

A Successful Case of Transfusion of Blood.

The following case, which exhibits in a marked degree the beneficial effects of transfusion of blood when performed in cases of impending death from excessive hemorrhage, is reported in the *New York Medical Journal*, for August, 1880, by Joseph W. Home, M.D.:

Mrs. B., aged twenty-two years, was delivered of a three months' fetus, November, 7, 1879. From that date until November 11 she had repeated and profuse hemorrhages from the uterus. On the 16th the bleeding was continuous. Drs. Reynolds and Comstock, who were first called in, succeeded in controlling the hemorrhage, but not before the patient had reached the stage of collapse. They remained with her all night, endeavoring, with the ordinary means of stimulation, to rouse her, but without avail. She continued to sink in spite of everything.

On the morning of the 11th I was sent for. The patient was then completely pulseless and partially unconscious. The extremities were cold and clammy, and it was evident that unless some fresh blood were introduced death would soon supervene. She was so far gone that I made up my mind not to spend any time in defibrinating the blood. I opened the median basilic vein in the right arm of the patient and introduced the closed cannula of Colin's instrument, and after passing some warm water through the cylinder of the instrument, attached it to the cannula in the patient's arm. The median cephalic vein in the right arm of the donor was then opened, and the blood was allowed to flow directly into the cylinder without defibrination. When a sufficient quantity had been obtained, and while the blood was still flowing, I injected, without any difficulty, between seven and eight ounces. The whole operation did not occupy more than five minutes in its performance.

Within half an hour the pulse returned at the wrist, the voice became clear and distinct, and she asked for something to eat saying that she felt stronger and better in every way. One of the medical gentlemen who had been with her all night assisting in the attempts at resuscitation, and who left in the morning, believing that there was no hope of her recovery, came in an hour after the operation, and said it was "a perfect transformation scene"—that he had no idea that a few ounces of blood could restore lost vitality so rapidly.

From that time on the patient continued to improve, and when I last heard from her she was in the enjoyment of good health and attending to her household duties without any discomfort whatever.

Hose Pipe Nozzles.

Who is going to invent the nozzle of the future? There is no nozzle that we have ever seen that seems to us to control the stream it delivers as it should do. Instead of projecting a solid stream for a long distance, the water breaks soon after leaving the nozzle, and soon sprays and breaks up altogether. We often hear of steamers throwing 250 and 300 feet, but we recently heard a veteran chief say that he had yet to see the apparatus of any kind that would throw a solid stream 100 feet. The difficulty may be all with the water, which is naturally inclined to separate, but we are of the opinion that part of the trouble lies in the construction of the nozzle. An experiment made at Boston by putting a core into a play pipe, and thus dividing the stream into four parts, depriving it of its rotatory motion, showed a gain of thirty feet in distance playing. But even this does not seem sufficient. Our steamers give us power enough for throwing, and the hose in use gives every facility for carrying a large volume of water; there should be some means devised for delivering that volume in a solid stream at long distances. Great difficulty has been found in making nozzles operate uniformly at all times. A manufacturer of steamers once found a nozzle that gave him great satisfaction; with it his steamers could throw greater distances than with any he had ever tried before. He ordered half a dozen more just like it. The half a dozen were made precisely like the first, but never equalled it in delivering water. There is much to be learned yet regarding this question of delivering water on fires, and the exact relations existing between pressure, hose, play pipes, nozzles, and the friction of water more clearly understood.—*Fireman's Journal*.

SCIENTIFIC GOSSIP.

THE Hungarian State railways are in all 1,119½ miles in length, and they yield an income of about 1½ per cent. per annum on the capital invested in them.

To the alteration and metamorphism of rocks by the infiltration of rain and other meteoric waters, M. de Konik, of the Belgian Academy of Sciences, assigns the cause of many hitherto unexplained phenomena in geology.

FROM the inquiries conducted by Prof Hermann Cohn, of Breslau, since 1860, it appears that short-sightedness is rarely or never born with those subject to it, and is almost always the result of strains sustained by the eye during study in early youth. Myopia, as it is called, is seldom found among pupils of village schools, and its frequency increases in proportion to the demand made upon the eye in higher schools and in colleges. A better construction of school desks, an improved typography of text-books, and a sufficient lighting of class rooms, are the remedies proposed to abate this malady.

THE *Electrician* tells this story: A number of gentlemen were the other day about to dine, and one of the covered dishes was especially cared for, containing, as it was seriously averred, a *gymnotus*, fresh from the rivers of South America, which was to form part of the repast. Usually, electricians scrupulously observe decorum, but the Chairman, instead of pronouncing the benediction, turned to the dish containing the eel and solemnly requested grace, when, with a sweet cadence, as if from a mermaid in cavernous regions, was heard all over the place: "Be present at our table, Lord," &c. The cover was then raised and the anticipated electric eel turned out to be a telephone, which had been ingeniously connected to a distant room, and which, being a religiously good telephone, not only produced a pleasing sensation to all present, but afterward returned thanks in a powerful but well-known voice to the admiring listeners.

THERE is no question now among the most conservative of engineers that this time the electric light has come to stay. Perhaps as yet the most extensive use of this light in any one establishment is that in the Royal Albert Dock, London, an extension of the Victoria Docks, which covers 80 acres of water space, and has nearly eight miles of quays. The lamps used are the Siemens pendulum kind, with the body of the lamp above the arc, and the carbons so regulated that the position of the arc is fixed. Each lamp is placed on the top of a pole 80 feet high, and its effective illumination overlaps that of its neighbours. To generate the electricity, the Siemens "D 2" dynamo-machines are employed, one to each lamp. The *Engineering* says that the most interesting feature of the sets of generators is that the whole of the available current generated in each machine is conveyed to its corresponding lamp, none being utilized and absorbed in its passage for exciting the field magnets. In order to do this a separate dynamo-machine, specially constructed, is employed, the current developed by which is transmitted through the magnet coils of all the illuminating machines in series. By this arrangement, the essential principles of which was first conceived and announced by Mr. Henry Wilde, of Manchester, motive power is economized and greater constancy of current is insured. It is reported that the illumination of the dock, with its quays and surroundings, is very perfect, and that the effect is most beautiful. Between the machines and the lamps the distances vary from 120 to 1,100 yards.

How did we come to possess our present form of dress? This is one of the many questions answered by a reviewer in the *Nature*, who had under his notice the catalogue of the Gen. Pitt Rivers anthropological collection lately noticed in this column. Clothing at first was almost entirely ornamental. The exceptions were such articles as belts from which instruments of various kinds could be suspended so as to be ready for use while the hands were left free. A savage does not enjoy the luxury of a pocket. Even at the present day a Japanese has to sling his tobacco pipe and pouch from his belt, and the only pockets he has are in his shoes. The simple cinchura was the germ so to speak, of the clothing we wear. After some time a bunch of pandanus slips was added in front, and this was gradually extended until it made a complete fringe around the body. When the arts became so far advanced that man could make paper cloth or some woven material these latter were substituted for the primitive fringe, and the kilt was thus

developed. Curiously enough, the dress of the Scottish Highlanders embodies these two stages of progress in the kilt and the sporran. As man advanced there were inconveniences attending the use of the kilt, which were abated by fastening that garment at one point between the legs, and the human mind was then fairly set upon the path to arrive at the attainment of a pair of trousers. When the back and shoulders needed protection the savage used the skin of some animal, and it is from this sort of covering for the upper part of the body that we have derived our coats, vests, shirts, &c. But the ancient cloak form is even yet retained, not only by such people as Zulu chiefs, but in all robes of ceremony by dignitaries of court and college of the most highly civilized nations on the face of the earth. The elaborate and varied head coverings of the present day all sprang from a very simple original type.

Scotland's First Printed Books.

(From the Pall Mall Gazette.)

IF one or two of the Scots who travelled abroad in search of fame and fortune could have made up their minds to return to their native land, the art of printing might have been introduced into Scotland at a much earlier date than 1507. As it was, it took 30 years for the new practice to travel from Westminster to Edinburgh. The first printing-press in Scotland (as was stated at yesterday's meeting of the Library Association) was established in that year somewhere off Cawgate by a printer called Walter Chapman, who was employed in some capacity about the court, and was presumably permitted to set it up in payment for some services he had rendered to his patron. The first books printed were a volume of "Metrical Ballads" and "The Aberdeen Breviary," in two parts. Of the former work there is but one copy in existence; the latter was printed under the superintendence of a Bishop of Aberdeen, and four copies are still preserved, though only one possesses a title-page. No other works were printed until 1531, but from that year to the end of the century a vast quantity of printed matter was struck off for the benefit of the nation. Most of these volumes were no sooner in existence than they seemed to have perished. We know from the wills of the printers that in many cases they left behind several hundreds of copies of particular works, although the most learned bibliographer can only now tell the *habitat* of one or two of them. What became of the rest is a question which has puzzled many minds. Possibly they were 'thundered' by their owners out of their lives.

Dulcigno.

THE *Paris Temps* gives the following account of Dulcigno: "The town is composed of two parts, separated from each other by the port—the old town, containing the citadel, and the new town, in which the population is almost entirely concentrated, and which comprises about 400 houses. It is evident that if the squadron had opened fire it would have directed it solely against the citadel, where there are not eighty houses. The inhabitants would not have had to suffer from the bombardment. The certainty of not being in danger, even in case of military action, has, perhaps, had something to do with the obstinate resistance the inhabitants of Dulcigno have made to the cession of their town to the Montenegrins. The chief reason, however, is that they are nearly all Muslims; they number from 2,500 to 2,000, and it is said that till 1853 no Christian was allowed to choose his residence at Dulcigno. Lastly, it is said that the Muslims are a race of pirates, who have only given up piracy since 1815—that is, since Austria has had possession of Dalmatias and has created a navy."

A LONDON tailor has invented "the united suit," which consists of a man's complete attire in one garment.

THE Russian traveller Remiaowitch-Dantschenko, has discovered on the highland of Daghestan a tribe resembling Cossacks, but following the Moslem law strictly, and retaining ancient Jewish names—undoubtedly one of the lost tribes.

THE number of yearling thoroughbreds from the great breeding establishments of England sold during the past year aggregated 451, the progeny of 112 sires. They realized 89,996 guineas—a decrease in the amount paid to breeders of 41,773 guineas as compared with 1877, when 486 yearlings brought 131,666 guineas.

A Revengeful Owl.

A remarkable instance of intelligence shown by an owl in conceiving and carrying out a project of vengeance on a farm labourer who had destroyed a whole family of young ones before they had gained the requisite strength to take wing is related by a French provincial journal. An owl had built its nest in an old oak-tree which grew near a farm in the commune of Beauvry. Its mate had laid during the month of July several eggs, which in due time developed into a promising progeny of young birds. A farm labourer, moved by a sentiment of aversion for owls, which is common in country parts, determined a few days ago to cut short the lives of the young ones, and choosing a favourable opportunity, put his project into execution. The infant owls were taken away from the maternal nest and massacred, but by what followed it will be seen the parent birds did not allow their tragical fate to remain unavenged. On several evenings succeeding that during which the nest had been plundered, the villagers returning from the fields remarked the male owl flying in an agitated manner round the farm, but no attention was paid to the circumstance, which was put down to a lingering attachment on the part of the bird to the spot where the nest had been. The event proved, however, that it haunted the neighborhood of the oak-tree from an instinct of revenge, and was lying in wait for the destroyer of its family. During a whole week it hovered near the farm, biding its time, and at length the right moment arrived. The young man who had so ruthlessly exterminated the brood of owls was crossing the threshold of the farm at dusk when the bereaved bird swooped down on him from the tree where it was keeping watch, and with surprising swiftness tore out his eye with its claws. The intolerable pain caused by this sudden attack made the victim of it swoon away. When he recovered consciousness, and had his wound dressed, he related the circumstances under which he had received it, and a search was instituted to discover whether the owl was still lurking in the vicinity. No traces of it were, however, to be found; but the young man will have reason to remember the lodger in the old oak-tree, since for rest of his life he will have to make one eye do duty for two.

Bessemer Steel.

THE London correspondent of the *Manchester Examiner* says: "The city of London has to-day done itself honour in conferring its freedom upon Sir Henry Bessemer, whose name certainly deserves to rank among those of most illustrious men who have signed the roll. Sir Henry is best known by his great invention for making steel, but how busy he has been in other directions may be understood from the fact that there are no less than 114 patents which have been taken out in his name. How valuable his steel process is we already know, but nothing could explain the extent of the revolution which his invention created better than the figures which he quoted this afternoon. When the invention was introduced into Sheffield the entire make of the steel was 51,000 tons per annum, whereas last year it was no less than 830,000 tons or more than 16 times the former produce of the country. The difference in price is still more wonderful. This year he estimates that 2,000,000 of tons of steel will be made in Europe and 1,000,000 tons in England, at a cost of £39,000,000, whereas, under the old process it would cost £150,000,000. The man whose genius has effected such enormous good to the community is entitled to take a high place on the roll of national benefactors, and the city may well be proud to have him among her freemen."

THERE are two different ways of conducting stock business out West. The one is to buy young steers, keep them two years on your range, and sell them as four-year olds. Per head the increase in value varies between \$10 and \$15, thus enabling the ranchman to double his capital in a short time if his losses do not exceed five per cent. and he has luck. The other method is to raise stock, buying Texan, Oregon, or Utah cows and the necessary number of Eastern or English bulls. This, if you make up your mind not to sell a single animal in the first three years, is in the end more profitable than the feeding up of stock. At first few men went into it, the capital needed being large, but as in the last few years the larger profits of the business became known it is the favourite with men tempted by the chance of making a fortune in five or six years.