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THE STREET RAILWAY JOURNAL



VOL. I. { NEW YORK: }
 { 32 Liberty Street. }

FEBRUARY, 1885.

{ CHICAGO: } No. 4.
 { 8 Lakeside Building. }

The Longstreet Rail.

The cut shows an isometric view of a track laid with a new variety of rail, partaking somewhat of the English "bull-head" type.* The web is quite thin. The head, which takes the compression strains under load, the wear of the flanges and of other wheels, and the lateral thrust of turning out, is comparatively heavy. The lower member, which takes the tensile strains due to the load, is rather lighter than we would make it, but that is probably a mere matter of opinion. Tie rods prevent track spreading. The lower edge of the rail rests in cast iron chairs, supported by concrete blocks. Some of this track is getting severely tested in the tracks of the Union Railroad, Providence, R. I., and we shall probably, at some later period, give a memorandum of its performance.

* D. F. Longstreet, Providence, R. I.

Doubtful Coin.

ED. STREET RAILWAY JOURNAL:—

Your "Kicker" queries who should be the judge of whether or not a worn or battered coin is legal tender—the conductor or the passenger. I fail to see that the conductor has any right to work off a doubtful coin in change on the passenger any more than on the receiver in making returns; nor that the passenger has any right to insist that the conductor shall take a piece that the latter deems suspicious or no longer a legal tender. Mutual concession must govern these things, but the

conductor, as representing the company, is more responsible than the passenger, and should be given the balance of power.

FIP.

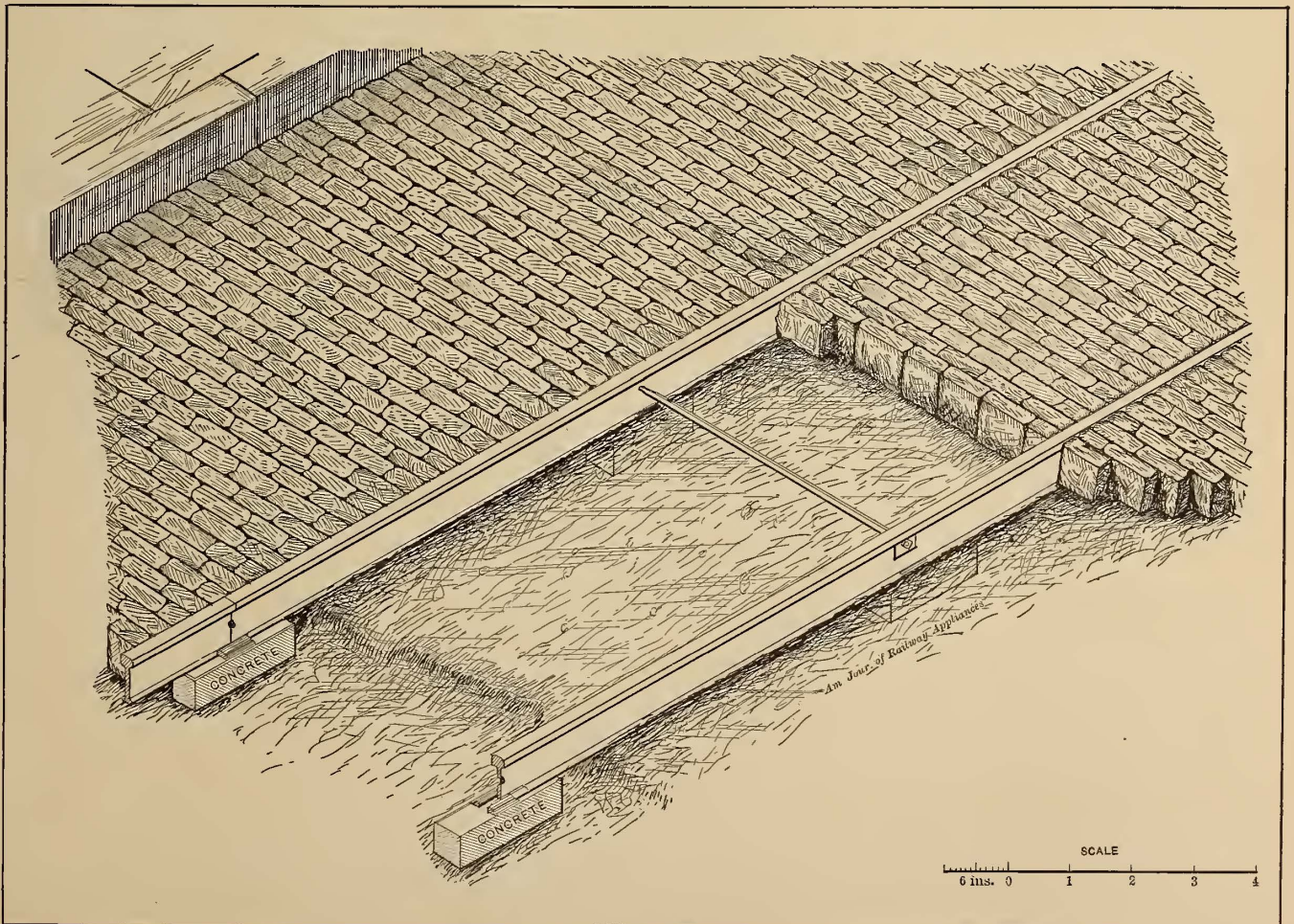
Philadelphia, Feb. 12.

Thank you kindly.

The following pleasant notice from the New York *Day Star*, is accepted in the kindly spirit which prompted it:

"THE STREET RAILWAY JOURNAL, Monthly. American Railway Company, 32 Liberty Street, N. Y. \$1 per annum.

This is a new and novel publication, devoted mainly but not exclusively to the topics suggested by its title. For all who are in any way interested in the practical affairs of street railways it appears to be a valuable publication."





American Street Railway Association.

OFFICERS, 1884-5.

President.—Calvin A. Richards, President Metropolitan Railroad Co., Boston, Mass.

First Vice-president.—Julius S. Walsh, President Citizens' Railway Co., St. Louis, Mo.

Second Vice-president.—Henry M. Watson, President the Buffalo Street Railway Co., Buffalo, N. Y.

Third Vice-president.—Edward Lusher, Secretary and Treasurer the Montreal City Passenger Railway Co., Montreal, Canada.

Secretary and Treasurer.—William J. Richardson, Secretary the Atlantic Avenue Railway Co., Brooklyn, N. Y.

Executive Committee.—President, Vice-presidents and William H. Hazzard, President Brooklyn City Railroad Co., Brooklyn, N. Y.; James K. Lake, Superintendent Chicago West-Division Railway, Chicago, Ill.; Charles J. Harrah, President the People's Passenger Railway Co., Philadelphia, Pa.; William White, President Dry Dock, East B. & B. R. R. Co., New York, N. Y.; B. Du Pont, President Central Passenger Railroad Co., Louisville, Ky.

The Convention Report.—(Continued.)

TRAMWAYS ASSOCIATION OF GREAT BRITAIN AND IRELAND.

In reply thereto, quite a number of letters were received favorable to the project and a cordial invitation was received from J. C. Robinson, Esq., the Chairman of the Tramways Association of Great Britain and Ireland, inviting delegates to be present at the June meeting in London. Members of the Association were apprised of this invitation by letter, under date of April 28th.

A Journal of Public Street Traffic, entitled "Tramways," and published in London monthly, prints in its March number, the following:

"We have been favored with a communication from Mr. W. J. Richardson, Secretary of the American Street Railway Association, an association young in years but promising, from the liberal support accorded to it, and the energy with which it is directed, a career of considerable prosperity and marked usefulness. Mr. Richardson states that the preliminary proceedings, in connection with the formation of the Tramways Association of Great Britain and Ireland, have been watched across the Atlantic with much interest, and he suggests an exchange of information and experience likely to be beneficial."

One result of the correspondence, perhaps, was to enable the managers of, and others connected with street railways, or tramways, as the roads are called abroad, the better to organize their Association, the name of which indeed was changed from the Tramways *Institute* to the Tramways *Association*.

It was formed, however, on a different basis from our own, in that individuals and not companies are the members, costing each person an annual subscription of one guinea. Members are those who control or manage tramways. Associate members are provided for and are defined as "those

interested in the development of tramway enterprise." This, as will be seen, opens a wide door, admitting supply-dealers, newspaper men, inventors and whoever may, for one reason or another, have his own personal or business "axe to grind."

Your Committee takes occasion to congratulate the members of this Association that the essential principle of its organization is the membership of companies—not individuals. In the strictest sense, ours is a Street Railway Association, the interests of whose members—the companies—are paramount to all personal considerations of the delegates representing the companies. We see in our sister Association across the water, elements of embarrassment, which, sooner or later, may manifest themselves to annoy—the natural outcome of the character of the membership. Personal advantage in such an association will almost inevitably take precedence of consideration over the companies themselves.

The following circular-letter was next sent to all the roads in America.

LEGAL OPINIONS.

OFFICE OF THE
AMERICAN STREET RAILWAY ASS'N, }
BROOKLYN, N. Y., March 12, 1884. }

Dear Sir:—Shortly after the organization of this Association, a circular-letter was sent to all the railroad companies in America, which, to a certain extent, outlined the work of the Association. Attention was called to the desire that we should be able to attain a very important advantage for the advancement of our interests, in the collation of facts and decisions regarding suits against street railway companies, either for injuries to persons or property, or in relation to patents. It was considered that this information would be of great value to members. It can only be properly gathered by the hearty co-operation of all the companies.

Until now it has not been feasible to undertake this work. In this mail is sent the first Opinion: issued in the line referred to, and which is sent for the purpose of ascertaining whether this feature of the Association work will be duly appreciated by railroad men. It is proposed to issue these decisions monthly. It seems to us that the advantage of having Opinions on such matters of vital importance to railroad companies, namely, law suits, published in advance of the law records, will be of great value to us; and we, therefore, solicit Opinions, especially of cases on appeal to the higher courts, and trust the railroad community will readily co-operate by promptly forwarding decisions as they may be received. Yours truly,

W. J. RICHARDSON,
Secretary.

This work of the Association has been very fully appreciated, and, probably, to it, more than to any other single feature of its work, is due the large increase in membership during the year. The companies recognize the fact that one of these Opinions may, sometime or another, easily save them thousands of dollars; and that, therefore, if for no other reason, they cannot afford to do without information that costs them so little to obtain.

Since the first Opinion was published in March, one has been issued monthly, including one already sent in October, and covering, in all, fifty-six octavo pages. Their titles and dates of issue are as follows:

March—William H. Wood against Detroit City Railway Co., of Detroit, Mich.

April—Edward S. Banks against Highland Street Railway of Boston, Mass.

May—Pittsburgh, Oakland and East Liberty Pass. Ry. Co., of Pittsburgh, Pa., against James Donaldson.

June—James W. Lauderbach against People's Pass. Ry. Co., of Phila., Pa.

July—Albert Heckrott against The Buffalo St. R. R. Co., of Buffalo, N. Y.

August—William Sutherland against The Jersey City and Bergen R. R. Co., of Jersey City, N. J.

September—John Parker and the Montreal Brewing Co. against the Montreal City Pass. Ry. Co. of Montreal, Can.

October—Lena Werner against the Citizens' Railway Co., of St. Louis, Mo.

In regard to the Opinion published in May, concerning the blocking of cars by vehicles while loading, we would state that the Board of Presidents of Philadelphia considered it so important, that they have had it published in handy pamphlet form, suitable for distribution. A copy is promptly served on any one, and with salutary effect, who thus interferes with a company in that city in the unobstructed running of its cars.

Neat magazine covers are now being made for the purpose of filing the Opinions, and one will be forwarded to each member with the next publication. Your Committee sincerely hope that, as cases arise and are determined either for or against the companies, that their managers will interest themselves for the general good, by forwarding the decisions promptly for publication. A case decided against a company may oftentimes be as helpful as the publication of one in its favor. The completest knowledge obtainable of street railroad law is desired by us all.

While on this subject, the Committee takes the opportunity to recommend you to cultivate the settlement of all cases that can be settled reasonably, and, of course, honorably; to resist "strikes" of every character, but to treat with especial favor any applicant who has received a *bona fide* injury, who comes to you without first having gone to see a lawyer.

TAXATION AND LICENSE.

The following circular-letter was likewise sent to all roads:

OFFICE OF THE
AMERICAN STREET RAILWAY ASS'N, }
BROOKLYN, N. Y., March 12, 1884. }

Dear Sir:—Toward the close of last year, a circular-letter was issued, requesting information as to what were the conditions of taxation and license relating to all the street railroads in all the States of the Union and Canada. Answers were received from a great many roads, but in a more or less unsatisfactory way; so much so, that it was quite impossible to compile in a proper manner the information thus obtained, and submit the same for general circulation.

The compilation and issue of the Report of the Second Annual Meeting has intervened since the issue of the letter, to prevent sending out a circular, to which uniform answers might be received. Herewith please find a comprehensive blank; and, so far as possible, will you fill out an answer to each question, *omitting none*, that the compilation may be perfect and complete, and return the same, *without delay*, to me.

As you are doubtless aware, a committee on the subject of "Taxation and License," has been appointed, headed by a lawyer, President of a member of the Association, who is to prepare the Report of the Committee to be presented at the regular meeting in October next. It is desired that replies be received from every railroad in the country, that an exhaustive report on the subject may be presented. All companies participating will be gladly furnished with a copy of the facts gathered.

Yours truly,

W. J. RICHARDSON,
Secretary.

Replies were received from eighty-three companies. The facts therein set forth have been compiled, and the information thus obtained should be of great value to those companies especially, whose burden of taxation is insufferable.

In order to assist the Chairman of the Committee in the preparation of his invaluable report on the removal of snow and ice, especially as regards the use of salt, the following circular-letter was sent by the President to all American roads:

REMOVAL OF SNOW AND ICE.

OFFICE OF THE
AMERICAN STREET RAILWAY ASS'N,
BROOKLYN, N. Y., July 25, 1884.

TO THE PRESIDENT OR SUPERINTENDENT,

Dear Sir:—As the President of the American Street Railway Association, at the request of the Chairman of the Committee on "Track-cleaning and Removal of Snow and Ice; is Salt Necessary? If so, is its use Detrimental to the Public Health; and Especially, is it Injurious to Horses?" I deem it advisable to address, not only to the companies that are members, but to all the street railways of America, this circular letter.

For the purpose of aiding the Committee in the preparation of the report, questions are herewith respectfully submitted, and it is earnestly desired that full and definite answers will be made thereto, and this sheet returned to the Secretary of the Association, at above address, as soon as possible.

Yours truly,

WM. H. HAZZARD,
President.

Replies thereto were received from eighty-eight companies; and the report which has been prepared by a physician will very satisfactorily determine the question as to the effect on the public health of the use of salt for the removal of snow and ice from the tracks.

MISCELLANEOUS ITEMS.

Finally, notices were sent to all the American companies, apprising them of this meeting.

The duplicate sets of rules for the government of employees, received from fifty-five different companies, since increased by two, and which were noticed in the Secretary's report last year, have both been doing full duty during the year, in circulating from one company to another.

As the papers of the Association were accumulating rapidly, and a safe place was required for the protection of the permanent books from fire and loss otherwise, the cost of a safe was shared equally by this and the Street Railway Association of the State of New York, costing each \$37.50.

In looking back over the work of, and the advance made by the Association during the year, we are much pleased; the very considerable increase in membership being exceedingly gratifying.

We might add that every request for information made at the office of the Association, whether by a member or not, has been answered, and the information freely given.

OBITUARY.

We desire, in closing, to express our appreciation of the loss the Association has sustained in the death of our late friend and associate, L. Brayton, President of the Union Railroad Company of Providence. We shall miss his wise counsel and genial presence at our meetings.

We also record the death of Horace B. Whitney, the late President of the Harlem Bridge, Morrisania and Fordham Railway Company of New York City. Since the organization of this Association, Mr. Whitney had been an invalid, and was, therefore, prevented from meeting with us. He had, nevertheless, a lively interest in the welfare and success of the Association. We will be placed under lasting obligations at this meeting for the complete report prepared on a very important subject by the brother of our deceased friend, a director in the Company over which his brother faithfully presided.

We mourn the loss of our esteemed friend.

Respectfully submitted,

(Signed), WM. H. HAZZARD, }
JAS. A. LAKE, }
G. B. KERPER, }
D. F. LONGSTREET, } *Executive*
H. H. LITTELL, } *Committee.*
JNO. G. HOLMES, }
JULIUS E. RUGG, }
P. C. MAFFITT and }
JACOB SHARP. }

Mr. Woodworth, of Rochester, moved the adoption of the report of the Executive Committee.

Mr. Thurston said: I rise for the purpose of inquiring what it is that we are to adopt, whether there is any recommendation in the report that needs our adoption? We can receive the report, and order it spread upon the minutes and printed. If there are any recommendations requiring action, and which are to be adopted, then we should adopt the recommendations.

Mr. Woodworth said: I merely made the motion as indicating that the report meets the approval of this meeting.

The motion was carried.

MINUTES OF MEETINGS OF EXECUTIVE COMMITTEE.

Minutes of Special Meeting of the Executive Committee, held at the Grand Pacific Hotel, Chicago, Wednesday, October 10, 1883, at 9.40 o'clock, A. M.

There were present the President and Messrs. Hazzard, Clemminshaw, Walsb, Kerper, Longstreet and the Secretary.

The Secretary presented the following estimate of the receipts and expenses of the Association for the ensuing year:

RECEIPTS.

Annual dues of sixty Companies, at \$15....	\$900.00
Admission fees to twenty Companies, at \$25..	500.00
Balance, cash in bank.....	143.13
Total.....	\$1,543.13

EXPENSES.

Salary of Secretary and Treasurer, including clerk hire.....	\$1,000.00
Reporting and printing proceedings of annual meeting.....	225.00
Sundry printing.....	150.00
Postage.....	80.00
Incidental expenses, including stationery.....	15.00
Total.....	1,470.00
Adjourned.	

Minutes of Special Meeting of the Executive Committee, held at the Grand Pacific Hotel, Chicago, Thursday, October 11, 1883, at 8.45 o'clock, A. M.

There were present the President and Messrs. Littell, Rugg, Sharp, Longstreet, Kerper and the Secretary.

On motion of Mr. Rugg, it was resolved that the Secretary be and he is hereby directed to state immediately preceding the reports of Committees, in the printed report of the minutes of the meeting, that the Association assumes no responsibility for, or endorses, the reports presented by the Committees, and that the reports are published for the purpose of affording whatever information they may contain.

The report of the Committee on Track Construction having been referred to the Executive Committee, on motion of Mr. Longstreet, the report was ordered to be printed in full in the minutes.

Adjourned.

Minutes of Special meeting of the Executive Committee, held at the Fifth Avenue Hotel, New York City, Wednesday, October 15, 1884, at 9 o'clock, A. M.

There were present the President and Messrs. Lake, Longstreet, Rugg, Littell, Kerper, Clemminshaw, Holmes and the Secretary.

The minutes of Special Meetings, held in Chicago, October 9th, 10th and 11th, 1883, were read and approved.

The proposed report of the Executive Committee was read.

On motion of Mr. Longstreet, the report was adopted.

A letter to the Committee from the *American Railroad Journal*, proposing that it be recognized as the official organ of the Association, was read.

Mr. Kerper moved that as there are several, and will, probably, be more railroad papers that devote more or less space to street railway interests, that the Committee recommend to the Association that it does not consider it advisable to endorse any paper as its official organ, for the reason that such action would, at least, seem

to be invidious, and will certainly tend to deter other papers from the consideration of the interests of street railways, while the possible advantage to be gained by the action proposed would be more than offset by the evident disadvantage resulting therefrom.

The motion was unanimously adopted.

The question of the admission of any other person than the representative of a street railway to the meeting was discussed. The Secretary stated that in consequence of the expression of judgment on the part of members of the Committee, no notice had been sent to anyone except the representatives of street railways in America. It was further stated that the *American Railroad Journal* and the *American Journal of Railway Appliances* (whose business is the advancement of railroad interests), had proposed to be represented at the meeting, and had agreed that they would publish only those parts of the proceedings that would be approved by the Committee. It was the judgment of the Committee that these papers should be allowed representation on the basis proposed.

As to supply-men, inventors and others, it was the Committee's judgment that they should be admitted if there be sufficient room; but that they be allowed no part in the discussion, unless by unanimous consent.

The report of the Treasurer was presented, and, on motion, the President was authorized to certify to its approval on behalf of the Committee.

On motion, adjourned.

Minutes of Special Meeting of the Executive Committee, held at the Fifth Avenue Hotel, N. Y., Friday, October 17, 1884, at 2 o'clock, P.M.

There were present the President, Mr. Walsh and the Secretary.

The following list of Committees was decided upon for the next annual meeting:

Repairs of Track.
Progress of Electricity as a Motive Power.
Progress of the Cable System of Motive Power.

Ventilation, Lighting and Care of Cars.
Taxation and License.

Diseases Common to Car Horses and their Treatment.

Rules Governing Conductors and Drivers.
Adjourned.

W. J. RICHARDSON,
Secretary.

The report of the Treasurer was read, showing a balance of \$1,933.13 in bank.

(To be continued.)

The Car Driver's Lament.

It's not so pleasant as it may seem,
To act all day as charioteer
Of a bumping car with a spavined team,
In weather wet and weather clear:
To turn the brake;
The lines to jog;
With cold to quake,
Or choke with fog,
Or swelter and sweat 'neath the "raging Dog!" *

* Poetical license (\$1,000 per annum) for Sirius, or the "Dog-Star."

Ah, well for the happy crowd inside—
The bost of fortunate passenjares—
Lulled half to sleep by the rocking ride,
Till life forgets its carking cares:
I turn the brake;
The lines I jog;
With cold I quake,
Or choke with fog,
Or swelter and sweat 'neath the "raging Dog!"

Ah, well for the lucky conductare,
Who stretches his legs and "feels his oats;"
Who smiles on the ladies young and fair,
And bows to the "nobs" in their broad-cloth coats:
I turn the brake:
The lines I jog;
With cold I quake,
Or choke with fog,
Or swelter and sweat 'neath the "raging Dog!"

The homeliest never looks at me;
On wealth and style I must turn my back;
And for "knocking down" an occasional "V"
I've never a chance, and the "Con." won't "whack":
I turn the brake;
The lines I jog;
With cold I quake,
Or choke with fog,
Or swelter and sweat 'neath the "raging Dog!"

Some day, in a bappier clime than this,
I may wear with pride th' official cap:
So I drive, and dream of that day of bliss,
When I shall "drop" on to a downy "snap":
Still I turn the brake;
The lines I jog;
With cold I quake,
Or choke with fog,
Or swelter and sweat 'neath the "raging Dog!"

JEHU.

Record of a Remarkable Horse.

EDITORS STREET RAILWAY JOURNAL:—

Permit me, on behalf of Mr. J. D. Han-aur, Foreman of the Larrabee Street stable, North Chicago City Railway, Chicago, Ill., to present you with the accompanying photograph of "Old Crooked Tail," a remarkable horse!

On March 15th, 1863, Mr. F. Marwood, a farmer of Cook County, Illinois, brought to Chicago a five year old gelding, and sold him to the North Chicago City Railway. The animal was at once put to work in drawing the company's cars, and continued in regular service until a recent date. He is now an "extra," and makes one regular trip of 6½ miles daily, with other trips, as required. So far as I can ascertain, he has "never lost a day" from any cause during this long-continued service! Our horses work seven days in the week, and Mr. F. P. Roach, of our office, calculates that this horse has during 8,545 days since he entered our service, traveled 17,090 round trips, or 102,540 miles, as a minimum, during the twenty-one years, five months past.

Age has not dimmed his eye! His head is as erect and he is as full of fire as many a colt! He is to-day sound in every respect, and without blemish—a bright bay, with black mane and tail, white face, sixteen hands high, weighing about 1,100 pounds.

When you consider, Messrs. Editors, that the average railroad life of street car horses is from three to four years, when they give out and have to be placed in other service, the performance of this remarkable horse stands forth in unequalled prominence, and I question if his record has ever been excelled among the many thousands of our equine assistants, who day by day, under the summer's broiling sun, or in the winter's biting cold, in times of rain or times of draught, do their part in the efforts of the street railways to provide the daily transportation, upon the regularity of which innumerable multitudes of the human race depend.

In an address to young men, Prof. Huxley said: "No life is wasted unless it ends in sloth, dishonesty or cowardice. No success is worthy of the name unless it is won by honest industry. * * *" This old horse has done his duty well, and, measured by the above rule, has achieved success. If there be a future resting place, where good horses go, he shall have his reward!

If any of your subscribers know of another street car horse anywhere who can beat this record, let them "trot him out."

Respectfully,
AUGUSTINE W. WRIGHT.

Boston Street Railways in 1884.

The comparative statement of the several street railways of Boston for the year ending Sept. 30th, 1884, shows the average receipts per mile run have been as follows:

Middlesex Railroad..	34 96-100 cents.
Cambridge Railroad.	27 61-100 "
Lynn and Boston Railroad.	32 64-100 "
South Boston Railroad.	32 25-100 "
Metropolitan Railroad.	28 95-100 "
Highland Railroad.	31 5-100 "
Charles River Railroad.	22 54-100 "

The average expenses per mile run have been as follows:

Middlesex Railroad.	26 48-100 cents.
Cambridge Railroad.	23 21-100 "
Lynn and Boston Railroad.	28 29-100 "
South Boston Railroad.	26 55-100 "
Metropolitan Railroad.	23 44-100 "
Highland Railroad.	25 39-100 "
Charles River Railroad.	21 58-100 "

The average number of passengers per round trip has been as follows:

Middlesex Railroad.	45
Cambridge Railroad.	42
Lynn and Boston Railroad.	50
South Boston Railroad.	40
Metropolitan Railroad.	38
Highland Railroad.	43
Charles River Railroad.	33

— Car horses wear out sooner than omnibus horses—for although the brakes save the former from the severe strain in stopping this is outweighed by the severe strain they undergo in starting the cars, which are so much heavier than the omnibuses.

The Refined Mule.

EDITORS STREET RAILWAY JOURNAL:—

In your December number, page 33, under the heading of "Coming Articles," you promise, among other things, an article on "The Refined Habits of the Louisville Street Railway Mule." The few remarks that Supt. Littell, of Louisville, made at the late meeting of the Street Railway Association, about the drainage of stable and the reference to the mules, etc., set those present to thinking, and afforded them a good deal of amusement, which was evidenced by nearly every one at the banquet, who had anything to say, going for our genial friend in a pleasant way.

Now, as all have had their fun out of this matter, I greatly hope you will prepare your article, not from what was said about Louisville mules alone, but investigate the matter and get some information on the subject. Mr. Littell stated nothing but facts; and if what is done in the South was put into practice in the hot, close, badly ventilated barns in New York, Boston, Cincinnati and other places, there would be less disease, better health and fewer blind animals.

The subject is not one to be ridiculed, but is of great importance and worthy of sober thought, and if you will think over the matter, personally examine some of the New York Railway Co.'s barns and inhale the strong fumes of ammonia impregnating the entire building (including the hay and grain), you will, I think, prepare an article on this subject that will lay the foundation for doing more good to the horse and mule than has been done by Bergh.

PHILEBUS.

Cincinnati, January 20.

[Some years ago, when our occupation took us into fire engine houses, we "happened into" an engine house in the outskirts of the city of Newark, New Jersey, and there learned that the horse could be taught cleanliness, decency and punctuality, as readily as the average human being could. The engine house was one of those in which the horses stand in the same room that serves for engine house and for sitting-room for the men; and the latter, not relishing the perfumes of Araby the blest, which were wafted from the stalls, and no more relishing the necessity of frequent polishing of bright work, caused by the emanations, got the idea that if a cat or a dog could learn neatness of habit and acquire regularity of excretive functions, the horse—particularly the "fire-horse"—could get up to a civilized and sweetly-smelling plane. So the first time that a horse commenced to violate the, to him, unknown proprieties, whether his intended offering at the altar of carelessness was solid or a libation—he was soundly paddled with a "cob" made of $\frac{3}{4}$ -inch board neatly ornamented, as to its business end, with inch auger-holes. He was then led into the yard and left a moment. The instinct which led him to save himself trouble gradually faded away in the dawning light of that reason which associated former habits with new, vigorous, and decidedly unpleasant sensations. Under a patient tutelage which acted at once upon his rea-

soning powers and upon his sensory nerves, the noble brute gradually learned to exercise his reasoning powers—and control his sphincter muscles. Thus punctuality and propriety, delicacy and discipline joined hands; and there was joy in Newark—but no free ammonia in that engine-house. When we were there—in 1873 or 1874—the horses got their noon signals by electricity from head-quarters, a mile or so away:—their halters were released by the same current that caused the gong to strike—they left the clean stalls, excused themselves for a moment, and came back thanking their stars they were not as other nags were. In our wanderings we used to recount that triumph of matter, in the shape of a perforated board, over mind as developed in the brain of the Newark fire-horse: but we found that we were gaining an unenviable reputation as a disseminator of fairy stories, and we laid the history upon the dusty side of oblivion's topmost shelf. We never thought for corroboration and vindication out of the Blue Grass district. We little dreamed that in that land of beautiful women (and *such* whiskey!), and in the reviled person of a street-car mule, there was a silent force at work, raising that long-eared and hard-kicking animal to the level of the fire-engine horse, already embalmed in verse,—but no longer steeped in uric floods. We knew that the mule had quick perception—and a hair trigger on each hind leg—but in most hopeful moments we never thought that the blanket of the Newark horse was to descend upon his hybrid shoulders, and that his ample ears were to bethe twin banners of education and elegance, in the brute kingdom.

In this matter we are heartily with Mr. Littell and with our correspondent, and commend the good sense and humanitarian spirit which has led to making a car-stable more of a barn and less of a pest-house and general nuisance.]

The Texas Mule.

We are very pleased to be enabled to present the ensuing communication from Mr. Belknap, who is, probably, more competent than any one else to speak on this interesting subject. Mr. Belknap in his accompanying personal note says, that he is in constant receipt of inquiries upon the subject from companies in the North. This article is calculated to forestall many inquiries:

SAN ANTONIO, Feb. 8th, 1885.

EDS. STREET RAILWAY JOURNAL:—

I notice in the several Journals already received, a great amount of information about horses as a motive power, etc. It has occurred to me as being singular that no one has mentioned our Texan-Mexican mule in this connection. We that have handled them are willing to assert that there is no animal better adapted to street car service than they are. They are got from our native mares (Mexican or Texas raised) by American jacks. Their average height is from 13 to 14 $\frac{1}{2}$ hands. A 14-hand mule is the best working size—he is close coupled, sound, compact and solid—weighs about 800 lbs., and is fully as strong as a horse of 15 hands, weighing from 300 to 400

lbs. more. One of these mules will, without distress, easily handle a car of 12 or 14 feet length, containing 60 passengers up a grade, and on a level track will strike a trot equal to seven or eight miles an hour on a Macadamized road and maintain it.

Their hoofs and legs are a marvel, never developing disease in either. With an experience of seven years' use of them, have had no complaints in this respect. They are seldom sick or off their feed. With 125 head in our stables we have not had a case of hoof or leg sickness. They can do twenty (20) miles work each day throughout the year, without shrinking or showing any ill effects. We don't know what a hospital department is. In seven years we have lost fourteen (14) animals from all causes—8 from accidental causes—6 from effects of Pink-eye or Epizootic. We have never sold one of these animals without bringing in more money than we paid for him. We buy them after passing three years of age and break them ourselves, a very simple process when understood. We consider them good for ten years, after which time if they grow fat and lazy, they bring good prices for farm and other uses. Have never seen but one mule that balked. We know they will pull, and pull till exhausted.

We select our mules in an unbroken state from herds passing, paying from \$75 to \$100 each. In two weeks' time we have them in good fix to take their daily work, beginning easy and gradually increasing. We make no hesitation in giving them twenty miles a day if compelled to do so, but as a rule confine it to eighteen miles.

Their feed averages per day, ten pounds of grain (oats), and ten to twelve pounds of hay. Our mules have none of the sluggishness of the Kentucky mules; in fact, one of our mules' work would kill either a Kentucky or Missouri mule within a year.

They require little care—give them opportunity to roll twice a week, and they clean and rest themselves better than through any other process.

For *pluck, endurance, strength, speed*, agility and health, they astonish every one not acquainted with their usefulness. We have many mules in our stables that have done seven (7) years' work. We intend to work them right along, till we see signs of failing, in order to arrive at an accurate estimate of length of time they will last in the service. From present appearances we believe them good for ten (10) years.

We think if a proper test were given these animals in the North, that in a short time their advantages would assert themselves, and the horse problem be solved to better advantage than through any other process. Yours sincerely,

SAN ANTONIO STREET RAILWAY CO.,
H. BELKNAP, President.

In Explanation.

Owing to great press of matter we have been compelled to defer to our next issue, the publication of several interesting articles and illustrations: Among others a description of the Pryor interchangeable horse-shoe, and an illustrated plan of car end framing by Mr. W. M. Gabrielson, late of the South Side (Chicago) Railway.

— THE —
STREET RAILWAY
JOURNAL.

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E. P. HARRIS.....General Manager.
 P. G. MONROE.....General Western Manager.
 ROBERT GRIMSHAW, M. E.Editor in Chief.
 G. B. HECKEL,.....Associate Editor.

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Special Notice.

Street Railway officials and others interested, who have not yet subscribed for the STREET RAILWAY JOURNAL, should do so at once, so as to receive the back numbers. An index will be printed at the end of the year, embracing the first twelve numbers—constituting a most valuable fund of information. The price (ONLY ONE DOLLAR) should place it in the hands of every practical street railway man in the country.

What is Needed.

Two things are needed to make the STREET RAILWAY JOURNAL what it should be: (1), news notes and items of interest from the roads, and (2), more subscribers.

In sending news and items, don't stop to put them in shape for the printer (we can do that), but *send in the points*.

Every subscriber received will help to make the paper more valuable to all, as every dollar thus received will be expended in engravings and valuable articles for the reader.

"Manifold" Editorials.

We frequently have sent to us circular descriptions, written out, to accompany voluntary sendings of engravings which are furnished to several technical and trade papers.

We beg most respectfully to say, that under no circumstances will we knowingly accept for publication any matter which has been sent, or will be sent, to any other journal. If we accept it, the manuscript and copyright are ours, and if used by any other journal before we used it, we should act just as though the contemporary had got hold of and published matter which we had bought and paid for, before we had a chance to use it. If we published the matter first, we should expect that every other journal which used it, should credit it to

us, as we scrupulously do every one of the articles which we reproduce from other papers.

In being thus particular we are merely living up to our idea of what a good technical journal should be, and are looking after the interests both of subscribers and of advertisers. Our subscribers pay us for new and interesting matter. Our advertisers pay us to carry their advertisements to a large number of subscribers who will read the paper.

So we notify the public that all manuscript matter sent us for publication will be considered as intended for us only, unless the contrary is stated thereon by the sender.

Commissioner O'Donnell and the Street Railway Companies.

The accountant of the Railroad Commissioners of the State of New York has recently analyzed the yearly reports of several New York street railways, at the instance of Mr. Commissioner John J. O'Donnell, who has authorized the publication of the same, as a sort of minority report.

The animus of this action by Mr. O'Donnell is in pursuance of the proposition by him—which it is understood, however, is not favored by the other commissioners—in favor of recommending legislative action to enforce such a reduction of fares upon certain roads as shall cut down their yearly dividends to ten per cent. upon their original cost.

It may serve to enhance the popularity of this gentleman with his "patriotic" constituents as an "Anti-Monopolist" candidate, thus to strike at the street railway companies, but we can see no reasonable ground for apprehension on the part of the latter.

Surely no candid mind can make any deductions from his array of facts and figures, upon which to base a plausible pretext for asking such legislative interference with the railway companies as he suggests.

None of the exceptionally prosperous companies pay over fourteen per cent. in annual dividend; the majority pay but very small dividends, while many others pay nothing at all (as, for instance, the Second Avenue Railway of New York City, which for eighteen years paid no dividend whatever).

By Mr. O'Donnell's own showing, the most prosperous company he cites cannot reduce its fares one cent, and yield a ten per cent. yearly dividend, after paying expenses.

Stockholders in street railway companies embrace all classes, many of them relying on their dividends for support. Enterprise and wise management are as essential to success in the street railway business as in any other, and we can see no fairness in legislative enactments which discriminate against such companies because they are successful.

We hope and believe that further movement in this direction will be thought inexpedient by the Board of Railroad Commissioners, and that Mr. O'Donnell's suggestions will be speedily pigeon-holed and forgotten. G.

Cheap Fares.

Apropos of the contemplated reduction of fares by the New York Railway Commission, Mr. Richardson, President of the Atlantic Avenue Line, Brooklyn, claims that it is actually cheaper to pay five cents for a six-mile ride in one of his cars, than to pay the shoemaker—to say nothing of the savings of time, strength and energy. He also avers that street car riding is the cheapest commodity in the market.

Independent Wheels.

With the coming year, the JOURNAL OF RAILWAY APPLIANCES intends to continue its discussions and criticisms on what it considers faulty methods and structures in rail-roading. Perhaps the most vicious and discreditable thing that retards railway progress and reduces railway dividends is the rigid axle.

If you were to go to Thibet, or Abyssinia, and see a half naked native making or using a two-wheeled cart, having both wheels fast to the axle, you would either laugh at him, or try to teach him better.

If that same savage were to carry out your practical hints to the advantages of independent wheels on single-axle vehicles, and were to study the reason, and then come over here and see one of our trucks having two and even three parallel axles, incapable of radiating, and each having "rigid" wheels, he would probably think that we had called attention to the mote in his mechanical eye, without knowing or caring for the beam in our own.

Just how many millions of rigid axles are grunting out criticisms upon our lack of knowledge or our indifference to common sense in this matter, we cannot say, not having the figures at hand. But there are enough rigid wheels skidding and enough more slipping, while you read these lines, to make a good fortune if you had a dollar apiece for them.

Independent wheels haul easier on curves, ride smoother, take less lubricant, are easier on brasses, and give better mileage than "rigid" wheels.

We do not say that a perfect independent car wheel has been either tried or invented. We do not think that it has. We do know that the saving in fuel, lubricant, bearing metal, wheels and rails, and the increase in passenger traffic, due to increased comfort and quiet, would make it pay any railroad to discard every rigid wheel today in use, and replace it with a good independent wheel.

This is not written in any private interest, nor with any particular independent wheel in view. It is simply to call attention to a cold fact.

Failing of Varnish.

There are many subjects in connection with car painting, on which car painters need considerable enlightenment; as for instance, the questions of cracking, peeling, and perishing. There is not so much trouble in assigning the causes of these three modes of disappearance of varnish; they are sun, rain, cold, air, and friction; and there is not much chance for lessening the causes themselves; but knowledge, skill and experience may enable the lessening of the effects, and it is to the interest of all varnish makers and varnish users that knowledge of all the means by which the effects can be lessened, shall be disseminated, and notes compared.

We should be glad to hear from practical men on this subject, more particularly as to "powdering" caused by the evaporation of water from the surface of the varnish, resulting in the gum separating from the varnish.

Beating the Conductor.

A sharp Milwaukee Avenue (Chicago) street car conductor has been unburdening his soul to a local reporter on the subject of "beats."

He estimates the company's loss through this means, as about 10%. "Every one," said he, "is bent on beating us, especially the women, some of 'em will come into a car with four or five children whom they scatter around promiscuously among the other passengers, and when I go in to collect the fares the mother, who has been looking out the window, starts up surprised, and after keeping me waiting about five minutes will pull out five cents and declare that she has no children with her except 'my little 2-year-old Johnny here.'

"A man is always nervous when he plays one of those tricks, and I can spot him every time. He'll always keep a quarter or a half-dollar in his hand, too, so that he can crawl out by saying he forgot the children. When a man gets on and I can't spot him as soon as I go in for fares, I walk along the car slowly and look hard at all of 'em. The average man will weaken at this and reach for his ticket or nickel. But with the tough customers this scheme don't work as well. When they are on board I go out and speak to the driver. He looks around hard at the passengers and I look at the same time, and then nod to him as if I had spotted the man. It makes him so fidgety and red that I can spot him then. But nothing of that kind affects a woman. One of 'em will look daggers at a man, who may have two children and a lap full of bundles with him, if he don't get up and give her his seat in the car, but when she gets on a crowded seat she won't even pull in her skirts to make room for a tired shop-girl or tired mother who holds to a strap with one arm and has a fretful child in the other."

Car Starters to the Front,

The Dutch Society for the Promotion of Local Rail and Tramways offers a prize of 300 guilders for the best means of reducing and diminishing the pull and strain upon the horses in bringing the tram-cars into motion and to their normal speed, either by utilizing and turning to account the force wasted by frequent application of the brakes, or by any other contrivance answering the same purpose. The apparatus must be so constructed as to allow of its being used in both directions, when the car is in motion. Clear and distinct duplicate drawings or models—the latter are preferred—must be sent in franco on or before July 1st, 1885, to the Secretary of the Society, Balistraat 2b, the Hague, and must be provided with a mark or symbol. The name and address of the sender must be enclosed in a sealed letter, with the same indications on it for identification. The letters containing the name or names of the sender or senders of these plans will be opened by the directors of the Society, and the projector or projectors will be requested to produce at their own expense and cost their apparatus, in such

statistics as to the number of passengers a manner as to allow of its being applied to one of the tram-cars of the Amsterdam Omnibus Company, before April 1st, 1886. After each apparatus has been in use and practically tried on such a car for one month, the jury will make its award, which must be published before August 1st, 1886. The apparatus will remain the property of the inventors, who are at perfect liberty, if they choose, to take out patents for them. The managers of the Society may come to an agreement with the inventor of the prize apparatus as to the compensation to be granted, should the apparatus be used on the lines of members of the society. The drawings and models to which no prizes have been awarded will be kept secret, and forwarded to the addresses given by the senders.

Bob Tail Cars.

We take the following from the *N. Y. Tribune*:

"A Brooklyn Judge has decided that the 'bob-tail' car must be provided with a conductor. The Common Council, some time ago, passed an ordinance to that effect, but it has never been enforced. One of the companies that indulges in 'bob-tails' made a test case, and the Court holds that the ordinance is valid. The public will view this result with diverse feelings. There is no denying that from some points of view the 'bob-tail' is a nuisance; but at the same time a 'bob-tail' car is much better than no car at all. If the companies have to employ conductors as well as drivers, it is inevitable that they will run fewer cars and at longer intervals. Consequently, while passengers will gain in safety and convenience, they will lose in waiting on street corners. The use of the one-horse conductorless car is by no means general in Brooklyn; they are used on but few roads, which run for longer or shorter distances through sparsely-settled neighborhoods."

With all due respect to the decision above rendered, we cannot help thinking of a statement made by one of Dickens's characters, we forget whom—"the law is an ass." The average bob-tail car is a nuisance, but why is it more of a nuisance and why is it more in need of special legislation than a Broadway stage on this side of the river, or a Montague Street "bus" on the Brooklyn side.

Fare Collection.

ATTENTION, INVENTORS!

The Dutch Society for the Promotion of Local Rail and Tramways publishes the offer of a prize for the best answer to the following requirements:—A good system for control of the passenger conveyance by tram. In judging of the answers, the following points will be taken into consideration: (1) The system must be simple and not too costly in practice. (2) It must cause as little trouble as possible to the passengers and a minimum of delay. (3) Frauds on the part of the public and on the part of the guards must be reduced to a

minimum. (4) It must afford complete conveyance and the distance traveled over by them. Existing systems may also compete. Specimens of the tickets and the other papers, etc., requisite for a due control must be sent in. The answers must be sent in not later than July 1st, 1885, free to the secretary of the above-mentioned Society, Balistraat, No. 2b, the Hague. The answers may be written in the Dutch, French, German, or English languages, sparing the half of each side of the leaf—folio—but not in the author's own handwriting. The contributions may not be signed by the author himself, but must be identified by another name, by a proverb or some other symbol. The same symbol must appear on the sealed letter accompanying the answer, which letter must contain the name and address of the competitor. If no prize is awarded, the above-mentioned letter will be destroyed unopened six months after the jury has made its award; the sender may demand the return of his answer on indicating the symbol used by him, and that within six months. The prize answer, as well as those not claimed within the above-mentioned limit of time, will remain the property of the Society. The answer accepted by the jury will receive a prize of 300 guilders. If the jury consider that none of the prizes submitted to them are deserving of the prize, the Society may, if it thinks fit, divide the 300 guilders among those who have sent in the best answers.

There are enough devices in use and prepared in this country to warrant a large representation from America; whether or not it will be made, deponent saith not, not knowing. It is our impression that no one device in use in this country completely fills the bill—but then the questions asked by the Dutch Society do not fill the bill, either.

To Car Builders.

Suppose each car builder lets us have a memorandum of each "kink" or improvement in car designs or construction, that he brings out, and we will give it publicity. The progressive designer and builder need never be afraid of giving points away to his rivals. They will nearly always sneer at them at first, before adopting them; and as the progressive builder starts ahead of the "moss-backs" and runs faster, he need have no fear of "getting left" in life's race.

— Passenger street cars were first used in cities in the United States as early as 1840. Their introduction was at first very bitterly opposed by the omnibus lines and by property holders as well as owners of vehicles who claimed that the rails tore off their wheels and obstructed general traffic.

— The London horse car, which runs about 70 miles per day, usually requires ten horses each; thus each horse has 14 miles of work; but to maintain this service 11 horses are provided, to allow for occasional rest. But where the cars are light and the gradient very favorable horses are worked 16, 18, and even 20 miles a day.

Car Heating in Chicago.

The following, from our own correspondent, will be found interesting. In connection therewith, our correspondent notes as follows:

"At the meeting of the Committee on Railways it was agreed that the ordinance introduced by Ald. Young should be reported upon favorably, which was done at the Council meeting on Monday evening. Ald. Young then moved a suspension of the rules, that the bill might be taken up. The motion was lost, and the bill deferred.

The ordinance referred to, in substance, orders that from November to March the temperature of the Chicago city street cars shall be kept at a comfortable point."

[The tabling of this ordinance has a very "jobby" and "lobby" look.—Eds.]

* * * * *

On January 2d, a meeting of the Chicago City Council Committee was held, at which Mr. Winston read an ordinance about heating street cars.

The chairman seeing Mr. C. B. Holmes, Superintendent of the Chicago City Railway Co., present, called upon him personally to know if he had anything to say touching the matter.

Mr. Holmes spoke in substance as follows:

The Chicago City Railway Company is desirous of heating its cars if a satisfactory device can be found. If it could be done it would largely increase our revenue. I have here between 25 and 30 descriptions of as many different methods of heating cars. In 1875 I commenced making experiments with a view of finding some means which would not be open to the objections which prevail and obtain against most heaters. On our outside lines running out in the town of Lake and Hyde Park we are now, and always have heated our cars with stoves placed in the middle.

That answers the purpose reasonably well in that quarter, for it is an open prairie, and the car doors are opened but a very few times after the car leaves the terminus. The passengers ride from one end to the other as a rule, and it is comparatively easy to keep the cars warm with an ordinary small stove. In the city, the cars are necessarily more crowded, and when the car arrives in that portion of the city where the buildings are three to seven stories, the wind swirls down between the building and street intersections, and as the door has to be opened frequently, it causes a down current through the smoke-pipe, and the gas or the ashes from the stove penetrate all parts of the car. The gas from burning hard coal is not only obnoxious but poisonous.

One of our first experiments in the way of heating was with a hot cannon ball. We heated it to a white heat and placed it in an iron case with non-conducting material placed between, and the register at the top. There was no difficulty in heating the cars and of retaining the heat for the time it took to make the round trip; but the effect on the air in the car seemed to be to burn out the oxygen, and destroy the vitality of the air. It did not bring in fresh, warm air, but destroyed the virtue of the air that was in the car.

We also tried heating cars by lime in a metal casing, and slacked as the car was passing along, and that gave out quite an amount of heat but it could not be regulated. It gave out more than was necessary on a not very cold day, and a less amount on a cold day. We arranged at one time for the right to use a heater beneath the car, and the Board of Directors passed a resolution authorizing the heating of the cars, but after making patterns and trying some six or eight cars with the heater attached, it utterly failed and was abandoned. We have tried heating cars with naphtha, but the odor was so disagreeable that it was impossible to stay in the car with the heater in operation.

We tried another heater that burned kerosene oil, and attempted to burn it into gas at the point of combustion, but we found that there were fatal objections to that. The company of itself, and the parties who have brought us heaters, and which we have tried, have spent altogether between \$2,500 and \$3,000 in experiments.

We have watched with a good deal of interest the experiments made in New York and Brooklyn with a heater composed of pipes with chemicals into which steam is injected at the end of the route. The experiment so far as carried was three years ago quite unsatisfactory. Last winter it failed to give satisfaction, but this winter improvements have been made on it and better results obtained; but on a very cold day, when heat is needed the most, it fails to accomplish the object. To describe every one of the large number of experiments that have been made would consume hours. The company which I represent is now experimenting with some recently invented devices, with which we hope succeed in producing the desired result. The stove invented by Mr. Herr, and which he urges the companies to use, contains many desirable features, but is still open to the same objections which obtain against all stoves—namely, the filling of the car with gas at times, and the inability to regulate it to the extent that is necessary; and in making one part of the car too warm and the rest of the car not warm enough, making it very unpleasant to those near the stove, and not giving the desired benefit to those further away. At one time the North Chicago Railway Company had all its cars heated with stoves, but was obliged, under the pressure of public sentiment, to take them out, as they proved so objectionable.

The Committee then called upon Mr. Lake, Superintendent of the Chicago West Division Railway Company, who corroborated what had been said by the previous speaker, and stated that his company was perfectly willing to adopt any device which should be proved to be of real benefit in the case. There were so many objections existing against anything he had yet seen, that he had been waiting, and still was waiting for something to be invented which would meet the case.

The Committee then voted to adjourn for two weeks to see what result, if any, should be attained by further experiments.

[In commenting upon Mr. Holmes's remarks concerning the hot cannon ball, we wish to enter our most decided pro-

test against the assertion that a red-hot cannon ball, or a white-hot cannon ball, or any other red-hot or white-hot man of iron, "burns out the oxygen and destroys the vitality of the air." For oxygen to be burned out of the air, necessitates that the iron be changed into oxide of iron, or iron rust; and such rusting or oxidizing of a pound of iron would consume many days, and use up very few pounds of oxygen. A coal stove does use up the oxygen of the air, and in this respect would be much worse than the hot ball. But for all that, the air thus vitiated in the stove should be passed out and up the chimney; the carbonic acid and carbonic oxide formed by the oxidation of the carbon in the coal, not returning into the car. If there is proper draft up the chimney, there must be a hundred cubic feet of fresh air drawn into the car for every hundred cubic feet vitiated and passed up the chimney; so that where the chimney draws up and cannot draw down, a stove is a purifier of the air and a ventilating device in the car. But a hot cannon ball destroys less oxygen than a stove of the same degree of temperature. If proper provision was made for adding moisture to the air when it was heated, there would be much less discomfort from hot stoves or hot cannon balls.

As regards the down drafts backing up on the stove:—that could be prevented by proper swiveling cowles upon the tops of the stove pipes. A street car, particularly if running, is no harder to get up a draft in, than many a shanty wedged up against the side of a tall factory building.

As to the question of heat or no heat for street cars; while heating may be of doubtful expediency in some places, we can testify from agonizing experience, to the fearful necessity for increased comfort in the street cars of Chicago, during cold weather. Some years since we lived in Chicago, far up towards Lincoln Park, and later, on the West Side, out towards Western Avenue. Coming in or going out, on cold days, was positive torture, and every business man living in the outskirts (and the residence portions of Chicago are nearly all in the outskirts), would bless the street railway companies for the accession of comfort and abatement of peril from pneumonia, which could be attained by heating their cars.—Eds.]

Electric Railways.

Dr. N. Adams, of St. Louis, in a paper before the Engineers' Club of that city, presented the claims of electric transmission as a motive power for railways. The motive power does not need to be hauled over the road. [This advantage is shared by the cable system.] The efficiency claimed is 60 to 65 per cent; and it was stated that the Chicago Cable Railway gave only 19 per cent. below the results of most unfavorable electric experiments. Dr. A. proposed to use small wheels and put the armature of the "dynamo" on one of the main axles of the car.

— Among engineers and others qualified to judge, there seems to be a tacit understanding that some other method of traction will soon supplant that of horses, and that the cost of such service may be reduced at least half from its present rate.

Comments.

— Some day, the festive parlor match and the joyous salt hay will cement their marriage, and there will be roast passenger to grace the wedding board.

— There are two people (whether a pair of lovers or a married couple we are unable to say) who make passengers on the Third Avenue Line, Brooklyn, sick at their stomachs, and drive them out of the car to take refuge on the hind platform, where they would sooner face the cold blasts of Boreas, than the warm sighs of the other fellow. A considerate conductor would turn down the lights, instead of permitting the fond dalliances to be made a public show. Some day our esteemed friend, A. Comstock, Esq., will run the conductor in for keeping a disorderly house.

— Is your line one of those on which one can estimate the distance traveled by the number of back teeth knocked out? A molar to the mile is the average on some lines.

— The woman who sits cat-a-cornered and lets a mother with a babe in her arms stand, may almost give place to the dudine who accepts your seat, and then when there is a vacancy made alongside of her, beckons her dudelet to take the seat. Swine take care of a swain, it seemeth.

— There are, on some lines, plenty of hampering regulations as to carrying packages, etc., and these very same lines will let passengers accumulate reservoirs of tobacco-juice, phlegm, and other nastinesses between the bars of the wood-mats.

— I have taken considerable time and trouble to analyze the atmosphere of one of our east and west (Philadelphia) lines, and send you the result for comparison:

PARTS.

Cyano-Hydrate of Old Rye.....	3.6
Nitrogen-Dioxide or Laughing Gas...	17.3
Amido-dichlorophenolanide of Erin...	371.0
Trithionate of Conductor.....	9.4
Hyposulphide of Old Cushions....	3.1
Artho-Nitrophylate of "Venerable Hay".....	109.4
Sulpho-Hydrate of Stale Tobacco Juice	78.7
Hydro-Carbonate of "Tough"....	231.1
Oxygen and Nitrogen.....	Traces.
Carbo Bisulphide of Mule.....	176.3
Total.....	1000.0

— We know a conductor who glares at the audacious passenger who dares to hand him five cents all in coppers.

Fare Collection.

ED. STREET RAILWAY JOURNAL:—

We have tried almost all the methods offered to get all the fares in, and think that while the Slawson Box is in many ways unpopular and unsatisfactory, it pays because it does away with the expense of the conductor's wages and stealings. W.

NORTH-WEST.

[We have several more letters on the subject, and hope to give them in our next issue. EDS.]

Personal.

— Leander C. Brown, son of Superintendent J. E. Brown, of the Troy & Lansingburg Railroad, has been appointed Assistant Superintendent of that road.

— D. W. Pugh, of the John Stephenson Co., has gone to the New Orleans Exposition. John Thackaberry, Superintendent of the same company, has returned from the Exposition.

— H. C. Simpson, Secretary of the Lewis & Fowler Manufacturing Co., is about starting on a Western trip, which has been deferred for some weeks.

— Col. W. S. G. Baker, Superintendent Baltimore Car Wheel Works, is, we hear, at work on a new car box and bearing.

— J. G. Brill & Co., who were shut down some days recently, have started up again, "with" (as one of the firm expressed it) "considerably more work, and a better outlook than when we stopped."

— Michael Feigel, of the Feigel Car Works (the son in the late firm of M. Feigel & Son), is dead. He had lately returned from an extended trip west for his health, returning via New Orleans.

— Jos. G. Spear, of Minneapolis, and Thomas Lowry, of Pittsburg, and their wives, are in New Orleans.

— D. J. Miller, Chief Engineer of the Tenth Avenue (N. Y.) Cable Road, is about to build another cable road in Sydney, Australia.

— Abram Lent Smith has resigned the Superintendency of the Dry Dock, East Broadway & Battery R.R., to accept the position of General Manager and Superintendent of the 42d Street, Manhattanville & St. Nicholas Avenue R.R.

Notes.

— The Jones Car Works, West Troy, are building ten cars for the Rochester City (N. Y.) & Brighton R. R.; 16 for the Detroit (Mich.) Ry. Co., and five for the Charles River Railway Co., of Boston, all of which are equipped with Lewis & Fowler's Randall gear.

— W. P. Craig, of New York, is to build a road at Saratoga, N. Y., as soon as the weather permits.

— The Railway Register Mfg. Co., Buffalo, has recently sent 50 of their portable machines, or "Beer Punches," to the Melbourne Omnibus & Tramway Co., of Melbourne, Australia.

— Andrews and Clooney have just filled a large order for wheels for the Botanical Garden Railway Co., of Rio Janeiro, and also a large order for Buenos Ayres.

— Jessup & Co., dealers in railroad spikes, have secured an order for furnishing all the materials, rails included, for a new road in this vicinity, at prices said to be lower than could be obtained from first hands.

— M. M. White & Co., of New York, have recently placed their switches on the following roads: Brooklyn City; Atlantic Avenue (Brooklyn); Brooklyn Cross-town; Broadway (N. Y.) and Seventh Avenue;

Dry Dock, 42d Street, Manhattanville and St. Nicholas Avenue; Union (Providence), Highland Street (Boston); Orange and Newark, N. J.; Hartford and Weathersfield, besides various others.

— At the works of the John Stephenson Co., N. Y., we notice in process of construction nicely fitted cars for the North Chicago road, the new First Avenue line (N. Y.), canopy cars for South America, and various other orders.

— The Lewis & Fowler Mfg. Co. has closed the contract for equipping the Charles River road in Boston, with the new L. & F. portable register.

— The Grand Street and Newtown road, Brooklyn, will add five new cars, to be built by J. G. Brill & Co., Philadelphia.

— The Buffalo Street Railway, Henry M. Watson, President, is adding a number of new cars, built by Brill-Bemis box and Vose spring. Under the excellent management of Col. Watson, this road has shown marked improvement during the past few years. New timbers and rails have been put in, the equipment improved in every way, and the financial results brought to a condition which should be gratifying to the stockholders and the management.

— John Stephenson, speaking on the subject of car heating and ventilation, expresses the opinion that the Nelson heater and perforated ceiling give the most satisfactory results among all things yet devised for the purposes. The heater mentioned consists of a stove under the seat, opening outside the car, the stove-pipe running along under the seat to the corner of the car, thence up. A mirror or other tasteful finish may be so arranged as to conceal the pipe.

— The Third Avenue R.R. (N. Y.), having tried various systems of heating, has come back to ordinary stoves, and its new cable cars are fitted in this way.

— The Third Avenue R.R. Co.'s Tenth Avenue cable line will be capable of moving thirty to forty thousand people daily.

— Two new street railroads are about to be built at Chattanooga, Tenn. E. V. C.

— A dispatch dated Kansas City, Jan. 10, says that negotiations are practically completed for the purchase of a controlling interest in the street railway system of that city. The purchaser will, it is reported, associate with himself in the enterprise a number of capitalists and leading business men of the city.

— At the annual meeting of the stockholders of the Chicago City Railway, on Jan. 11, the following directors were elected: Samuel W. Allerton, S. B. Cobb, Daniel A. Jones, E. M. Phelps, O. K. Pearson, C. S. Hutchison and C. B. Holmes. The directors are considering the question of heating the cars.

This reminds us of the story of the "Arkansaw Traveler."

"Why don't you fix your roof?" said he to the squatter, "it leaks."

"'Cause," replied the squatter, "when it rains, it's too wet to fix it, an' when it's cl'ar it don' need no fixin'."

By the time the directors reach a conclusion there will be no need of car heating.

— Stephenson's patent passenger telephone signal, with which many cars are now being fitted, is a device for attracting the attention of the conductor. It consists of a metallic air chamber in each end of the car, from which the air is forced through a whistle by a piston to which is attached a cord extending along the side of the car behind the passenger.

— The Worcester, Mass., Street Railway Co. has its road and cars in first-class condition, and is operating $5\frac{1}{2}$ miles, 11 cars, 90 horses, 40 men, conductors on all cars. They are at present building two open cars and are repairing others. New cars will be fitted with the Bemis journal box. Their stock is in fine condition owing to good care and the fact that only four to five hours' work a day is required of each horse.

— Jerome Wheelock, of Worcester, Mass., manufacturer of steam engines, is building a pair 30 x 60 ft., to furnish 1200 horse power for the Chicago cable street railway.

EAST RIVER BRIDGE TRAVEL:—Mr. C. C. Martin, Chief Engineer and Superintendent, has examined and declared against a proposed method of increasing the car accommodation, by a different plan of handling and switching. He says the only feasible method, and one by which the capacity can be doubled, is by increasing the trains to four cars each. This will be possible only when more switching room is obtained at the New York terminus. The rolling stock now on hand is ample for this increased service. One and a half minutes is as close as safety will permit trains to be run, as it requires one minute to unload the cars.

ST. LOUIS CABLE ROAD:—Col. M. A. Downing has let the contract for 39 cars, including 15 grip-cars, and 24 coaches. The contract for the conduit has been let; it includes 1,900 tons of metal.

— The Brocton, Mass., and Stoughton people are talking strongly of a street railway to connect the two places.

— The Portland, Me., Street Railway Co. is overhauling its plant and is placing the road and equipment in first-class condition. The track ($7\frac{3}{8}$ miles) is being laid with new rails on 5 x 8 Juniper ties. And they have completed a new brick stable 84 x 124, two stories. Ten new Brill cars have been added to the equipment, and all cars on out-of-town lines are fitted with heaters in the centre, surrounded by wire netting and a half circle of galvanized iron next the seat, which saves room. The equipment consists of 27 cars, 148 horses, 60 men, with conductors on all cars: six cent fares.

— The Merrimac Valley Horse Railway of Lawrence has a system of alternating conductors by which each conductor makes a trip on each line once in three days. The line comprises 6 miles of track, 20 cars, 67 horses, employing 26 men, carrying an average of 1,500 people a day.

— In 1860 George Francis Train obtained permission to lay experimental tramways in London. The opposition to them was very fierce. The rails were unfortunately constructed and the lines were unsuccessful. They were condemned by the authorities and the tracks were removed in 1861. The introduction of the new system in England was thus deferred until, in 1869, Parliament sanctioned the first Metropolitan lines which have since been so extensively multiplied and extended.

— It was in the early days of tramways in Europe that George Francis Train obtained audience of the Emperor Louis Napoleon in order to secure his consent to their introduction in Paris. Mr. Train stated that they would enhance the ease and shorten the time of getting about the city and descanted upon their convenience to the citizens. "But we don't want any such new-fangled Yankee Notions," replied the Emperor; "let Paris remain as she is—the city of beauty and fashion and pleasure."

— In England and France the principle has become firmly established that the

National Government alone shall have power to grant concessions for street railways. In Germany and Italy, the granting of such concessions is left to the local authorities.

— In London it has been found more economical—apart from merely humane considerations, to work the horses for moderate distances only. The great London General Omnibus Company, by careful selection of its horses and proper treatment has raised the work life of its animals from $3\frac{1}{2}$ to 5 years.

— S. M. Carpenter, Fulton Foundry, Cleveland, O., recently shipped to the Citizens Street Railway Co., of Wheeling, W. Va., one of his patent turntables; this being the fourth order from the same source.

— Andrews & Clooney have been awarded a medal of superiority by the American Institute, for wheels, springs and castings. They have an exhibit at New Orleans.

THE COVERT MFG. CO., of West Troy, N. Y., has added to its business the manufacture of chains of all sizes and styles.

MR. GOODMAN, of the Eureka Folding Mat Company, is quite cheerful over late large orders for his goods, which he attributes to the fact that street railways have been comparatively little affected by the "hard times;" that the times are improving, and especially to the fact that he has made known the value and excellence of his wares through the advertising columns of the STREET RAILWAY JOURNAL.

THE AJAX METAL CO., Philadelphia, Pa., reports recent sales to several prominent railways, among others, the N. Y. W. S. & B.; the N. Y. C. & H. R.; the C. & G. T.; the C. I., St. L. & C., and the C. H. V. & T. It has been adopted as the standard for axle and driver boxes on the N. Y. C. & H. R. R.R., and the N. Y. W. S. & B. Railway. The company reports business improving, and testifies to the statement by handing in cards for each of this Company's three publications—the JOURNAL OF RAILWAY APPLIANCES, POWER, and the STREET RAILWAY JOURNAL. G. B. H.

THE WHEELER REFLECTOR CO., of Boston, is now in its new quarters, 18 and 20 Washington Street, where it has extra facilities for the manufacture of their system of reflectors.

L. O. CROCKER, of East Braintree, Mass., manufacturer of conductor's railway ticket punches, among other work, is furnishing the Atchison, Topeka and Santa Fé, Union Pacific, Delaware, Lackawanna and Western, Old Colony, Boston and Maine, Maine Central, Intercolonial and other companies.

POWER.

A practical Journal devoted entirely to the Generation and Transmission of Power. Specimen Copies Free.

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An interest in a Valuable Invention now in successful operation. Indispensable to Cable Roads. Principals only. Address,

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33 1-3	greater tensile strength.
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WANTED.

A situation with some Street Railway Company by a gentleman who has been brought up in the business, and has had experience in its every department. Is now Superintendent of 25 miles of Street Railway, and desires to make a change March 1st. Satisfactory reasons given for leaving present position, and best of reference given, including present employers. Address,

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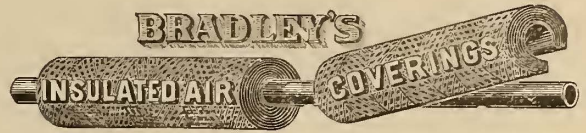
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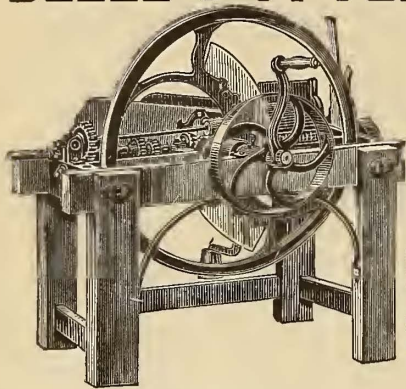
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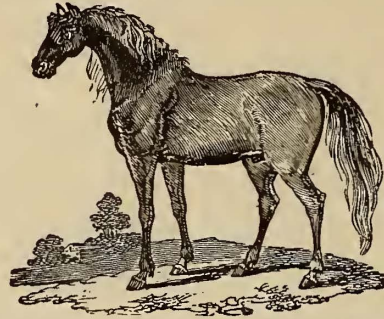
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A speedy and sure cure for Colic—has saved hundreds of horses where all other remedies have failed. Horse need not be run or trotted around to start the wind. Let him stand or lie down as he feels inclined and he will be ready for work almost immediately after recovery. A cure guaranteed in ninety-nine cases in a hundred. Endorsed by the leading street railway companies of the country, some of which we append.

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MESSRS. JONES & ROACH:

Gentlemen: I cheerfully recommend your European Colic Cure for horses as being the best that I have ever used. When once introduced no horse owner can well afford to be with-

out it. I hope you will meet with the success your cure deserves.

Truly yours,
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 Per H. Lieb, Manager.

OFFICE OF NORTH HUDSON COUNTY
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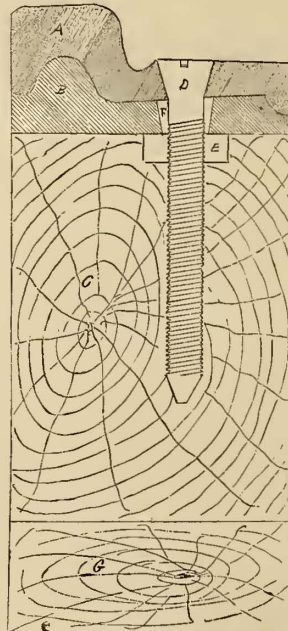
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The accompanying cut shows a cross section through joint. A is the rail, B the joint chair, C the stringer, D the patent screw fastening, E the nut, F a slot in chair allowing rails to contract and expand. The chair cannot settle and the rail ends are held level with each other, preventing the many evils of ordinary construction.

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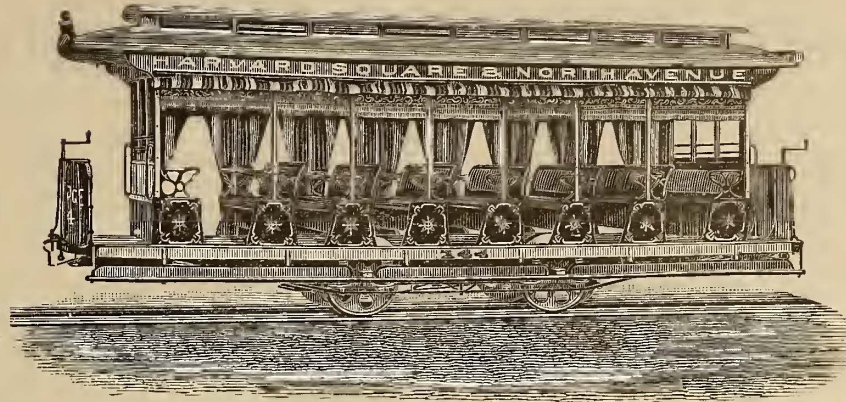
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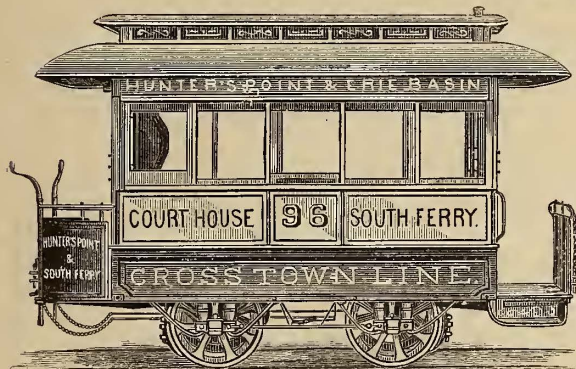
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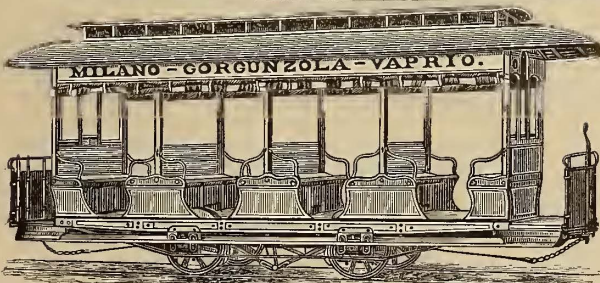
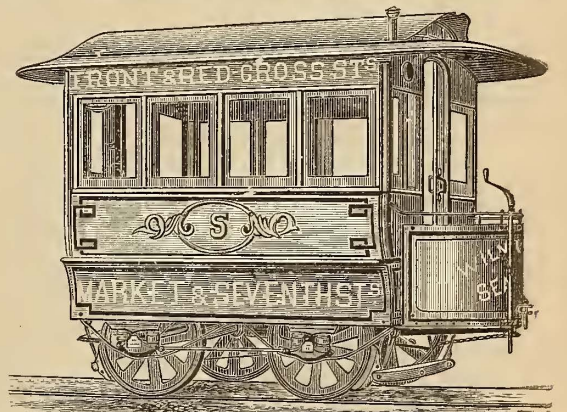
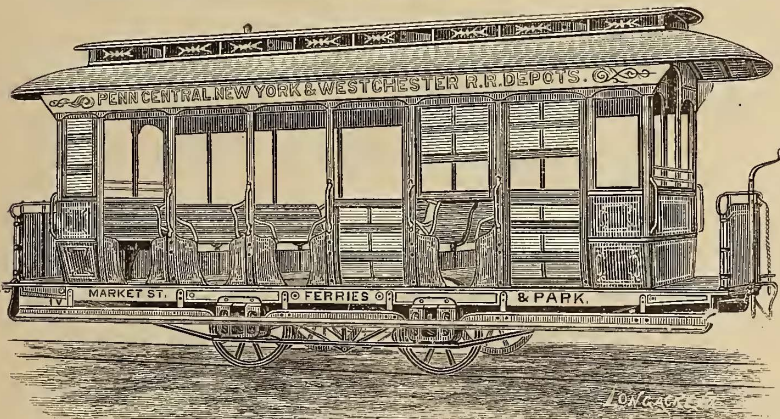
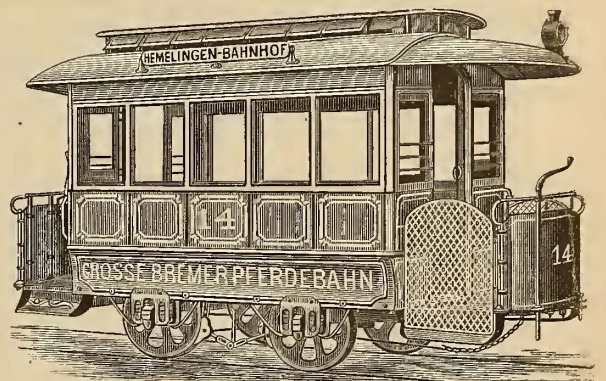


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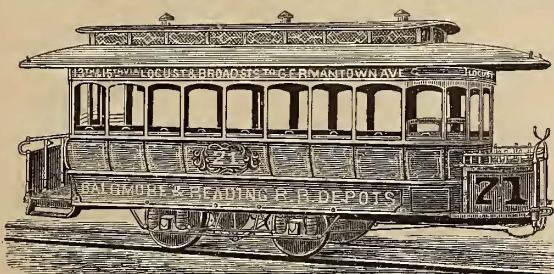
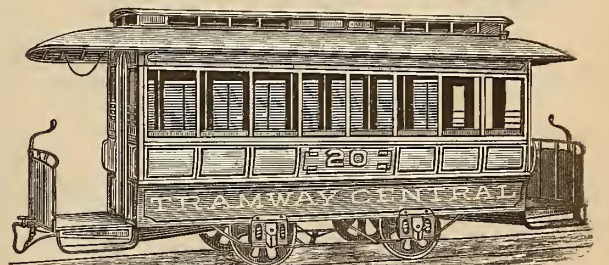


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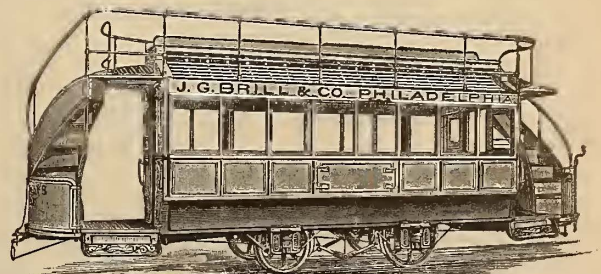
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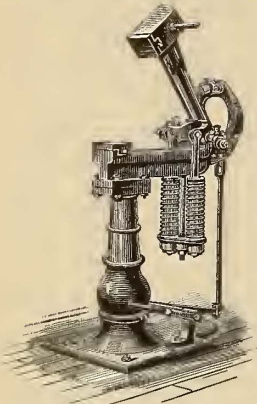


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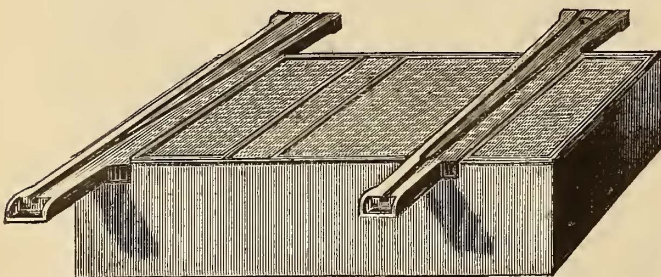


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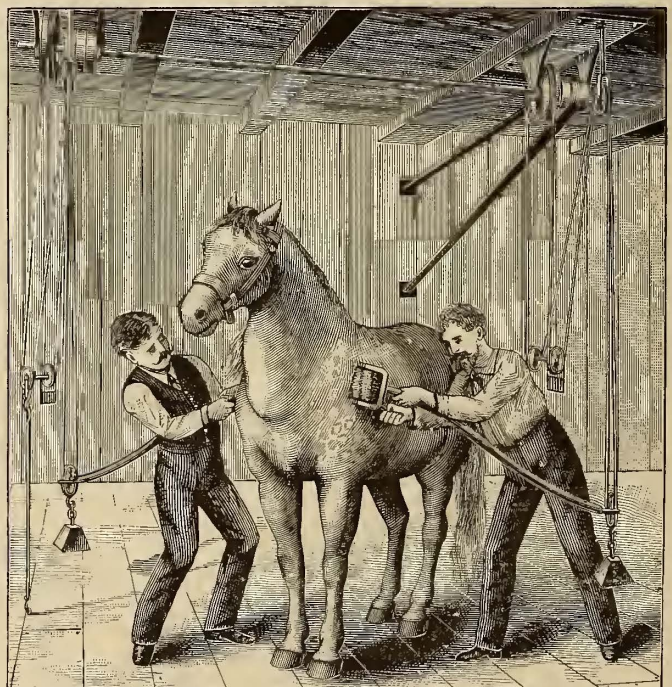
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Patent No. 171,282, December 21, 1875.

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This Grooming Machine is in daily use in some of the largest Street Railway Companies' stables, and has always given perfect satisfaction. Among those using it are the City R'y Co., Chicago, Ill.; Detroit City R'y Co., Detroit, Mich.; Central City R'y, Peoria, Ill.; M. W. Dunham, Wayne, Ill.; West Division Street R'y Co., Chicago, Ill.; Lindell Street R'y Co., St. Louis, Mo.; Pleasant Valley R'y Co., Allegheny City, Pa.; Marshall, Field & Co., Chicago, Ill.; Leroy Payn, Chicago, Ill.; Saginaw City R'y, Saginaw, Mich.; Pittsburg and Birmingham R'y Co., Pittsburg, Pa.; and a number of others who have given testimonials as to the perfect working of the machine. For prices, circular and other information apply to

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J. W. FOWLER,
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DAN'L F. LEWIS,
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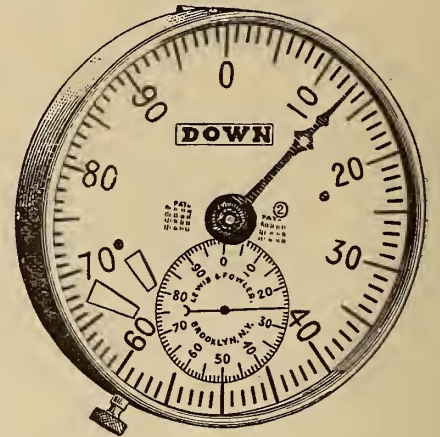
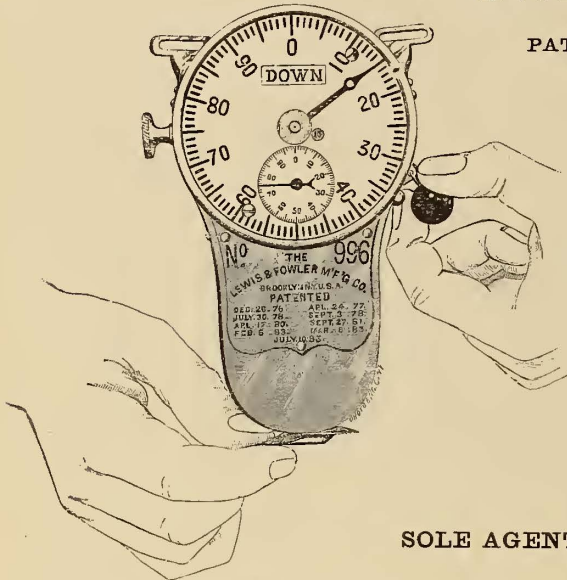
LEWIS & FOWLER M'F'G CO.

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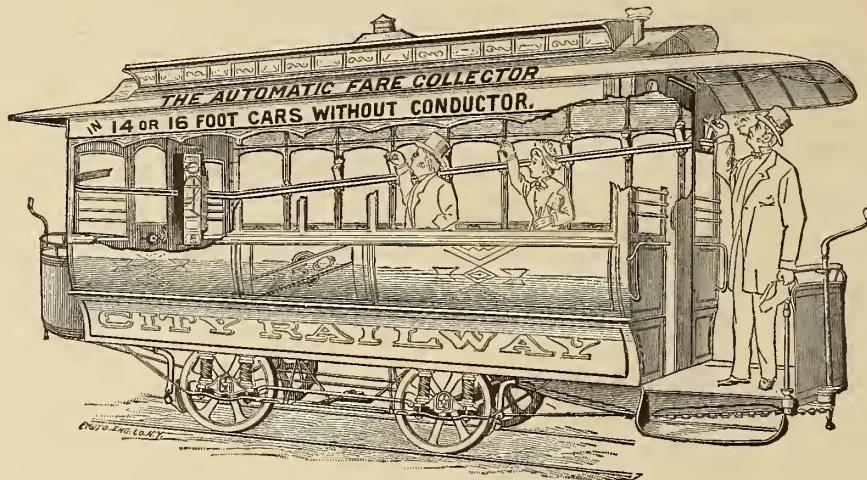
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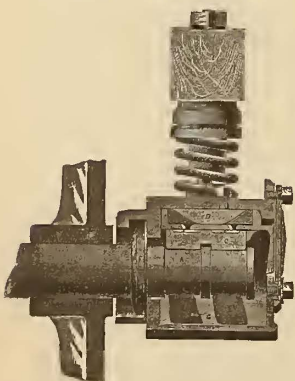
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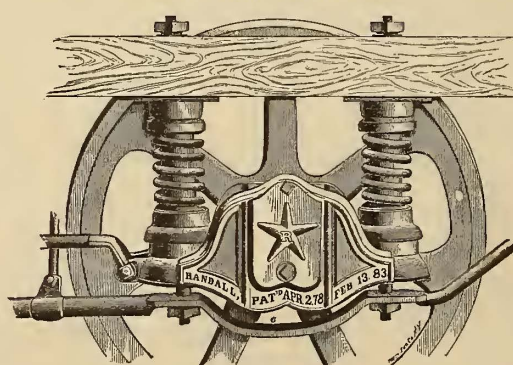
Sectional View.

Front View.

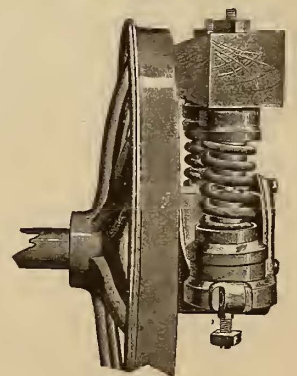
End View.



DUST TIGHT.



ANTI-FRICTION.

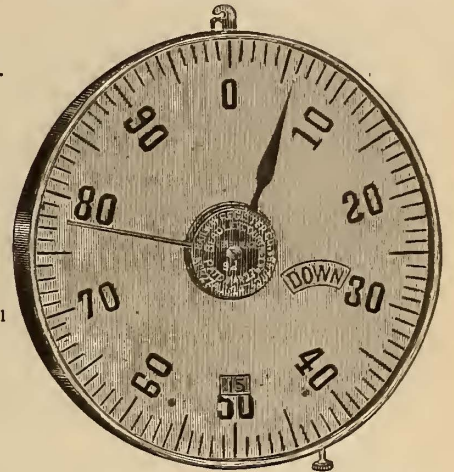


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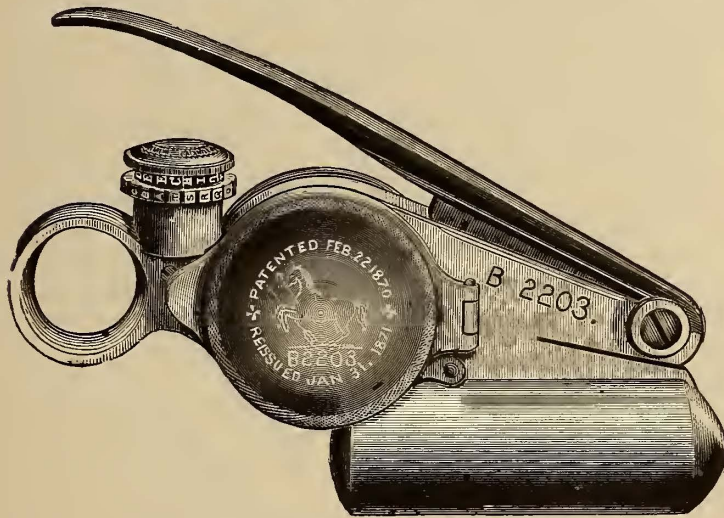
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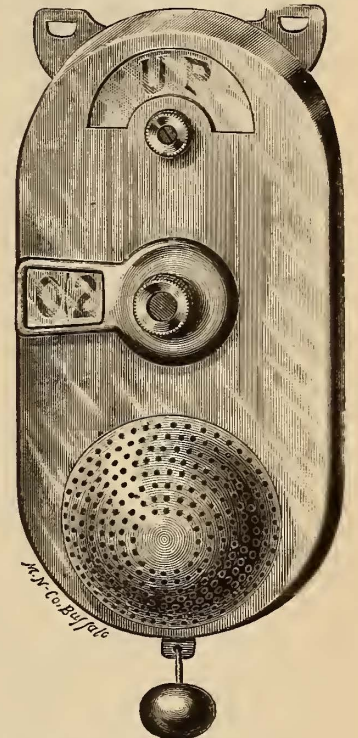
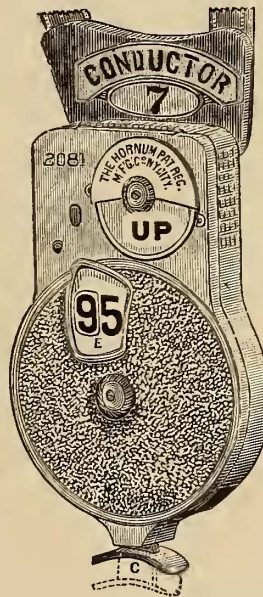


CHESTERMAN REGISTER

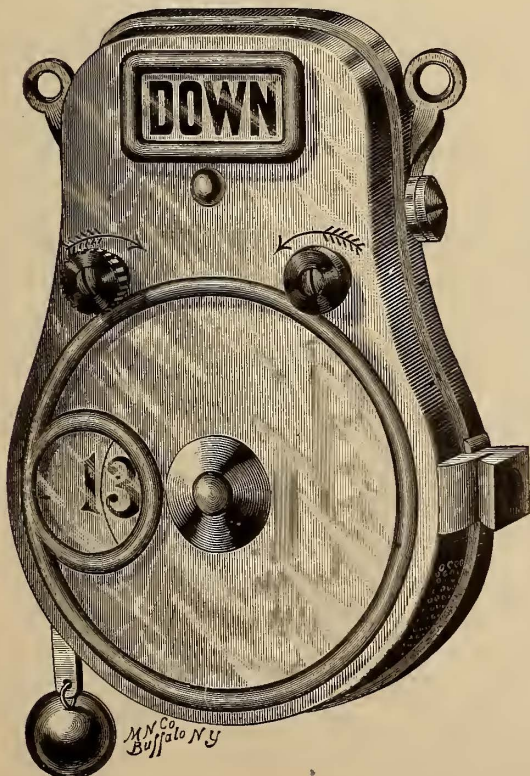
THE ALARM REGISTERING PUNCH.



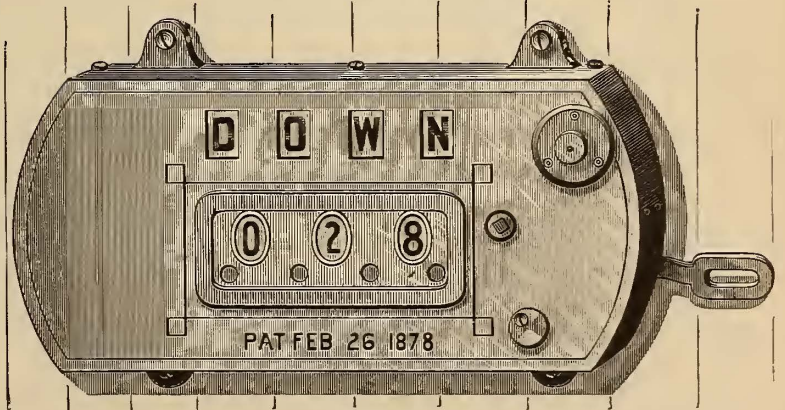
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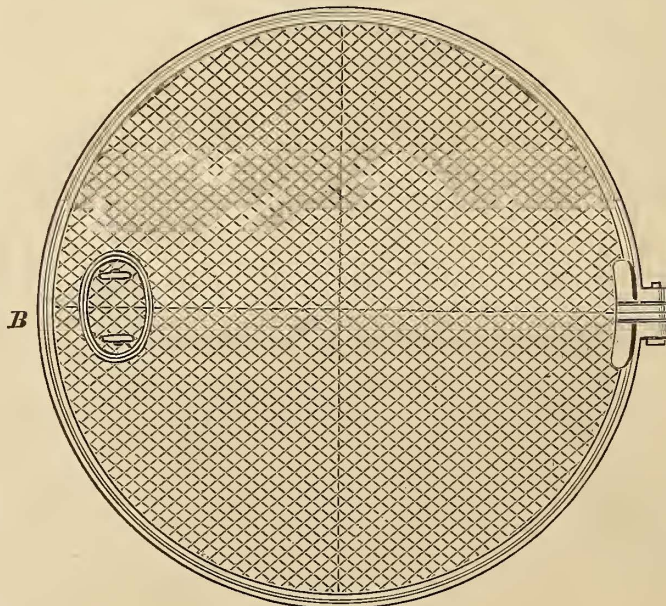
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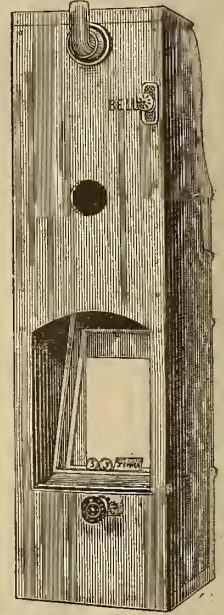
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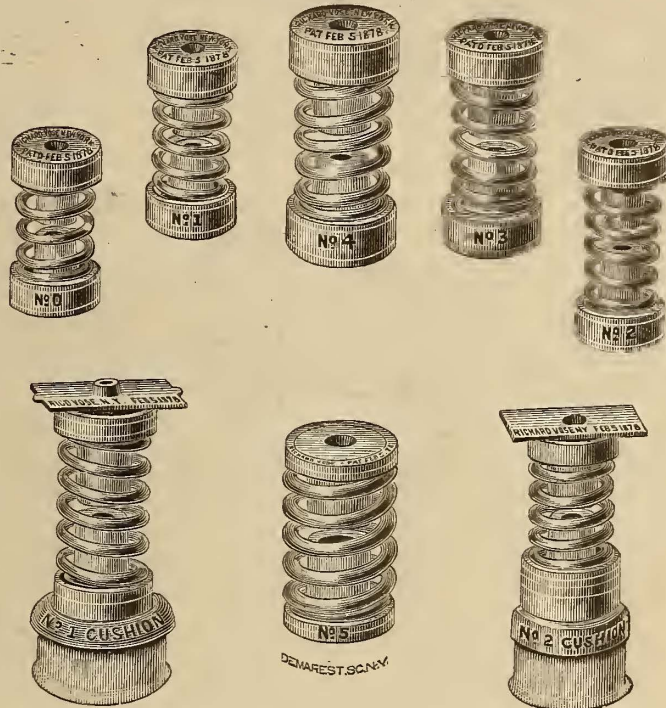
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(Single Pedestal.)
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- No. 2, Cushion, for 12 and 14-ft. Cars.

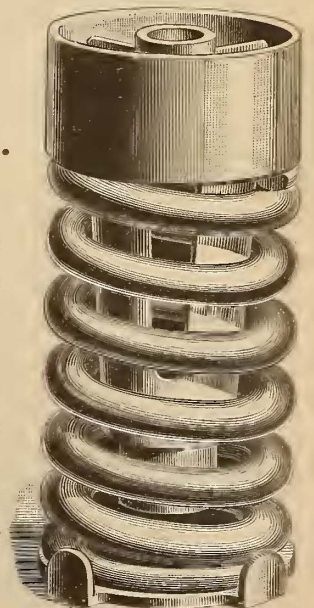
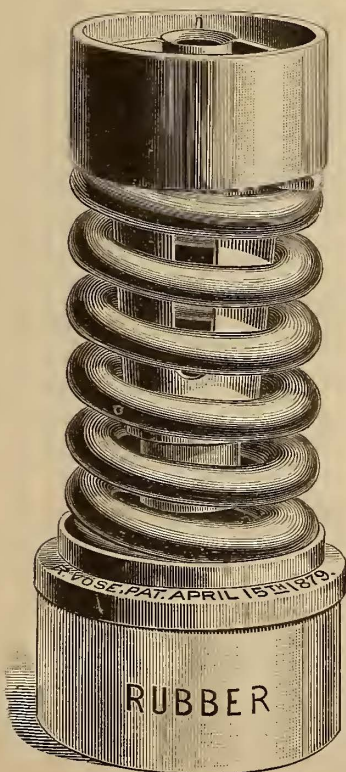
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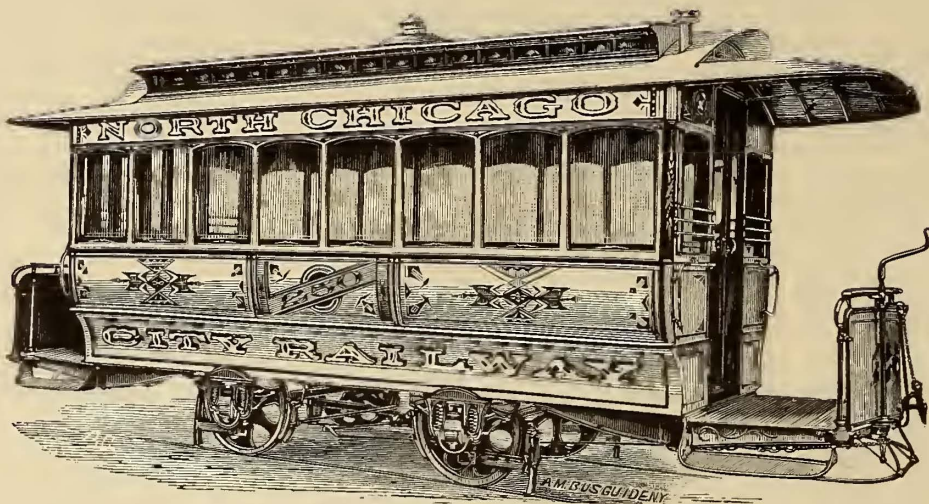


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