calcining furnaces, capable of reducing from twenty to twenty-five tuns of ore per day. The tailings, which are concentrated along the streams, and are also sold to this establishment, of which there are now on hand possibly 1,500 to 2,000 tuns, average from $35 to $40 per tun. These works are, doubtless, the most profitable of the kind known in the world. The field of Colorado has been open to them without competition since their start, and right shrewdly has the monopoly been maintained. As an evidence of success in treating the gold ores of Colorado it is pre-eminent, and in this respect a great step in the progress of mining industry.

New Method for Platinum Black.

I prefer taking platin-chloride of potassium, and were it not that rubidium and cæsium are too expensive, these would be even better, for their atomic weights are higher than that of the potassium, and consequently the particles of platinum are more widely separated. After the platin-chloride is completely reduced, the mass is treated with water to wash out the chlorides of the alkalies thoroughly, and the residue dried at a temperature not exceeding 220° Fahr., when it is ready for use. The operation can be readily conducted in a capsule of porcelain or platinum. The platin-chloride is introduced and covered with a circular piece of mica, a little smaller than the wide diameter of the capsule, with a hole in the center, through which the tube conducting the gas is introduced, The capsule is then heated by any convenient arrangement by which a temperature not exceeding 400° or 500° Fahr. can be maintained with a little management; a small Bunsen burner with a rosette can be used. If the temperature be too high, the platinum black will not be as good as that made at a lower temperature. Washing the platinum black, after the chloride is taken out, with a solution of caustic potash or soda and subsequently washing with distilled water may improve the product.—*American Chemist.*

Butter in Sacks.

The dairymen of Washington Territory, for want of tubs and jars, have adopted a method of putting up and keeping butter which presents some features that are worthy the attention of those having butter packed for family use or for retail trade. The packing is thus described by the *Illustrated Journal of Agriculture* :

"All butter is packed in muslin sacks, made in such form that the package, when complete, is a cylinder three or four inches in diameter and from half a foot to a foot in length. The butter goes from the churn, as soon as worked over, into the cylindrical bags, made of fine bleached muslin. The packages are then put into large casks, containing strong brine with a slight admixture of saltpeter, and, by means of weights, kept always below the surface. The cloth integument always protects the butter from any impurities that chance to come in contact with the package; and being always buried in brine it is protected it from the action of the air; and it has been ascertained by trial, that butter put up in this way will keep sweet longer than in any other way.

"Besides, it is found easier and cheaper for the manufacturer than to pack either in jars or firkins. And for the retailer there is no telling the advantage on the score of safety and convenience. These rolls of butter can lie upon his counter as safe from injury, from dust or other contact, as bars of lead; can be rolled up for his customer in a sheet of paper with as much propriety as a bundle of matches. If the consumer, when he gets home, discovers specks of dust upon the outside of the sack, he can throw it into a pail of pure cold water and take it out clean and white. As he uses the butter from day to day, with a sharp knife he cuts it off from the end of the roll in slices of thickness suited to his want, and peels off the cloth from the end of the slice, leaving it in tidy form to place upon the table.

HISTORY OF GAS LIGHT IN BRIEF.—In 1792, in England, Wm. Murdoch lighted his own dwelling with gas; in 1803, a machine shop, and in 1805, a cotton factory were similarly lighted. He began to lecture upon the subject, but not until 1810 could a company get a charter for its manufacture. In 1813, Westminster bridge was lighted, and in 1815, Guildhall. Still there was great opposition even from scientific men, and there were also great difficulties from want of machinery to make and use the gas. Gun barrels screwed together were used to convey it from place to place. Finally, however, every obstacle was surmounted, and now there is not a city of any size in the civilized world which is not lighted by gas.

COOKING FOOD BELOW 212° F.—From a series of experiments, it appears that food (meat as well as vegetables) boiled at 200° is more nutritious and of better flavor than when boiled at or above 212°. The author illustrates this point by what takes place in mountain localities (every 100 meters rise above the sea level makes a difference of 0·6° less in the boiling point of water); as, for instance, at Potosi (Bolivia), at 4,061 meters above sea level, with an average barometer reading of 454 m.m. the water boils at 187°; at Mexico, 2,277 meters above sea level, 568 m.m. barometer, water boils at 198°; at Briançon (France), 1,321 meters above sea level, 643 m.m. barometer, at 184°; and he further cites the action of the so-called Norwegian cooking apparatus.—*Dr. Jeanel.*

THE great pyramid, which is seven hundred feet square and five hundred high, and weighs 12,760,000,000 tuns, required, according to Herodotus, the labor of 100,000 men for twenty years to build it; but Dr. Lardner affirmed that 480 tuns of coal with an engine and hoisting machine would have raised every stone to its position.

Correspondence.

The Editors are not responsible for the opinions expressed by their Correspondents.

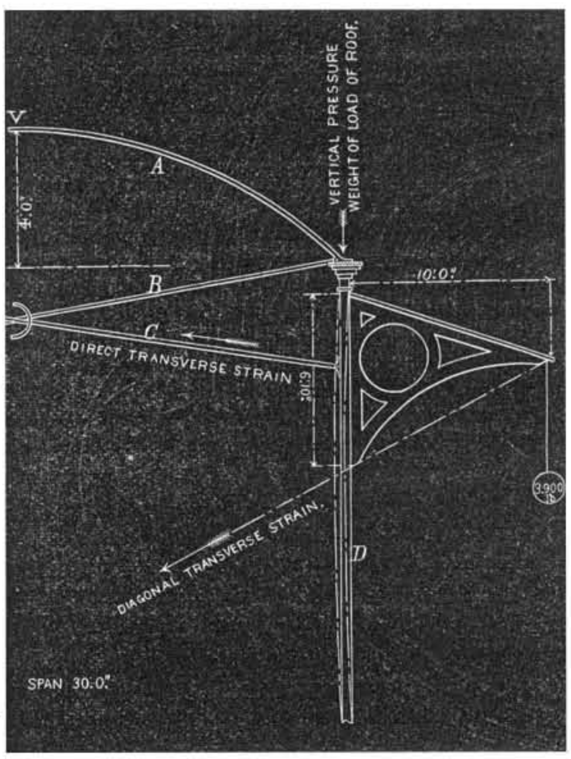
Fall of the Roof of the Depot, Saratoga Springs.

To the Editor of the Scientific American:

My attention has been directed to your issue of February 17th, in which you gave an account of the destruction, in December last, of the new passenger depot at Saratoga Springs.

The roof was arched, of thirty feet span, and made of corrugated iron, with wrought iron tie rods five eighths inch in diameter, and was supported by round columns four inches diameter, fifteen feet distant from centers. On the inside of each column, about five feet distant down from its top, was attached one end of a wrought iron tie rod, supporting the roof; and, on the opposite side, was a bracket, extending out ten feet, whose bottom exerted a diagonal transverse strain in the same direction as the tie rod. These brackets supported a roof, forming a shed over the gangway beyond the arched roof, making, with the thirty feet span of roof, an entire width of fifty feet. I was induced, after reading the article, to go into a calculation of the strains on the weakest part of this mantrap, namely, the columns and tie rods.

From the dimensions given, I take the diagram to be drawn on a scale of one sixteenth of an inch to the foot, and have made my calculations accordingly, The weight of snow and ice upon the roof, in accordance with the leading authorities, is considered at 40 lbs. per superficial foot as a maximum load in our climate. On the day of the falling of this structure, your article says, there had been a light fall of snow, and the ground was frozen. I question if the weight on the roof, at the time, exceeded 20 lbs. per foot, as snow is ordinarily light. What causes it to become heavy is a subsequent fall of rain, then freezing, and snow again. Forty pounds per foot is considered a maximum load under the most unfavorable circumstances.



The column was four inches in diameter, and, say, one inch in thickness, and about eighteen feet long, considering the diagram to be made on the scale of one sixteenth inch to the foot. Its proportion of vertical pressure would be the weight coming upon half the roof of thirty feet by fifteen feet distance from center to center of columns. Taking the weight of roof alone, exclusive of any contingent weight, at 12 lbs. per foot, we have 52 lbs. per foot for the weight of roof and load upon it.

15×15 feet=225 feet×52 lbs.=11,700 lbs. Weight of girder between columns, 15 feet, say, at 40 lbs. per square foot, =600 lbs. Total, 12,300 lbs., being a vertical load of 6·15 net tuns on columns.

The strain upon the tie rods, which was exerted transversely on the columns, about five feet down from the top, and tending to both break them across and pull them inward, was as follows: Let S=span in feet=30 feet; V=versed sine, say 4 feet; U=uniform load per foot span=780 lbs.; H=horizontal thrust or strain on tie. Then

$H=\frac{US^2}{8V}=21,937$ lbs., about 11 net tuns, which was an entirely uncalled for transverse strain on the column, and what caused the accident.

The weight on each bracket was: 10 feet out by 15 feet long=150 feet×52 lbs.=7,800 lbs.; one half weight on end of bracket=3,900 lbs, exerted at $\frac{10}{7}$=5,570 lbs., or 2½ net tuns diagonal transverse strain on the column, acting in the same direction as that produced by the tie of the arch just above it.

The following is a summary of the strains on the column: Vertical pressure, weight of roof, 6·15 net tuns; unnecessary transverse strain of tie to break the column across, 11 net tuns; diagonal transverse strain at the bottom of the bracket, in the same direction as that exerted by the tie, 2½ net tuns.

Taking these spindle columns, whose dimensions are about suitable for a summer house or verandah, at a safe weight of one fifth the breaking weight, when subject to a vertical load and then only when the ends are at planes with their axes, we have the safe weight at $8\frac{3}{16}$ tuns. Nothing less than one fifth the breaking weight will do, as at one fourth the breaking weight it was found, by experiment, that incipient crushing took place. This safe weight allows nothing for a lateral blow caused by merchandise falling, in transmission, against the column. For a column where transverse strain is to be exerted, calculation should be made in accordance with the formula for strength of beams, as well as that for the columns.

In regard to the tie rods, they were not nearly up to the standard required for safety; a five eighths inch round rod is equal to about three tenths square inch of cross section. The working strain should not exceed the limit of its elasticity, which is about eight tuns per square inch. The Board of Trade of Great Britain permits, as a maximum working strain, but five gross tuns per square inch of cross section. In this case, the tie rods should have been at least one and a half inches in diameter to resist the thrust of the arch; and the columns seven inches in diameter, and one inch thick, providing the tie rod was not attached to it.

I would ask why it is that more stringent laws should not be enacted, whereby some restraint can be placed upon the construction of such insecure structures, equally so with the laws governing the construction and use of steam boilers? Here is a structure, every part of which, with the exception of the corrugated roofing, is largely deficient, imperiling the lives of hundreds of people under the trap daily.

PETER H. JACKSON,
Inspector of Iron Construction, Department of Buildings.
New York city, March 1, 1872.

Fall of the Roof of the Depot, Saratoga Springs.

To the Editor of the Scientific American:

In reading your number of February 17, in regard to the fall of the Saratoga depot, built of iron with corrugated roof, I was reminded of a paragraph in Achille Cazin's work on "Heat."

From the diagram in your paper, and the description of the case, it occurs to me that the columns, being vertical, were drawn inward by the contraction of the iron roof, aided by the iron cross bars. It seems that the weather was very cold, and there was snow on the roof. Now suppose that when the roof and iron bars were fitted to the vertical columns, the weather was warm, and the iron expanded to its greatest extent; the contraction by change of temperature to intense cold would be, in a distance of one hundred yards, 2½ inches. If the roof and rods of the depot were thus contracted, the vertical columns, having nothing to counteract this inward pressure and having the weight of an iron roof with snow upon them, canted, say two inches from the perpendicular. It occurs to me that these facts may account for the catastrophe at Saratoga.

"The laws of the dilatation of metals," says M. Achille Cazin, "deserve the more careful study seeing that iron especially is now so generally used for building purposes. A serious question might be raised, whether its universal employment is not in some degree censurable, and whether, in fact, our houses and public buildings are not exposed to accidents owing to simple change of temperature—so of iron bridges, so of metal roofs, gutters, etc. A chain of one hundred yards will vary 2½ inches in the course of the year," etc. (Page 145.)

Again, on page 143, Cazin says:

"A very curious application of the force of contraction of solids has been made by the architect Molard, on the building of the *Conservatoire des Arts et Métiers*, in Paris. The walls of a vaulted gallery had been pushed outwards by the weight of the superincumbent masonry, and it was feared the whole would fall. Molard arranged iron bars in a parallel direction, passing through the walls and carrying at both ends a screw thread fitted with screws. He heated the bars throughout their whole length, and having immediately screwed them up tight, allowed them to cool. The contraction of the iron, which proceeded slowly as it cooled, drew the walls nearer together without endangering them; and this was repeated at several trials, until the walls were re-established in a vertical position."

Suppose they had been so at first, would they not have caved in? R. B. M.

Utica, N. Y.

Tubal Cain.

To the Editor of the Scientific American:

In your issue No. 5, current volume, is a very interesting article, "The Antiquity of the Iron Manufacture." I venture to call your attention to an error therein in history.

Tubal Cain is spoken of as the half brother of Noah. In the fourth chapter of Genesis, it is shown that Tubal Cain was the seventh from Adam, through Cain; while Noah was the tenth from Adam, through Seth.

Pickereltown, Ohio. J. H. GREEN.

[Lamech is mentioned, in the chapter quoted by our correspondent, as the father of Tubal Cain, and he is also stated, in the fifth chapter of the same book, to be the father of Noah. There is no reason for our believing that there were two Lamechs. Probably the confusion arises from an inaccuracy in the translation.—EDS.

The Flexible Marble.

To the Editor of the Scientific American:

In your paper of the 17th, I noticed an article on the flexible stone in possession of Mr. Holliday of this city, and having examined the wonder, allow me to say that it is not itacolumite, which is a sandstone and belongs to the talcose series, but a very pure carbonate of lime, the crystals of which exhibit the usual variety of forms that, according to

Dana, American marble should. The analysis gave but traces of impurities.

Under the microscope the exterior of the crystals was opaque, while the center was translucent and hard. I judged that there was partial calcination, either of the outside of each crystal or of the group of crystals, and perhaps that might account for the flexibility. Or, perhaps a part of the lime, rendered soluble by the calcining, was dissolved out while lying a year exposed to water almost constantly.

One thing is certain, that while the slab retains almost precisely the appearance of a piece of marble that has not endured such exposure, it is easily penetrated by a penknife blade to the depth of nearly half an inch. Considering the inutility of the thing, and the somewhat exaggerated accounts of its flexibility, I think ink enough has been shed over it.

E. E. WORTHEN.

Wheeling, W. Va.

[Professor James Orton, of Vassar College, states that a specimen of flexible marble was once in the cabinet of Williams College, about 6 feet by 8 inches wide. It is quite flexible for marble. It was soon broken by rough handling. He does not think a knife would penetrate it, as in this case. He conjectures that the Wheeling specimen owes its flexibility to a disintegrating process which has proceeded just far enough to allow some freedom of motion among the crystalline particles.—EDS.

[Reported for the Scientific American.]

SOCIETY OF ARTS OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

MEETING HELD AT THE INSTITUTE IN BOSTON, FEB. 8, 1872.

The President, J. D. Runkle, in the chair.

Mr. Edmund H. Hewins read a communication, well illustrated by photographs projected upon a screen by the calcium light, on European and American bridges, and compared the cost and methods of building bridges in the two countries.

It is now generally acknowledged that the "truss" is the form which admits of the greatest economy in the use of material; and yet there are some engineers who cling tenaciously to the old plate or box girder. A few years since an engineer of wide reputation and large experience condemned a truss bridge, giving as a reason that the peculiar construction would cause the iron to crystallize from the trotting of horses over it. The bridge was consequently built as a plate girder, and the cost was more than fifty per cent greater than it would have been for a truss bridge.

The days of tubulars, girders, etc., have substantially passed away; there will be no more Britannia or Victoria bridges; they stand as vast monuments of indomitable will and energy. All honor is due to Stephenson for building the bridge over the Menai Straits; considering the then limited knowledge of the use of iron in bridge building, it is a monument worthy to make his name famous for ages to come.

Brunel has done even more; the Saltash is a conception more gigantic, and as much a flight of genius—a work which will remain when the other is destroyed by time.

Truss and lattice bridges now predominate, the latter being but a form of the first.

THE BRIDGES OF EUROPE

are secured together by almost innumerable rivets; the various parts being usually composed of plate and angle iron riveted into box and other forms best calculated to resist the storms to which they may be subjected. The building of parts in this manner requires much care and is very expensive. The rivet holes deduct a considerable amount from the strength without reducing the weight.

A strut or tie composed of several pieces riveted together has not an effective strength proportioned to its section, for it is impossible to bring the different pieces to an equal strain at the same time. The engineer has here to make an allowance which is a very variable quantity. The ties and struts are rigidly connected with the chords.

Whenever a load comes upon a bridge, there must be some deflection; this causes a distortion of the form of each panel, and as the ties and struts are rigidly connected to the upper and lower members, a powerful leverage to bend them is the result, and there is at the same time an increased strain upon the rivets.

In the crossing of a railway train or other partial load, the counters, necessarily, not being in readiness to receive their proper strains at the proper moment, allow an undulation which materially increases the bending strains upon the ties and struts. This occurs every time a train or locomotive crosses the bridge.

The trusses used in American and European bridges are very similar; the essential difference being in details of construction, which in the European bridge are very expensive, as so much hand labor and fitting is required. A large amount of material is used which is mere dead weight, being of no use in sustaining the load or itself. The action of such a bridge is necessarily unsatisfactory from the fact that certain portions receive strains in practice which are not legitimate, and consequently must tend to shorten its life.

The following data were collected in Europe by Mr. David Bu k. The viaduct of Fribourg, on the Orleans Railroad in France, is composed of eight spans of 160 feet each, and has a hight of 250 feet above mean low water of the Sarine. The piers have a masonry foundation 89 feet high, with a metallic superstructure of 142 feet. The total length of the viaduct is 1299·88 feet, and cost, above the masonry, $366,000 in gold, or $282 per lineal foot. The figures for three other viaducts on the Orleans railroad are as follows:

THE VIADUCT OF THE BOUBLE.

6 spans of 164 feet each, total length	984 ft.
Hight above masonry, average	138·76 ft.
Cost per lineal foot	$167.00

THE VIADUCT OF BELLOU.

3 spans, average length 140 feet, total	420 ft.
Hight above masonry	137·76 ft.
Cost per lineal foot	$123.00

THE VIADUCT OF NEUVILLE.

2 spans of 161·13 feet each, total length	322·26 ft.
Hight above masonry	136·18 ft.
Cost per lineal foot	$112.00
1 span	77·08 ft.
Cost per lineal foot	$108.00

THE AMERICAN TRUSS BRIDGE,

instead of being bound together in one solid mass, is composed of various members, each independent of its neighbor, so far as its own work is concerned, each having a specific and defined duty to perform, and proportioned accordingly. By no change of temperature, or variety of load in amount or position, can any but legitimate strains be imposed upon any part. The joints are made with pin connections so that a deflection can bring no twisting or bending strain upon any of the parts—and though the form of each panel be very much distorted by an approximation to the breaking load, no excess over the proper strain can be brought to bear on the bridge. Each part is known to receive its proper strain at the proper time, as they are made adjustable in all directions, and by this means the vibration and undulation are reduced to a minimum. American bridges have astonished the world that such light structures should have so little deflection and undulation.

American bridges are cheap to build. Most of the work is done by machinery instead of hand labor, and but little skilled labor is required.

Work done by machinery does not cost one half as much per pound as work done by hand. Considerable expense is also saved in handling and erection.

It is sometimes necessary to erect bridges over streams which are liable to rise suddenly and sweep away the temporary works. In such a case, the loss would be incalculable in time and money, if the bridge should be carried away.

Our bridges—built as they are in parts which are seldom too heavy for two or three men to handle—can be erected in a very short time.

A 200 feet span could be swung clear of the staging in three or four days, while the plate girder, lattice, or European truss would require as many weeks. The average cost of railroad bridges in America is about one half as much in currency as European bridges cost in gold.

ANCIENT BRIDGES.

Professor Watson made a few remarks concerning ancient bridges.

The Sublicius Bridge across the Tiber at Rome was the first of which we have drawings and descriptions. It was built B. C. 616, and was of wood. It was replaced by a stone bridge and this subsequently by a marble bridge.

The Senator's bridge, now called Ponte Rotto, was built by Scipio in the year 127 B. C., and reconstructed by Gregory XIII in 1575.

The bridge of Trajan across the Danube, built in 104 A. D., had piers of stone with a wooden superstructure.

The bridge over the Elbe at Dresden has eighteen arches of sixty-three feet span. It was built in the year 1200 and restored in 1731.

Michael Angelo built the Rialto at Venice in 1578. The order of "*Frères Pontifes*" was instituted in 1189, for the purpose of building bridges in Italy and France. This order existed for about five centuries.

"MINERAL WOOL."

Professor Pickering exhibited two novelties he had received from Dr. Wm. Wahl, of Philadelphia. The first is a white fibrous substance, resembling asbestos, which is made by forcing high pressure steam through melted slag.

This mineral wool, as it is called, is a good non conductor of heat and is, of course, incombustible. It seems well adapted for steam packing and a variety of uses. The second novelty was a plate of glass on which an engraving has been made by the sand blast. A photograph was first taken on the glass, which was then covered with a film of gelatin and bichromate of potash, and exposed to the light. The light renders the film insoluble; and after washing off the portion unacted on by the light, the plate is ready to be subjected to the sand blast; the remaining insoluble portion of the film protects the parts of the glass which it is not desirable to cut.

He then made a few remarks about the various methods of photographic engraving.

With the earlier processes, it is necessary that the printing be done on a lithographic press and that the object be entirely in black and white.

The New York Lithographing and Engraving Company have succeeded in printing the photographs on a common printing press. To do this, it is necessary that the dark portions of the photographs should be raised above the white. This object is secured by means of the film of gelatin and bichromate of potash, as above described.

Specimens of Woodburytypes, Albertypes, heliotypes and autotypes were exhibited, and their peculiarities and different applications pointed out.

Mr. Markoe showed an improved achromatic stereoscope, made by Mr. Beck, of London. It admits of the use of opaque or transparent objects, and can be readily adjusted to suit the focal distances of both eyes, in case they should differ.

W. O. C.

Changing Clothing---Pneumonia.

Pneumonia has prevailed in this city during the past month, to unusual extent and many of our well known business men have fallen a prey to the disease. Our physicians say that they have never before known the disease so difficult to treat successfully. The following from *Hall's Journal of Health* for March is timely and worthy of consideration by all.

In the latitudes of New England and New York, going westward, the month of March is the most disagreeable of the whole year, with its changing temperature, its slosh and mud, its cold, raw, piercing, damp winds; and although not as cold as January and February, it is more prolific of dangerous diseases, greatly promoted by the hurry of the people for lighter clothing; but it would be a great deal better to wear the entire winter suits through March, and even to the middle of April; and even then, until the first week in May, to make no change in the outer clothing, nor any in the inner garments, except to a less heavy woolen next the skin; for it is only for the three hours embracing one o'clock in the afternoon that winter clothing is at all oppressive; while the very warmth of noonday makes the raw dampness of the morning and late afternoons specially felt.

All changes to a lighter or cooler garment should be made at dressing in the morning; and if in any case the change leaves the body chilly, or if soon after it is made the weather changes to be much cooler, by all means promptly, without half an hour's delay, resume the full winter dress. The old, the young, the invalid, in short all persons of feeble constitutions of small vitality, should be especially careful to heed these suggestions; inattention to which gives rise to the very frequent announcements in the morning papers, in the early spring: "Died suddenly, yesterday,——, of pneumonia,"—often, the very friend whom we had met in the street, or at church, within a week, apparently as well and as hearty as ever before.

Softening Frozen Ground for Excavating.

This invention has for its object to reduce the expense of digging the ground during the winter season for building or other purposes; and consists in the application of steam to frozen ground for the purpose stated. At present, with frozen ground, the digging in winter is very expensive and difficult, and consequently the preparation for a commencement of building during the cold season is not generally undertaken on account of the greater expense. The hands are, therefore, mostly idle in winter. All this will be, it is claimed, avoided and a flourishing trade continued throughout the year by the introduction of an inexpensive system of softening the frozen ground.

The inventor, Mr. Andrew Derrom, of Paterson, N. J., claims to have ascertained that a small jet of steam applied underground will take the frost out of a disproportionately large extent of earth. He practically utilizes the discovery by applying steam, under pressure from a boiler or steam generator, which is conveyed under the earth in a suitable pipe. As it is forced out of the pipe, it interpenetrates the particles of earth, is condensed, parts with its latent heat, and is asserted to thaw an astonishing space of ground in proportion to the quantity of steam employed.

Postal Telegraphy.

In England, all the telegraph lines are now owned by the government, and short messages may be sent to any part of the kingdom for twenty-five cents. The government issues what are called postal telegraph cards, bearing a twenty-five cent postal stamp. On this card you write your telegraph message, and drop it in the lamp post letter box. The letter carrier delivers it to the telegraph department, and the message is promptly forwarded to its destination. The English Government has been petitioned to purchase all the submarine telegraph cables leading from England.

A Queer Case.

Dr. H. Vogel, writing from Germany to the Philadelphia *Photographer*, relates a queer case. A photographer made pictures of two brothers, who refused to take or pay for them on the ground that they were not likenesses. The artist complained, but the judge was of the same opinion as the brothers, and decided that the pictures were not likenesses. Mr. Photographer then went home with his rejected pictures and placed them in his show window, with the label, "The murderers of Mrs. X." The brothers then waited on the artist and alleged that it was a libel to expose their pictures with such a title, and, on his refusal to remove the placard, they entered suit. It remains to be seen how the judge will decide in this new phase of the affair.

PEARLS.—Mr. R. Garner lately read a paper before the Linnean Society, London, in which he referred to the theory, now generally adopted, that the production of pearls in oysters and other mollusks is caused by the irritation produced by the attacks of the minute parasite known as *Distoma*, and believed that, by artificial means, this parasite might be greatly increased. British pearls are obtained mostly from species of *Unio*, *Anodon*, and *Mytilis*, but it is probable that all mollusks, whether bivalve or univalve, with a nacreous lining to the shell, might be made to produce pearls.

MR. JOSEPH B. SYKES, of West Hartford, Mo., writes to inform us that large and severe sores on his legs have been cured by the use of a remedy prepared according to the following prescription: To 1 pint sweet milk, a heaped teaspoonful pulverized alum is adding while stirring, the milk being at a temperature high enough to curdle it. The whey is poured off, and the curd is applied to the sore. The sores arose from accidental bruises and abrasions, and had been troubling our correspondent for many years.