

THE FREE CITIZEN.

E. A. WEBSTER, Editor and Proprietor.

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REST.

Burn low, oh light, and let the darkness in!
Let silence be the voice of grief and pain;
Let soul to body be no more a mate;
Let each, too freed, be sweetly desolate.

Yes, let the soul, even as a too-loved bride,
Torn gently from its sacred body's side,
Love slumber more than love; turn and be still,
Now that they both, or not, have had their will.

What matters it? they both are freed to death,
They, married with the breathing of a breath,
Would gather up the feet and be at rest,
Content to be oblivious of the best;

And happier so all discord to elude,
All bitter passion that great solitude
That reaches like a red, cool influence,
O'er folded hands and lips to memory sweet.

A sea of grassy waves, foam-fringed with fow'rs,
The tenderest gift of any of ours;
For to the latest of life, with floral wreath
We treat the latest thing, the grave, to smile!

If one goes gladly at the close of the day,
Fate all the pleasures of his world away,
Falls down the curtain, lays his shining hair,
And weary body on a downy bed.

Divested of all care, but robed in sleep,
Not any one will make it to weep;
Then after one such night, if there be no breath,
What rest is kinder than the sleep of death?

O soul, we each have weared! Let us turn
Both breast from breast. There is no more to learn.
There may be dawn beyond the midnight's pall,
But now sweet rest is better—best of all!

HETTIE'S FIRST VALENTINE.

It was a lover's meeting, a lover's parting, when Robert Grey, walking across the fields in the summer twilight, found Hettie Holmes at the stile waiting for him. There was no light in her eyes when they caught sight of his tall, strong figure coming toward her, no smile on her lips when he stood near her waiting for her to speak. Humbly, yet so earnestly with the humility of a lover, he looked into the face before him, so very young and fair, so stern and pale. She looked at his handsome face, his tall form, and a shudder shook her from head to foot. Very small, very slight, there was yet a dignity in her voice and look as she said in a low tone:

"I came to meet you once more, as you requested, Robert; but you must not think to move me from my resolution."

"You cast me off, then," he said, sadly and very, very bitterly.

"It is your own act!"

"But, Hettie, I am not the only man who sometimes takes a glass more than is good for him," he pleaded.

"You are the only man that could work misery to me by drunkenness," she said, and she turned away.

"You were taken home from the ball on Thursday evening helpless from intoxication."

"But, Hettie, it was a festive time. All the young men were more or less under the influence of liquor."

"No! all, Robert. Thank Heaven, some of the mothers and wives were spared that anguish!"

"Come, Hettie, don't be too hard on me. It does not hurt me so much."

"It has happened once too often, Robert, for you and for me. I told you I would never marry a man who used liquor, and I will keep my word. How often have you deceived me I will not ask. Thursday evening I saw you."

"It shall not happen again, Hettie; upon my honor, it shall not!"

"Will you sign the pledge?" she asked, a hope for the first time lighting her soft brown eyes.

"Bind myself that way! No! You must trust me, Hettie. I think a man signs himself a coward when he puts his name to such a paper, as if he was afraid of his own resolution."

"Twice you have trusted to your resolution, and I have trusted you. Twice you have failed to keep your promise."

The young voice was hard and stern again. But a moment later Hettie spoke in a gentler voice.

"Robert," she said, "you have known me only as a nursery governess to Mrs. Reid's children, an orphan and alone in the world. Your love was a generous one, for you are above me in position, have wealth, and might marry a far handsomer and richer girl than I am."

"I love you," was the simple reply, and there were tears in Hettie's eyes as she heard it.

"Because I believe you love me, Robert, I will tell you what I hoped might never have been known here. My home is so far away, all I loved there have been dead for three weary years, and I hoped the same might be buried forever. But, Robert, listen, my father died a drunkard's death after living a drunkard's life for fourteen years. I can remember, though dimly, a handsome house, my mother handsome and happy, well dressed, with every comfort within her reach. I can well remember the gradual downfall from one home to another, each poorer than the last, the warm, comfortable clothing growing shabbier and shabbier, the bountiful table growing more and more scanty. Worst of all, Robert, child as I was, I could see the change from a noble, upright manhood to the brutality of a drunkard. I have seen my mother cowering under blows, while I shrank and shivered in a hidden corner. I have seen little brothers and sisters, one after another laid in rude coffins, victims of want and suffering. I have seen my mother die, bidding me care for the driving, prematurely old man, falling into his second childhood from drink. The end came when he died raving in the madness of delirium tremens, and when I turned my back upon his grave I made a vow to my heart that sooner than tie my life to the slave of drink I would end it with my own hand."

"But, Hettie, that was an extreme case. Your father was, you say, the slave of drink, it will never be my master."

"It is your master now, since twice it has made you break a solemn pledge to me."

"But, Hettie, can't you understand? A man may take occasionally a little more perhaps than his head can bear, and yet never fall into the pitiable state you have described. Heavens, Hettie!" he cried impatiently, his temper paling under the steady resolution of the face that could be so gentle and sweet, "you pay me a poor compliment when you want me to bind myself by a written pledge not to make a beast of myself."

"I did not come here to exchange compliments," said Hettie, sadly, "but to tell you that I will never take up the burden that crushed my mother into her grave, voluntarily. Never with my eyes open will I link my life with that of a man who ever touches one drop of liquor. It is useless to repeat the old arguments, Robert. Moderate drinkers, occasionally intoxicated, may live for years only moderate drinkers, but I will never be the wife of any man who has not bound himself by a pledge never to touch liquor in any form."

"A total abstinence fool!" sneered Robert, now thoroughly angry.

"A total abstinence man," she said firmly.

"I hope you will be able to find the soft fool who will put his manhood under your thumb. For myself, I will never bind myself to a temperance pledge!"

"What!" he argued, "shall I, the richest man in M—, who could marry almost any girl in my own set, bind myself to absolute slavery for a nursery governess, a girl who has not one penny beyond the salary Mrs. Reid pays her, a drunkard's child, by her own confession? Never?"

He was very angry, and like most angry men, very unreasonable. He forgot to think of the long courtship by which Hettie was won, of the gentle maidenly reticence that had been one of her greatest charms, of her own modest estimate of the merits that had won him. He forgot the times without number when he had compared her in his heart with all the maidens he knew, finding her even prettier, sweeter, more winsome than any. He forgot how he loved her in his anger at her resolution.

And Hettie, walking slowly homeward, realized that with her own hand she had thrust away the brightness of her life. She loved Robert. Not because he was rich, could give her a position, but because she loved him, but for his tender chivalry, his noble intellect, his loving eyes that had sought her with such constant devotion. She had believed him all noble, true and manly when she had put her little hand in his strong one and promised to be his wife.

Six long months of betrothal had passed before the summer evening when she turned from him, as she thought forever. And only in the last few weeks had she known of that fearful, deadly foe to her hope of happiness who was fastening his fatal hold upon her lover. The first time she heard of Robert Grey intoxicated, a deadly despair grasped her heart. She thought of life-long martyrdom from which she had escaped so little time before, and she wrote to her lover sternly forbidding him to see her again, and then spent night after night weeping for her lost love.

But Robert Grey would not accept his dismissal, and pleaded so penitently that love conquered fear, and Hettie believed that now, again would he yield to the temptation. Again the story came to her, and half maddened, unwilling to believe the solemn pledge broken, she begged him to come to her and explain away the lie. But the third time she had seen him! Too well she knew what the red, wild eyes, the thick intemperance, the reeling step betokened. Only in answer to the most earnest petition had she served herself to grant one more interview, and it had ended in Robert's anger and the failure of her own last hope.

She knew Robert Grey had a sense of honor as keen as her own. That he had failed in his promise to her was because he looked upon it as a pledge merely given to answer a girl's foolish whim. Once bound before men by a written pledge she felt sure he would keep it at whatever cost to himself. So she hoped to win him to sign such a pledge. There was a strong temperance revival in M— at that very time, and on this she built a hope not knowing it was her weakest hold.

For Robert Grey, young, wealthy and popular, looked upon all this temperance preaching as directed against the lower class, the rascals who rolled in gutters, the frequenters of village taverns. That he, a gentleman, should place his name to such a pledge as these wretches were persuaded to sign, seemed to him in a measure to place himself upon their level. There, as he told Hettie, it was a confession of weakness against which all of his manhood revolted.

The summer days wore away, and these two, loving each other fondly, met but seldom, only to exchange constrained greetings. Hettie suffered most in her quiet, uneventful life; but she had been educated in a hard school, and bore her pain patiently. She grew paler, and more quiet, but there was none to notice any change. While she was faithful to her duties to Mrs. Reid's nursery, she was sure of a home; and if there was no love there but that of the children she taught, so, too, there was no one to comment upon her languid step or pale cheeks. If she spent many nights in weeping, no one sought an explanation so long as Mary's grammar was recited, and Alice said her A B C's.

But when the winter set in, Hettie

had another wrench at her heart-strings. Without a word of farewell, Robert Grey left M— to travel. No one knew exactly upon what errand the young man had gone. He had been in business, and had left that with an agent, giving no hint of when he would return, or whether he was bound. Orphaned, wealthy, and free, he had no permission to seek, his aunt caring for his house as she had done since his mother died in infancy.

Hettie had not realized how hope had still been strong in her heart until Robert was gone. While she could see him; though they met almost as strangers, she prayed and hoped still that he would return to her, and give her the pledge he would value most as his safeguard. But he had gone in anger, and the little governess looked a very hopeless future in the face. She was a woman whose love, not easily won, would be given for a life-time, and no thought of another, to replace Robert, ever came to her faithful heart. She had given him up because she thought duty demanded the sacrifice, but she could never cease to love him. Winter festivities left her often alone. Mrs. Reid took the children to their grandmother's for Thanksgiving, and again for Christmas week. In all this time Hettie was left in charge of the house. Some Christmas gifts were put upon her dressing table testifying the children's love and Mrs. Reid's appreciation of her care; but though Hettie valued these highly, they could not fill the dreary void in her heart.

Sometimes in her lonely weeping she questioned the resolution she had thought only duty, wondering if her sternness had driven Robert more into the path she wished him to avoid, whether her influence might not have saved him. Then she remembered her mother's prayers, her patience, her pleading, and felt how powerless a woman is when drink is her rival.

January wore away, and February was half gone, when one morning Alice Reed, in the midst of her babes, exclaimed:

"It is St. Valentine's day, I wonder if I shall have a valentine!"

"Papa will bring the mail at dinner," said ten-year-old Mammy, gravely. "I know because Ben will send us a valentine; he always does."

"Will you have one, Miss Hettie?" questioned Alice.

"No, darling, I think not," Hettie said, smiling.

But when papa came home with the mail, and the children rushed out to meet him, Hettie heard him say:

"Take this letter to Miss Hettie, Mammy."

A letter for her! There was no one in the wide world to write a letter to Hettie, except— "A wild hope sprang in her heart. Could Robert have written?"

It was a bulky letter, and Mammy, eager to see if her father had a valentine for her, left Hettie alone to open it. A letter, closely written, was inside, and folded within this a temperance pledge, and at the foot of it the bold signature, "Robert Grey."

The letter was Hettie's first love-letter, and I have no right to intrude upon her privacy; but in the spring, Robert Grey came back to M— to find his bride, who put her hand in his, lovingly, trustingly, won by the love that had prompted the sending of her first valentine.

The Suez Canal.

A letter from Cairo to the Eastern Budget, dated the 1st December, says: "The present state of the Suez canal is far from satisfactory. The canal is neither completed nor in good repair, and if matters are left as they are at present it will become useless in a few years. It is broad enough to accommodate three steamers abreast, but its depth is so variable that one ship only can pass through it at a time. When a vessel comes from Suez the ships coming from Europe must wait at Port Said, and if the ship gets aground on the sand the whole communication is stopped until it is set afloat again. This, of course, causes great injury to trade, and complaints are frequent. The chief cause of the evil is the want of money. The English, who use the canal more than any other nation, have long been thinking of getting the canal into their own hands, but a majority of two-thirds of the shareholders is necessary in order to change the management, and as the viceroys are the possessors of one-third of the shares, he has practically the casting vote. It is true that one third of the shares are also in the possession of Englishmen, but the attempts which have been made to induce the viceroys to dispose of his shares have hitherto been fruitless. The khedive evidently feared that England will become too powerful on the canal, and therefore prefers the status quo. As for Mr. De Lesseps, he continues to send protests to Constantinople about the canal dues, and his finances are becoming worse every day. The cost of the maintenance of the canal and of its works is from 15,000,000 to 20,000,000 francs a year, while his total receipts this year have only amounted to 30,000,000 francs, and it is very uncertain whether they will be maintained at that figure. Merchants here are unanimously of opinion that something must be done to prevent this useful work from being ruined, and that Mr. De Lesseps should either be allowed greater freedom of action, or be given an opportunity of selling the shares to a new company."

—According to Kepsey, the surgeon to the Austrian Polar expedition, chocolate, as a beverage, proved most valuable of all; the preserved meat and vegetables in tins being also of the greatest service in sustaining the strength and spirits.

Tall Servants.

Mr. Conway, in his last Commercial letter, says: "There is no doubt that the English nobility have a way of employing servants which offers grand opportunities to rogues. In most cases the outside of the servants is the chief thing. If the coachman or footman is good looking in his livery and of the required dimensions his character is not inquired into. A well-known duke recently advertised for a footman of exactly five feet eleven and a half inches in height, whose sole business it would be to stand at the back of his coach beside another of like station. A youth, now in the employ of a lady of my acquaintances, applied for the advertised position, and says that his character was not asked for; he was taken into the servants' hall and measured, and dismissed for lacking the half inch demanded by the duke. There is a passion for tallness in servants, and of one noble family at least it is a rule to admit no man servant under six feet. There are six of these eminent personages in their fine mansion. The English servants are good-looking, neat, and constitutional flunkies and flunkycasses. They are very shrewd, and have their class rules as well defined as trades-unions. Downing streets does not possess more pigeon-holes and red tape than a mansion of the wealthy. An upper housemaid would die at the stake before she would do a bit of work that came within the province of the under housemaid. A swell butler would throw up his position in the face of the Lord Chancellor himself if he were expected to black his own boots. There are many boys of thirteen kept in brass buttons, and in many an instance the sole duty of this boy is to brush the clothes and boots of the butler the master of the house having his own separate valet. Of course it is not pride which has made the inflexible laws of etiquette among these servants, by which they refuse to step out of an official groove of function. It is the determination of their class to preserve the conventional number of the servants, required for any first-class household. They particularly dislike servants from other countries, especially the Germans, because if well paid and well treated they will do anything requested of them."

The Effect of Exercise.

It is found by observation that the effect of "training," or the persistent use of gymnastic exercises, is to enlarge the heart and lungs both in size and capacity. Archibald McLaren, superintendent of the Oxford gymnasium, and author of "Physical Education," says: "One of the army officers sent to me to be instructed in gymnastics gained 10 inches in girth around the chest in less than three months." That this growth is not explained by the mere enlargement of the pectoral muscles is proved by the increased volume of air which the lungs are enabled to expire, as is demonstrated by the spirometer, and post mortem abundantly show an increased capacity as well as size in the heart and large blood vessels. The lungs increase in length and breadth, forcing the ribs outward and the diaphragm downwards. It is for this reason that athletes and gymnasts are able to make prolonged and violent exertions without getting out of wind. The capacity of the heart and central arteries being enlarged, they can accommodate more blood. Their contractile power being increased by this new demand upon them, they are enabled to send on the current through the lungs with increased velocity, and thus by their greater capacity are able to oxygenize the blood as fast as it is supplied to them, and so no congestion takes place, and no inconvenience is felt. The normal capacity of the lungs of an adult male is about 200 cubic inches. It is computed that an enlargement of three inches around the chest gives an increase of fifty inches of lung capacity.

By the Pacific.

When the tide is out, Panama lies stranded—an inland town. It looks odd to see vast troops of buzzards blackening here and there the seaweed—but they are the scavengers of the tropics; their lives protected by law, and their swift scent for carrion is really the protection of the people from miasmas that also would roam pestilence. Panama is a dense little place, huddled upon a rocky peninsula jutting into the sea from the base of the volcanic Ancon. Leaving the pier, one follows a rather straggling street, which winds among negro huts, grog-shops, and many curious varieties of real estate and live stock, until it delivers him within the walls—no gates are visible, but does any one exactly know when he gets inside, except by a vague feeling that he is in—where semblances of paving and side-walks appear; there is an occasional corner with its side street; the houses indulge in verandas, some times of three stories; queer looking shops—including some where beef is sold by the yard—got thicker; mules, donkeys, dogs, poultry, pigs, pickaninnies, grinning gulls and turkey buzzards abound, and here and there an old black is seen, until, of a sudden, you are in the plaza; the cathedral, with its two towers with their shell-ornamented, pyramidal termini, on whose lofty summits—as well as in all inferior crevices, ledges, and all other possible places—grass is growing, and plants are flourishing and blooming with the most astonishing nonchalance, is on your left; the not very magnificent state house and palace of justice is on your right, and beyond it is what is left of the old, and what is finished of the new "Grand

hotel of Panama. The average traveler finds little beauty in his surroundings; but there is a certain newness about the picture which pleases him—for the sense of novelty is a pleasure in itself.

The Polar Wave.

The cold weather we have been having of late in these latitudes is the balmy breath of the May time in comparison with what they have been having in Montana, according to a correspondent. "Writing from Silver Bow, in that territory, he says that the previous midnight the thermometer marked fifty-six degrees below zero. That was the night when Chinamen and whisky froze, as reported by telegraph. "Dahing's severe cold snap in Iowa some years ago, when the mercury ranged for many days between fourteen and thirty-six degrees below zero, the teamsters used, as it was currently reported, before starting on their long trips to buy a gallon of whisky, bore a hole through it and sling it by a string to the coupling pole of the wagon; then they could knock off a piece with a hatchet when they wanted a drink. The Montana correspondent tells his success in freezing mercury. A tumbler full of the ordinary fluid metal was exposed to the air on a cold night. At forty degrees by the thermometer it was still fluid; at forty-one degrees it had begun to harden on the outside; at forty-two degrees it was solid. Of course spirit thermometers are employed there by weather observers. "One of them, a very careful man, wishing to be accurate, ordered a spirit thermometer from New York, to be made with special attention to correctness in the scale. It came in due time, and was a very fine instrument, but was only graduated to thirty degrees below zero. The disgruntled meteorologist pronounced it a good enough summer thermometer, but not calculated for northern Montana.

A Chinese Comedy.

The San Francisco Call speaks of a performance by a newly imported troupe of Chinese actors and gymnasts as follows: "The piece presented was evidently in the low comedy line, judging from the great merriment of the audience, excited by the dialogue; but the leading features were the grand military spectacles, jugglery, and acrobatic performances. At different times Chinese soldiers of the old style appeared upon the stage, and exhibited the mode of warfare with spears and other ancient weapons. The fencing exercises and combats with the double swords display marvelous dexterity and agility, and demonstrate that the Chinaman on his native heath, and with his own style of weapon, is a dangerous antagonist. The mode of combat with hatchets and meat-choppers and the utility of the cumbersome bamboo shield are also displayed. The jugglery, which consists in running each other through with swords and spears, braining one another with meat-axes, etc., is thrilling, but rather ghastly in its effect, and most wonderful, deceptive. The blood is seen streaming down the naked bodies of the apparent victims in appearance that is wonderfully real, and after being decently slain in one of the terrific combats, it is quite surprising to observe the deceased arise again, and go prancing off the stage with a meat-cleaver stuck in his skull."

A Parisian Extravaganza.

Writes a Paris correspondent: "Furniture and utensils for doll houses are in great request this winter, and a large wholesale house that is exclusively devoted to this branch of production has done a larger trade this year than ever before. This house employs 60 hands, male and female, all the year round, and turns out this class of toys to the amount of \$80,000 per annum. The cheapest set of 'furniture' turned out by this firm consists of a box made of deal, a glass decanter, two dishes, and four plates of china, two glasses, a pewter dish cover, two knives, forks, and spoons; the whole for three sous. From this price the sets mount up by regular gradations until they reach the absurd price of \$240; no fewer than six 'sets' dolls' house-fittings have been sold this winter by this firm at this price. These miniature articles, carefully arranged in cases of morocco leather, consist of every variety of object in silver, silver-gilt, fine porcelain, sparkling crystal, delicate leather, costly woods, ivory, bronze, silk, velvet, &c., the whole thing being of the most exquisite workmanship. The same house sells the highest classes of dolls, with their 'trousseaux', at the modest price of \$120 each."

ORIGIN OF THE AYRSHIRES.

A poor farmer in Scotland, in 1750, finding it almost impossible to subsist, took great pains to have his children drive his cows where she could eat the richest and thickest grass, to house her in the winter, and to feed her with carefully stored hay; in fine, took unheard of care of his cow. The grateful animal rewarded her owner with a fine calf and an unusual abundance of milk, and thus the celebrated breed of Ayrshire cows was produced, though it was not till about the first of the present century that it was brought to perfection.

Human Intellect, though varying in capacity in different individuals, has its limits in all plans of enlargement by acquisition; and these limits cannot be transcended without aggregate deterioration in distracting the attention; overloading the memory or overworking the brain and sapping the foundations of health.—Jacob Bigelow, M. D.

FACTS AND FANCIES.

—A New York man was recently sentenced to three months' imprisonment for barbarously killing a cat.

—Cincinnati girls refuse to kiss their beaux who were shaved by female barbers, and so the enterprise was starved to death.

—A woman recently died in Alabama leaving to somebody it is said, an inheritance of no less than 287 hoop-skirts. That woman was as well hooped as an imported barrel of French brandy.

—"I'd like to give something to the poor," remarked a Toledo lady. "It's hard times and they must be suffering, but I've got to use this \$40 to buy another switch."

—There's nothing in women, after all. Gail Hamilton and George Sand have both said they would willingly relinquish their talents if the sacrifice would make them pretty.

—A gentleman by the name of Harriott has been haunting the approaches to a certain newspaper office in San Francisco, looking for the editor who called his Clara (nee Morris) a "Blonde Bonanza."

—Wall Whitman has begun to sing about the cold weather. Warbleth Wait!

I howl a whoop,
And with the howlment of the whoop I yip a yowp,
And with a million chill-betinged veins I bow me to the winter's sovereignty;
O bitesome breeze! O quakesome waves! and all conglomerate elements of cold things!

—An observant usher in one of the theaters has got so he can tell a man's business by the way he asks for programmes. A real estate man wants a "description of the play," a hotel proprietor "the bill of fare," a politician "the ran of the play," an editor "the points of the plot," and a lawyer always asks: "Will you be good enough to hand me a bill of particulars?"

—In one of the courts, lately, there was a long and heated discussion between the counsel as to whether a witness should be allowed to answer the following question: "What did Mary say?" Three judges took nearly an hour to decide the point, and at last answered it. The question was put to the witness by the defense, and the reply was—

and well-bred people they try to be pleased; if anybody tries to astonish them they have the courtesy to be astonished; if people become tiresome, they ask everybody else to play, or sing, or what, &c., but they don't criticize." And Judge Bush holds that this is the way it should be in the world as well as in the drawing room. He does not like critics; and yet what else is he himself?

—A coincidence in the matter of names will be noticed in the senate of the forty-fourth congress. There will be two Camerons, two Joneses, and two Morrills, and, with the exception of a J. W. Johnsons—Senator Johnson of Virginia, and Senator Johnson of Tennessee. Did not the term of Sir John Murch, of Maryland, expire on the 4th of March next, there would have been no less than five complements of similar names in the senate.

—It's a deep mystery—the way the heart of a man trills to one woman out of all the rest he's seen in the world, and makes it easier for him to work seven years for her, like Jacob did for Rachel, sooner than have any other woman for the asking. I often think of these words: "And Jacob served seven years for Rachel, and they were but a few days, for the love he had for her."—George Elliot.

—A rich old widower of Oswego told a young girl there to drop her other beaux. She obeyed. He often took her out riding, and assured her that "when we get ready we can go off and den like, and surprise the gossip. The young lady did not demur. Then the rich old widower popped off very sudden like, and married a rich old widow about his own age. The jury is asked for \$15,000 damages.

—Dr. Wilkes, in his recent work on physiology, remarks that "it is estimated that the bones of every adult person requires to be fed with lime enough to make a marble mantle every eight months." It will be perceived, therefore, that in the course of about ten years each of us eats three or four mantlepieces and a few sets of front door steps. It is awful to think of the consequences if a man would be shut off from his supply of lime for a while and then get loose in a cemetery. An ordinary tombstone would hardly be enough for a lunch for him.

—In a few remarks upon the action of lightning-conductors, Seebach, the well-known astronomer, describes the storm of November, 1872, in which the cathedral and palace of Aachen were struck by lightning, these structures having been free from such visitations for many years. The damage done on this occasion was, as he shows, due in great measure to the fact that the lightning-rods, instead of being directly connected with the metallic gutters and other portions of the roof, were isolated from them. The fluid, therefore, sought to make its own way by such other good conductors as were near. After quoting other instances, he expressed the opinion that the conditions most favorable to safety consist in joining the lightning-rod directly to all the metallic portions of the roof, and especially to the rain-water pipes, in order that greater facility may be offered to the electric fluid in its passage to the earth.