TRANSPORTATION EQUITIES.

THE GREAT PROBLEM OF MOVING CROPS AND MANUFACTURES.

What an Iowa Man Says of the Hennepin Canal and Its Effect Upon Internal Commerce—The Sections of the Country to be Benefited.

A gentleman from Iowa, who has taken great interest in promoting what he terms "equitable transportation rates," was asked last evening by a NATIONAL REPUBLICAN reporter: "Why does your state so persistently urge the construction of the Hennepin canal, through its legislature, boards of trade, and other organizations?"

"Because," he replied, "agricultural interests are almost paralyzed by the exhorbitant transportation charges to which we are subject. Our state is peculiarly situated as regards waterways. Bounded, as it is, on the east and west by great navigable rivers, leading to the seaboard at New Orleans, if that city were but contiguous to the national workshops, so that our exchange of products for manufactures could be made there, Iowa would have all needed advantages for commerce. But New Orleans will never become a manufacturing center whatever her facilities for foreign commerce may be, and our wants find supply elsewhere, in common with those of the other northwestern states. Let me suggest the magnitude of this east and west commerce.

"The railroad commissioners of Iowa report 6,000,000 tons of freight as annually crossing the bridges over the Mississippi opposite Iowa alone. The aggregate crossing this river annually above St. Louis is estimated at 15,000,000 tons at least. This vast amount of freight, that under the influence of cheap transportation upon the production of the northwest may double in a decade, is all to be affected by the construction of the Hennepin canal in cost of transportation, however much or little it may actually transport. To show this beyond a possibility of doubt we cite the fact that, though all possible elements for railroad competition have existed for fifteen years across this carrying place between the Mississippi and the lakes, the rates still remain, between Iowa and Chicago, four times as much per ton a mile as they are on the Erie canal on any portion of the water route between Chicago and New York.

"The annual corn crop of our state of Iowa reaches a quarter of a billion bushels. Grain can be worth no less at home than what it will bring in the ultimate market, whether this be Chicago, New York, or Liverpool, less the cost of transportation. Hence, if a saving of 5 cents a bushel is made in the cost of transportation by the construction of the Hennepin canal, the annual crop of corn of Iowa is increased in value $12,500,000, or enough to build two such canals. Thus the rental, or income value of land, producing forty bushels of corn the acre, will be increased $3 per acre. That a cheapening of 5 cents a bushel is not a high estimate, the fact may be cited that the present Illinois and Michigan canal cheapens freight on grain 4 cents a bushel on a distance of 130 miles, as against other routes, leading into Chicago, for the same distance, but not having water competition?"

"You have shown the effects of the canal on Iowa and the northwest, how about its national importance?"

"The nation is as indivisible in its prosperity as it is politically. The benefits of profitable cotton culture are shared in by every state in the Union, in that it increases our balance of trade and volume of money. The same result follows large and profitable export of products of the northwest. It gives the people of the producing states money to buy of the manufacturer and jobber. It is like injecting water into the pipes that supply a city, or blood into the body, it flows into every channel. I will not dwell on its vast importance as a military necessity for the passage of monitors and munitions to the lakes."

"What are the prospects of the canal bill?"

"I think them very good. Sectional jealousy is fast disappearing. The press seems to understand its merits better, and few are still determined to see a 'job' where one could not possibly exist. Some few affect to ridicule it, as they think, in the interest of railroads, though the great railroad managers see that a canal will be built sooner or later to connect the great water systems in the interest of general commerce, and believe that railroad business will receive benefit from increased commercial activity. The statesmen of the northwest, even those representing districts having least direct interests, have mostly been and are still loyal. The representatives from the Pacific slope, with liberal views that do them credit, have needed little urging to become its warm friends.

"The doubts of the representatives from the lower river as to the propriety of dividing appropriations that might otherwise hurry forward their own improvements have given way to a more liberal policy, and they have evidently decided to let the Hennepin move forward with the other improvements in the interest of commerce. They, too, have trade with the eastern seaboard, on which charges will be reduced on all water competing routes.

"To reach her western customers at cheaper rates, as well as to obtain cheaper food, and to enable her to compete for the trade of the increasing millions of customers on the Mississippi and her tributaries, are sufficient causes for the increasing favor of New England.

"New York has been taught a lesson in cheap transportation, by the results from connecting the great lake system to the Hudson by the Erie canal, that shows her the importance of connecting that still greater system of the Mississippi by opening this short connecting link in an otherwise through route to her great port. It is true that some of her old fogies think that because New York has built her own canal and grown rich by it, as well as enriched the great lake region), that Illinois or some other state should build the Hennepin. They forget that this carrying plan of an already vast commerce, though within the state of Illinois, is not to be spanned by a canal for her benefit, but rather for the benefit of the 12,000,000 people beyond, and their trading ports on the Atlantic. Any 10,000 square miles on and west of the upper Mississippi could afford to build the canal, but it requires very little thought to discover the impracticability of such an enterprise; or that, if built by a private corporation, it would not benefit the people.

"Pennsylvania sees in the northwest increasing millions of consumers of her anthracite coal, glass, and iron products if transportation is cheapened, and she, together with other states on the eastern seaboard who compete, or expect to compete, for western trade for export, or the furnishing of supplies, see that water routes fix the rates of transportation, but not the route, as railroads will take it at the reduced rates to such competing points as offer the greatest inducements.

"There is a daily diminishing class that carp on the objection that it is unconstitutional to dig in dry earth for the benefit of the best existing commerce or the people, though they will sanction the expenditure of millions to remove wet sand where it obstructs a trifling commerce; so to these we can only repeat the language of that great statesman, the late Horatio Seymour, that they are 'fifty years behind the times.'

"These are simply some of the patent reasons that insure support from the constituents of members. The great national value of a needed work in the interest of commerce, to which the people of vast sections are justly entitled, in the direct line of the fostering care which the government has always experienced in matters of interstate commerce, as its sole prerogative, is in all sufficient reason for the support of the statesman. Yes, we shall get the canal, and its effect upon the cost of transportation between the trans-Mississippi region and the eastern seaboard states will arouse increasing wonder that it has been so long delayed."

"The Miserable Fungi."

[Macon Telegraph, Dem.]

If Mr. Cleveland will lop off the miserable fungi from the party for whose "health and vitality" he claims to be concerned, the way will be open to him to reunite the scattered and discordant elements which stood solidly at his back a year ago.

"He that lacks time to mourn, lacks time to mend." The better way is to take a pain in hand, fight it daily and hourly with SALVATION OIL, and not have anything to mourn about. You can buy this splendid remedy for 25 cents a bottle at any drug store.

POVERTY AND A TITLE.

A Real but Impoverished French Count Offers His Title for Sale in New York.

NEW YORK, March 18.—Some days ago the following advertisement was published in a morning paper here:

IMPORTANT.—I wish to sell my title of count. Address P. R., 47 Uptown Office.

A newspaper man opened negotiations, and the reply read:

DEAR SIR: If you call to-morrow morning at 10 o'clock I will see you and make arrangements for the sale of my titles. Yours,

P. ROZIER, Ch. Dela.,
457 Fourth ave., 2d floor front.

When the "title seeker" called he met a small, slight, and side-whiskered Frenchman, of pleasant but courteous manner, who was Mr. Rozier. The reporter knew little French, and Mr. Rozier spoke English that was painfully dislocated. Mr. Rozier produced an imposing array of old parchments that, he said, were the evidences that he had a right to call himself count, but he refused to let the visitor examine the papers unless he made a cash offer for the title. The price was $10,000. The parchments were undoubtedly genuine, and indicated that their owner might legally call himself Count De Lagorree Chevalier, of St. Louis, Count Palatine and Knight of Malta all at one time.

Mr. Rozier said: "The family of Lagorree have been settled in the province of Languedoue, in the south part of France, for so many centuries that when they came there or were first made nobles of the land are facts that history hasn't recorded. About 1858 Count Marie Valentine Urban de Lagorree, the head of the house, took to himself a wife from the noble family of Daubigny. This lady lived until 1870, when, having presented Count de Lagorree with several daughters and one son, named Gaston de Lagorree, she evidently considered that she had done all that could be expected of a person of her rank, and, much to the grief of her husband, died. A short time after his father's death, he having re-married, Count Gaston showed a decided inclination to sow wild oats, and, upon being restricted in his expenditure by his stepmother, he instituted law proceedings to obtain control of his father's estate. It was proved that when Count Urban died he had no estate worth speaking of as everything belonged to his wife and only became his by the marriage laws of France. The case was decided against Gaston and he found himself with an empty title and extravagant habits without the means of gratifying them. During the law proceedings the widow of Count Urban met a young student with whom she fell in love: The young man was unable to withstand the attractions of a rich widow, and revoked his humble love and married the titled and wealthy lady. That young man was Paul Rozier, who now offers the Lagorree patents of nobility for sale. After the widow of Count Urban had married P. Rozier she evidently realized that her social position was considerably different from that which she had occupied up to that time, first as the daughter of a wealthy and noble family, and later as the wife of a representative of one of the oldest peerages of France. To remedy want of title in her young husband she authorized him to open negotiations with young Count Gaston for the purchase of his titles. These negotiations were carried to a successful issue. Young Gaston for a consideration, which is not mentioned in the papers, but which he speaks of as satisfactory renumeration, in August, 1879, signed away all his titles and transferred them to Mr. Rozier, who, after the transfer, added the title of Count de Lagorree to his name and with his wife left Toulon to travel, finally settling in Switzerland, and when in 1881 the countess died. Mr. Rozier expected to come into the large estate that his wife did possessed of, but this his family died not mean him to do if they could prevent it. A lawsuit for the possession of the properties was instituted against Mr. Rozier by the lady's family. The case came to trial and was decided against Mr. Rozier. Only a small portion of the property was awarded to him, and the bulk of the estate went back to the family of the dead countess. Mr. Rozier had expended all his share of the property in defending the suits against him, and when he lost his cause he found himself without money and with nothing but the titles of nobility which he had purchased from Gaston Lagorree in the heyday of his prosperity, and a few family portraits. He returned to Toulon poorer than he was before he became the husband of the rich Countess of Lagorree, and incapacitated for a struggle with the world by a life of indulgence and luxury. At Toulon he renewed his relations with his first love, for whom he says he had never ceased to entertain feelings of the deepest affection. The young lady decided to forgive the man who had forsaken her for the rich countess, and take him back once more into his old position of favored lover. Finding things not to his liking in Toulon, four years ago Mr. Rozier decided to come to America, and in a new land to build a fortune for himself. To obtain the means to make this he offered to sell the Lagorree family pictures, which had become his, with the title to the sisters of Gaston de Lagorree, who, by this time, was married and settled in Paris with the money obtained from the sale of the pictures. Mr. Rozier paid his debts in Toulon like an honest man, and having persuaded his first love to accompany him embarked for America. In the four years that Mr. Rozier has been in New York he has had a pretty rocky time of it. He has tried to earn a living at gentlemanly employment, but with ill success. In his efforts to get along comfortably he has been materially assisted by the lady who forsook her friends and country to come here with him. She tried her hand at dressmaking, and, having all the talent in that line for which the French are celebrated, it may be surmised that she contributed at least as much toward their mutual support as the count. About three months ago Mr. Rozier received a letter from Gaston Lagorree, dated from a small town in Spain, in which Lagorree expresses a desire to buy back his titles. This letter evidently opened Mr. Rozier's eyes to the fact that the old parchment that he has kept in his possession for the last seven years has a marketable value. Most of the applications for information concerning the titles have been dated from New York, though one or two inquiries came from Washington, and several from the west.

Mr. Rozier said that several matrimonial agents had called on him with offers of admirable wives, who would bring him a much larger sum than $10,000, but these offers he had declined. The laws of France allow a man to sell titles, but the selling of it does not convey the family name or any claim on the estates of the person who formerly bore the title.

JOSH BILLINGS says: "Next to a clear conscience for solid comfort, cums an old shu." He probably never suffered with a cough or cold, otherwise he would have referred to Dr. Bull's Cough Syrup as being also a good thing to secure relief and comfort.

Regardin' Terry Hut.

Sence I tuck holt o' Gibbses Churn
And ben a-handlin' the concern,
I've traveled round the grand ole state
Of Indiany lots, of late!
I've canvassed Crawfordsville, and sweat
Around the town of Lafayette;
I've saw a many a county seat
Iust to think was hard to beat:
At constant dreenage and expense
I've worked Greencastle and Vincennes—
Drapped out of Putnam into Clay—
Owen, and on down thataway
Clean into Knox, on the back track
For home again—and glad I'm back—
I've saw these towns, as I say—but
They's none 'at beats ole Terry Hut!

It's more'n likely you'll insist
I claim this 'cause I'm prejudist,
Bein' borned here in ole Vygo
In sight o' Terry Hut—but no,
Yer clean dead wrong—and I maintain
They's nary drap in ary vein
O' mine but what's as free as air
To jest take issue with you there—
'Cause, boy and man, for forty year,
I've mixed and mingled 'livin' here,
And jawed around and traded lies
About our lack of enterprise,
And tuck and turned in and agreed
All other towns was in the lead,
When—dat my molts!—they couldn't cut
No shine at all with Terry Hut!

And I've come back, with eyes that see
My faults at last, to make my peace
With this old place, and truthful' swear—
Like General Tom Nelson does—
"They hain't no city anywhere
On God's green earth lays over us!"
Our city govament is grand—
Ner is they better farmin' land
"Sun-kissed"—as Tom goes on and says—
"Er dowered with sich advantages."
And I've come back, with welcome tread,
From journeyin's vain, as I have said,
To settle down in calm content
And cuss the towns where I have went,
And brag on ourn an I boast and strut
Around the streets o' Terry Hut!

—*James Whitcomb Riley in Indianapolis Journal.*

AMERICAN MACHINERY.

THE SUPERIORITY OF HOME-BUILT ENGINES OVER ENGLISH.

A Talk With an Expert About War Ship Locomotion and the Best Means of Accomplishing It—All About Fuel, Horse Power, and Speed.

A reporter for the NATIONAL REPUBLICAN called upon Chief Engineer N. B. Clark, United States navy, to ascertain his views in reference to the relative merits of American and foreign steam machinery, now being discussed by Congress and the press.

Mr. Clark said the great mistake made with war ships is that the same type of steam machinery is put in them that is appropriate for merchant steamers, making regular trips, which have to be designed to run at high speed, with economy of fuel, week after week.

"How much coal per horse power does a well-designed marine engine consume?"

"A compound engine when running at moderately high speed consumes about two pounds of coal per indicated horse power per hour, but when running at low speed much more coal is required to produce a horse power."

"How is that; I always thought economy of fuel was attained by running at a low speed?"

"So it is, so far as the application of the power generated is concerned, but when a large engine is used to generate a small power it does not work with economy. For the same quantity of coal a vessel would run four times as far at nine knots per hour as she would at eighteen knots. But when running at a low speed, say at nine knots, only one-eighth the power is needed, and the amount of coal per horse power is considerably increased by the radiation and friction incident to a large engine developing a small power, thereby considerably increasing the cost of power per unit of coal consumed. Hence the apparent paradox, when the engines of a naval vessel are run slow for economy they consume fuel with wasteful extravagance."

"You have mentioned eighteen knots as an appropriate emergency speed and nine knots as a passage speed. What proportion of the coal supply would be consumed at each rate of speed?"

"There would be no occasion to exert the high emergency power in time of peace except for exercise at drill, to familiarize the officers and men with their duties, and in addition thereto, in time of war it would only be used when chasing an enemy or escaping from a superior force. Therefore the proportion of coal consumed for emergency power would probably not exceed 5 per cent., leaving 95 per cent. of the entire fuel supply to be consumed at low speed. At the present time the steam machinery of war ships of all nations is designed to effect economy in the consumption of the fuel used at high speed and for wasteful extravagance in the consumption of that used at low speed, and is handicapped with an enormous weight in order to accomplish that result."

"You speak of using the high emergency power in time of peace only for exercise at drill. I suppose you would regard the expenditure of fuel for that power somewhat as you would that of ammunition for the guns, both being consumed to familiarize the officers and men with their duties?"

"Precisely so; the emergency power would be required only to take the ship in and out of action, and the guns would be used only while in action, and while there would be sufficient fuel to run the emergency power for five days, the guns would use their entire complement of ammunition in less than three hours' rapid and continuous firing."

"What is the weight of the steam machinery of war ship per horse power?"

"In the British navy the average weight of the steam machinery is 360 per horse power, with 289 for the swift dispatch vessels Iris and Mercury, and 180 for the torpedo ram Polyphemus, and that of the first class torpedo boats of English design is 57 pound; while the fastest torpedo boat engine of American design and build only 30 pounds. The weight of all steam engines of American design is invariably less per indicated horse power than the same class of English build."

"The difference between thirty-nine pounds per indicated horse power in the fast American torpedo boat engines and 448 pounds in the Boston and Atlanta seems to be a high price to pay for the economy of fuel obtained by its use, on rare occasions, for short periods of time (or upon about 5 per cent. of the fuel), particularly when we consider that this ponderous machinery itself has to be carried at the high speed, and that additional power must be applied to overcome the resistance due to its weight."

"What remedy do you propose to apply in this condition of affairs?"

"Design light running, swift moving engines, analogous to those of the American torpedo boats and launches, sufficiently augmented in weight to give the endurance required for the emergency power of a war ship; and by applying two or more separate engines to each shaft of the twin screws, so that one engine on each screw can be disconnected, when running at low speed, thereby avoiding the loss incident to a large engine developing a small power."

"What weight of steam machinery would you propose?"

"If the torpedo boat machinery was augmented in weight about 100 per cent. it would give ample endurance for the emergency power of a war ship, and would be eminently appropriate thereto on account of the great economy when running at low speed.

"Many industrial establishments in this country are now using a number of small engines of high piston speed, distributed through the works and applied directly to the machine to be run, in place of the large, centrally located engine formerly used."

"Are you in favor of horizontal engines?"

"The only excuse for the application of horizontal engines to war ships was that they could be protected below the water line, but, since the development of great power by the torpedo type of engines, having vertical cylinders of such small height that they will go below the water line of the lightest draught vessel, there is no excuse whatever for the further application of the clumsy, ponderous horizontal engines so difficult to keep in repair."

"Can you give an example of a vessel with specified weights to illustrate your proposition?"

"The British torpedo boat Childers has steam machinery weighing 57.7 pounds per horse power. The compound engines have cylinders of 14 and 34½ inches diameter, with 15 inches stroke of piston, are 8½ feet high, and develop 700 horse power. If these engines were amplified to develop 1,875 horse power, the cylinders would be 19½ and 34 inches diameter, with 21 inches stroke of piston, and would measure 11.9 feet high. The British dispatch vessel Mercury has a displacement of 3,735 tons, has 7,500 horse power, and has attained a speed of 18.87 knots on the measured mile. The weight of the Mercury's steam machinery is 968 tons. The weight of four engines of the type and proportions of the Childers, of 1,875 horse power each, aggregating 7,500 horse power, augmented in weight 100 per cent., would be 386.3 tons, thereby saving 581.7 tons in the weight of steam machinery, which, if judiciously disposed in water-line defense and shields for the guns, would produce a vessel of high speed, almost completely invulnerable to shot and shell, thereby augmenting the fighting force fully tenfold.

"The lack of endurance of the torpedo-boat type of machinery pertains more to the boilers than to the engines, but by augmenting the heating and grate surfaces 100 per cent. the excessive strain upon the boilers would be obviated. The lack of endurance of the engines of the torpedo boat is due to the strain produced by the momentum of the reciprocating parts, namely, the pistons, piston-rods, connecting-rods, and crank-pin brasses: in the Childers engines these aggregate 375 pounds. In the 1,875 horse power engines, augmented in weight 100 per cent., their weight would be 2,010 pounds, but if the steel now used was replaced with aluminum bronze the same strength and efficiency could be attained on a weight of 670 pounds.

"As the momentum or racking effort is measured by the weight multiplied by the square of the velocity, this reduction of weight would admit of an increase of speed and power of almost 75 per cent., which, however, it is proposed to reserve as a margin of endurance.

"The English have set an example of excessive weight for steam machinery which is unnecessary for the merchant service, and is entirely incompatible with the requirements of a modern war ship. They have fashioned their steam machinery after the style of their pleasure carriages, which are almost as heavy as our brick carts. Anyone acquainted with English machinery will bear testimony to the heavy-handed manner in which their designers deal out weights; from the mechanism of a sewing machine up to the motive power of an armor clad the same ponderosity is apparent, while Americans are noted for the lightness, elegance, efficiency, and strength of their mechanical designs.

"The active competition of rival English private builders has, however, produced the existing first-class torpedo boat, with steam machinery, weighing only 57.7 pounds per horse power, but even that extremely light weight has been exceeded by the lightest American engines of thirty-nine pounds per horse power.

"If the Democratic Secretary of the Navy would adopt the plan of placing contracts with private builders of good repute, upon their own designs for the hulls, engines, and armor projection of vessels complete, it would no doubt result in the construction of very successful vessels, far superior to any now in existence in any of the navies of the world."

DE FUNIAK SPRINGS, FLA.

An Interesting Sketch of the Home of the Chautauqua—A Rapidly-Growing Settlement.

DE FUNIAK, SPRINGS, FLA., March 9.—After a charming ride of forty hours over the Piedmont Air Line and its connections, enjoying to the fullest extent the luxury of its cozy cars, smooth road bed, and the magnificent scenery through which we were swiftly carried, we reached this now quite famous winter resort.

Midway between New Orleans and Jacksonville, on the ridge of land running east and west for a distance of 60 or 70 miles, and about 75 miles northeast of Pensacola, in depths of the pine forests, is the beautiful site of the Florida Chautauqua. The grand old pines are here tall and straight. The winter sun makes brilliant their long green leaves; the balmy odor exhaled from every tree fills the air with healing, health-giving influence. And the tree tops night and day are waked to music by the ever-passing breeze. De Funiak Springs are located in Walton county, western Florida, midway between Tallahassee and Pensacola, on the P. and A. R. R. The soil of this locality is open, sandy, porous loam, so rain as it may, mud is an unknown quantity. The altitude of the location, 275 feet above the Gulf of Mexico, which is distant but 20 miles as the bee flies, its freedom from malaria, the purity of its water, and the rolling character of its ground, together with the abundant shade furnished by the pine, live oak, magnolia, and other Florida forest trees, make it a most desirable place for winter encampment. The grounds of the assembly associations surround a mammoth spring, just one mile in circumference, and as near a perfect circle as can well be. The water is pure and cold, and of an average depth of 60 feet; from its margin the ground gradually rises to the edge of a basin distant about 250 feet. The gentle slope between the crest of the hill and the margin of the spring has been laid out in a beautiful park, with a wide drive and promenade surrounding it. Within this park all the public buildings of the assembly as well as the churches of the village are located. The Tabernacle has a seating capacity of 2,500, while the acoustic properties of the building are excellent. It is here that music gladdens the heart, logic and oratory touch the mind and intellect, and where sermons from eminent divines bring the soul nearer its creator. The assembly decorations—the decorations—consist of constant change and variety—lectures and processions, concerts, camp fires, and class work; the freedom of the forest and the eagerness and earnestness of the school; the recreation which results from breaking into the routine of life. The special departments of the assembly are in the hands of teachers who are thoroughly competent to do the work to which they are assigned, and patrons may be sure of satisfaction, and the Chautauqua, with its schools and other enterprises, is not an affair of a day; it is to be permanent, and to exercise its influence upon the portion of the country where it is located, and also on the country at large. There is room for thousands. Many busy hands have been at work, and more than a hundred cottages have been erected within the past six months. New enterprises have been started, and the smoke from three factories can be seen from the grounds, while stores are so numerous that supplies of all kinds can be procured in any needed quantity. Soon De Funiak Springs will be the liveliest town in Florida, and music, song, and laughter will echo throughout its pines for many years to come.

L. deF. I.

No Boon That Science Has Conferred

Has been fraught with greater blessings than that which has accrued to the inhabitants of malarial-ridden portions of the United States and the tropics from the use of Hostetter's Stomach Bitters. The experience of many years has but too clearly demonstrated the inefficiency of quinine and other drugs to effectually combat the progress of intermittent, congestive, and bilious remittent fevers, while on the other hand, it has been no less clearly shown that the use of the Bitters, a medicine congenial to the frailest constitution, and derived from purely botanic sources, affords a reliable safeguard against malarial disease, and arrests when developed, the disorders of the stomach, liver, and bowels, for general debility and renal inactivity, it is also a most efficient remedy. Appetite and sleep are improved by it. It expels rheumatic humors from the blood, and enriches a circulation impoverished by malassimilation.

HINTS FOR THE HOUSEHOLD.

Potato juice is recommended for chilblains.

Bows decorate the bed spreads and pillow shams. The ribbon should be about three inches wide.

Yellow shades over gas jets give a soft, mellow, pretty light. Shades of red glass are now considered vulgar.

Orange flower water is the elegant tipple of the woman of fashion in the present hour. It is very quieting to the nerves.

Japanese screens of fine lattice work are used over arched doorways; it may be either ebonized or painted in white with a polish.

Table covers are large, and the embroidery is not confined to a border; it is all over. Fringe is not used; a fold of plush makes the necessary finish.

Wash the nickel trimmings of your stove in strong soda water, and wipe them off with a dry linen or a newspaper; then wash the zinc with the same water.

Parlor chairs should be, for the most part, light and easily moved, with just a few of a more substantial sort for those who are six feet tall or weigh two hundred pounds.

Fire-screens of tiny bits of mica, set in daintily-wrought brass frames, form an effective protection from the heat, and at the same time permit a view of the "fitful firelight."

Where silesia is used for dress lining an authority states that by placing the selvage at the neck, instead of for the front lap, it will not stretch nearly so much as when used in the old way.

A pretty pine needle cushion is made of maize-colored moire antique in bag shape. It is tied with a bow of cardinal satin ribbon, and a string of tiny fir cones is twined about the neck, falling in pendants at one side.

The secret in mashing potatoes is to have all the utensils used as hot as possible, and to beat the mass till light instead of pressing down smooth and solid, adding cream, butter, and salt as will fit. A desirable result is reached by rubbing the mashed potato through a hot colander and leaving it just as it falls into the dish.

The potato is a valuable agent for clarifying fat of any kind, and absorbing unpleasant odors. Put thin slices in the fat and fry till crisp and brown, then strain the fat and it will be ready for use. A few slices in each kettleful will keep the odor of doughnuts, &c., from penetrating the house, and prevent the fat from burning.

A chair-back is made by weaving a light and dark shade of red or other colored ribbon in and out among the Kindergarten paper mats, ornamenting each intersection with a daisy worked in floss in the long lines familiarly known as daisy stitch—that is, a long lapped stitch to form each petal. An edge of antique lace should be put on all sides of the ribbon chair-back.

Graham muffins made in this way are wholesome for breakfast: One quart of graham flour, one tablespoonful of baking powder, and half a teaspoonful of salt sifted. To this add two eggs well beaten, two ounces of melted butter, and enough milk to form a thin batter, mixing thoroughly. Bake in muffin rings or pans half filled with the batter in a brisk oven.

A very pretty bedroom valance, with curtains to match at the windows, may be made of pale yellow French sateen, with a border of soft-finished, delicately-colored cretonne, showing a design in yellows, yellow greens and light olive greens. Pale yellow green fluffy crewel tassels are an appropriate finish to this valance, which, like all valances of light materials, must be lined.

ELECTRIC SCIENCE.

Paper No. 10 of a Series by C. J. Kitner, United States Patent Office—The Telephone (continued).

Having given in our last paper a brief description of sound, how it is produced and transmitted through space, we will devote this paper to an analysis of the vocal and auditory organs, and describe the manner in which speech is produced and how it affects the auditory system. All sounds emitted in the utterance of articulate speech take their origin primarily in the larynx, situated at the upper part of the windpipe, where are located the vocal cords, two thin, sheet-like cords which close the entire windpipe and lightly touch each other across the center thereof, their edges lying thus closely together so as to permit of vibration on the least disturbance when air is drawn into or forced out of the lungs under action of the respiratory muscles. If these cords become inflamed, as they often do when one is afflicted with a cold, hoarseness ensues, oftentimes resulting in a total temporary loss of the voice, due to an unnatural separation of the vocal cords, so that they cannot vibrate as the air passes between them. At the will of the speaker air is drawn into and forced out of the lungs between the vocal cords, thus causing them to vibrate, and by the same volition they are automatically but unconsciously lengthened or contracted by a muscular action so as to correspondingly lower or raise the key or pitch of the voice, just as the pitch is lowered or raised by lengthening and contracting a string upon a violin. At this stage of the process of speaking the action is entirely similar to the calls or cries of all the animal kingdom. It is in the upper portion of the mouth, and through and by the aid of the teeth, the tongue, the roof of the mouth, the nasal passages, and the lips, that the sounds are so modified as to convert them into the desired characteristics constituting articulate speech. This is done by changing the size and shape of the cavity of the mouth, and the position of the tongue and lips, as necessity demands, and by controlling the exit and entrance of air through the nasal passages. So then, speech resolves itself simply into a set of sound-wave vibrations, taking their origin primarily at the vocal cords, entirely similar in their action to the vibrating reeds of an organ; it is shaped into language through the volition of the speaker by a set of modulations which are attained by training from early childhood, and only after long and tedious lessons taught through imitation by the mother. As one rounds up his words in a clear and distinct manner, giving prominence to the vowel sounds, thereby approaching musical tones, just in proportion will his articulation be readily understood, and in proportion as he talks with half open mouth, and careless, slovenly accent, or careless rounding of syllables and words by neglecting the conditions necessary to perfect speech, just that proportion will the sounds uttered partake of jarring, unpleasant sensations, and be individually unintelligible to the listener. This should be well understood by every one who attempts to talk into a telephone, for, although it repeats clearly all that is uttered to it, being a dumb mechanical device, it refuses to perform its functions as a repeater of good language to him who will not do that which every lover of good articulation appreciates and applauds. The articulated words made up of the vowel and consonant sounds which compose the alphabet of a language come, as we see, from the mouth as sound waves, taking their first vibrations from the vocal cords, and are modified in the manner above described, traveling thence through the medium of the air to the ear of the listener. Here they strike upon the tympanum or drum of the ear, which is a thin membrane, set in motion by the vocal cords in its tissue, and by their action cause it to vibrate in sympathy or unison with them. The drum or tympanum is separated from the inner part of the ear by a body of confined air, which has a normally closed exit into the throat by what is known as the Eustachian tube. The function of this column of air is to maintain equal pressure on both sides of the drum, and to act as a cushion against severe sound utterances. We are sometimes rendered temporarily deaf by a very intense sound which causes the drum to force the confined air out into the throat through the Eustachian tube. If, on such occasions, one will make three or four attempts to swallow, the equilibrium will be established and hearing restored at once. To the tympanum or drum, on its inner side, are attached a chain of three small bones, called the hammer, the anvil, and the stirrup, which are designed to communicate the sound to the inner ear. These small bones are connected to the inner ear, which is filled with liquid and inclosed in a bony or cartilaginous mass. This liquid in the inner ear is in contact with or communicates to the nerve fibers located in the vicinity of the brain, the sounds, and at this point what was before physiological in the transmission of sound to the auditory system becomes psychological; or, in other words, speech uttered by the speaker becomes converted into thought by the listener. These auditory nerve fibers are about 3,000 in number in the average human brain, and each fiber responds only to a tone which is created by a body adapted to vibrate in unison with it, just as certain of the strings of a piano vibrate when we speak over its sounding board, or as the windows of a church vibrate when an organ produces a tone or tones which cause them so to vibrate by sympathy. The nerves of this nerve-fiber system vibrate in chords, and thought is made up of various combination of nerve-chords, so to speak. Many of these nerve-fibers or chords lie idle for years, and are brought into action by a familiar sound long since forgotten, thus exemplifying in the mental system a parallel to the famous piece of music known as "The Lost Chord." The same peculiarity is found in the senses of smell, of sight, and of taste, the whole nervous system being in fact, adapted to act by sympathy. Each of these little nerve fibers has its compliment in all the sounds that the ear can appreciate, and by education they can be rendered so delicate in their response that material increase in one's hearing faculties can be attained, both in individual nerve tones and chords of the same. Musicians are well aware of this power, as we indicated in our last paper that skilled musicians were capable of detecting the higher sets of harmonics not appreciable by the average human ear.

It is by reason of this constant strain on the auditory system of the wild animal, owing to his necessity for self-preservation, that his sense of hearing becomes so acute as to far outstrip his higher educated fellow-being, man. Indeed many wild animals, like the panther, are provided with external or exposed nerve-fibers, located on either side of the nose, which are far more delicate to sounds than the internal nerves, and warn their possessor, even while asleep, of the approach of danger, or of a victim. There lies always between the speaker and the hearer a certain sense of adaptability which makes articulation on the part of the one and understanding on the part of the other more or less easy or difficult, as the case may be, just as in the ordinary avocations of life some men are naturally better adapted to make themselves more agreeable and more popular to all persons than others. For the perfect transmission of speech there must be a bond of sympathy between the speaker and the hearer. A good listener always pleases a speaker and unconsciously puts him on his guard to show his appreciation by uttering distinctly that which he feels is appreciated.

We have not given above, by any means, an exhaustive diagnosis of the organs of speech and hearing, such as the surgeon would dictate, but have dropped all scientific terms, and endeavored, as far as possible, to describe the essential organs and their especial functions in such language as might be readily understood by the reading public. It has been our design in this description to lead our readers up to the primordial fact that speech is simply composed of a special kind of sound waves, differing from music in its peculiar eccentricities, due to the fact that it is a combination of musical and non-musical tones, and that it is produced by and through the vibrations of the vocal cords, and transmitted to the drum or diaphragm of the ear, which in turn vibrates in sympathy with the sound waves uttered; that the drum or tympanum of the ear is in its construction, very similar to the diaphragm of an ordinary telephone, so that we are now prepared to show how the well-known form of telephone transmitter takes up the sound waves, converts them into electrical waves similar in form to said sound waves, and how the receiver at the distant station reconverts the electrical waves into sound waves, which affect the ear of a listener exactly as the original sound waves would have done had they been uttered in the immediate vicinity of the listener at the receiving station, but, of course, in very much feebler tones. The peculiar differences existing between the sound waves of speech and music can be very prettily illustrated by attaching to the center of a telephone diaphragm a stylus of wire, having its outer end bent down and bearing upon a strip of paper covered with carbon dust. Upon moving the paper transversely across the path of the stylus, and at the same time singing at a given pitch before the diaphragm, it will be set in vibration and the stylus will record an even wavy line upon the paper, the distance between the wave crests being a constant quantity, and their height another constant quantity. Upon uttering spoken words before the diaphragm, and moving the paper as before, a very irregular line is the result, made up of jagged or re-entrant portions during various parts of the curve. The musical tone gives impulses occurring in sequence, and it is their regular beats or impressions that pleases the ear and distinguishes it from the harsh tones detected in speech necessarily made up of more composite tones. This difference in the characteristics of sound in musical tones and articulate speech constitutes a very marked feature in the operation of the speaking telephone, as we shall try to explain in our next article, wherein we shall take up the telephone proper and describe its mode of operation, based upon the theory advanced by the celebrated Alexander Graham Bell, which is now pretty generally accepted among electricians, although there is considerable doubt of the correctness of this theory in the minds of some scientific men whose judgment is certainly worthy of note. We shall endeavor to explain the mode of operation in the simplest possible manner, and leave the scientific critics to fight out their alleged theories without entering here into any discussion pro or con, it being no part of our province to disclose in a public journal our views in regard to matters which we are liable to be called to pass upon in an expert official capacity at any moment.

CLAIM AGENTS IN CONGRESS.

Representative Hill, of Ohio, Makes Some Remarks About His Colleagues.

Hon. W. D. Hill, representative from the sixth district of Ohio, addressed the Virginia Democratic Association last night. He was proud to say that he was a Virginian by birth; the first campaign which he could remember was in 1841—the great contest between Clay and Polk. In that day campaigns were conducted differently than now, and entirely different from any he had ever seen in Ohio. Money was not known in politics then, for if one had offered a man money for his vote he would as certainly have knocked the briber down as he had the ability to do it. There are a few men yet in Congress of the old style, one of whom he was proud to say was Hon. John R. Tucker.

In the old days, he said, millionaires were unknown, but now they were everywhere. Over fifty his little town of Springfield there were many, they having made money during the war by making "shoddy" cloth for the army, but the speaker did not know what that was.

Abraham Lincoln was as good a man as ever lived, pure and honest, but he was surrounded by men who were corrupt, and that during that time great corruptions had crept into the affairs of the government, but as Virginia politics were pure, she ought to lead in the movement for a pure and honest government. He did not know what this Congress would do with the tariff; he thought, however, that they would do nothing. He was in favor of reducing the tariff on sugar, even if it did injure some of the millionaire sugar-planters of Louisiana. Congress will dodge the issue, but the newspapers will discuss the question, and as the people read for themselves, in the end the subject must be acted on. The words "M. C." prefixed to the name of congressmen ought to be stricken off and the words "C. A." substituted, as all the members of Congress are little else than "claim agents."

Politicians now are only claim agents, and his schoolmaster received a letter on any subject of public interest; all his letters related to war or pension claims; it was, in his opinion, time that this robbery of the treasury should cease and the government administered according to the principles of the constitution. He was proud of his adopted state, Ohio, even if she was under a cloud at this time. All the great leaders of the Democracy of Ohio were Virginians by birth. Thurman, Allen, Pendleton, Vallandingham, and others. Concluding, he remarked that the Democratic party is in power—at least, he supposed it is—and it will live in this country as long as there is a free ballot in the land.

JUSTICE TO CITIZENS.

A Bill to Grant Claimants the Right to Sue the Government.

The report submitted by Representative Tucker from the judicary committee, recommending the passage of a bill to grant claimants the right to sue the government, makes an explanation of the bill prepared by the committee, which is substantially as follows:

The jurisdiction of the court of claims is extended so as to include claims founded upon the constitution of the United States, such as for just compensation for property taken for public use; damages liquidated or unliquidated; all claims for which the party would be entitled to redress against the United States in a court of law, equity or admiralty, if the United States were suable, and all set-offs, counter-claims, claims for damages, whether liquidated or unliquidated, or other demands whatsoever on the part of the United States. The limitation of all claims under the act, the report says, is six years, thus excluding all war claims. Jurisdiction concurrent with the court of claims is given to the district and circuit courts of the United States in cases where the money value does not exceed $10,000. Right of appeal to the Supreme Court is granted in all cases to both parties. Interest shall be computed at the rate of 4