

twentieth share netted one of the partners \$60,000 in a single year, which proves the profits of that year to have been \$1,200,000. One million dollars a year will be about the margin of excess over all expenditure. Next in the same line come the houses of Lord & Taylor, and Arnold, Constable & Co., the former of which does a business, in several stores, of \$6,000,000 annually, at a profit of some \$800,000; while the latter firm enjoys a regular unchanging trade of about four and a half or five millions, which pays a yearly profit of not far from six hundred thousand dollars. Of houses in the dry goods trade, whose yearly trade ranges from five to seven millions, there are several, as for instance, C. W. & J. T. Moore & Co., Phelps, Bliss & Co., and S. B. Crittenden & Co. Their profits foot up variously from two to four hundred thousand dollars. J. R. Jaffray & Sons, our leading lace house, sell enough of that strictly female fabric to net them six hundred thousand dollars a year profit. Some of the Boston branches located here, exceed in their sales five millions yearly. Such are A. & A. Lawrence & Co., J. W. Paige & Co., and A. F. Skinner & Co. The first-named firm, as every one knows, place some ten million dollars worth of domestic fabrics per year. The profits of all these commission houses are only from one to two per cent upon the sales. Garner & Co., a commission firm, sell between eight and nine millions per year at paying rates; while of those doing a dry goods commission business of from three to five millions may be named Hoyt, Spragnes & Co., Low, Harriman & Co., and Hnnt, Tillinghast & Co. Their profits overleap a hundred thousand dollars a year. There are several French and English importing houses whose sales overrun into the millions, and whose profits are a fortune every year.

THE WAY JOULE'S EQUIVALENT WAS ASCERTAINED.

First, By observing the calorific effects of magneto-electricity. He caused to revolve a small compound electro-magnet immersed in a glass vessel containing water between the poles of a powerful magnet; heat was proved to be excited by the machine by the change of temperature in the water surrounding it, and its mechanical effect was measured by the motion of such weights as by their descent were sufficient to keep the machine in motion at any assigned velocity. Second, By observing the changes of temperature produced by the rarefaction and condensation of air. In this case, the mechanical force producing compression being known, the heat excited was measured by observing the changes of temperature of the water in which the condensing apparatus was immersed. Third, By observing the heat evolved by the friction of fluids. A brass paddle-wheel, in a copper can containing the fluid, was made to revolve by descending weights. Sperm oil and water yielded the same results. Mr. Joule considered the third method the most likely to afford accurate results; and he arrived at the conclusion that one unit of heat was capable of raising 772 pounds 1 foot in height; or that the mechanical equivalent of heat was expressible by 772 foot-pounds for one unit of heat—known as "Joule's equivalent."

The following are the values of Joule's equivalent for different thermometric scales, and in English and French units:—

1 English thermal unit, or 10 Fah. in 1 lb. of water,	772 foot-lbs.
1 centigrade degree in 1 lb. of water,	1389.6 "
1 French thermal unit, or 1 centigrade degree in a kilogramme of water,	423.56 kil'trs.

ROOM PLANTS.

During the cold days of winter, when fields and gardens are stripped of their foliage and coloring, it is pleasant to witness the care and the taste which some ladies bestow in the culture of flowers in their houses. The last number of the *Horticulturist* contains an interesting article on this topic, from which we select a few extracts for our lady readers:—

We should be glad to do or say something to increase the number of those who grow room plants. It is true that plants cannot be as well grown in rooms as in a well-constructed greenhouse; but, notwithstanding, there are some kinds that may be grown and flowered in a manner quite satisfactory, and with results highly gratifying. Certain conditions are necessary for the best success, and these it is our object to point out. The greatest obstacle to success is the dryness of the air: this may in a measure be overcome by a table suitably constructed, and the selection of plants best adapted to a dry atmosphere. The table should be the length of

the window, and two or three feet wide, the boards being tongued and grooved. Around the edge nail a strip three inches wide, making the corners fit tight. The table is then to be filled with two inches of clean white sand. With a table of this kind, the foliage of the plants can be frequently syringed or sprinkled with water, which keeps them clean and promotes their health; the drippings and surplus water are caught and absorbed by the sand, and the floor of the room is thus kept clean; the sand, indeed, ought to be kept constantly wet, and even watered for this purpose, if necessary. The evaporation from the sand will diffuse itself among the plants and through the room, and thus overcome, in a small degree, one of the chief obstacles to the successful culture of plants in rooms. The table should be fitted with rollers, to facilitate the operation of watering and cleaning the plants, and also for the purpose of moving it back from the window during very cold nights. The flower-stands in common use are altogether unfit for a room; the surplus water, dead leaves, &c., fall to the floor, injuring the carpet, and giving the room an untidy appearance. The table above described is free from these objections, besides having positive advantages for the successful growth of plants which no ordinary flower-stand can possess.

All rooms do not possess equal advantages for growing plants. A room with large, high windows, looking to the south, is the best; the next best is one with a southeast or southwest exposure; next, east; next, west; and the least desirable of all, one looking to any point north. A large bay window with a southern exposure possesses many advantages for growing plants, quite equal in many cases, and superior in some, to these structures absurdly called "plant cabinets," unless the latter be intended for the preservation of dried specimens, the only purpose for which most of them are fit. A basement window with a southern exposure will sometimes answer tolerably well, but a room in the upper part of the house is always to be preferred.

Plants cannot be well grown anywhere, or under any circumstances, when crowded together; it is always more satisfactory to grow a few well than to grow many indifferently. During very cold nights the table may be moved to the middle of the room; and if the plants should unfortunately get frozen, darken the room and throw cold water over them repeatedly till the frost is drawn out, and then expose them gradually to the light. In this way we have saved plants when the ball of earth has been frozen as hard as a brick. Room plants should not be brought into the house till the nights get frosty, and while out of doors they should have a sunny exposure. Insects should be looked after, and destroyed on their first appearance; a little attention in this way will keep them free from such pests.

ORNAMENTING ROOM WINDOWS.—The following very simple method of decorating windows, when it is desirable to shut off a portion of light, and subdue its character, is described in the London *Photographic News*:—The glass must be thoroughly cleaned and freed from every sign of grease. Then mix on a slab of ground-glass, palette, or what not, a little of the tube oil color, sold for the purposes of the artist, diluted slightly with a little pale drying oil. Lay this thinly over the glass with a large, soft brush, and then taking a large hog-hair tool, the hairs of which are of a perfectly uniform length, hold it perpendicularly to the glass, and commence dabbing the ends of the hairs, gently, and with an equal amount of pressure over the whole surface, until a uniform degree of opacity is secured, and the glass has all the appearance of being ground. Now, if you desire to give this a very decorative character, closely resembling that of what is termed embossed glass, you may do so with much ease. Draw out, first, on a piece of paper the required size, some pattern of an elegant character, a design for which may easily be discovered in any work on ornamental art, making the lines sufficiently strong to be seen through the semi-opaque glass; and then, with wooden points of various degrees of thickness, some finely pointed, and others wider and flat (like the edge of a chisel) trace out on the painted surface of the glass the drawing laid under it. The points will remove the wet paint. A piece of wash-leather is sometimes fastened to the ends of the sticks for the better clearing off of the paint, but in this case you must carefully prevent the leather becoming charged with paint, by repeatedly cleansing or changing it. This pattern being clearly defined and perfectly transparent, the glass is then put aside to dry, and fixed in its place the painted side inwards. To clean it use simply a little pure warm water without soap.

It is stated, in a late foreign paper, that bathing has been found to be a certain cure for pleuro-pneumonia; that a gentleman in Ireland, who tried the experiment on eight cattle who were infected, saved seven of them by driving them into a bath.

A COLUMN OF VARIETIES.

The Spaniards of South America use twisted raw hide for ropes and as substitutes for log chains in working their cattle. Raw hide is very strong and lasts quite a number of years, even when considerably exposed.

Shingled roofs, whitewashed with lime, last nearly twice as long as roofs which receive no treatment to render them durable.

The total amount of wheat received at Chicago, since the 1st of January last, is 26,860,973 bushels, against 12,428,478 bushels received in the corresponding period last year.

The Pacific Mill at Lawrence, Mass., is the largest factory, in a single building, in the world. It is 800 feet long and 80 wide, and contains 108,000 spindles, with all the attendant machinery to manufacture delaine and muslin goods, from the raw material up to the finishing touch ready for market.

The Magnetic Telegraph Company in England, which has lines extending through the whole United Kingdom, issues stamps for franking messages. This is similar to the postage stamp system, and is found very convenient to merchants and others.

The last number of the *North British Review* contains an article on meteorology, in which severe winters are stated to be connected with the appearance of spots on the sun. If the writer's theory be correct, the next winter should be a very cold one.

It is stated by Mr. Nicholas Longworth, of Cincinnati, the great vine cultivator, that wine made from the best native American grapes surpasses in quality the best wines of Europe.

The tobacco crop inspected at Richmond, Va., for the year ending October 1, 1860, amounted to 46,633 hhds., which is an increase of 4,835 hhds. over last year's crop.

On the 16th of August last, a flash of lightning struck a windmill at Lappion, in France, in which there was a female who was killed by the electric fluid, and on whose body there was left the picture of a neighboring tree, with all its branches and leaves complete. This singular tattooing by the lightning was seen and attested by medical examiners and the municipal authorities of the place.

The Philadelphia *Engineer* advocates the employment of single cylinder locomotives, as their adoption would mark a revolution in locomotive construction, and result in great economy. A number of locomotives with single cylinders are stated to have been made by Neilson & Co., of Glasgow.

Mr. Holley, in a communication to the *New York Times*, states that "the cost of hauling a passenger or a ton of goods a mile on an English railroad is about one-half only of what it is in America." The reason of this is that English roads are better constructed and require less power to do the work.

Two years ago, a Canadian, near Acton, C. E., while engaged in digging potatoes, found some fragments of copper ore. On the 15th of September, 1859, Mr. Lewis Sleeper, a school teacher at Montreal, having obtained a lease of the grounds, commenced the development of a mine with great success, having, since March last, taken out \$200,000 worth of ore, some of the blocks weighing 15 tons. A few days ago this mine was sold for \$500,000, of which Mr. Sleeper received \$200,000.

From the census of Australia, taken on the 1st of April last, it appears that the total population was 117,727. Of this total of 117,727, no less than 43,349 were born in the colony, 49,788 in England and Wales, 7,172 in Scotland, 12,128 in Ireland, 2,201 in other British possessions, 7,864 in Germany, 1,093 in foreign countries, leaving 122 not specified.

The numerous cases of poisoning resulting from the employment of the pigment known as Brunswick green, or arsenite of copper, has induced the French sanitary board to take measures to suppress its use in various arts, as those of the dyer, calico printer, paper stainer, &c. Many articles of ladies' clothing dyed with this pigment, artificial flowers, &c., have caused dangerous illness to their wearers. In light materials, as gauze, tarlatan, &c., this pigment is shaken out in considerable quantities during dancing, or rapid motion accompanied by friction, and finds its way into the faces and nostrils of the wearers, producing the most alarming symptoms.