CIRCULATION OF GOVERNMENT BOOKS.

Hon. John B. Alley, who represents the Sixth Congressional district of Massachusetts, has published the following card addressed to his constituents:—

"I have received many letters from persons in my district, asking me to forward to them Patent Office Reports and other public documents. In order that all may understand the reason that they are not furnished, as desired, I would state, in the first place, that all the public documents issued prior to the commencement of the present session of Congress were sent to my predecessor, which he had a legal right to claim. There will be but very few more issued before July or August next. In the second place, I am opposed to this whole system of distributing these Congressional works to private individuals. They are produced at an enormous expense to the government. The cost of printing and stationery for Congress, the last six years, amounts to the incredible sum of more than five millions of dollars. Each member of the last Congress received over 2,500 copies of books, costing the government nearly as much as the amount of their whole salaries. The customary disposition of documents heretofore, in sending to partisan favorites, personal friends, and relatives, is, in my judgment a perversion of the avowed objects of the act of distribution; and my vote and influence shall never be wanting to reduce appropriations for this purpose.

"I propose, in order to carry out the design and secure the objects for which the power of distribution is given to members of Congress, to send to every newspaper in my district a copy of everything issued by Congress, as these works are of such a character generally that every editor, whose business it is to enlighten the public, finds them valuable as works of reference; also to all public libraries, where such works ought always to be found; also to agricultural societies or farmers' clubs, and to the several cities and towns in proportion to the number of inhabitants in each, to be placed at the public archives, where they will be accessible to all who choose to peruse them. In this way the whole people will be served, as they ought to be in such a matter as this, without personal favor or distinction of party."

AMOUNT OF TANNING IN SOME MATERIALS.

The following table we have taken from the *Irish Agricultural Review*, whose editor is an excellent chemist. The names, Mulligan and Dowling, are those of two chemical students belonging to the Museum of Irish Industry in Dublin. Their analysis is quite recent, and will be very interesting and useful to our tanners:—

	Per cent.	Authority.
Oak bark formation, 100 years old	8.45	G. Muller.
" young	13.87	G. Muller.
" British, 50 years old	8.90	Mulligan and Dowling.
" " age about 50 years.	9.76	Mulligan and Dowling.
" " " 70 years.	6.13	Mulligan and Dowling.
" Southamp'n, age a'bt 50 y's	8.80	Mulligan and Dowling.
" coppice, picked sample	12.35	Mulligan and Dowling.
" Irish, pick'd sam'le, 45 yr's,	9.50	Mulligan and Dowling.
Oak, old, white inner bark	21.00	Cadet de Gassincourt.
Oak, old, white inner bark	14.20	Sir H. Davy.
Oak, young	15.20	Sir H. Davy.
" colored or middle bark	4.00	Sir H. Davy.
" entire bark	6.00	Sir H. Davy and Geiger.
" spring cut bark	22.00	Sir H. Davy.
Oak bark, Belgian poperling	8.33	Mulligan and Dowling.
" " h'vy cop. pe' s'l.	10.74	Mulligan and Dowling.
" " light " "	8.52	Mulligan and Dowling.
" Eschurgh	19.35	G. Muller.
Munosa bark	17.97	Mulligan and Dowling.
Munosa bark	31.16	G. Muller.
Willow bark	3.95	Mulligan and Dowling.
" Leicester, white inner bark	16.00	Sir H. Davy.
" " col'd or middle b'rk	3.10	Sir H. Davy.
" " entire bark	6.80	Sir H. Davy.
" weeping	16.40	Cadet de Gassincourt.
Larch bark	3.51	Mulligan and Dowling.
Larch bark	1.60	Sir H. Davy.
Cork tree bark	12.16	Mulligan and Dowling.
Hemlock bark	13.92	Mulligan and Dowling.
Divi-Divi	29.80	Mulligan and Dowling.
Divi-Divi	49.25	G. Muller.
Valonia Smyrna	34.78	Mulligan and Dowling.
Myrabolams	30.91	Mulligan and Dowling.
Shumac	19.35	G. Muller.
" Palermo	24.37	Mulligan and Dowling.
" Palermo	16.20	Sir H. Davy.
" Messina	10.40	Frank.
" Carolina	5.00	Cadet de Gassincourt.
" Virginian	10.00	Cadet de Gassincourt.
Catechu, Bombay, light color	26.32	Mulligan and Dowling.
Catechu, Bombay, light color	55.00	Sir H. Davy.
" Pegu, dark brown color	46.83	Mulligan and Dowling.
" Bengal	44.00	Sir H. Davy.

RESIN OIL FOR STEAMERS.

MESSRS. EDITORS:—In your article on "Oil Fuel for Steamers" (page 415, Vol. 1, new series, SCIENTIFIC AMERICAN) you appear to have given your attention to only one kind of oil, as the cheapest and best: and you overlooked what I know to be the great desideratum—crude resin oil. My attention for two years past has been turned towards its introduction for the purpose named, the difficulty was its method of application. Crude (or "first run") resin oil can be made in New York, and pay the manufacturer (resin costing $1 60 for each 280 lbs.) at 10 cents per gallon. At the South, it can be made at 6 cents per gallon; the manufacturer retaining the naphtha, which is more valuable than the oil. The amount of carbon contained in resin oil, compared with that of coal oil, is much greater; it is free from the offensive smell that even the pretended deodorized kerosene oil will retain, and in the coldest weather it remains limped, while the crude coal oil must be cut out with a shovel, or steamed out of barrels.

Coal oil is more easily treated for light, and is a better lubricator than resin oil; but the latter is used as a mixer for lubricators, for paint oils, for tanners' oils, wool and printers' oils; but in fact it is good only for fuel, and in that capacity it is unapproachable on account of its cheapness, amount of carbon, and not unpleasant smell, when freed from its naphtha. In these remarks my deductions are made from *practice*, not theory, and I think you will only have to start the movement in your widely-circulated and justly-appreciated journal, and let the practical men introduce it. H. H. I.

Brooklyn, N. Y., Jan. 3, 1860.

TELEGRAPHS AND RAILROADS IN RUSSIA.—Russia is making great progress. Her railroads and telegraph lines, which are the chief works undertaken since the termination of the war with the western powers, are evidently designed chiefly to supply a want that was greatly felt by her during the progress of hostilities. There are now railroads from St. Petersburgh to Moscow, 398 miles, and Pokoff, 170, besides the short lines from the capital to Peterhoff and Pavlovsk, and that from Warsaw to Tshentokhoff, on the Russian frontier, and 25 versts beyond, the total length of which is 182 miles. Other lines are in course of construction, or projected, from Pskoff to Warsaw, 462 miles, completing the railroad communication between the capital of the empire and that of Poland; from Dunaburg to Riga, 145 miles, to be afterwards continued to Libau, 53 miles further; and from Moscow, to Theodosia, 990 miles. Telegraphic communication already exists between St. Petersburg and Cronstadt, Abo, Libau, Kowns, Keyeef and Simpheropol, and between Nicholaieff and Odessa. There is one feature that presents a peculiar interest for the United States, namely, the Russian government has just given its sanction to a grand scheme for connecting St. Petersburg and New York by telegraph, *viâ* New Archangel and Behring's Straits, having stations at the Amoor, Irkutsk, and other central points on the way, across the vast continents of eastern Europe and Asia. The American section of the line will unite New York and San Francisco.

MAUVE DYE.—This dye was invented by Mr. Perkins, of Greenford Green, near London. It is prepared by taking equal proportions of sulphate of aniline and bi-chromate of potash, dissolving them in water, mixing and allowing them to stand for several hours. The whole is then thrown upon a filter, and the black precipitate which is formed is washed and dried. This black substance is then digested in coal-tar naphtha, to extract a brown resinous substance; and finally digested with alcohol to dissolve out the coloring matter, which is left behind on distilling off the spirit, as a coppery friable mass. This is the dyeing agent producing all the varieties of purples known by the name of *mauve*. The particularity of these purples consists in the peculiar blending of the red and blue of which they are constituted. These hues admit of almost infinite variation; consequently, we may have many varieties of red mauve, and as many of blue mauve, and any depth of tint can be secured. The permanence of these combinations is their strongest recommendation.—*London paper.*

SOUTHERN DEMAND FOR MACHINERY.—As one of the results of the existing excitement in the political affairs of the country which now so unhappily prevails, there has sprung up from the southern States an unusual demand for machinery of various kinds; and if northern manufacturers desire to make themselves known throughout the South, they cannot find a more sure medium of communication than through the columns of the SCIENTIFIC AMERICAN, which circulates very widely in all the southern States. We have had, within a few days past, applications for machinery for making cotton and woolen goods, paper, brooms, chairs, spools, bobbins, and a variety of other articles of northern manufacture which are very largely consumed at the South.

A COLUMN OF VARIETIES.

Iron may be cast upon brass, so that both will be perfectly united, by fusion. For this purpose, the brass part of the compound casting must be made with a large proportion of copper, so as to be very hard. When that part (already cast separately, and cooled before pouring the iron) is placed in its proper position in the mold, the iron may be poured in the usual manner.....In some of the locomotive boilers made by Mr. Allan, of the Scottish Central Railway, the fire-box is a cylindrical continuation of the boiler, and is wholly surrounded by a water space, with the exception of an opening like a man-hole, for the admission of air to the internal grate. .....A cylindrical boiler, four feet in diameter, with an internal flue, has been made with welded joints throughout, not one rivet being used. The plates were of 7-16 inch iron, and the boiler was tested, without leakage, to a pressure of 150 lbs. per square inch.....Owing to the prevalence of westerly winds and the influence of the Gulf Stream, the westward steamship passage between Europe and America generally occupies about one-tenth or one-eighth more time than the eastward passage..... Some of the cannon cast at Adrianople, in the middle of the fifteenth century, were capable of throwing stone shot of 600 lbs. weight. Larger calibers, capable of throwing granite shot of 1,200 lbs., were afterwards cast. .....In testing a 10-inch (or 130 lb.) gun at Deal, in England, it was found that 6 lbs. out of 32 lbs. of powder were blown out of the gun unignited, and that the range with 32 lbs. was less than with 26 lbs.....The *Great Eastern* steamship has cost nearly $5,000,000; the company that built her got tired of expending money and sold her for less than half her cost to a new company; and the stock of the new company is now selling for 50 cents on the dollar.....In the engines of the English steamer *Thetis*, the steam is expanded to 15 times its original volume; the boiler pressure being 115 lbs. per square inch, and the condensation being effected by superficial contact. The consumption of coal per horse-power, per hour, was found by Professor Rankine to be but 1.018 lb.; being 230 lbs. per hour for 226 horse-power.....In the case of a fatal boiler explosion which occurred at Toronto, Canada, in 1857, the coroner's jury stated in their verdict, that the introduction of spirits of wine, oatmeal and sal ammonia into the boiler, for the purpose of removing the scale, had caused the water to foam, thereby deceiving the firemen as to the true water level, and thus leading to the explosion.....The Winans steamer has made a trial trip, and is to be lengthened; thus removing the propeller from the center, as we advised.....The latest coal-burning engines of the London and Southwestern Railway, having tubes of but 22 inches (1 foot 10 inches in length), have but 200 square feet of tube surface. The fire-box surface is 107 square feet, besides 75 square feet in the combustion chamber. These engines, with 15-inch cylinders, 21-inch stroke, and 6-feet 6-inch wheels, are understood to make an abundance of steam, evaporating from 80 to 100 cubic feet of water per hour.....A remarkable proportion of evaporation to the extent of heating surface employed was reported by Daniel Goocb, in 1845. The engine *Ixion*, 97 square feet of fire-box surface, and 135 tubes, 2 inches diameter and 10 feet three inches long, presenting 724 square feet of exterior surface, evaported 200½ cubic feet of water per hour. This is about twice the usual evaporation per unit of heating surface.....The widest arch of masonry now standing is on the line of the Washington Aqueduct. The aqueduct bridge over "Cabin John's Creek" has a single granite arch of 224 feet span. The next widest masonry span is that of Grosvenor Bridge, over the Dee, at Chester, the width of opening being 200 feet.....An incline of 1 in 26, on one of the Belgian railways near Liege, at first worked by stationary power, was afterwards worked by locomotives; but more recently, stationary engines have been again resorted to, as being the best and most efficient. .....At Posen, Prussia, is a railway, 1 mile 200 yards in length, consisting of a single line of iron bars supported upon columns, the carriages being suspended at the sides from the axles of large wheels running along the rails.....Photographic apparatus has been lowered to, and photographic impressions taken at, a depth of three fathoms in Weymouth harbor, England.....An ingot of cast steel, exhibited at the Paris Exhibition of 1855, by Frederick Krupp, of Essen, Rhenish Prussia, weighed 11,030 lbs.

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