

An act providing that the bridge over the East River between the cities of New York and Brooklyn is the public work of the State of New York and for the completion and management of said bridge.

The people of the State of New York represented in Senate and Assembly do enact as follows:

Section 1. Within ten days from and after the passage of this act, the Mayor and Comptroller and President of the Board of Aldermen of the city of New York, or a majority of said officers, shall appoint one person as trustee, for the purpose of managing and constructing said bridge, and within the same period the Mayor and Comptroller and City Auditor of the city of Brooklyn, or a majority of said officers, shall appoint one person as trustee for the purpose aforesaid. The said persons so appointed, together with the Mayors and Comptrollers of said cities, shall constitute the Board of Trustees of said bridge, and shall have full power, control and direction over the said bridge; and the provisions of law in regard to the powers and duties of the Directors of the New York Bridge Company, and the powers and duties of the Mayors and Comptrollers of said cities therein provided, shall in all respects be applicable to said Trustees, and said Mayors and Comptrollers, respectively. The Trustees appointed shall hold office for two years, and at the expiration of their term their successors shall be appointed in the manner aforesaid. Any vacancy occurring by death, resignation, or removal from office of any Trustee, shall be filled by appointment in the same manner and by the

same officers as such Trustee was appointed. The person appointed by the officers of the city of Brooklyn shall be the President of the Board of Trustees and the person appointed by the officers of the city of New York shall be the Treasurer thereof and each shall be paid as salary such an amount as shall be determined by the Board of Trustees. From and after the appointment aforesaid all the powers of the present Board of Trustees shall cease.

Section 2. The said bridge is and shall be a public work of the State of New York and the Board of Trustees appointed to complete and manage it are and shall be the agents thereof.

Section 3. The expense of completing, maintaining and further constructing the bridge may be paid out of the income derived from the same. Two thirds of the net income remaining shall be paid to the City of Brooklyn and one third thereof to the City of New York. The expense of maintaining shall include the payment of principal and interest of any bonds issued by the Board of Trustees.

Section 4. The Board of Trustees in addition to the powers possessed by the directors of the New York Bridge Company and the present Board of Trustees shall have power,

1. To sue and defend all matters and actions relating to the said bridge in the collective name The Trustees of the New York and Brooklyn Bridge.

2. To hold the real estate already acquired and purchase and acquire and hold as much real estate as may be necessary or proper and convenient for the said bridge and to open suitable avenues of approach to the said bridge.

o/p!

Who will be responsible for payment of bonds?

3. To borrow money and issue bonds bearing interest not to exceed six per cent for the purpose of repairing extraordinary damage to the bridge, improving the terminal facilities and completing it between the terminé and opening a suitable avenue of approach in Brooklyn along the West side of Washington Street from High Street to the City Hall Square. To the payment of said bonds the bridge and its income is hereby pledged.

4. To appoint such officers and policemen as may be necessary and fix their compensation. The appointment of policemen, trainmen and machinists shall be subject to the act of the Legislature of this State entitled, "An Act to regulate and improve the civil service of the State of New York", passed May 4th, 1883. *Amendments thereof*

5. To operate a surface or elevated railroad over the bridge and its avenues of approach and from time to time fix the fare for passengers thereon but they shall not lease the said railroad nor make any contract ceding possession thereof or the right to use the same. Said Trustees may receive and carry over the bridge the cars and passengers of any railroad Company. *for proper compensation*

6. From time to time to fix the rates of toll for persons, vehicles and animals of every kind and description passing over the said bridge and in their discretion to make the bridge free for pedestrians.

7. To acquire in the manner provided by law for acquiring and taking land for the purposes of said bridge real estate necessary for the bridge and its avenues of approach and particularly a strip of land in the City of Brooklyn a-

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long the west side of Washington Street from High Street to the City Hall Square and of such width as the Trustees deem necessary which strip of land is hereby declared to be necessary for the purposes of said bridge provided however that the consent of the Mayor of Brooklyn be first obtained to the acquisition of said strip of land. Upon acquiring said strip of land the Trustees shall regulate and pave the same for public use and travel and shall build and operate thereon the railroad over the bridge at an elevation and for such purpose the Trustees may take use hold and occupy the west side of Washington Street.

Section 5. Under Section ten of Chapter 399 of the laws of 1867 the terminus of the bridge in Brooklyn is located at or near the City Hall Square therein and the terminus of the bridge in New York is at or near the City Hall Square in said city.

Section 6. In completing the bridge and its avenues of approach it shall cross streets at such an elevation and in such a manner as not to interfere unnecessarily with public travel and all laws and parts of laws imposing any other restriction upon the right or manner of building the bridge across streets are hereby repealed.

No land to be taken in N.Y. or Brooklyn without the vote of the Mayor of the City in which such land is taken.

*Op.
Section
10 of 399*

AN ACT providing that the Bridge over East River, between the Cities of New York and Brooklyn, is the public work of the State of New York and for the completion and management of said Bridge.

The people of the State of New York, represented in Senate and Assembly do enact as follows:--

Section 1. Within ten days from and after the passage of this Act the Mayor and Comptroller and President of the Board of Alderman of the City of New York, or a majority of said officers, shall appoint one person as trustee for the purpose of managing and constructing said Bridge, and within the same period the Mayor and Comptroller and City Auditor of the City of Brooklyn, or a majority of said officers, shall appoint one person as trustee for the purpose aforesaid. The said persons so appointed, together with the Mayors and Comptrollers of said Cities, shall constitute the Board of Trustees of said Bridge and shall have full power, control and direction over the said Bridge; and the provisions of law in regard to the powers and duties of the Directors of the New York Bridge Company, and the powers and duties of the Mayors and Comptrollers of said Cities therein provided, shall in all respects be applicable to said Trustees and said Mayors and Comptrollers, respectively. The Trustees appointed shall hold office for two years and at the expiration of their term their successors shall be appointed in the manner aforesaid.

Any vacancy occurring by death, resignation or removal from office of any trustee shall be filled by appointment in the same manner and by the same officers as such trustee was appointed. The person appointed by the officers of the City of Brooklyn shall be the President of the Board of Trustees and the person appointed by the officers of the City of New York shall be the Treasurer thereof and each shall be paid as salary such an amount as shall be determined by the Board of Trustees. From and after the appointment aforesaid all the powers of the present Board of Trustees shall cease.

Section 2. The said Bridge is and shall be a public work of the State of New York and the Board of Trustees appointed to complete and manage it are and shall be the agents thereof.

Section 3. The expense of completing, maintaining and further constructing the Bridge may be paid out of the income derived from the same. Two-thirds of the net income remaining shall be paid to the City of Brooklyn and one-third thereof to the City of New York.

Section 4. The said Board of Trustees in addition to the powers hereinbefore mentioned shall have power;--

1. To sue and defend all matters and actions relating to the said Bridge in the collective name of The Trustees of the New York and Brooklyn Bridge.

2. To hold the real estate already acquired and purchase and acquire and hold as much real estate as may be necessary or proper and convenient for the said Bridge and to open suitable avenues of approach to the said Bridge.

3. To operate a surface or elevated railroad over the Bridge and its avenues of approach and from time to time fix the fare for passengers thereon but they shall not lease the said railroad nor make any contract ceding possession thereof or the right to use the same. Said Trustees may receive and carry over the Bridge the cars and passengers of any railroad company at such rate of compensation as they may fix therefor.

4. From time to time to fix the rates of toll for persons, vehicles and animals of every kind and description passing over the said Bridge and in their discretion to make the Bridge free to pedestrians.

5. To acquire in the manner provided by law for acquiring and taking land for the purposes of said Bridge real estate necessary for the Bridge and its avenues of approach including, if they shall determine it to be necessary, a strip of land in the City of Brooklyn along the West side of Washington Street from High Street to the City Hall Square and of such width as the Trustees deem necessary, provided, however, that no land shall be acquired in the City of Brooklyn without the consent of the Mayor

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thereof, and no land shall be acquired in the City of New York without the consent of the Mayor thereof. If the trustees shall acquire the said strip of land on the West side of Washington Street they shall regulate and pave the same for public use and travel, and shall build and operate thereon the railroad over the Bridge at an elevation and for such purpose the Trustees may take, use, hold and occupy the West Side of Washington Street.

Section 5. Under Section 10 of Chapter 399 of the Laws of 1867 the terminus of the Bridge in Brooklyn is located at or near the City Hall Square therein, and the terminus of the Bridge in New York is at or near the City Hall Square in said City.

Section 6. In completing the Bridge and its avenues of approach it shall cross streets at such an elevation and in such a manner as not to interfere unnecessarily with public travel and all laws and parts of law imposing any other restriction upon the right or manner of building the Bridge across streets are hereby repealed.

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Trustees of the New York & Brooklyn Bridge

Trustees for the City of New York

Hon. Smith Ely Jun^r Mayor of New York
Hon John Kelley Comptroller of New York
Jas M. M^r Lean Esqr.
Jas M. Molley Esqr
Chas J. Canda Esqr
Hon Abm S. Hewitt
John Riley Esqr
Gen Lloyd Aspinwall
Jenkins Van Schaick Esqr
Lawrence Turnure Esqr.

Trustees for the City of Brooklyn

Hon Fredk A Schweder Mayor of Brooklyn
William Durrel Esqr Comptroller of Brooklyn
Hon Henry C. Murphy Pres^t Board of Trustees
O. P. Quintard Esqr. Secy. " " "
John H. Prentiss Esqr Trus^r " " "
William C. Kingsley Esqr
Hon. Tho^s Kinsella.
J. S. T. Stranahan Esqr
William Marshall Esqr
William B. Leonard Esqr
Genl. H. N. Hocum
Thomas Carroll Esqr.

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List Fursters
Bridge

New York men now on the force.

- Wm Cox 366 Pearl St.
Henry J. Cawley 452 West 48th St.
Geo Dooley 221 Quiser Ave
Jno Dowling 185 East 7th St.
Hugh A. Dugney 614 Grand St.
Geo J. Flynn 203 East 24th St.
James Brennan 56 Tenth Ave
John Goff 524 Market St.
Geo Kauterborn 63 Columbia St.
Michl Kelly 291 Front St.
Andrew McCarty 43 Rutgers St.
Geo M. Leola 78 E Broadway
Edw. A. Shea 128 Cedar St.
Saml F. Shattuck 1523 Third Ave
Thos Stack 225 Madison St.
Geo Wade 253 Ave. A.
Thos Brown
P. C. Finn
Geo Fitzgibbon
Jno Hoffman
Martin A. Dixon
J. E. Mills
Geo Duckridge

Now residing
in Brooklyn.

List of Employees on N. Y. & B. B. Railroad
who are residents of New York City

Conductors

Jeremiah Kett
Geo. Stall
Patrick Keating
John Dwyer
Bernard Martin
Cornelius Kelly
— Winters
William Hurley
Samuel Thierer
John O'Brien
— Murphy,

There are one Hundred Conductors
employed on above road. —
in addition to the above, there were two
men appointed from New York who moved
to Brooklyn viz Dennis Galvin & Rich^d Bonnet
There are Six Dispatchers, one Captⁱⁿ of Tramp^{cars},
Eight Switchmen, Three Levermen &
Four Yardmasters all from Brooklyn
There are Twelve Locomotive Engineers
and Twelve Firemen, of whom one Engineer
J^{no} Lyons is a resident of New York,

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List of Employees
on N.Y. + B.B. R.R. who
are residents of N.Y. City

White

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- ✓ Mrs. F. Eaton (15-)
- ✓ S Hastings Grant (6)
- ✓ W E Lucas (2)
- ✓ D S White
- ✓ Ch Crocker
- ✓ G A McDermott
- ✓ John Tracey Jeff's Mkt Police Court ✓
- ✓ J H Mooney 23 Park Row
- ✓ Chas Wilde 413 E 124 ✓
- ✓ M B Brown (2) 57 Park Place
- ✓ Tho F Gilroy 419 E 123 ✓
- ✓ H O Armon 129 Broad
- ✓ E R Lorrison 119 Broad
- ✓ A M Hoyt 10 State
- ✓ Jas H Pool 27 Water
- ✓ Starks Eaton 19 Bridge
- ✓ Jas F Parker do
- ✓ Jas S Tait do
- ✓ J E Stulshizer 119 West St
- ✓ Com H Philips 214 W 19th ✓
- ✓ Prof. Elis Charlier 108 W 59th ✓
- ✓ Cyrus Eaton M.D (2) 38 W 9th ✓
- ✓ Lewis G Morris Fordham Heights ✓
- ✓ Hugh N Camp 152 Broadway
- ✓ Chas M Fry Bank New York
- ✓ Ebenezer S Watson do
- ✓ Richard B Ferris do
- ✓ J Darr Page Fulton and Wm Sts.
- ✓ Gen. F. E. Pinto, (2) 27 Pearl

- ✓ Jno H Coon (2) 634 Broadway ✓
- ✓ Maj G W McLean 145 Broadway
- ✓ Hosea B Perkins
- ✓ John H Van Antwerp Pres Albany NY ✓
- ✓ L F Cozans (2) 25 Chambers
- ✓ David Orr 29 W 47th ✓
- ✓ G of Conis Mitchell ^{at Lowry} Bond & Bowry x
- ✓ A L Clements 19 Bridge
- ~~W. J. Cowley Reporter Star. x~~
- ✓ Rev J Livingston Reese sd Albany NY ✓
- ~~S. J. Tilden Grammercy Park~~
- 63 ✓ G D Pitzipio 56 Stone St
- ✓ M. C. Menzi
- ✓ L Ju Stark
- 66 ✓ Tho L Futner
- ✓ Nicholas Naughton
- ~~M. C. Menzi~~
- ✓ J. M. Beckley
- ✓ Benj. B. Futer
- ✓ W. H. Young ^{Pres.} ~~Reporter~~ ^{Stoughton, N.Y.} (E. J. Ward)
- ✓ Ed J. E. Ireland
- 70 ✓ E. R. Powers
- 71 ✓ John J. Morris
- ~~W. H. Young~~
- ✓ J. W. Hooker - Catharine, 71 Bowry -
- ✓ L J. Maverick
- 74 ✓ Chamberlain pr. Albany (2)

Blue

W. Grant 3

M. E. Lucas 2

✓ Geo W Brown, 2^d Mar.

✓ H Woltruan

✓ ^{m. w.} ~~W. B.~~ Brown

✓ Martin F Coulin

~~Wm Pitt Shearman~~

✓ George B. Hill

✓ S F Harris 115 - Broad

✓ T J Cramer 206 Broadway

✓ Chas Ross Baltimore Md

✓ Allen C Ross do

✓ Wm M Cooper do

✓ L W Bradman do

~~G. D. Fitzgibbon~~ 56 Stone

Frank Curtiss

Aug. T. Gillendau

Stephen a Walker

✓ F. J. Money

~~Island, Ct.~~

✓ John J Morris

✓ J W McCulloch

✓ F P Albert

C D Lerrich 31 Wall

R. E. Seluss Comptrollers Office

~~W C Higgins~~

Chas R McElwain 11 Cliff

✓ Hon. E. Bailey Patchogue L. I.

✓ Jas Roche Barclay St

✓ Neophilus O'Leary Vesey St.

L. Boucher, Franco American 77 Cedar St

Handwritten notes:
Chas R McElwain
Barclay St
Vesey St
Cedar St

- ✓ Alderman Thos Carroll
- ✓ Capt^{J.M.} Leary (2)
- ✓ Inspec. Thos Byrne
- ✓ " Wm Murray
- ✓ Sarg. Wm Macken
- ✓ Adm ~~Boyd~~ Smith } Bridge
- ✓ Jno. O'Pyne } Dist Atty's Office
- ✓ Thos. S. Huston (2)
- ✓ Frank H. Allen
- ✓ Andrew J. White (2)
- ✓ Jas. Curby
- 38 ✓ Wm. S. Andrews
- ✓ J. H. Stearns
- ✓ H. C. Berkey
- ✓ Max Kleishman
- ✓ John Bothwell (H. T. Edson)
- ~~✓ E. Darlington, 119 Broad~~
- ✓ G. W. Darlington (2)
- ✓ P. C. Lynch, City Sheriff
- 43 ✓ Prof. Felix Adler
- ✓ O. B. Stout - Room 11 C. Hall
- ✓ J. B. Taylor M.D.
- ✓ Edw. N. O'Connor

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W. S. Parkin City Coroner

John Law

Hon Jas. P. McDonough -

✓ Mr. A. Morrell -

~~A. S. Shepard (State only)~~

✓ Peter H. McCann NY, New

✓ Jas. H. Con (2)

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✓ Jas. Mally (2)

✓ Alfred T. Debut, 61 Liberty Row 29

✓ A. S. Casady of Albany Insurance Office
Banker (T. Eden Co)

✓ Sam Hanson and Staff

✓ John Law Clerk - Public Off

✓ L. A. Sullygroff (E. J. Ward)

✓ District Court (1 Store) 4

✓ Thos. S. Blair

✓ Judge P. J. Adams, Syracuse (C. S. A.)

✓ Al O'Shull

Mr. J. Morrison 31 Court Row (5)

Mr. Levy - 129 E. 24th St

✓ Henry Fallety - Jk

✓ Chas. Patrick

✓ McCann

✓ Senator McCann - 99 Nassau Can F. W. Renny 4³⁰

✓ P. V. B. Olney -

✓ Al Seaman

✓ Paul Kelly

✓ Ayer

✓ Rufus W. Andrews

✓ J. W. Parkin

✓ Ch. E. P. Hill

✓

- ~~✓~~ ~~Frank Curtis~~
- ✓ Prof. Elie Charlier 108 W 59 St
- ✓ Cyrus Eason M.D. (2) 38 W 9 St
- ~~✓~~ ~~Rev. C.C. Tiffany~~ DD. ^{Rev. C.C. Tiffany}
- ~~✓~~ ~~Gustav Schwab~~ (Mr. Edm)
- ✓ Lewis Morris Ingham Heights
- ✓ H.W. Camp 152 Broadway
- ✓ Chas M Fry Bank of Albany
- ✓ ~~Edmund S. Mason~~ Cashier
- ✓ ~~J.W. Deane~~ Richard B. Morris & Bros
- ✓ J. Deaver Page < Fulton St
- ✓ John H. Coon (2) 634 Broadway
- ~~✓~~ Col. E. J. Wood (Mr. Edm)
- ✓ Major W. McLean 143 Broadway
- ✓ H.B. Perkins
- ~~✓~~ Rev. Jos. M. Blanchard (Mr. Edm) ^{Pres}
- ✓ John H. Van Antwerp Albany NY
- ✓ Hon L. F. Cozans (2) 75 Chambers
- ~~✓~~ ~~Aug. Gillender~~
- ~~✓~~ ~~C.C. Baldwin~~ Alnew
- ~~✓~~ ~~M.B. Edson~~
- ~~✓~~ ~~Bradley Nichols~~ north Chatham, N.Y.
- ✓ David Orr, 29 West 47 St
- ~~✓~~ ~~Robert~~ (Mr. Edm)
- ~~✓~~ ~~Rev. J. L. Reese~~ DD Albany NY ^{Aurora NY}
- ~~✓~~ ~~W.W. Corcoran~~ ^{Banker} Washington DC
- ~~✓~~ ~~C.W. Matthews~~ NYC " " "
- ✓ Corin Mitchell 1 (For Mr. Lowry)

Mr. Whelan will please examine carefully the list of Mr. and
 officials herewith submitted, from the Mayor's office. It is pertinent
 that each gentleman has a card or invitation sent them for the
 opening ceremony of the Bridge. In Mr. T. Leggett

Query - Have the following officials of New York
 City rec'd ~~the necessary~~ ^{complimentary} invitations to the
 opening of the Bridge?

Comptroller	1	Yes
Deputy Comptroller	1	Yes
Counsel to Corporation	1	Yes
Comr Public Works	1	Yes
Deputy Comr Pub. Works	1	Yes
Courts of Police	4	Yes
Board of Health	2	Yes
Comrs Harb. & Commerce	3	Yes
Comrs Parks	4	Yes
Comrs Fin Dept	3	Yes
Board of Docks	3	Yes
Comr Street Dig	1	Yes
Comrs Taxes & Ass'ts	3	Yes
Courts of Excise	3	Yes
Sheriff	1	Yes
Co. Clerk	1	Yes
Registrar	1	Yes
Surrogate	1	Yes
Dist. Attorney	1	Yes
Coroners	4	Yes
Courts of Jurors	1	Yes
Superior Court	2 6	Yes
Ct of Com. Pleas	6	Yes
Supreme Court	8	Yes
Marine Court	6	Yes
Ct. Jail Sessions	3	Yes
Public Administrator	1	Yes
Police Justices	11	Yes
B'd of Assessors	4	Yes
Prnt B'd Education	1	

Am not certain abt Prnt of the Board of Education
 also the following:

Ex-Mayor W.R. Grace	Yes
" " E. Cooper	Yes
" " Wm. H. Wickham	Yes
" " S. Ely	Yes + Dan ^e F. Zenian

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S. J. Tilden

- Office. ✓ S. Hastings Grant G
✓ W. E. Lucas
✓ D. S. White
✓ C. G. Crocker
✓ F. J. Tronney
✓ G. A. McDermott
✓ H. Woltrau
✓ John Tracey
✓ J. H. Mooney
✓ Geo. J. Morris
✓ Chas. Wilde
✓ M. B. Brown
✓ Thomas F. Gilroy
Editor Ireland
✓ H. O. Armour
✓ E. R. Livermore
✓ A. M. Hoyt
✓ Geo. H. Pool
✓ Starks Eaton
✓ Jas. F. Parker
✓ Jas. S. Tait
Gen. Printer
✓ J. E. Hulshizer
✓ Wm. R. Foster, Jr.
✓ Wm. H. Phillips
J. W. McCulloch,
F. P. Albot
- Wm Pitt Shearman
George B Hill
Jaffan into Peter Court
23 Park Row
~~(2) (Hudson River)~~
413 E. 124th St
51 Park Row
419 E. 123rd St
129 Broad
119 Broad
15 State
27 Water
19 Bridge
do
do
119 West St
214 W. 19th St

✓ ~~Mr~~ Mr Edson 15

Alphie A. Walker

~~Lawrence D. Edmond agrees.~~

✓ S F Haarus 115 - Broad

L J H Stark

J. L. Fittner

Nicholas Haughton

✓ J J Cramer 206 Broadway

✓ David Edson (Mr Edson)

✓ Henry Edson (do)

✓ Franklin Edson Jr. (is not particular) (Mr Edson)

✓ A. L. Clements 19 Bridge

✓ Charles Rows Baltimore

✓ Allen C. Rows "

✓ Wm. M. Cooper "

✓ L. W. Bodman "

✓ Carrig, Reputer

C. D. Levitt 31 Wall

Chas R. McElvain, 11 Cliff

James Roche Barclay Judge Quinn

Theophilus O'Leary, Veeley do

Am. E. Bailey Patheogue, L. D. J. J. Campbell

R. E. Selmer Comptroller Office

M. C. Mengis

✓ G. P. Fitzgibbon 56 Stone Lo

Rec'd Bridge Invi-
tations

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McGuire Manufacturing Co.

MANUFACTURERS OF

SPECIALTIES IN RAILWAY EQUIPMENT,

122 TO 132 N. SANGAMON ST., CHICAGO.

Car Trucks,
Air Brakes,
Car Heaters,
Snow Sweepers

} for

{ Electric,
Cable and
Elevated
Railways.

J. A. HANNA, Eastern Agent,

1302 Havemeyer Building.

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New York,
Electric Switching Trucks

for
New York and Brooklyn Bridge Company

McGuire Manufacturing Company's "L" Truck.

GENERAL DESCRIPTION OF COMBINED ELECTRIC LOCOMOTIVE & PASSGR. TRUCK

The McGuire "L" Motor Truck is designed to carry a car both on a straight track and on curves with the same easy motion that modern steam passenger cars have, in combination with practically the same points of draught, or draught connections, between the driving wheels and body or attached train, that a modern steam locomotive has.

Equalizing bars, similar to those on a modern passenger coach truck, are mounted on the four journal boxes in the usual manner, except that we have interposed cushion springs between their ends and the top of the journal boxes. These equalizers are double, or two to each side of each truck, to permit the truck frame to play between them as hereafter described.

On these equalizers are mounted two cross sills from which are suspended the electric motors, so that the wheels, axles, equalizers, and motors, all move together, and entirely independent of the truck frame and car body. This forms our Electric

Locomotive, which it will be noticed is cushioned on the axle journal boxes, as above described, and on this Locomotive frame we mount our passenger truck, so to speak, in such a manner as to obtain practically the same draught connections as a Locomotive, and practically the same riding qualities as a passenger coach, as follows:

We mount two equalizer springs on each pair of equalizers, (four per truck) in the usual manner, and from the two cross or motor sills above mentioned we suspend, on inclined swinging links, a spring plank for receiving two elliptic springs on each end, or four per truck.

On these four spiral equalizers, and four central elliptic springs we mount our truck frame, consisting of two side pieces, having openings formed in each end for embracing the journal boxes between the double equalizer bars, clearance enough being allowed to permit the wheels to have a lateral motion of $1\frac{1}{8}$ in. in either direction independent of the truck frame.

These side pieces are rigidly attached together by a 10" transom bolster, which is fitted at its ends in strong and thoroughly braced pockets formed on the side sills which embrace this bolster, for 16" at each end, and are thoroughly bolted, or riveted thereto.

This construction of the truck frame does two things, besides giving a very easy riding passenger car. One is to hold the

truck rigidly in square, and the other is to connect the journal boxes of the driving wheels with their load, directly and practically the same as is done in steam locomotive construction, all the pulling being done directly by the journal boxes of the driving axles upon the pedestal openings of the truck frame, which are directly and rigidly connected to the load without the intervention of any swinging vertically vibrating bolster, to get twisted out of shape immediately and become inoperative. Yet we get an equivalent action for easy riding on our truck frame by the side vertical movement of the 10" equalizer springs and swinging links described above.

Our brakes are located inside the wheels, which avoids the necessity of extending the truck frame beyond the wheels, making a short, compact truck, occupying the least possible space under the car, and making the truck frame less liable to damage in case of accidents. These brakes are perfectly equalized, surround the motor without interfering in any way with it, and will not lengthen or shorten, by the movement of the truck on curves, and are of the simplest construction. We suspend our brakes from the truck frame by our patent elastic brake hangers, which form shoebacks, brake hangers, equalizing levers and adjustable release springs all in one, and at the same time take up their own lost motion, preventing all chattering and kicking of the brakes, which has heretofore been a common fault of swinging brake hangers.

RESOLVED, That an agreement shall be entered into between the Trustees of the New York and Brooklyn Bridge and the Kings County Elevated Railway Company and the Brooklyn Elevated Railroad Company, or the respective Receivers of said Companies, to transport the cars of the said Companies across the New York and Brooklyn Bridge, upon the following terms and conditions, viz:

I. The time for which the said contract shall continue shall be coincident with the terms of office of the present Board of Trustees of the said Bridge Corporation.

II. The said Railroad companies shall unite in an agreement for the connection of their present tracks at some point south of Tillary street in the city of Brooklyn convenient for that purpose, so that the trains of said companies shall approach and enter the property of the said Bridge Corporation upon a single track, which shall be connected with the north track over said Bridge now owned and controlled by the said corporation, and so that the trains of said companies on returning from New York shall leave the property of the said Bridge Corporation upon a single track, which shall be connected with the southerly track over said Bridge now owned and controlled by said corporation.

III. The location of the said tracks and of the curves and switches necessary to connect the present tracks of the said railroads with the tracks of the said Bridge Corporation and all the constructions of every kind necessary to the use of the said tracks as herein provided shall be under the absolute control and direction of the Chief Engineer of the

said bridge, and no construction of any kind connected therewith or relating thereto shall be had or used, unless the plan or plans therefor have been first submitted to the said Engineer and have been approved by him.

IV. The expense of all changes necessary in the construction of the said Bridge or the approach thereto in order to permit the delivery of the cars of the said Elevated Railroad Companies to the control of the said Bridge Corporation and the transportation thereof shall be borne and paid by the said Railroad Companies in such shares and proportions as they may agree upon, or, if they fail to agree, in such shares and proportions as the Trustees of the said Bridge may determine, and all of such constructions upon property belonging to the said Bridge Corporation shall immediately upon the completion thereof become and be the property of the said corporation The Trustees of the New York and Brooklyn Bridge.

V. All rights of way, franchises and property necessary to be secured in order to construct the tracks upon which to enter upon and leave the said Bridge property shall be borne and paid by the said railroad companies in the manner hereinafore provided.

VI. Until otherwise provided by regulation of the Trustees of the New York and Brooklyn Bridge, each car of either of the said Elevated Railroad Companies intended to be used upon the railroad of the Bridge shall be equipped with a grip identical in form and construction with that in use upon

the Bridge cars, together with the same appliances for braking while on the Bridge as employed upon the cars of the Bridge Corporation. One car on each train shall also be equipped with electric motors on each truck identical with those adopted by the Bridge Trustees for the purpose of switching trains at terminus. On arriving at the station nearest to the approach of the Bridge as the same shall be fixed and located by the said Bridge Trustees the locomotives shall be detached from the trains upon the said Elevated Railroads, and such trains shall then be propelled by the electric motor car already referred to over such track as the Trustees of the said Bridge shall designate to a point at which the cable is lifted into grips from which point the train shall proceed over the Bridge by cable traction precisely as the cars of the Bridge Railway are now operated; and on returning from New York the said trains after passing the unloading platforms at the Brooklyn Terminal of the said Bridge shall be propelled by the electric motor car as aforesaid to the station upon the track of the said Elevated Railroad Companies where locomotives shall be attached, and the trains shall proceed in the usual manner over their proper routes. From the time when the locomotives shall be detached from the said trains at the station aforesaid until it is attached again on the return of the train from New York the cars shall be under the exclusive management and control of the Trustees of the New York and Brooklyn Bridge and of their employees.

VII. The said Trustees shall have full and complete power to make and adopt all other rules and regulations which

to them shall seem reasonable and proper relating to the transporting of the cars of the said railroad companies over the said Bridge, including the payment of tolls or fares, the style of cars to be used and the condition thereof, the switching of cars, and the use of platforms, and to amend or alter any of such rules or regulations so as to secure the safety and comfort of persons using the said Bridge, and to subserve the purpose for which said Bridge was constructed.

VIII. The said Railroad Companies shall pay to the Bridge Corporation such sum for each passenger transported in the said cars across said Bridge as the Trustees thereof shall fix and determine, and in addition thereto the said Railroad Companies shall pay the sum of twelve and one-half cents per round trip for each car transported as aforesaid, provided that if at any time the regulations adopted by the said Trustees shall be altered or modified so as to permit the said Railroad Companies to operate cars across said Bridge by their own power, the said Railroad Companies shall pay the sum of five cents per round trip for each car so operated.

IX. The said Railroad Companies before entering upon the performance of any work necessary to make the connections hereinbefore provided for shall together execute and deliver to the Bridge Corporation a joint and several bond in such form and for such an amount and with such sureties as the said Trustees shall prescribe (which bond shall be approved as to form and manner of execution and sufficiency of sureties by the Counsel to said Trustees) conditioned that the

said Companies shall promptly complete the work entered upon by them as here inbefore provided, or if they shall fail so to do, that they shall pay to said Bridge Corporation the necessary expenses of completing the same or of removing any portion of said structures which are upon the property of the Bridge Corporation and restoring the Bridge to its present condition, whichever the said Trustees shall elect to do.

And each of the said Railroad Companies shall in addition thereto execute and deliver to the said Bridge Corporation its own bond in such form for such an amount and with such sureties as the said Trustees shall prescribe (to be approved as aforesaid), conditioned that the said Railroad Company shall observe, obey and keep each and every rule and regulation made and adopted by the said Trustees as hereinbefore provided.

And for a wilful failure and neglect to observe, obey and keep such rules and regulations or any of them the said Trustees may revoke the said agreement so far as it affects either of the said Railroad Companies and thereupon said Railroad Company shall forfeit all rights and privileges theretofore enjoyed thereunder.

X. The President and Secretary of the said the Trustees of the New York and Brooklyn Bridge are authorized and directed to execute the necessary agreements to carry this resolution into effect.

RESOLVED, that an agreement shall be entered into between the Trustees of the New York and Brooklyn Bridge and the Brooklyn Heights Railroad Company, the Nassau Railroad Company, the Coney Island and Brooklyn Railroad Company, and the Brooklyn City and Newtown Railroad Company to permit the said Railroad Companies to operate their cars over the New York and Brooklyn Bridge upon the following terms and conditions, viz:

1. The term for which the said agreement shall continue shall be coincident with the terms of office of the present Board of Trustees of the said Bridge Corporation.

2. The said railroad companies shall unite in an agreement for the common use of a single track for passing from the City of Brooklyn to the City of New York, which track shall be located on the northerly side of the North roadway, and for the common use of a single track for a return from the City of New York to the City of Brooklyn, which track shall be located on the southerly side of the South roadway.

3. The cars of said railroad companies shall be propelled across said Bridge by electric power.

4. The location of the said tracks and of all curves and switches necessary to connect the present tracks of the said railroads with the tracks on said bridge, and all switches, sidings, platforms and constructions of every kind, necessary to the use of the said tracks at the terminals of said Bridge, shall be under the absolute control and direction of

the Chief Engineer of said Bridge, and no construction of any kind connected therewith or relating thereto shall be had or used unless the plan or plans therefor have been first submitted to the said Engineer, and have been approved by him.

5. The expense of all changes necessary in the construction of said Bridge in order to permit the operation of said cars, and of all tracks, switches, platforms and appliances of every kind and nature required in connection therewith shall be borne and paid by the said Railroad Companies in such shares and proportions as they may agree upon, or, if they fail to agree, in such shares and proportions as the Trustees of the said Bridge may determine, and all of such constructions shall immediately upon the completion thereof become and be the property of the corporation "The Trustees of the New York and Brooklyn Bridge".

6. The said Railroad Companies shall pay to the said Bridge Corporation such sum for each passenger transported by them across said Bridge as the said Trustees shall fix and determine, and in addition thereto the sum of five cents per round trip for each car operated as aforesaid across said Bridge.

7. The said Trustees shall have full and complete power to make and adopt all rules and regulations which to them shall seem reasonable and proper relating to the operation of the cars of said Railroad Companies over said Bridge, including the payment of tolls or fares, the rate of speed of

said cars, the movement and headway thereof, the style of cars to be used, and the condition thereof, the switching of cars and the use of platforms, and to amend or alter any such rules or regulations so as to secure the safety and comfort of persons using the said Bridge, and to subserve the purpose for which said Bridge was constructed.

8. The said Railroad Companies before entering upon the performance of any work shall together execute and deliver to the Bridge Corporation a joint and several bond in such form and for such an amount, and with such sureties as the said Trustees shall prescribe (which bond shall be approved as to form and manner of execution and sufficiency of sureties by the Counsel to said Trustees), conditioned that the said companies shall promptly complete the work entered upon by them as hereinbefore provided, or if they shall fail so to do, that they shall pay to said Bridge Corporation the necessary expense of completing the same, or of removing said structures which are upon the property of the said Bridge Corporation, and restoring the Bridge to its present condition, whichever the said Trustees shall elect to do.

And each of the said Railroad Companies shall in addition thereto execute and deliver to the said Bridge Corporation its own bond, in such form, for such an amount, and with such sureties as the said Trustees shall prescribe (to be approved as aforesaid) conditioned that the said Railroad Company shall observe, obey and keep each and every rule and regulation made and adopted by the said Trustees as hereinbefore provided.

And for a wilful failure or neglect to observe, obey and keep such rules and regulations, or any of them the said Trustees may revoke the said agreement so far as it affects either of said Railroad Companies, and thereupon said Railroad Company shall forfeit all rights and privileges theretofore enjoyed thereunder.

9. The President and Secretary of the said The Trustees of the New York and Brooklyn Bridge are hereby authorized and directed to execute the necessary agreements to carry this resolution into effect.

AN ACT IN RELATION TO THE NEW YORK AND BROOKLYN BRIDGE, AND TO AUTHORIZE THE TRUSTEES THEREOF TO LEASE THE RAILWAY NOW OPERATED ON SAID BRIDGE, SO AS TO PROVIDE FOR CONTINUOUS RAPID TRANSIT WITHOUT CHANGE OF CARS BETWEEN THE CITIES OF NEW YORK AND BROOKLYN BY ELEVATED RAILROADS, AND TO REDUCE BRIDGE RAILROAD FARES.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:-

Section 1. The Trustees of the New York and Brooklyn Bridge, and their successors, are hereby authorized to lease the railroad, railroad bed and tracks over and across said bridge, and over and across the extensions thereof hereinafter provided, together with all terminals, yards, shops, machinery, tools, tower switch houses, switches, power houses, cables, electric plant and appliances, rolling stock, and all other property and appurtenances of said bridge railroad, to any corporation having legal authority to own, lease or operate elevated railroads in the City of New York, or the City of Brooklyn, or in both cities, but such lease shall not cover or include the footways and driveways of said bridge, which shall continue to be held by said trustees for the same uses as the same are now held, nor any of its real estate or other property not used for railroad purposes.

All income to be derived from such footways and driveways or other property not herein authorized to be leased, including all income to be derived from the ren-

tal of the privilege of stringing wires across the said bridge for telegraph, telephone, electric illuminating and other similar purposes, or pneumatic tubes, shall continue to be collected and held by the said trustees as such for the purposes of their trust.

The jurisdiction, management and control of all the property of the said bridge, except the operation of railway trains, shall remain in the said trustees.

Section 2. The lease herein authorized to be executed shall contain the following provisions:

(1) Its term shall be for fifty years. This term may be extended but not at a less rental than that fixed for the original term and not for a longer period than fifty years.

(2) The rental shall be equal to the average net earnings annually derived during the three years preceding December 1, 1895, from the operation of the railroad of the bridge, the determination of which amount shall be made by the said trustees.

(3) The lessee shall likewise pay, as additional rent, an amount equal to five per cent. per annum upon the cost of construction of the extensions of said bridge hereinafter authorized.

(4) The lessee shall maintain and keep in good repair and condition, all the leased property, at its own cost, and as shall be directed by the chief engineer of the trustees.

(5) The lessee, in addition to the operation of

elevated railroad trains as hereinafter provided, shall continue to operate the bridge railroad, and to receive the income thereof, the fare to be charged for transportation across the said bridge in the cars of the said bridge railroad, to be the same as now charged by the trustees.

(6) No party or corporation shall become lessee under this act, unless such party or corporation possesses or shall have acquired the right to operate elevated railroad trains in the City of Brooklyn to a point at or near the terminus of the bridge in said city, as the same shall be extended as hereinafter provided, so as to permit of the operation of the said trains of the said elevated railroad or railroads continuously across the bridge, and shall agree that for the fare of five cents a passenger shall be carried on continuous trains across the ^{bridge} ~~bridge~~ and its extensions, either from ~~HERE~~ or to the terminus of the bridge in the City of New York, from or to any station on said elevated railroad or railroads in the city of Brooklyn.

(7) The lessee shall agree that any one or more elevated railroad companies either in the city of New York or the City of Brooklyn which shall actually lawfully operate an elevated railroad in either city, and whose ~~contracts~~ shall be so constructed as to permit of the continuous operation of its railroad trains across the said bridge shall be permitted to operate its trains over

said bridge and over the entire length of the tracks controlled by the said lessee and of all ~~the~~ extensions thereof continuously, provided that said company shall permit the trains controlled by the lessee to be operated over the entire length of its railroad and of all extensions thereof, Free transfers shall be given by any party to the said lease or any corporation which shall participate therein at all points in either city where the lines of their respective railroads shall connect with any other line of elevated railroad owned controlled or operated by them respectively in said city. All companies availing themselves of the right to operate their cars over said bridge shall pay to the lessee a fair, equitable and just proportion of the rentals reserved by the said lease, and shall proportionately assume all obligations created thereby.

(8) In the event that an arrangement shall be effected so that passengers shall be carried continuously from a point on an elevated railroad in Brooklyn to a point on an elevated railroad in New York, or conversely, the initial company shall collect a fare of ten cents for ~~xxxxxx~~ each passenger for such trip, the true intent and purpose of this act being that when such arrangement shall have been effected the fare for a trip from any elevated railroad station in Brooklyn to the terminus of the Bridge in New York shall be five cents and no more, and the fare from any station in New York

to the terminus of the bridge in said city, shall be five cents and the fare from any station beyond the bridge terminal in Brooklyn to any station beyond the bridge terminal in New York, or conversely, including the bridge transit, shall be ten cents.

(9) Should the lessee or any elevated railroad company desiring to avail of the right to participate in said lease, be unable to agree with each ^{other}, the terms of the agreement shall be fixed by the trustees of the bridge or their successors, whose determination shall be final.

Section 3. Upon the execution of the said lease the said trustees shall extend the said bridge in the City of Brooklyn, so that it shall connect at grade, with the structure or structures of the elevated ^{railroad or} railroads controlled by the lessee, in the City of Brooklyn, at points north of the northerly line of Tillary Street in such manner as may be necessary for the connection of the tracks of said railroads with the tracks of the said Brooklyn Bridge, so that the cars of the elevated railroads may be continuously operated over the said bridge, and shall construct all structures proper and convenient therefor.

Section 4. said trustees shall also extend and alter the terminus of the said bridge in the city of New York, over and along Centre Street, for a distance not exceeding fifteen hundred feet northerly beyond the present line of the bridge, and shall construct thereon the necessary platforms, stairs, railroad tracks and other

appliances required for the convenience and safety of passengers using said bridge^s, and so as to enable the continuous operation of elevated railroad trains along such extension^s to the terminus thereof.

Section 5. For the purposes of such extensions the said trustees may purchase or acquire and hold for the cities of New York and Brooklyn, as much real estate and easements in either city as may be necessary, and may erect such extensions over such streets as may be occupied and intersected thereby, but said structure shall not unnecessarily obstruct any street over, along and across which it may be built.

In case the said trustees cannot agree with the owner or owners of any real estate or easements required for such extensions or of any interest therein for the purchase thereof, they shall have the right to acquire the same by eminent domain and by the special proceedings provided for obtaining title to real estate under chapter 23 Title 1 of the Code of Civil Procedure of the State of New York, known as the Condemnation Law, and any acts amendatory thereof, or in addition thereto.

Section 6. The plans for such extensions and alterations shall be prepared by said lessee, and shall be approved by said bridge trustees. The contracts for the construction of such extensions shall be made by said bridge trustees, and ~~the~~ such extensions shall be and remain an integral part of the said New York and Brooklyn Bridge, and the lessee shall have no ownership or title

to the same or any part thereof, except to use the same in accordance with said lease or any renewal thereof.

Section 7. The moneys required for the construction of said extensions shall be raised and expended by the cities of New York and Brooklyn in such manner as moneys for the construction of the bridge have been heretofore raised by the said cities, the city of New York to bear one third of the cost entailed, and the City of Brooklyn two-thirds thereof, interest upon the amount expended to be paid by the lessee as hereinbefore provided.

Section 8. The said lessee shall be liable for and indemnify the trustees of the New York and Brooklyn Bridge for all claims and demands arising out of the construction of the said terminals or by reason of the operation of any railroads over the said bridge after the execution of said lease, and shall furnish security for the faithful performance of the conditions of said lease, to be approved by the trustees.

Section 9. All acts or parts of acts inconsistent herewith are hereby repealed.

Section 10. This act shall take effect immediately.

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An Act
in relation to the New
York and Brooklyn
Bridge etc

copy to
Cooper C. Scott

THE TRAFFIC CAPACITY

of the

NEW YORK AND BROOKLYN BRIDGE RAILWAY

By

G. LEVERICH, C. E.

IMPROVEMENTS REQUIRED.

33. So far on the Bridge Railway, except for a few months at New York Station, after it was first opened to public use, the trains have been transferred at the terminals, from one main line to the other by locomotives kept for this purpose, also to haul the trains as required to and from the storage yard and over the Railway during the early morning hours when the travel is light, and occasionally at other times, when from derailment, failure of a part of the machinery or other cause, the cable driving plant is briefly stopped. In New York Station, the outgoing trains while receiving passengers take hold of the cable at the platform; at Brooklyn Station they are by locomotive pushed out from the platform on to the main track before the cable grips are applied. It is desirable that the trains should be hauled by cable over the main lines during the entire 24 hours; and whenever in the

future they are dispatched on much less headway and a greater number are put into service than now, it will be necessary because of the limited time in which such may be done, to make the transfer at the terminal stations from one main line to the other also by cable; which may be done and thereby the daily cost of motive power be greatly reduced. As bearing on this, Table XIII. is given, which shows for each of the three years ending May 31, 1889, the number of miles a single car was hauled by cable and by locomotives, including the transfers at the terminals; and the cost of each service. From this will be seen, that in these years the work done by the locomotives was but 13 per cent. of the whole, and at over 56 per cent. of the total cost; that is, to perform the same service, it costs $\frac{3}{2}$ times as much if done by locomotives than if done by cable. A reduction of this annual amount about two-thirds or \$30,000, is four per cent. on an investment of \$750,000; hence a large permanent expenditure to materially lessen it will be wise.

(Page 31).

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...ICATE--Original handed to Mayor Wurster)

Strong,

New York.

Hon. Fredk. W. Wurster,

Mayor Brooklyn.

The undersigned merchants of Brooklyn most respectfully urge your honors to aid legislation that will provide for the crossing of the New York and Brooklyn Bridge by railroads, to the end that through transportation facilities without change of cars will be provided between the two cities.

We firmly believe that with through continuous transit and reduced fares both New York and Brooklyn will reap inestimable benefits at once. We do not advocate the granting of the right to use the railroad of the bridge to any particular corporation or to any particular system except that the right should be given to such railroads that can carry the greatest numbers in the hours when the bridge railroad is most congested.

Respectfully,

Abraham & Straus,	422-432 Fulton St.
Henry Offerman,	503-513 Fulton St.
A. D. Matthews & Sons,	398-404 Fulton St.
T. K. Horton Co.	394-396 Fulton St.
A. J. Nutting & Co.,	384-386 Fulton St.
S. S. Baldwin,	380 Fulton St.
Balch, Price & Co.	376 Fulton St.
A. Stevenson,	391 Fulton St.
S. O. Burnett,	288 Fulton St.
L. Manne & Co.	408 Fulton St.

1

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A. Stevenson,	391 Fulton St.
S. O. Burnett,	288 Fulton St.
L. Manne & Co.	408 Fulton St.
H. M. Baum,	418/20 Fulton St.
A. A. Webster & Co.	440 Fulton St.
A. I. Namm	452 Fulton St.
Chas. K. Ash	452 Fulton St.
Brooklyn Furniture Co.,	553-571 Fulton St.
Isaac Mason, Cor. of Myrtle Ave. & Bridge St.	
William Berri's Sons,	522-528 Fulton St.
George Lockitt's Sons	530 Fulton St.
Isidor Weinberg	536 Fulton St.
Wechsler Bros.	538-540 Fulton St.
Johnston Bros.	8, 10 & 12 Nevins St.
William Wise & Son	Flatbush Ave. & Fulton St.
John C. Grennell & Co.,	19 & 21 Flatbush Ave.
Frank Phillips,	497 Fulton St.
A. H. Adams,	531 Fulton St.
Anderson & Co.	569 Fulton St.
Samuel A. Byers,	571 Fulton St.
A. G. Keating,	573 Fulton St.
Morris Rosenberg	481/83 Fulton St.
Harding Mfg. Co.	467 & 469 Fulton St.
George Halbert	455 Fulton St.
Bouve Crawford C. Corp.	419 Fulton St.
W. & H. Mumford,	390 Fulton St.



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P. W. Taylor,	521 Fulton St.
Joseph O'Brien & Co.	151 - 159 Atlantic Ave.
Standard Shoe Co.	139 Atlantic Ave.
Brooklyn Clothing Co.	141 & 143 Atlantic Ave.
Robt. J. Forman,	127 Court St.

Samuel W. Cornell	121 Court St.
J. Sutcliffe Jr.	119 Court St.
Henry Hyams, Jr.	101-109 Court St.
T. B. Willis & Bro.	94 & 96 Court St.
C. M. Jacobson,	417 Fulton St.
Jas. McCullough,	364 Fulton St.

Ernest M. Nason,	601 Fifth Ave.
Saml. Dyer,	563 5th Ave.
Chas. S. Stephenson,	577-579 5th Ave.
John McCormick,	448 Fifth Ave.
C. C. Adams & Company,	474 Fulton St.

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NEW YORK AND BROOKLYN SUSPENSION BRIDGE. ✓

Construction commenced Jan. 2, 1870.

Size of N. Y. Caisson, 172 x 102 feet.

" Brooklyn " 168 x 102 "

Timber and Iron in Caisson, 5,253 cubic yards.

Concrete in well holes, chambers, etc., 5,669 cubic feet.

Weight of N. Y. Caisson, about 7,000 tons.

" Concrete filling, " 8,000 "

N. Y. Tower contains 46,945 cubic yards masonry.

Brooklyn Tower contains 38,214 cubic yards masonry.

Length of River span, 1,595 feet 6 inches.

" each Land span, 930 feet, 1860 feet.

Length of Brooklyn approach, 971 feet.

" N. Y. approach, 1,562 ft. 6 in.

Total length of Bridge, 5,989 feet.

Width of Bridge, 85 feet.

Number of Cables, 4.

Diameter of each Cable, 15 $\frac{3}{4}$ inches.

First wire was run out May 29, 1877.

Cable making really commenced, June 11, 1877.

Length of each single wire in cables, 3,578 feet 6 inches.

Ultimate strength of each Cable, 12,200 tons.

Weight of wire, 12 feet per pound.

Each Cable contains 5,295 parallel [not twisted] galvanized steel, oil coated wires, closely wrapped to a solid cylinder 15 $\frac{3}{4}$ inches in diameter.

Depth of Tower foundation below high water, Brooklyn, 45 feet.

Depth of Tower foundation below high water, New York, 478 feet.

Size of Towers at high water line, 140x59 ft.

" " at roof course, 136 x 53 ft.

Total height of Towers above high water, 278 feet.

Clear height of Bridge in centre of river span above high water, at 90 degs. F., 135 feet.

Height of floor at towers above h. w., 119 feet 3 inches.

Grade of Roadway, 3 $\frac{1}{4}$ feet in 100 feet.

Height of Towers above roadway, 159 ft.

Size of Anchorages at base, 129 x 119 feet.

" " top, 117 x 104 "

Height of " 89 ft. front, 85 ft. rear.

Weight of each Anchor Plate, 23 tons.

Total cost of Bridge, exclusive of land, \$9,000,000.

Bridge will probably be completed in 1880.

Engineer, COL. W. A. ROEBLING.

OFFICERS AND TRUSTEES
 OF THE
 New York and Brooklyn Suspension Bridge.

HENRY C. MURPHY, - - - - - President.
 ARTHUR LEARY, - - - - - Vice-President.
 JOHN H. PRENTICE, - - - - - Treasurer.
 ORESTES P. QUINTARD, - - - - - Secretary.

TRUSTEES.

NEW YORK.

JOHN T. AGNEW,
 THOMAS HITCHCOCK,
 ARTHUR LEARY,
 JOHN G. DAVIS,
 * HENRY A. SMALLEY, * *vacant*
 CHARLES H. HASWELL,
 SAMUEL HALL, M.D.,
 WILLIAM B. MACLAY.

BROOKLYN.

HENRY C. MURPHY,
 WILLIAM C. KINGSLEY,
 THOMAS KINSELLA,
 THOMAS CARROLL,
 WILLIAM B. LEONARD,
 JAMES S. T. STRANAHAN,
 HENRY W. SLOCUM,
 WILLIAM MARSHALL.

MAYORS AND COMPTROLLERS OF NEW YORK AND BROOKLYN.

appointed for 2 years June 1. 1877.

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OFFICERS AND TRUSTEES
OF THE
New York and Brooklyn Suspension Bridge,
1879.

HENRY C. MURPHY, - - President.
WILLIAM C. KINGSLEY - Vice President.

JOHN H. PRENTICE, - - - Treasurer.
ORESTES P. QUINTARD, - Secretary.

TRUSTEES.

NEW YORK.

JOHN T. AGNEW,
JOHN G. DAVIS,
~~JOHN G. DAVIS~~, *John H. Money*
HERMAN UHL,
ROBERT B. ROOSEVELT,
ISAAC NEWTON,
ERASTUS W. SMITH,
J. ADRIANCE BUSH,
EDWARD COOPER, Mayor,
Ex-officio.
JOHN KELLY, Comptroller,
Ex-officio.

BROOKLYN.

JAMES S. T. STRANAHAN,
WILLIAM C. KINGSLEY,
WILLIAM TAYLOR,
A. W. HUMPHREYS,
HENRY W. SLOCUM,
ALFRED C. BARNES,
WILLIAM MARSHALL,
HENRY C. MURPHY,
JAMES HOWELL, Mayor,
Ex-officio.
WM. G. STEINMETZ, Comp.,
Ex-officio.

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