

Hoop Skirt.—The object of this invention is to admit of the hoop-skirt readily contracting laterally, when subjected to any lateral pressure, and without being thrown up in front, as is now the case with the ordinary hoop-skirts. To this end the invention consists in having the lower hoops of the skirt divided into two parts and having them connected by rings or joints to form a flexible connection which will admit of sides of the skirt readily yielding and bending inward without being thrown upward in front when subjected to lateral pressure, as for instance in being seated in a public conveyance in close contact with passengers on each side. Mrs. S. A. Moody, of No. 12 East 16th street, New York, is the inventor of this skirt.

Comparative Cost of Petroleum and Gas.

On the 24th of February, William Marcet, Esq., M.D., F.R.S., read a paper before the Society of Arts, in London, giving the history of some elaborate experiments undertaken by him to ascertain the comparative quantity and cost of light produced by burning petroleum, illuminating gas and other substances. The results are thus given:—

“Let us now proceed to compare the light given by a petroleum-lamp, with a wick six-eighths of an inch broad, and that given by tallow candles, composites, sperm candles, and oil. The results have been arranged in the form of the following table, on which I shall make a few remarks:—

	Petroleum.	Gas.	Tallow Cands.	Com. posites.	Sperm Cands.	Colza Oil.	Sperm Oil.
Light emitted by petroleum lamp equal to	1	1 to 1.3	10	6.3	6.5	0.61	0.55
Weight burned in 3 hours 18 minutes	1386	12.7	408	550	490	2901	3250
Price of material burned in 3 hours 18 minutes	1d.	½d.	½d.	1d.	1½d.	2½d.	5d.

“From six experiments, where the amount of petroleum burned varied from 393 grains to 466 grains per hour, the average quantity of the oil consumed was 420 grains, the price of which, at 3s. 8d. a gallon, would be three-tenths of a penny, and consequently an amount of petroleum worth only 1d. will burn for 3 hours and 18 minutes. Now, 2 tallow candles burning for 3 hours and 18 minutes, will cost about 1d.; and as, according to my experiments, petroleum gives about 10 times as much light as a tallow candle, it will follow that the expense of burning petroleum will be the same as that of burning 2 tallow candles, and there will be no less than 5 times as much light obtained from the oil as from the 2 candles.

“In comparing the expense of burning petroleum with that of consuming coal gas, by measuring the amount of gas consumed with a very accurate gas-meter, it will be found that the quantity of gas burned by a good fish-tail burner in 3 hours and 18 minutes is 12.7 cubic feet, which at 4s. 6d. per 1,000 feet, will cost six-tenths of 1d., or, in round numbers, a trifle over one half-penny. With respect to the light given out, that of gas supplied as above is generally a little less powerful than that of petroleum, but for all practical purposes both lights may be considered equal; consequently, gas in London, at 4s. 6d. per 1,000 cubic feet, is half the price of petroleum, but the oil presents many advantages over gas which will make up, in a great measure, for the extra expense—as, for instance, the portability of a lamp; the pleasant, subdued light of petroleum, instead of the dazzling brightness of gas; and also the fact shown by Dr. Frankland, that there is less heat given out by petroleum than by gas, and less products of combustion injurious to health. Then in many small towns gas is very dear, and houses are but indifferently supplied with it; in other places, such as village country houses, there may be no gas at all, and in these cases rock oil becomes an invaluable boon.”

It will be observed that the price of London gas is just one-third of the price charged by the New York companies, and their's may also be superior in quality to ours. On the other hand petroleum costs nearly twice as much in London as in New York. Consequently in New York gas is about three times more costly than petroleum.

In consequence of the decline of the hoop skirt business many men were left with braiding machines on their hands. Baulked in this direction they have launched out into the business of braiding shoe strings, and some are prosecuting a profitable trade in this new line.

MISCELLANEOUS SUMMARY.

NASMYTH'S SOLAR DISCOVERIES.—Mr. Nasmyth claims to have been the first “to discover, delineate, and accurately describe” the structure and structural details of the sun's luminous surface, and those curious forms which he has termed the “willow leaves,” with which this luminary is completely covered. He states that they are scattered in every direction over its surface—no symmetrical arrangement being perceived. He estimates their length at 1,000 miles, and their width about 100. The thickness of the layer of those luminous spots does not appear to be considerable, as the semi-luminous atmosphere on which they float can be perceived through the interstices, and which give the sun its peculiar and well-known mottled appearance. The actual form of those singular bodies is best seen when they drift across a spot and form those “bridges” which occur when the spot is collapsing.

OUR FINANCES.—*Thompson's Bank Note Reporter* in an article upon the policy of Secretary Chase says:—“He appeals afresh to the people in this the most trying military and financial period of the rebellion, to come forward with heart and money. He is reducing the volume of currency gradually, and will continue to do so. If the stock and gold gamblers shall again attempt the game they played lately, he will bring the whole power of the Government, and its whole means, both here and abroad, to checkmate them. The Secretary of the Treasury relies upon the people for the ways and means; upon the army for victories; and upon Congress for adequate taxation.”

ARMED STEAMERS IN THE PACIFIC.—The Pacific mail steamship, *Constitution*, Commodore Watkins, has completed her armament, in mounting a hundred-pound Parrott rifled gun, in addition to her two Dahlgren rifles. This monster piece of ordnance is placed forward on the main deck, and its working gear is so arranged that it will have full play when called into action. It carries a solid shot of sixty pounds, and has a range of four miles. Her Dahlgrens are twelve-pound rifled guns, carrying a solid shot of sixteen pounds. With this armament Commodore Watkins entertains no fear of piratical cruisers, and taking into consideration the vast size and speed of the *Constitution*, even if he should encounter the *Alabama*, he could easily capture or sink her.

A MAN in Worcester, Mass., has invented a machine for turning clock and watch pivots, or cutting round tenons on square or round rods or wire. Pivots of different sizes and length are cut in this machine on any size wire or rod with the greatest accuracy, and without centering, the pivot or tenon being perfectly true with the outside of the rod upon which it is made. It also makes tenons upon any kind of tubing, such as gas pipe or gun barrels, without centering or using a mandrel, said tenon being true with the inside of the bore.

MORRIS ISLAND would be a great place for a junk dealer. A recent letter says that over one hundred tons of iron, consisting of broken guns, fragments of shells and unexploded shells, have been gathered in a heap at the ordnance depot, and that the quantity would be greatly augmented, if the projectiles buried in the sand were dug up and added to the heap.

CATALOGUE OF NEBULÆ.—A valuable work, containing all of Sir W. Herschel's nebulae (2,500 in number), with other catalogues, and comparisons between them, has been published by M. Auwers. The want of such a work has long been felt by such observers as were engaged in searching for comets, as no complete catalogue existed previously.

THE hot-air bath is recommended as a possible cure of phthisis. Some of the most eminent British physicians are recommending the Turkish bath as a great restorative of health.

It costs \$50 per day to board at the hotels in Wilmington, N. C., and the fare is represented as very poor at that.

THE workmen are laying the ways for launching the *Puritan*, and she will probably be launched in the course of a few weeks.

AMY SOLOMON, of Attleboro, Massachusetts, died May 1st, at the age of one hundred and seven years.

WE are indebted to Hon. James Brooks, M. C., for valuable public documents.

FOREIGN INTELLIGENCE.

FRENCH ARMOR PLATES.—Further trials of French armor plates, made by Messrs. Petin, Gaudet & Co., of the Rive de Gier, have taken place, since our last, at Portsmouth, and in each case their 4½-inch plates have earned the distinction A 1, to which only the best 6-inch plates of home manufacture have yet attained. The plates were tried in the usual manner, with a 68 lb. shot, fired with 16 lbs. of powder, at a range of 200 yards. The results have caused much comment in naval circles as well as among our iron masters.—*London Engineer*.

[A 15-inch shot was fired at a 6-inch best French plate with a charge of 30 pounds of powder, quite recently, in Washington, and after the shot struck there was a very large quantity of scrap iron in the place of the French plate.—Eds.]

THE PENALTIES OF FAME.—The great English poet Tennyson is exposed to great annoyance from the curiosity of intruders. Strangers are found from time to time seated in his garden, peering in at his windows, wandering freely through his grounds. From the lawn in front, when conversing with his family in assumed privacy, he has, on casually looking up, discovered an enterprising British tourist taking mental notes of his conversation from the branches of a tree above. Mr. Tennyson has been compelled to make fences, raise embankments, train foliage, and in fact half fortify his house, and in spite of all is not permitted to enjoy what any of our readers so circumstanced would expect to enjoy as a thing of course—the quiet freedom of a country home.

THE ATLANTIC TELEGRAPH CABLE.—Messrs. Glass, Elliott & Co., of London, have purchased the entire works of the Gutta Percha Company, and formed a new company under the name of the “Telegraph Construction and Maintenance Company,” with a capital of £1,000,000, for the purpose of making and maintaining telegraph lines of communication, both submarine and on land, in every part of the world. The new company are to carry out Messrs. Glass, Elliott & Co.'s contract with the directors of the Atlantic Telegraph Company to manufacture and lay down, in the summer of 1865, the cable between Ireland and Newfoundland.

THERE have been launched at St. Petersburg two gunboats, constructed in the building yard of Messrs. Carr & McPherson of that city. Those two vessels, named the *Ladnik* and *Bronenosetz* (which signify “Clad in a Cuirass” and “Coat of Mail”), are constructed on the American system improved by Ericsson, and armed with two cannons. They are 200 feet long, 46 feet wide, and 11 feet deep. The engines are of 160 horse power. The launch, which took place in the presence of the Minister of the Navy and a great number of officers of the fleet, was followed by a breakfast.

A PAPER has been addressed to the Agricultural Society of Chalons, in which it is stated that potatoes may be safely grown free from disease by merely planting them in June instead of April. The writer, who has proved his theory by several years of successful experiment, is of opinion that by planting the roots in April they become corrupted by the alternate frost and heat.

MEASURES for restocking the lakes and rivers of Switzerland with fish have for some time past been in operation. Up to the present time a million and a half of young trout have been introduced into the Lake of Zurich.

AN enormous cylinder, weighing above 30 tons, intended for Her Majesty's iron ship *Minotaur*, was received at Woolwich recently, from Messrs. John Penn & Son, having been conveyed thither by a team of 30 horses.

FOUR steel paddle-steamers, very fast vessels, are reported to be building at Liverpool for the Confederate merchant service. They are intended to run the blockade. They will be acceptable additions to our navy.

THE French now make bonnets out of india-rubber, painted to imitate Leghorn braid. India-rubber bonnets ought to fit any head.

THE American copper-toe shoe is introduced into use in England, and is much approved.