publication to which the credit was accorded. If publishers would be more punctilious in crediting the source from which their articles are derived, much annoyance would be saved to the editor and publisher entitled to the credit.

DECISIONS RELATING TO PATENTS.

United States Circuit Court.—Northern District of New York.

ROGERS *vs.* BEECHER *et al.*—BIRCH BEER PATENT.

Wallace, J.:

1. A patentee is entitled to the presumption of priority which his patent affords, and this presumption is only overcome by clear and satisfactory proof to the contrary.

2. The plaintiff is obliged, in order to recover damages, to prove affirmatively that the defendants have employed the invention patented, and having in this case failed to do so satisfactorily, the bill was dismissed.

United States Circuit Court—Eastern District of Pennsylvania.

HOFFMAN *vs.* YOUNG.—PATENT SURVEYOR'S TRIPOD.

Butler, J.:

1. A mere aggregation of old parts without any new result issuing from the united action is not patentable.

2. Old parts to be patentable must combine in operation and by their joint effect produce a new result. They need not act simultaneously, but if so arranged that the successive action of each contributes to produce the result, which, when obtained, is the product of all the parts, viewed as a whole, a valid claim for this combination may be sustained.

3. No rule of universal application has been laid down defining a patentable combination, but two things are always necessary; first, a novel assemblage of parts exhibiting invention; second, the co-operation of parts in producing a new result.

4. By the term "co-operation" the courts do not mean merely acting together or simultaneously, but united to a common end—a unitary result.

By the Commissioner of Patents.

HUNTLEY *et al. vs.* SMITH.—PATENT MIDDLINGS PURIFIER.—INTERFERENCE.

Marble, Commissioner:

1. When the party last in Office does not in his preliminary statement allege a conception of the invention in controversy earlier than the record date of the party first to file his application, it does not overcome the *prima facie* case made by the date of application, and judgment on the record should be rendered against him.

2. The mere fact that an earlier application was made by the party disclosing the invention in dispute cannot avail to give a *prima facie* date of invention in this proceeding, unless there is some reference in the later application which serves to connect it with the former.

3. While the filing of an application does not prove reduction to practice, it establishes the fact of invention.

4. Applications diligently prosecuted evince a faith on the part of the inventor in the practicability of the invention equal to that which would follow from a reduction of the same to practical form, and the latter is not a condition called for in the statute.

5. In cases of long delay to prosecute the invention beyond mere description, either by applying for a patent or by a reduction to practical form adapted to use, the question of abandoned experiment or conception will arise and should be considered a factor in the case.

The Electric Telegraph as an Aid to Fishermen.

From time immemorial the fishermen of the Mediterranean shores, of Cornwall, and of the Scandinavian coasts, have been directed in their work by lookouts stationed upon cliffs to discover the approach of the finny schools. Of late the enterprising fishermen of Norway have called to their aid the electric telegraph, laying down more than twelve hundred miles of wire, to bring the fishers into instant communication with the watchers, and to notify the fish merchants where to go for supplies. The Norwegian coast gives employment to 40,000 fishermen during a large part of the year.

Elevated Railway Traffic.

The number of passengers carried on all the lines of elevated railway in New York, the year ending September 18, 1880, was 60,386,073, divided as follows:

Third avenue	31,168,686
Ninth avenue	5,237,541
Total New York Elevated	36,406,227
Sixth avenue	21,143,658
Second avenue	2,836,188
Total Metropolitan Elevated	23,979,846

Steamboats in Venice.

A company has been organized to introduce steamboats in the place of the gondolas which have so long held dominion in the street canals of Venice. This, a London journal remarks, may fairly be considered the climax of modern utilitarianism, a fitting supplement to the railway up Vesuvius, and the steam launches of the Nile. Travelers will of course lament the change and denounce the vandalism of the age; but they will take the steamboats and leave the few leaky gondolas that may ply to the undisturbed patronage æsthetes.

THE NIAGARA RIVER BRIDGE.—The credit for the admirable engineering skill displayed in the reconstruction of the railway bridge across the Niagara River, is due to Mr. L. L. Buck.