

Hence these phenomena are simply effects of radiant heat, and they are due to the changes of volume in absorbent gases and vapours produced by the absorption of thermometric heat in a confined space. All the varied and novel experiments which Mr. Graham Bell performed when he was recently in Europe with solids, liquids and gases, with tubes, flasks and discs, are thus brought within one simple explanation, and are due to a remarkable influence of degraded heat rays on absorbent vapours. The final result of this inquiry has been, not only to unravel an exceedingly interesting scientific problem, but to produce another form of telephone based on a new principle.

SHADE TREES ALONG THE HIGHWAYS.—The people of the New England States are at length thoroughly alive to the importance of planting trees along the roadside. In the towns and villages great progress has been made, as anybody visiting them may observe, and no one can for a moment question their usefulness. Many towns and villages and a very few farms in Ontario, can boast of elegant rows of maples, elms, &c. but their extension along the highways is still scarcely considered. In 1869 the State of Massachusetts passed an Act, which is still in force, under which any town may at a legal meeting grant a sum, not exceeding twenty-five cents for each of its ratable polls in the year next preceding that in which such appropriation is made, to be expended under the direction of the Selectmen in premiums, or in any other way deemed advisable, to encourage the planting of shade trees by the owners of real estate upon the adjoining public squares or highways. Connecticut has recently passed an Act which provides that any person planting or protecting forest trees one-quarter of a mile or more along any public highway, may receive for ten years an annual bounty of one dollar for each quarter of a mile so planted; the forest trees to include the elm, maple, tulip, ash, basswood, oak, black walnut and hickory; the elms to be not more than sixty feet apart, and the others not more than thirty feet apart. This offer has imparted quite a stimulus to tree planting, and private parties have supplemented this bounty by liberal encouragement. In some parts of Connecticut prizes of \$40, \$25, \$20 and \$15 are offered to the persons who may plant this spring the best and longest rows of trees along any public roads of that town, the awards to be made by three non-resident experts and announced at an Agricultural Fair next October. Every village and municipality should have its tree association.

F. LEMAY, tailor, Lindsay, Ont., has compromised with his creditors at 45c. in three, six, nine and twelve months, secured. He was formerly in business at Peterboro' with one Cadotte, but the firm failed in 1878 and paid 35 per cent. of their liabilities. Lemay continued the business, and was chiefly supplied by a Montreal dry goods firm, but latterly, it is stated, has had too many depending upon him for support. Liabilities about \$5,000, and assets nominally the same. The business will be closed.

MR. NEIL, of Neil, Parish & Co., sash and door manufacturers, Toronto, has left that city

and is supposed to be in Detroit. The firm is in financial difficulties.

POTATOES.—Offerings on the Montreal retail markets are large, and owing to a "break" in the American markets, prices are easier; 65c is the highest figure obtainable for Early Rose or Chili. White potatoes can be bought at 55c per bag. The demand for export continues; over 90,000 bushels were shipped to the States last month.

DAWSON KERR, retail hardware merchant, London, Ont., has placed his estate in the hands of trustees, selected from his creditors. The estate shows a surplus, and a meeting will be held on the 10th inst., to receive a report. Kerr has been considered weak for some time past.

THE WELLAND canal was opened throughout on Wednesday last; business at the opening of the season is reported better than for many years.—Mr. William Wainwright, passenger agent of the Grand Trunk railway, has been promoted to the position of Assistant General Manager, made vacant by the recent appointment of Mr. Drinkwater as Secretary of the Canadian Pacific Railway Syndicate. The appointment received by Mr. Wainwright, after many years of faithful, winning service, meets with general satisfaction.

W. H. HILL, of the firm of Hill Bros., general storekeepers, Senforth, Ont., left for parts unknown on 26th April last. On the 30th April an assignment of his estate for the benefit of his creditors was executed to John Beattie. After W. H. Hill left it appeared that several notes which fell due the previous day, and had been protested, were pronounced by some of the parties to be forgeries, and this may account, probably, for his sudden flight. His liabilities are reported to be over \$30,000, of which fully one-half are due to a leading Toronto dry goods firm; assets, about \$15,000. The principal creditors are in Toronto. The business was formerly conducted by the Hill Bros.' father, Wm. Hill, who sold out to his sons about two years ago and started a cheese factory; he is still liable as endorser for about half of the firm's indebtedness. All his property, however, is said to be held in his wife's name. One of the sons visited this city a few weeks ago, and renewed accounts with a couple of our leading wholesale houses.

A LEIPSIC journal gives a method for hardening glass lamp chimneys so that they will not crack. The chimneys are placed in a pot of cold water, to which salt has been added, the water boiled over a fire, and then allowed to cool slowly. The glass will afterward resist any sudden changes of temperature. The same process will make all crockery, stoneware, porcelain, etc., more durable.

J. A. WELSH, a Hamilton grocer, has assigned.—Isaac Sillick, another grocer at Teeswater, Ont., has assigned in trust. John McNaughton, grocer, Chatham, Ont., assigned, and a receiver appointed.—A. McIlbrath, a Listowel founder, has been asked by creditors to assign.—Wm. Adamson, an old Yonge street grocer, Toronto, has suspended, with liabilities of \$20,000 and assets, \$15,000.

The greatest accumulation of gold known to modern times, if not in all history, is now in the vaults of the Treasury Department at Washington. The vaults contain \$173,000,000 in gold, besides \$55,000,000 in silver. The Bank of England has only \$75,000,000 in gold.

MERCANTILE SUCCESS.

There is no royal road to learning, nor is there an easy and flowery path to success in merchandising. It seems to be the belief of many people who are ignorant of such matters that the profits of merchandising are enormous, and that everything necessary to the establishment of a flourishing and profitable business is a little capital or credit, a store, and an announcement of those facts. Merchandising is a profession, requiring more time in apprenticeship than most of the mechanical trades, and is more difficult to learn than many of them. It is no easier to become a good merchant than it is to become a good lawyer or physician, and good merchants are just as rare as good lawyers and doctors.

A country merchant who has been selling goods in Missouri for forty-six years on being written to in regard to the standing of a new firm, replied to the wholesale dealer who made the inquiry as follows: "They are clever men, raised on their father's farm. He died and left them some real and personal property. They have little education, no business experience and little business capacity. As farmers I would credit them; as merchants I would not. If you are even with them stay so; if you are not, get your money as soon as possible, for you know, as I do, that not more than one farmer boy in a thousand succeeds as a merchant in either country or town. In saying this I feel that I am doing them a kindness and perhaps saving you a few dollars. I have been merchandising for forty-six years, and yet it keeps me busy to pay my bills promptly. How will it be then with those who have little capital and no business experience?"

We do not wish to discourage young men from embarking in business on their own account. On the contrary we believe that it should be the object and aim of every clerk and young business man to acquire a business of his own; but it is a suicidal policy for an untrained farmer's boy or any other inexperienced person to invest a little capital in business with the hope to succeed. Success is not only uncertain under the circumstances but almost impossible.

Profits, from the effect of close competition, are now very small; stocks have to be carefully selected and closely bought, and then judiciously taken care of, and the *Grocer* does not wish to encourage a clerk to endeavor to organize a business of his own until after he has served an apprenticeship with some good merchant, and qualified himself to conduct a business. We would therefore advise all young men who desire to enter commercial life to begin in the old-fashioned and only reliable way—at the bottom of the ladder as a clerk, until qualified. If they have the requisite capital, without experience, it is far better to invest the money in a safe way, where it will bear interest, until the necessary training and business education is completed.—*St. Louis Grocer*.

FIRE RECORD.

ONTARIO.

Brockville, April 21.—Dwelling, barn and outbuildings of Wm. Wilson totally destroyed, together with contents. Loss \$2,000; insured in the Royal of London. **St. Mary's**, 22.—Dwelling of Thos. Woolway and one adjoining, with most of their contents, destroyed. Loss about \$800; insured for \$400. **Tunnicliffe**, 22.—Reelman & Kallfleisch's flour mill totally destroyed, together with about 1,200 bushels of wheat and a quantity of flour. Loss between \$10,000 and \$12,000; partly insured. **Toronto**, 22.—Gooderham & Worts' cooper shop destroyed. **Listowel**, 22.—T. E. Hayes' stable destroyed, together with a horse, cow, buggy and harness. Loss \$800; insured in the Waterloo Mutual for \$450. **Cherry Valley**, 23.—Barn and drive house of Geo. Martin destroyed. Loss \$1,800; insured for \$900. **Barrie**,