

DEDICATION

Program & History

LANCASTER «» YORK
INTERCOUNTY BRIDGE

IN MEMORY of the Sons
and Daughters of Lancaster
and York Counties, Pennsy-
lvania, who have served in
the wars of their country.



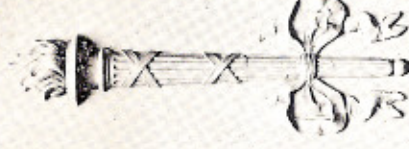
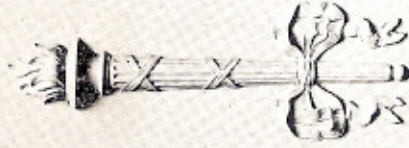
ARMISTICE DAY
1930

COPYRIGHTED 1930
GEORGE S. WOLF
LANCASTER, PA.

DEDICATED IN MEMORY
OF THE

SONS AND DAUGHTERS
OF LANCASTER AND YORK
COUNTIES, PENNSYLVANIA
WHO HAVE SERVED IN THE WARS
OF THEIR COUNTRY

ARMISTICE DAY 1930.



REPRODUCTION OF TABLET PLACED ON EACH END OF
LANCASTER-YORK INTERCOUNTY BRIDGE



AIR VIEW OF COLUMBIA, PENNSYLVANIA, SHOWING APPROACHES TO COLUMBIA-WRIGHTSVILLE
INTER-COUNTY BRIDGE—NOVEMBER 11TH 1930

COPYRIGHTED PHOTO NO. 13556



GOVERNOR JOHN S. FISHER

Commonwealth of Pennsylvania



Governor's Office
HARRISBURG

THE GOVERNOR

October 31, 1930

Mr. George S. Wolf,
The Conestoga Publishing Company,
Lancaster, Pa.

Dear Mr. Wolf:

I heartily commend the patriotic spirit that prompted the dedication of the Columbia-Wrightsville Bridge as a memorial to the citizens who have offered themselves in military service of the Nation. So much of historical interest and value attaches to the vicinity where the bridge is located and the bridge itself is such a noble example of modern engineering and building skill as to make it a worthy memorial to the men and women who did military duty in all the wars in which we have been engaged since Colonial times.

I hope to be present on the occasion of the dedication to attest my interest and approval.

I beg to remain,

Very cordially yours,

John I. Fisher

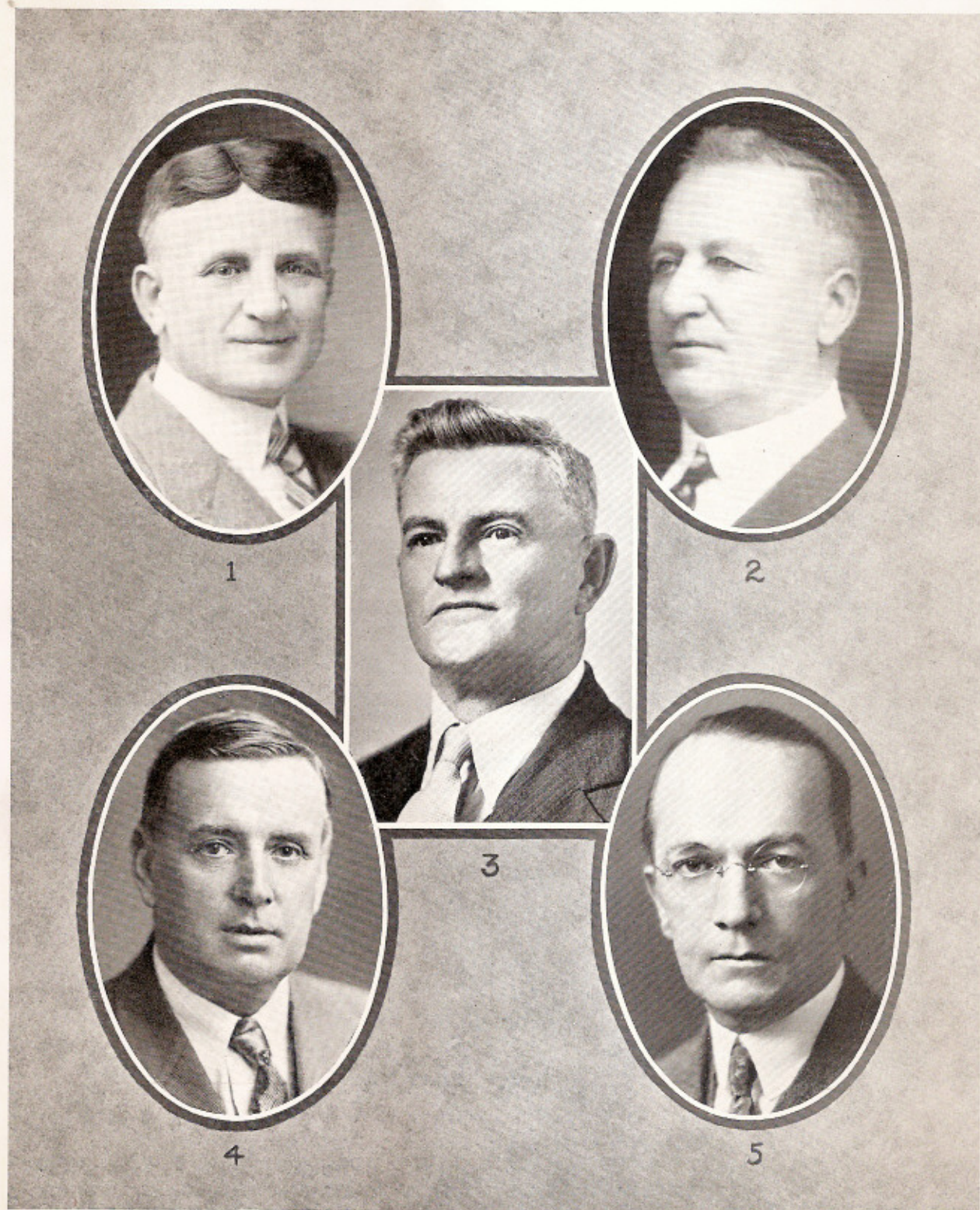


S. FORRY LAUCKS,
*Chairman Inter-County Memorial
Bridge Dedication Committee,
York County.*



BRIGADIER GENERAL E. C. SHANNON,
*Chairman Inter-County Memorial
Bridge Dedication Committee,
Lancaster County.*

York County



1—J. EMANUEL SMITH *Secretary Commissioner of Inter-County Bridge Commission.*

2—JOHN J. LANDES, *Commissioner.*

3—W. EVERETT WILEY, *President of County Commissioners.*

4—WILLIAM H. MENGES, *County Controller.*

5—GEORGE S. LOVE, *Solicitor.*

Lancaster County



1—JAMES F. SIMPSON, *Commissioner.*

2—CHARLES A. PASSMORE, *Commissioner.*

4—RALPH W. EBY, *County Controller.*

5—OLIVER S. SCHAEFFER, *Solicitor.*

3—HON. G. GRAYBILL DIEHM, *President of Inter-County Bridge Commission.*



JAMES B. LONG,
Consulting Engineer,
Norristown, Pa.

Columbia-Wrightsville Bridge



THE Columbia-Wrightsville Bridge is a multiple span arch highway bridge consisting of twenty-eight spans of one hundred and eighty-five (185) feet each, twenty approach spans of approximately forty-eight (48) feet each and two steel deck girder spans of seventy-five (75) feet and eighty (80) feet. The clear roadway is thirty-eight feet and there is one sidewalk, six feet in width. The type of construction was chosen after a careful study of a number of different factors.

Rock of a suitable character for foundations is located within three or four feet of average low water and is practically clear of any over burden. This is adapted to a multiple span arch design and the structure compares very favorably in price with designs using other materials than concrete, considering both first cost and maintenance.

The new bridge being located so close to and parallel to the Pennsylvania Railroad Bridge, it was advisable to adopt span lengths corresponding as closely as possible to those of the old structure. At times there are serious ice floods in the Susquehanna River and it seemed advisable not to add obstruction in the way of additional piers that would interfere with the stream flow. The piers of the new bridge are directly south in line with the piers of the railroad structure.

The clear span length of the new bridge was consequently fixed and is one hundred and eighty-five (185) feet. The arch is the only type of reinforced concrete construction suitable for a span of such length.

The springing line of the arch was fixed at the high water mark of the Susquehanna River at this point. The elevation of the roadway was fixed by the requirement of furnishing a clearance of twenty-two (22) feet over the railroad at each end of the bridge plus the necessary depth of the structure itself. This fixed the rise of the arch at thirty-two (32) feet.

There are two types of arch design in general use, one is called the open spandrel type and the other the filled spandrel type. The former is the one adopted in the Columbia-Wrightsville Bridge, as it was more economical. The arch in this case consists of three independent ribs supporting columns which in turn support the roadway deck.

The arch spans are carried to the river banks where they are joined by a number of reinforced concrete deck girder spans forming the approaches to the river portion of the bridge. The span lengths were dictated by considerations of horizontal and vertical clearances with relation to the railroad crossings at each end of the bridge.

On account of the great length of this bridge a great deal of attention was given to duplication of construction operations. All of the arches are of identical dimensions so that the same centers and forms could be used. The general design was kept as simple as possible to obviate excessive form costs, and at the same time to give a pleasing and adequate appearance to a bridge of this magnitude.

JAMES B. LONG,
Consulting Engineer.

List of Honorary General Committee

YORK COUNTY



S. FORRY LAUCKS, *Chairman*

HON. JACOB E. WEAVER	MRS. C. B. HEINLY	ALEX LEHMER
HON. HENRY C. NILES	CHARLES M. KERR, SR.	R. WILSON SELBY
HON. RAY P. SHERWOOD	RALPH P. WILTON	H. B. SHELLY
DR. C. P. RICE	FREDERICK DIETZ	A. H. MORRIS
GEORGE S. SCHMIDT, ESQ.	EDWARD S. ETZWEILER	J. M. SENTZ
GEORGE WATSON	GARFIELD J. SHULTZ	GEORGE BYERS
GORDON CAMPBELL	H. E. NAUSS	WILLIAM H. WOLF
VINCENT KEESEY, ESQ.	CHARLES H. MOORE	GEORGE W. BESHORE
ALLEN C. WIEST, ESQ.	REV. J. M. SPANGLER	RAYMOND DIEHL
WALTER B. HAYES, ESQ.	JESSE W. GITT	JOHN H. LITTLE
FRANCIS FARQUAHAR, ESQ.	H. WALTER YOUNG	C. W. LAUGHMAN
E. A. BARNITZ	A. R. BRODBECK	ELMER WISE
E. A. HIRSHMAN	H. D. SHEPPARD	R. A. GOODLING
PHILIP H. GLATFELTER	HOWARD SLAGEL	AUGUSTUS FRANTZ
ROBERT E. GEPHART	N. NEIMAN CRALEY	EDWARD A. GREIMAN
GEORGE H. HUMMEL	VICTOR WIERMAN, SR.	W. H. LOWE
GEORGE W. LICHTENBERGER	CAREY E. ETNIER	HERBERT HENRY
HARRY R. LENKER	SAMUEL S. LEWIS, ESQ.	HARRY G. ROHRBAUGH
WALTER I. ANDERSON	A. F. FIX	C. C. NEWCOMER
JAMES SUTCLIFFE	JOHN H. MYERS	H. L. HAINES
MISS MYRTLE DUKE	HON. FRANKLIN M. MENGES	WILLIAM H. SNYDER
MRS. RAY P. SHERWOOD	HON. HENRY E. LANIUS	M. E. BRICKER
NORMAN GEBERT	HON. ROBERT S. SPANGLER	JESSE S. STAMBAUGH
R. N. ZIMMERMAN	HON. CHESTER H. GROSS	WILLIAM E. EDIE
ELLIS S. LEWIS	HON. J. A. STEIN	WILLIAM ZEIGLER
FELIX BENTZEL	MARSHALL H. POFF	J. W. GEMMILL
MRS. LILLIAN SHIVE	RAYMOND J. SHETTEL	WALTER C. SMITH
THOMAS S. NEEL	JACOB M. FLINCHBAUGH	D. H. HERBST
RICHARD F. YOST	HON. NEVIN M. WANNER	JAMES C. TAYLOR
W. P. LINDEMUTH	HON. MCLEAN STOCK	E. G. LIEPHART
MRS. ROBERT L. MOTTER	HON. W. F. BAY STEWART	H. E. BAMBERGER
J. W. RICHLEY	D. W. BRENNEMAN	DR. ELMER KROUT
LESTER W. AIGELTINGER	H. M. RAAB	MRS. JAMES E. CHALFANT
H. C. ULMER	CHARLES W. SIDWELL	MRS. SAMUEL ADAMS

List of Honorary General Committee

LANCASTER COUNTY



BRIGADIER GENERAL E. C. SHANNON, *Chairman*

E. W. AUMILLER	JOHN F. FUNK	B. J. MYERS
L. N. AMMON	S. EDW. GABLE	HARRISON S. NOLTE
PARK BAIR	ROY K. GARBER	JOHN OBERHOLSER
LEONDA BALDWIN	WM. F. GEIGER	JOHN H. OSTERTAG
GUY K. BARD	WM. B. GIVEN, ESQ.	G. W. PAULES
SILAS E. BARD	D. L. GLADFELTER	HARRY V. PEARCE
FRANK S. BARR	GEORGE W. GRIEST	H. J. PIERSON
I. DILLER BAXTER	CHARLES GROFF	NATHAN RAMBO
JOHN K. BAXTER	B. F. GROSH	C. M. REED
MILTON BOWMAN	DR. FRANK G. HARTMAN	GEORGE SCHLEGEL
MISS EVELINE H. BRENNEMAN	DR. GEORGE B. HERSHEY	GEORGE T. SELLERS
J. C. BRENNEMAN	J. D. HERSHEY	W. ROY SHERTZ
E. M. BROWN	GEO. W. HENSEL, JR.	W. CLYDE SHISSLER
THOMAS J. BROWN	DR. WM. H. HERR	J. C. SHOWALTER
HENRY M. BRUNER, ESQ.	A. B. HESS	ANSON B. SIMMONS
MARVIN E. BUSHONG	M. W. HESS	SAMUEL SLOCUM
B. D. CARTER	DR. W. G. HESS	E. C. SMITH
DR. HERMAN H. CAWOOD	CHAS. M. HOWELL	F. O. SPRECHER
W. D. CHANDLER	E. B. JACKSON	JAMES W. STAMAN
PHILIP EDWARD CLARK	J. PARKE KEENEN	HARLAN STAUFFER
WM. F. COLIN	EARL KELLER	C. F. STEINER
ROBERT CONKLIN	DR. W. N. KEYLOR	J. HALE STEINMAN
WM. J. COULTER	DR. GEO. J. KIRSTEIN	MRS. C. R. STRICKLER
E. P. DeHAVEN	DR. H. M. J. KLEIN	W. J. STRICKLER
MAJOR S. W. DETWILER	CHARLES KNIGHT	CAPT. CHARLES L. SUPPLEE
JOHN K. DENLINGER	FRANK B. KOCH	BENJAMIN M. SWEIGERT
HORACE DETWILER	ABRAHAM LANE	H. E. TROUT
FRANK O. DUERST	FRANK LEAMAN	A. C. TUNIS
DR. FRANCIS DUNLAP	D. K. LOCKARD	D. H. WALKER
MRS. CAROLINE S. EBY	GRAYBILL B. LONG	W. J. L. WALKER
ISAAC D. EBY	CHRISTIAN H. MARTIN	GUY WALLACE
JONAS EBY	WILL S. MARTIN	DR. A. V. WALTER
CHARLES H. ENCK	JAMES P. MARSH	JOHN F. WEAVER
JOSEPH ESHLEMAN	A. E. McCULLOUGH	JOHN T. WEBER
C. A. ETZWEILER	ALVIN MENTZER	FRANK WEINHOLD
M. R. EVANS	ENOS E. MOWRER	M. P. WOLFSKILL
MILTON G. EVANS	MRS. I. L. MOYER	MISS ELIZABETH WOODS
JOS. G. FORNEY	FRANK C. MUSSER	SAMUEL G. ZIMMERMAN
J. ANDREW FRANTZ, ESQ.		GEORGE ZINK



DR. HENRY H. APPLE

Memorial Address

by

DR. HENRY H. APPLE

President of Franklin and Marshall College

MR. CHAIRMAN, GOVERNOR FISHER,

LADIES AND GENTLEMEN:

IN the presence of the eminent Governor of Pennsylvania and the Joint Committee of Dedication, together with the citizens of Lancaster and York Counties and interested visitors from near and far, we are here today formally to open and dedicate this bridge. In durability and beauty, it is a structure which reflects credit upon the wisdom of the Joint Bridge Commission, the artistic creation of the architect and builder, and the skill and toil of the workmen. Spanning the picturesque Susquehanna River between Columbia and Wrightsville, this bridge connects two counties—Lancaster formed in 1729 and York in 1749—which, for many generations, have been the home of a people that has figured prominently in colonial and national life. It joins land and people who have a common ancestry and experiences, a rich history and a record of noble achievement in the affairs of a great nation. Enduring courageously the hardships of life in the primeval wilderness and contact with the savage Indian, they had a conspicuous part in the struggle for national stability and independence; they marched to the defense of the union; they went overseas for the establishment of world-wide freedom; they heroically toiled in the arts of peace and industry for the formation and maintenance of a firm, prosperous and happy government.

In this ceremony, first of all, we figuratively lay our garland of affection and gratitude upon the tomb of the Unknown Warrior—a patriot who stands for all those who gave their lives in defense of the principles and ideals of human freedom.

It is very fitting that our minds should reverently contemplate the sons and daughters of these counties who have served in the wars of their country, in whose memory this bridge is dedicated. Here are innumerable scenes and incidents which at the hands of the historian reveal courage and loyalty that vie with any section of our land. The early co-operation of the citizens of these two counties with all the colonies was shown in furnishing wagons and pack horses, provisions and equipment for Benjamin Franklin and the Commission of Public Safety before the establishment of a central government. At the opening of the Revolution,

the forest village of York had grown to be second only to Lancaster among the inland towns of the country, and both of them, centers of thriving communities, performed distinguished service in the establishment of the Republic. Each of them had the honor of being the Capital and seat of national government—Lancaster for one day and York for nine months—during the dark days of the Revolution, when Howe held Philadelphia and the fortitude and patriotism of Washington's army was being sorely tested at Valley Forge. After Lexington, in 1775, the first force to arrive at Cambridge was a Company from York County, Pennsylvania, under Captain Doudel and Lieutenant Henry Miller, which had marched five hundred miles to reach its destination. Every township had a part in the formation of military companies for the prosecution of the war, and the bravery of their volunteers was conspicuously shown at Long Island, where occurred the first field-fight after the signing of the Declaration of Independence. That fight was waged to protect the City of New York. It had been the boast of the British commander that with five hundred men he could march triumphantly from the northern to the southernmost boundary of these colonies. England had thirty-five warships in American harbors and four hundred transports with 35,000 men. Washington had less than 20,000 men, of whom only about 6,000 had a year's experience in field maneuvers; and even these were not fully equipped. The success of the plan of defense depended upon three regiments of Pennsylvania riflemen and musketeers under Colonel Kichlein, Colonel Atlee and Colonel Miles, selected to perform this vicarious duty, when it was necessary that a part of the army should be sacrificed for the welfare of the whole. No record of the Revolution shows a more courageous stand than was made by these gallant patriots. Though they were almost cut to pieces, they prevented a total rout and the capture of the American forces. Their bravery was a splendid example and inspiration for the morale of the whole American army. It was the Thermopylæ of the Revolution; and the Pennsylvania troops were the Spartans. Their valor in the long and hard struggle for freedom is well known and their memory forever enshrined in the history of their country. General Hand and Colonel Hartley are conspicuous names which signify service and sacrifice among the many who are held in grateful remembrance as heroic figures of the revolutionary period of our history.

It was from the homes and farms of the people of York and Lancaster counties that the armies were furnished with materials, provisions, horses, wagons and grain. Indeed, it is not difficult to visualize the meager success that would have rewarded General Washington's leadership had he not been aided from the flourishing farms of York and Lancaster counties. For it was from these farms that the American armies were chiefly fed

with bread during the later stages of the war, and it was from the product of these farms that those millions of dollars were obtained which constituted the foundations of the Bank of North America and which fed and clothed the American army until the glorious Peace of Paris. In like manner the Mexican War afforded occasion for the expression of the fortitude and strength of the second and third generations of these early pioneers.

At the opening of the Civil War, the first contingent to respond to President Lincoln's call and arrive at Washington, in 1861, was a regiment of five companies from Pennsylvania towns and country districts, almost entirely composed of descendants of the patriots of revolutionary days; and from these counties later went forth other early regiments and battalions fully armed and equipped with rifles made in this community to fight for the preservation of the Union. They were followed by a long line of loyal sons, who served with faithfulness and distinction and who contributed to the honor and integrity of an ultimately united nation. Nor could we fail to mention here the efficient service of the citizens of Columbia and Wrightsville, who guarded home and property in time of danger from hostile invasion and who by the burning of the old bridge withstood the onward march of the Confederate forces.

This is neither the time nor place to attempt to recite the minute details of the part taken by these counties in the Civil War, except to say that it was a full share of sacrifice given by a grateful people who loved and supported the ideal of one nation and one flag for all the States, and to record even briefly the part they took in the quick and decisive victory of the forces under Admiral Dewey at Manila Bay and Colonel Roosevelt at San Juan Hill in the Spanish American War. Nor is it necessary to do more than mention the extraordinary enthusiasm and whole-hearted devotion that characterized the youth who from these counties prepared and entered the conflict in the late World War, and the efficiency of the officers, prominent among whom is a member of the Committee on Dedication—General E. C. Shannon. Their loyalty and service are fresh in the memory of most of us and form a notable example of consecration to the highest ideals of national life and the welfare of mankind throughout the world. Their deeds on land and sea—with the earnest labor of citizens at home engaged in charitable work—contributed largely to the success of the allied armies and to the stability of a sane civilization. While too much gratitude cannot be bestowed on those who went forth to endure the hardships and incur the dangers of war, the sacrifices and benevolent labors of their mothers, wives, daughters and sisters must not be forgotten. Vacant places in homes and in all spheres of civil life speak eloquently of the sacrifices which we here and now recognize and honor in this impressive dedication ceremony. God grant we may never have another war, but if a war should be thrust upon us, we solemnly and fearlessly dedicate ourselves to the defense and preservation of our Republic,

as those before us made the supreme sacrifice for the solidarity of her institutions and life.

It is highly significant that this Memorial for the sons and daughters who have served in the wars of their country does not exalt or glorify war. It is rather symbolical of the arts of peace. The bridge is a link in a great national highway leading out into every nook and corner of the land and serving to bring us into closer relation with the lives and fortunes of the people in every other section and community of the country. We are mutually dependent one upon another, and the state or nation is only as strong as each component part is strong and ministers to the welfare of all. Our own Conestoga Wagon gave way to the steam engine, and that in turn to the automobile and aeroplane, and of the nation thus bound together by modern invention we are a part and are expected to live and labor for mutual progress and happiness.

The spirit of loyalty, courage and sacrifice in war were exemplified in still greater degree by our ancestors in their devotion to the pursuits of peace. Our fertile farms formed the basis of national prosperity; and national prosperity is, and always must remain, in the tilling of the soil. The limestone soil and the sturdy character of the people who live here upon it, make these counties the garden seat of the United States. The descendants of these farmers, for thirty generations, in the workshops, at the bar, in the pulpit, in medicine, in business, in colleges, on newspapers, have helped to lay deep the foundation of a stable and successful nation. By indomitable industry, earnestness and frugality they have developed forces that are essential in the preparation of this government for any emergency, whether in time of peace or in time of war. They have quietly and effectively become an impelling power for a large proportion of the industrial, commercial, educational and agricultural activities of the country. And let us remember that a deep religious conviction and practice were the glory and strength of our forebears and their cherished source of comfort in days of stress and conflict as well as in days of peace.

In full accord with the traditional religious faith of our ancestors we reverently bow at the altar of our God and lift our hearts in humble gratitude to Him for all we have and all we are in our incomparable heritage. We emulate the zeal of our fathers in spiritual forces and place our confidence in and give our efforts for the realities of that spiritual life which alone can sustain a permanent work in any nation.

It remains for us now to consecrate ourselves with equal loyalty to our country, to uphold her laws, to enrich her institutions, to strengthen her ideals and to stimulate her purposes.

In so far, therefore, as the country needs our service to promulgate the ideals which we have exalted and to advance the purposes which we believe are needed to make a better world, we stand ready to answer the summons to render any assistance, even to lay on the altar of sacrifice our prosperity and life for the love of our American Republic.



AIR VIEW OF WRIGHTSVILLE, PENNSYLVANIA, SHOWING APPROACHES TO COLUMBIA-WRIGHTSVILLE
INTER-COUNTY BRIDGE—NOVEMBER 11TH 1930

COPYRIGHTED PHOTO NO. 13552



MISS EMILY PASSMORE

Dedicating the New Bridge

One of the outstanding features of the bridge dedication program will be the cutting of two ribbons, one at each end of the structure, by Miss Burneta Jean Wiley, daughter of W. Everett Wiley, president of the York County Commissioners, and a sophomore at Beaver College, who will represent York county, and Miss Emily Passmore, daughter of County Commissioner Charles A. Passmore, and a senior at Millersville State Teachers College, who will represent Lancaster county.

Unveiling of Bronze Tablets

Located at each end of bridge by Miss Emily Passmore and Miss Burneta Jean Wiley, bringing to a close the formal dedication of a structure which today stands as a permanent memorial to the sons and daughters who have served in the wars of our country and a crowning architectural and engineering achievement of the 20th century.



MISS BURNETA JEAN WILEY

Program for Dedication Memorial Bridge



2 p. m., Armistice Day, 1930



PRESIDING OFFICER—Hon. G. Graybill Diehm, President
Inter-County Bridge Commission.

CUTTING OF SILK RIBBON at Wrightsville approach and
Columbia approach at 1:55 p. m. by Miss Burneta J. Wiley
and Miss Emily Passmore.

NATIONAL ANTHEM 103rd Cavalry Band

INVOCATION—Rev. Dr. Guy Franklin Caruthers, Columbia, Pa.

ADDRESS—Dr. Henry H. Apple, President of Franklin and
Marshall College, Lancaster, Pa.

UNVEILING OF BRONZE TABLET by Miss Emily Passmore
and Miss Burneta J. Wiley.

ADDRESS . Hon. John S. Fisher, Governor of Pennsylvania

BENEDICTION . Rev. Nathaniel Chestnut, Wrightsville, Pa.

AMERICA 103rd Cavalry Band

Order of Parade



A parade of Pennsylvania National Guard and Ex-Service organizations will precede the ceremonies, November 11, 1930, dedicating the LANCASTER-YORK INTERCOUNTY BRIDGE over the SUSQUEHANNA RIVER between COLUMBIA and WRIGHTSVILLE to the "SONS AND DAUGHTERS OF LANCASTER AND YORK COUNTIES, PENNSYLVANIA, WHO HAVE SERVED IN THE WARS OF THEIR COUNTRY."

The column will march at 2:00 P. M.

ROUTE—Hellam Street at 6th, WRIGHTSVILLE—Memorial Bridge—Chestnut Street, COLUMBIA—Fifth Street—Locust Street—Second Street—Eastern entrance to Bridge where units and organizations will close on stands for dedication ceremonies.

CHIEF MARSHALS

MR. S. FORRY LAUCKS — BRIGADIER GENERAL E. C. SHANNON

NATIONAL GUARD:

Colonel Charles P. Stahr.
Command Group.
103rd Cavalry Band.
28th Military Police Company.
Headquarters Company, 56th Infantry Brigade.
Battery E, 213th C. A. C.
Battery F, 213th C. A. C.
110th Motor Transport Company.
107th Hospital Company.
Troop I, 104th Cavalry.
Battery A, 107th F. A.
Platoon Battery A (S-L), 213th C. A. C.

316TH INFANTRY:

Commanding Officer, 316th Infantry.
Command Group.
Band.
Officers, 316th Infantry.

UNITED SPANISH WAR VETERANS:

Major Adam Garver.
Command Group.
Pennsylvania Soldiers Orphan School Band.
Wm. S. McCaskey Camp No. 53.
Martin Smith Camp No. 67.
Watts Camp No. 68.
Major Ed. B. Eckman Camp No. 97.

VETERANS OF FOREIGN WARS:

Command Group.
Band.
York County Posts.
Lancaster County Posts.

ORDER OF PARADE—Continued



NAVAL AND MARINE VETERANS:

Command Group.
Band, U. S. S. Wyoming, U. S. N.
Naval Battalion—
(Naval and Marine veterans, Lancaster-York
Counties).

AMERICAN LEGION:

Major Charles W. Bowen.
Command Group.
York County Posts and Drum Corps.
Mr. Hugh Eiseman — Mr. Robert Waddell.
Command Group.
Lancaster County Posts and Drum Corps.
(In order of march as prescribed by County
Command Groups.)

"VETERANS OF THE GRAND ARMY OF THE REPUBLIC" of LANCASTER
and YORK COUNTIES will be conducted by the AMERICAN LEGION to re-
served seats on the stands at the Eastern entrance to Bridge, prior to
2:00 P. M.

YORK COUNTY:

York Post No. 127.
Harold Bair Post No. 14.
Spring Grove Post No. 216.
Austin L. Grove Post No. 403.
Stewart Post No. 455.
Abel-Poff-Leitheiser Post No. 469.
Dallastown Post No. 605.
Red Lion Post No. 543.

LANCASTER COUNTY:

Lancaster Post No. 34.
Garden Spot Post No. 56.
W. F. Ebersole Post No. 185.
Conewago Post No. 329.
Paul Revere Leber Post No. 372.
Tanawa Post No. 409.
Ammon K. Gible Post No. 419.
Cloister Post No. 429.
William H. Brenner Post No. 466.
Denver Post No. 492.
Quarryville Post No. 603.
New Holland Post No. 662.



AIR VIEW LANCASTER-YORK INTERCOUNTY BRIDGE, SHOWING C



COLUMBIA AND WRIGHTSVILLE, DEDICATED NOVEMBER 11, 1930

COPYRIGHTED
PHOTO NO. 13545

ORDER OF PARADE—Continued



NAVAL AND MARINE VETERANS:

Command Group.
Band, U. S. S. Wyoming, U. S. N.
Naval Battalion—
(Naval and Marine veterans, Lancaster-York
Counties).

AMERICAN LEGION:

Major Charles W. Bowen.
Command Group.
York County Posts and Drum Corps.
Mr. Hugh Eiseman — Mr. Robert Waddell.
Command Group.
Lancaster County Posts and Drum Corps.
(In order of march as prescribed by County
Command Groups.)

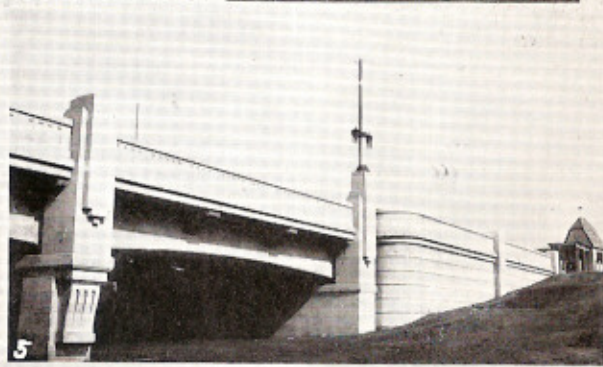
"VETERANS OF THE GRAND ARMY OF THE REPUBLIC" of LANCASTER
and YORK COUNTIES will be conducted by the AMERICAN LEGION to re-
served seats on the stands at the Eastern entrance to Bridge, prior to
2:00 P. M.

YORK COUNTY:

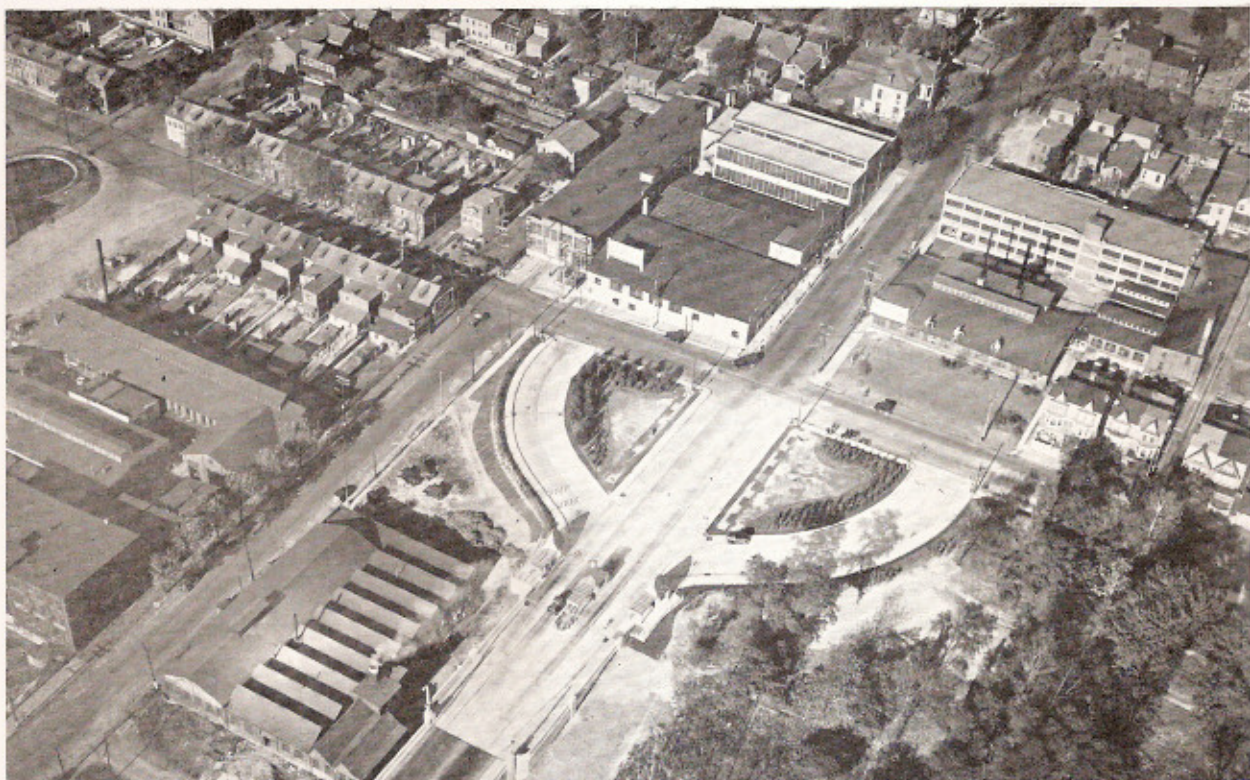
York Post No. 127.
Harold Bair Post No. 14.
Spring Grove Post No. 216.
Austin L. Grove Post No. 403.
Stewart Post No. 455.
Abel-Poff-Leitheiser Post No. 469.
Dallastown Post No. 605.
Red Lion Post No. 543.

LANCASTER COUNTY:

Lancaster Post No. 34.
Garden Spot Post No. 56.
W. F. Ebersole Post No. 185.
Conewago Post No. 329.
Paul Revere Leber Post No. 372.
Tanawa Post No. 409.
Ammon K. Gible Post No. 419.
Cloister Post No. 429.
William H. Brenner Post No. 466.
Denver Post No. 492.
Quarryville Post No. 603.
New Holland Post No. 662.



MISCELLANEOUS VIEWS OF THE BRIDGE



AIR VIEW COLUMBIA APPROACH TO THE LANCASTER-YORK INTERCOUNTY BRIDGE



AIR VIEW WRIGHTSVILLE APPROACH TO THE LANCASTER-YORK INTERCOUNTY BRIDGE

Early Bridges Crossing the Susquehanna River at Columbia



THE COLUMBIA BRIDGE has encountered as much if not more disaster than usually falls to the lot of such structures. Its history, beginning in the first and now running in the last decade of the declining half of the nineteenth century, has been marked by financial and physical woes; and yet, as one element after another has tried its destruc-

life on the 28th of March, 1809, when Governor Simon Snyder approved an Act entitled "An Act authorizing the Governor of Pennsylvania to incorporate a company for the purpose of making and erecting a bridge over the River Susquehanna in the County of Lancaster, at or near the town of Columbia." In that Act, Stephen Girard, William Sansom, James Vanuxem, John Perot, Henry Pratt,



COLUMBIA BRIDGE—1834 LONDON PRINT

tive powers upon it, it has nobly turned from its tribulations and offered fresh defiance to its foes.

Not the least of the projected public improvements was the bridging of the Susquehanna at Columbia. That enterprise found

Thomas McEwen, Martin Dubbs and Thomas S. Lewis, of the City of Philadelphia; John Hurley, Abraham Witmer, Casper Shaffner, Jr., Jacob Strickler, James Wright and Samuel Miller, of the county of Lancaster; and William Barber, John Stewart and Godfrey

Lenhart, of the County of York, were appointed Commissioners to receive subscriptions to the capital stock, which was placed at \$400,000. This was a great undertaking for those days; the length of the proposed bridge was unprecedented, the risks were hazardous, and the consequence of those conditions was a hesitancy on the part of the public to subscribe. Although the limit to be reached in the number of shares at par value of \$100 each before letters-patent could issue was only 1200, it was not until November 19, 1811, that the Commissioners could certify that

Tomlinson, Managers. One of the provisions of the Act authorizing the construction of the bridge was that work upon it should begin in three and be completed within fifteen years. The Legislature, by the Act of April 2, 1811, authorized a State subscription of \$90,000 to the stock, half of which was to be paid upon the completion of the abutments and piers, and the other half upon the completion of the structure.

At a meeting of the Board on December 26, 1811, they provided for soliciting bids for plans and the erection of the bridge. Quite a



BRIDGE OF 1834 SHOWING TOWING PATH

such subscriptions had been made. On that day the Governor issued the letters and created the corporation under the name and style of "The President, Managers and Company for erecting a Bridge over the Susquehanna River in the County of Lancaster, at or near the town of Columbia." In pursuance of that authority, the stockholders met December 11, 1811, and elected William Wright as president; William P. Beatty, treasurer; John Barber, Secretary; Thomas Boude, Samuel Bethel, James Wright, Samuel Miller, John Evans, Christian Breneman, John Forrey, Jr., Abraham Witmer, Henry Slaymaker, William Barber, Jacob Eichelberger and John

number of plans and proposals were submitted, out of which those of Henry Slaymaker, Jonathan Wolcott and Samuel Slaymaker were selected; and on July 8, 1812, they were awarded the contract for erecting the bridge on the Burr plan, and, in accordance with their bid, upon stone piers 40 feet long, 10 feet wide at the top, and 20 feet high from low-water mark, for the sum of \$150,000. The site selected, and upon which the bridge was erected, was about 1000 feet further up the stream than the site of its successors. The amount of stock subscribed by individuals at the time was but \$123,000, whilst that by the State was provisional. The Board and con-

tractors thought they could save money by going on with the abutments, piers and superstructure all at one time, and still obtain the State's subscription. In this they counted without their host. After expending \$78,000, all that was realized from individual subscriptions, and an additional amount nearly equal to that of the State's first instalment, they found that the Commonwealth's subscription was unavailable under the provisions of the law; and when they attempted to obtain leg-

subscription of \$90,000, for the completion of the bridge.

The title of the company was changed on the 29th of March, 1824, to "The Columbia Bridge Company," and the legislation which authorized the change also authorized the company to carry on a banking business. The previous banking operations of the company had been carried on without legislative consent, and brought it into a conflict with the authorities. From the business thus author-



BURNING OF BRIDGE, JUNE, 1863

isolation to alter the terms of payment upon which the subscription was based, there developed an opposition which was strong enough to prevent the alteration. The company's and contractors' funds having all been expended in the incomplete work, and financiers refusing to loan any money upon such kind of security as the unfinished bridge, the Board, in its dilemma, and to save the enterprise from ruin, on July 5, 1813, determined upon a banking scheme as an aid in constructing the bridge. Out of this transaction came the funds, including the payment of the State's

ized was evolved what is now "The Columbia National Bank." After a quarter of a century of banking and bridging combined, the directors became convinced that the financial standing of the bank was constantly menaced by the hazardous nature of the bridge property, and determined upon disposing of the latter by sale. As early as May 1, 1852, they procured legislative authority to make such disposition of it; but it was not until twelve years thereafter, on the heels of disaster, that the sale was accomplished, and the Columbia Bank and the Columbia Bridge Company be-

came two distinct corporations, and their operations confined within the limits of their respective spheres.

The bridge was completed and open for traffic in 1814. It was 5690 feet long between abutments, 30 feet wide, 23 feet above the usual level of the water, and composed of 53 arches, resting upon stone piers. It was roofed over, and cost \$231,771. The amount of capital stock subscribed was \$419,400 by individuals and \$90,000 by the State. All receipts in excess of cost of bridge were applied to banking purposes.

In February, 1832, a destructive ice freshet occurred in the Susquehanna. A gorge, where huge blocks of ice, welded together by friction, were piled up thirty or forty feet high, was formed several miles below the bridge, dammed the stream, backed the ice and water up over the front street of Columbia, and carried the bridge off its piers. The river, from shore to shore, was filled for days with fields of floating ice, with here and there a span of the bridge eddying through them. On the 3rd and 4th of February, five spans of the bridge were taken away; on the 7th, nine more; and a few days after thirty additional ones followed, and the destruction became complete. It was replaced in 1834 by a structure which cost \$128,726.50, with its approaches.

The bridge of 1834, with its approaches, was 5,620 feet long, 40 feet wide, with its bottom chords 15 feet above high-water mark. It was a covered bridge, had two tracks and divisions for foot-passengers, carriages and other vehicles, and two towing-paths, one above the other, for the accommodation of the Susquehanna Canal traffic through the pool of the dam.

Towards the close of 1834 double-track rails, which had been authorized by the Canal Commissioners, were laid on the bridge, so as to make a connection between Wrightsville and the Philadelphia and Columbia Railroad, at Columbia. That connection was on a line leaving the end of the bridge with a curve of 300 feet radius to Front street, alongside and parallel with that street to a point about 130 feet north to Walnut street; thence across said street, by a curve, to its intersection with

the main line at or near the carhouse of Slaymaker & Co.

When the wave of civil war struck the shores of the Susquehanna by the march of Early's Division of Ewell's Corps of Lee's Army of Northern Virginia, the bridge was ordered by the military authorities of the United States to be destroyed, so as to prevent its being passed over by the enemy. In accordance with that order, it was entirely consumed by fire on Sunday, June 28, 1863, and the naked piers were left to mark the most northerly limit reached by the Army of the South, which, receding from that limit, moved southwardly until overpowered and disbanded at Appomattox. The sight of the burning bridge was a sublime one. The fire swept along from span to span until the whole structure was one roaring mass of angry flames; blazing timbers hissed as they dropped in the stream and floated towards the dam. The Southern soldiers lined the right bank of the river and swarmed over the adjacent hills, interested spectators of the grand display of fire's awful forces. Men, women and children crowded the left bank, almost spellbound as the fire shaped fantastic colorings on sky, tree and water. Then came panic. Columbia had never before seen such a spectacle. "The retreat of the troops, the firing of the bridge, and shell and shot falling into the river created a panic, and the stampede continued during the night, as the shelling of the town was anticipated."

On the 12th of July, 1864, the Columbia Bank sold and conveyed the bridge franchises, piers and other property to Josiah Bacon, Wistra Morris, Thomas A. Scott, Joseph B. Myers, Edward C. Knight, Herman J. Lombaert and Edmund Smith. These gentlemen had, on July 6th, 1864, met and organized the Columbia Bridge Company in accordance with law, and elected Herman J. Lombaert as President and Edmund Smith as Secretary and Treasurer. On the 6th of September, 1864, they conveyed to the Bridge Company the property, etc., which they had purchased from the Bank. In 1868-69 the Bridge Company built a new railroad and highway bridge upon the piers. The bridge was a "through Howe

truss arch." It consisted of 29 spans, was 5,390 feet long, and roofed and weather-boarded. Subsequently two iron spaces were placed in the center of the bridge, so that the possible loss by fire should be reduced one-half. Some idea of the size and weight of the structure can be gained from the bill of lumber which went into it. Without going into details, the lumber in board measure consisted of 3,299,952 feet of white pine, 729,906 feet of white oak, 1,900,000 feet of short-joint

wind was to try one of its most terrific manifestations, having in view the bridge for its most prominent victim. On Saturday, September 26, 1896, a storm was reported as a tropic line moving northwest from the Caribbean Sea, it being southeast of Cuba. During the 27th it passed northwestward into the southeastern part of the Gulf of Mexico, and on the 28th moved northward west of Florida. On the morning of the 29th it was over Southern Georgia, and by 8 P. M. of the 29th had



BRIDGE OF 1868

shingles. It was opened for ordinary travel on January 4, 1869, and partially opened for railroad purposes on March 1, 1869. Including the rebuilding and strengthening of many of the piers, and capping them with dressed stone, the cost reached nearly \$400,000. On July 1, 1879, the Columbia Bridge Company conveyed it to the Pennsylvania Railroad Company.

In the destruction of this bridge it was destined that an element other than those which entered into the destruction of the two preceding bridges was to try its force. Water and fire had had their mad revels, and now the

advanced to Southwestern Virginia. The center passed over Washington, D. C., about half-past 11 Tuesday night, the lowest barometer reading being 29:30.

During the first three days the storm appeared to have very little energy, but on the 29th developed force rapidly as it moved northward. A velocity of 54 miles occurred at Charleston and 42 at Wilmington. It reached Columbia shortly after 12 o'clock midnight of Tuesday, lashing itself into fury before 1 o'clock Wednesday morning, and leaving devastation in its wake. The "Columbia

Daily Spy" of September 30th has this description of its force and effect:

"The disaster was widespread and general. The force of the winds was irresistible and the effects more disastrous than ever known in Eastern Pennsylvania. Thousands of people were awakened soon after midnight by the fury of the storm and the terror of crashing trees and flying debris from roofs and buildings. Houses were swayed to and fro by the mighty force of the winds. Sleepers were

ment apparatus were promptly returned to their quarters.

The hurricane which was promised for to-day came a little after midnight with a force and fury unknown to the experience and lives of people in this section. The disturbance was gentle at first, but increasing with every moment, it soon became a hurricane which swept over the town and country with resistless force, marking its pathway with destruction and ruin. The climax of the storm's power



RUINS OF BRIDGE 1868

awakened by the crash of window-panes or the rocking of their beds, and consuming fear seized many as they contemplated the fury of the storm. To add to the terror of the moment, mill-whistles and alarm-bells sounded a chorus of distress and summoned the aid of the fire department. This brought hundreds, perhaps thousands, of people to the streets, who wended their way to the scenes of disaster, to the debris of the storm, cautious of overhanging roofs, signs and awnings, and fearful of trolley and electric-light wires. Fortunately, there was no fire, and the depart-

and fury was the destruction of the Columbia Bridge, which for so many years had withstood the force of storm and the power of flood. It is a total wreck. It was struck by the full force of the hurricane, swept from the piers, and thrown into the river, a mass of broken and tangled debris. Nothing remains but a short span at the Columbia end of the bridge, and the iron span in the centre, and the facade at the entrance on the York County side.

Pen cannot describe the picture of desolation which the bridge presents, and only actual

sight will convey to the mind the effects of the fury and force of the terrible storm. The old bridge was the pride of the town. Now all that is left are the stone piers with straggling timbers hanging on them. In place of the bridge there is nothing but a stretch of wreckage. We all loved to speak of it as the longest covered bridge in the world, a distinction generally accorded to it, though sometimes disputed by like claims for a similar bridge across the Mississippi River recently completed."

The Pennsylvania Railroad Company immediately took measures for the rebuilding of the bridge, and concluded that it should be a steel structure. Active operations were not begun, however, until the spring of 1897, when the masonry was put in shape. That included the construction of eight new piers and the removal of one which was deemed unnecessary. Contracts for the superstructure were placed with the Edgemoor Bridge Works, of Wilmington, Delaware, and "The A. and P. Roberts Company," of Philadelphia, on Friday, January 22, 1897. The contract given to the Edgemoor Company called for the erection of a single deck steel bridge, 2522 feet, 3 inches long. In this distance there are thirteen spans. From the track to the top of the bridge the distance is 30 feet 6 $\frac{7}{8}$ inches; high enough for a railroader to stand on the top of the highest box car and pass through in safety. The width of the structure is 22 feet 6 $\frac{1}{2}$ inches while in the clearance it is 20 by 17 feet.

The first delivery of new material was made at the bridge site on March 25, 1897. On Friday afternoon, April 16, at 2:00 P. M. the Edgemoor Company began operations, and on Friday afternoon, May 7, at one minute after 5 o'clock, they swung their last span into po-

sition with a shrill greeting from the whistles on all the engines used on the work, and a number of locomotives on the railroad near the foot of Bridge street. The other company began the work of erecting their fourteen spans on April 19th, and concluded it at 10 o'clock on Tuesday morning, May 11th, at which hour the connections were made between the two great sections. The total length of the bridge, including short approaches, is 5375 feet, and total weight of steel work, 7100 tons. The shortest time occupied in erecting one 200-foot span was by the Edgemoor Company, in 8 $\frac{1}{2}$ working hours. The total time consumed in raising the bridge was 21 working days. It was turned over to the Transportation Department and formally opened for use June 7, 1897. Its cost approximated \$455,000.

The bridge is so constructed that it can be used by pedestrians and vehicles on the upper portion, and by the Railroad Company on the lower floor, but at the present time only the floor is planked over for use for both purposes. The construction of the upper floor for use of pedestrians and vehicles is left to future determination.

This is the quickest time ever made in the world in constructing a work of the magnitude and character of this bridge, and adds another to the many triumphs of William H. Brown, Chief Engineer of the Pennsylvania Railroad Company.

The bridge was thrown open to ordinary road traffic at 6 o'clock on the morning of July 8, 1897.

NOTE—The above article reprinted by permission from History of The Pennsylvania Railroad Company by William Bender Wilson.



Stages of Progress

Columbia-Wrightsville Bridge

AMONG the early moves leading toward the building of the Columbia-Wrightsville Inter-County Bridge connecting the Counties of Lancaster and York were the appointment of committees by the Chambers of Commerce and the Automobile Clubs of the Counties of Lancaster and York, to further the public interest to erect a joint county bridge.

At the time of the appointment of these Committees it was discovered that the counties had no power to erect a joint county toll bridge. Consequently the first step was the passage by the Legislature of the State of Pennsylvania of the Act of June 28, 1923, P. L. 875, which was amended by the Act of April 27, 1925, P. L. 419, and on November 3, 1925, the following question was submitted to the electors of both counties and received a majority vote in each County:

"Shall the bonded indebtedness of the County of (Lancaster) (York), be increased by the sum of one million, five hundred thousand (\$1,500,000.00) dollars for the purpose of providing funds towards the construction and erection, jointly and in equal proportions with the County of (York) (Lancaster), Pennsylvania, of a joint county toll bridge across the Susquehanna River between Columbia, in the County of Lancaster, and Wrightsville, in the County of York, agreeably to the provisions of the Act of Assembly approved June 28, 1923, P. L. 875?"

Subsequently an Act of Congress, sponsored by the late Congressman from Lancaster County, W. W. Griest, and passed and approved May 7, 1926, granted the consent of the Congress of the United States to the Counties of Lancaster and York to erect a joint county bridge over the Susquehanna

River between the boroughs of Wrightsville and Columbia.

By the provisions of this Act it was necessary for the work to be begun within a period of one year and completed within a period of three years from the date of approval of the Act. Upon petition being presented the Court of Quarter Sessions and the Grand Jury of the respective counties approved the project. York County's petition was approved April 21, 1926, and Lancaster County's, April 24, 1926.

The Commissioners of Lancaster and York Counties then presented to the Court of Quarter Sessions of their respective Counties a petition setting forth that the Commissions of each County had agreed with the Commission of the other County to erect a joint County Bridge, each County to pay one-half of the cost thereof and to assess, supervise and collect tolls for the use of said bridge to an amount necessary to pay interest on bonds and to create a sinking fund for the payment and redemption of said bonds, the said petition being presented to the Court of Lancaster County and approved by it on May 22, 1926, and to the Court of York County on September 20, 1926. A tax payers suit in Lancaster County was then instituted entitled John H. Myers et al, Tax Payers, vs. S. G. Zimmerman, et al Commissioners of Lancaster County, reported in Volume 40, Lancaster Law Review, page 223, and in York County a case by Irvin I. Ruler, Sr. vs. York County, both cases raising the questions as to the constitutionality of the Act of Assembly of 1923, the Amendment of 1925 and the authority of the County Commissioners of both Counties to proceed with the erection of the proposed intercounty bridge.

The case in York County was ruled by the Court of Quarter Sessions of that County in favor of the power of the County to proceed. An appeal from this decision was taken to the Supreme Court of Pennsylvania (said case

being reported in 290 Penna. State Reports, page 427) and on June 25, 1927, by opinion of the Supreme Court, the County of York was sustained in its contention that it had the right to proceed jointly with Lancaster County in the erection of the proposed bridge.

Everything was in readiness so far as the legality of the proceedings was concerned to proceed with the erection of the bridge but in view of the fact that the Board of Commissioners of the respective Counties of Lancaster and York would retire from office at the end of the year 1927, it was deemed inadvisable for the Boards of Commissioners to proceed further with a project which would be governed and supervised by new Board of Commissioners. The matter, therefore, was left in abeyance until the succeeding Boards of Commissioners took office.

Immediately after the new Board of Commissioners took office in their respective Counties on the first Monday of January, 1928, they met informally on numerous occasions for the purpose of discussing the project of building the bridge and the ways and means to do so.

In the meantime Congressman Griest secured the passage of a new Act of Congress extending the time for completion of the proposed bridge from May 7, 1929 (as designated by a former act), until February 16, 1931. This new Act was approved February 16, 1928.

Proposals had been received by the foremost engineers in the country offering their services to the Counties for the designing and construction of the proposed bridge and on Friday, August 10, 1928, after careful deliberation, the Board of Commissioners of the two Counties met in the office of the County Commissioners of Lancaster County and chose Mr. G. Graybill Diehm, of Lancaster County, for Chairman of the Joint Board of County Commissioners, Mr. J. Emanuel Smith, of York County, as Secretary, and Mr. James B. Long, of Norristown, Penna., as Engineer to design and prepare specifications for the proposed bridge.

On November 8, 1929, Mr. Long, having presented separate plans showing construction for the proposed bridge in steel and reinforced concrete, the Commissioners on the same

day decided to authorize the preparation of plans and specifications in detail for the latter type of structure.

On February 18, 1929, after many meetings, final plans and specifications prepared by Mr. Long were approved and on March 9, 1929, the Boards authorized advertisement for proposals to construct the new bridge, bids to be received until Monday, April 9, 1929, at which time thirteen proposals were received. After careful consideration of the said proposals a motion was made and unanimously carried on April 26, 1929, to award the contract for the construction of the new bridge to the Wiley-Maxon Construction Company, of Dayton, Ohio, at their bid of \$2,484,000.00, that being the lowest of the thirteen bids. On May 9, 1929, formal contract for the construction of the new bridge was executed with the said Wiley-Maxon Construction Co., and work upon the same was begun within a few days thereafter.

By the Authorities of the Act of Congress the work was to be finished not later than February 16, 1931, and the contract was drawn with this as the final completion date.

To stimulate the contractor's activity and to secure the opening of the bridge at the earliest possible date so as to save interest costs upon bonds that were necessary to be issued for the payment of the bridge, the contract carried a provision to pay a bonus of \$400.00 a day for each day the bridge was completed in advance of the contract date with a penalty of like amount for every day exceeding it.

Due to favorable weather conditions during the summer of 1929, the winter of 1929-1930 and the summer of 1930 the contractor was enabled to complete the bridge and turn it over to the Commission 140 days in advance of the time set for completion to wit; on Monday, September 29, 1930.

One of the matters that the Counties had to meet before the bridge was actually authorized was the fact that the Pennsylvania Railroad would continue to operate its bridge to public vehicular traffic after the erection and completion of the new bridge. After several conferences the officials of the Pennsylvania Railroad Company agreed that upon the completion of the new intercounty bridge the

Pennsylvania Railroad Company should ask the Public Service Commission to authorize the vacating of its bridge as a public bridge.

In pursuance of this agreement the railroad company presented its petition to the Public Service Commission of the State of Pennsylvania asking for permission to vacate its bridge to public vehicular traffic and to authorize the closing of the same when the new bridge was ready to open.

Hearing upon this petition was held in Harrisburg before the Public Service Commission on Wednesday, September 24, 1930, and on Monday, September 29, 1930, the Public Service Commission approved the railroad's petition and ordered the Pennsylvania Railroad Company to close its bridge when notified by the proper officials that the new inter-county bridge was ready for traffic.

This order was certified to the Lancaster-York Intercounty Bridge Commission on Tuesday, September 30, 1930, and at midnight of that day or to be exact at 12:12 A. M. the new bridge was opened to vehicular traffic and the Pennsylvania Railroad bridge was closed.

Among the steps that were necessary to be taken for the erection of the new bridge was the necessity of securing the following approvals:

(a) Permit from the Water and Power Resources Board, November 27, 1928.

(b) Public Service Commission of Pennsylvania: Certificate of Public Convenience approving the construction of the intercounty bridge above grade, and the railroad crossings on both sides of the Susquehanna River, February 25, 1929.

(c) Approval by the State Highway Department.

(d) Approval by the State Art Commission of the architectural design of the bridge, February 4, 1929.

(e) Permit from the Federal War Department, January 31, 1929.

After the project of building the new bridge had been instituted the General Assembly of the State of Pennsylvania passed an Act approved May 8, 1929 (P. L. 1653) further amending the previous acts of 1923 and 1925 authorizing Commissioners of Counties proposing to erect joint County bridges where

the costs of the same exceed \$400,000.00 and where bonds were to be issued and to be paid for use of the collection of tolls thereon to operate as a joint county bridge commission. The County Commissions of Lancaster and York Counties accepted the provisions of said act, organized themselves as the "Lancaster-York Intercounty Bridge Commission," elected Mr. G. Graybill Diehm of Lancaster County, Pa., as its President, and Mr. J. Emanuel Smith, of York County, Pa., as its secretary and the bridge was constructed, completed and put in operation by the Intercounty Bridge Commission as above stated.

Starting January 16, 1930, a bond issue was floated in both counties, each in the sum of \$1,400,000.00 for the purpose of building the bridge. The bonds bear interest at the rate of $4\frac{1}{4}\%$ per annum, payable semi-annually on August 1 and February 1. Some of the bonds mature February 1, 1935, and yearly thereafter.

Bonds outstanding on or after February 1, 1942, are redeemable in numerical order at the option of the County Commissioners on any interest-paying date. The bonds of both counties were sold at a premium.

All proceedings which related to the bond issue of both counties were submitted to the Department of Internal Affairs of Pennsylvania. Those of York County were approved January 27, 1930, and those of Lancaster County February 5, 1930.

The adoption of rates, rules and regulations pertaining to the bridge was followed by the selection of the personnel for its operation and administration. Frequent meetings were held by the Intercounty Bridge Commission, consisting of the Commissioners of both counties, and various trips made to other bridges in this and other states for the purpose of investigating types of paving, toll-collecting systems and other details. At certain stages of the construction of the bridge the Intercounty Bridge Commission met almost daily.

The final step was the preparation for the dedication of the bridge on Armistice Day, November 11, 1930, to the memory of the sons and daughters of Lancaster and York Counties who have served in the wars of our country.



1—GEO. W. CALLAHAN, Assistant Engineer.

2—C. RAY MINNICH, Assistant Engineer.

4—FREDERICK W. YOUNG, Assistant Engineer.

5—JOHN W. HOPKINS, Assistant Engineer.

3—WM. C. FRY, JR., Engineer of Design and Construction.

Design and Construction *of the* Columbia-Wrightsville Bridge

By W. C. FRY, JR., Resident Engineer

The new Columbia-Wrightsville Bridge forms an important traffic link in U. S. Route 30, carrying the Lincoln Highway across the Susquehanna River south of Harrisburg at a point where the stream is more than a mile in

construction of the new bridge has eliminated several troublesome and annoying grade crossings to the joy and convenience of the motoring public.

The structure, approximately 7500 feet



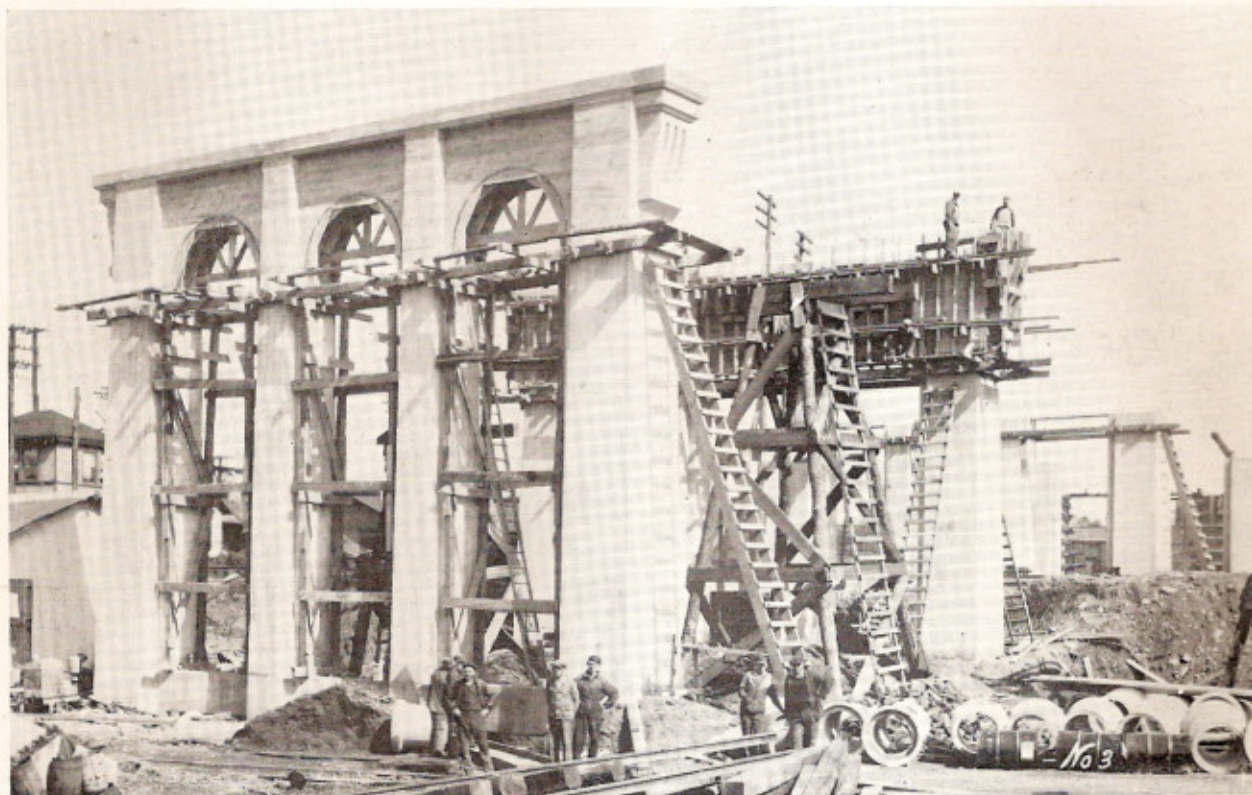
CENTRAL MIXING PLANT

width. The bridge, approximately one and one-half miles long, is believed to be the longest multiple-arch reinforced concrete highway bridge in the world. It replaces a steel truss bridge owned and formerly operated by the Pennsylvania Railroad as a combination railroad and highway bridge. The

long, carries a roadway 38 feet between curbs and one 6-foot sidewalk. There are a total of twenty-seven piers in the river of which five are abutment piers, and on each shore at the ends of the arch spans is a massive abutment. The river crossing consists of twenty-eight spans of three-rib reinforced concrete

arches having a clear span of 185 feet. Piers are 12 feet wide at the springing line, except abutment piers which are 17 feet through. The Wrightsville approach comprises five concrete girder spans 50 feet long on the average and one steel girder span 85 feet long, encased in gunite. The Columbia approach is formed of thirteen concrete girder spans 50 feet long and one steel girder span 80 feet long, also encased in gunite. In addition to

17 feet square, thus providing support on all four sides for a twelve inch slab reinforced longitudinally and transversely, reducing materially the dead load. An unusual feature of the floor design is the arrangement and type of expansion joints. Over the river crossing, in the center of the first and fourth panels from each pier the superstructure is completely separated by an open joint $1\frac{1}{4}$ inches wide which continues up through the railing.



COLUMBIA APPROACH PIERS UNDER CONSTRUCTION

the approach girder spans there are several hundred feet of filled approaches.

Each arch span consists of three 7-foot parabolic ribs spaced 17 feet 9 inches on centers, with an intrados rise of 32 feet. The ribs are 3 feet 10 inches deep at the crown and 7 feet deep at the haunches. Each span is divided into eleven panels by spandrel columns with jack arches between. The arch ribs are tied together at alternate panel points by concrete struts 1 foot 8 inches wide and of varying depths.

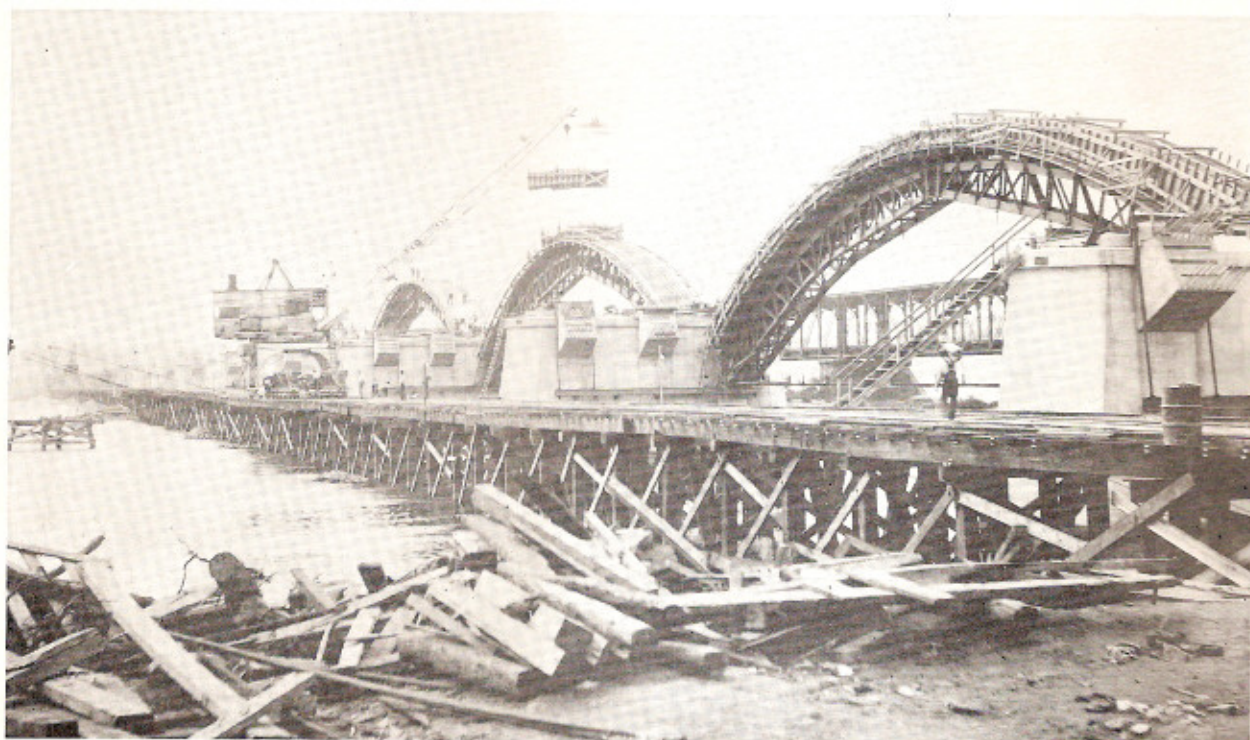
Over the arch spans, longitudinal and transverse beams form floor panels approximately

In other words, the floor system over each arch span is cut at four points between piers. The longitudinal beams in these joint panels are designed as cantilevers. The joints in the roadway and sidewalk are poured with a bituminous filler retained by a horizontal strip of 16 oz. copper flashing.

The approach spans are carried on four longitudinal concrete girders 1 foot 9 inches wide and spaced on 12 foot 6 inch centers, with cross-beams forming panels 12 feet 6 inches square, again providing for a double-reinforced concrete slab poured as a unit with the cross-beams and girders. The concrete

the cement was carried to an elevated steel bin by chain belt conveyors. From the bin the cement was transferred by a screw conveyor to a weighing platform from which it was discharged into the mixer. Sand was proportioned in a Blaw-Knox inundator, while coarse aggregate was measured in volume batchers. All aggregates were brought in by rail and were handled on each side of the river by a Wiley-Whirley crane feeding the mixer from cars and from storage piles with a one-yard clamshell bucket. Aggregates

Immediately upon arriving on the ground the contractor began the erection of the timber trestle, starting from each shore, about 61 feet downstream from the center line of the proposed bridge. The trestle was built of bents with 12 by 12 inch posts, caps and sills, and 4 by 10 inch cross-bracing. These bents were set on 16 to 20 foot centers and in most cases rested directly on the rock bottom of the stream. The stringers over the bents were laid in three lines, the outside lines under gantry rails consisting of three 8 by



PLACING WOODEN FLOOR AND SIDE PANELS ON STEEL CENTERING PREPARATORY TO CONCRETING FIRST ARCH RIB

were heated by steam during the winter months.

In addition to the mixing plants, the equipment on each side of the river included: Three 4½-ton Plymouth gasoline locomotives, Steubner 1-yd. bottom dump concrete buckets and 8-wheel 36-inch gauge flat cars; three Wiley-Whirley steam-operated portal gantry cranes on 18-foot gauge trestle track, with 85-foot booms capable of handling 5-ton loads with horizontal boom; one gasoline crawler crane; one Ohio locomotive crane mounted and operated on a standard gauge track; the usual sawmill, blacksmith shop, store-room, etc.

[Forty-two]

16 inch timbers held down on the bents with drift pins. Six by eight inch by 22 foot ties were laid crossways over the stringers.

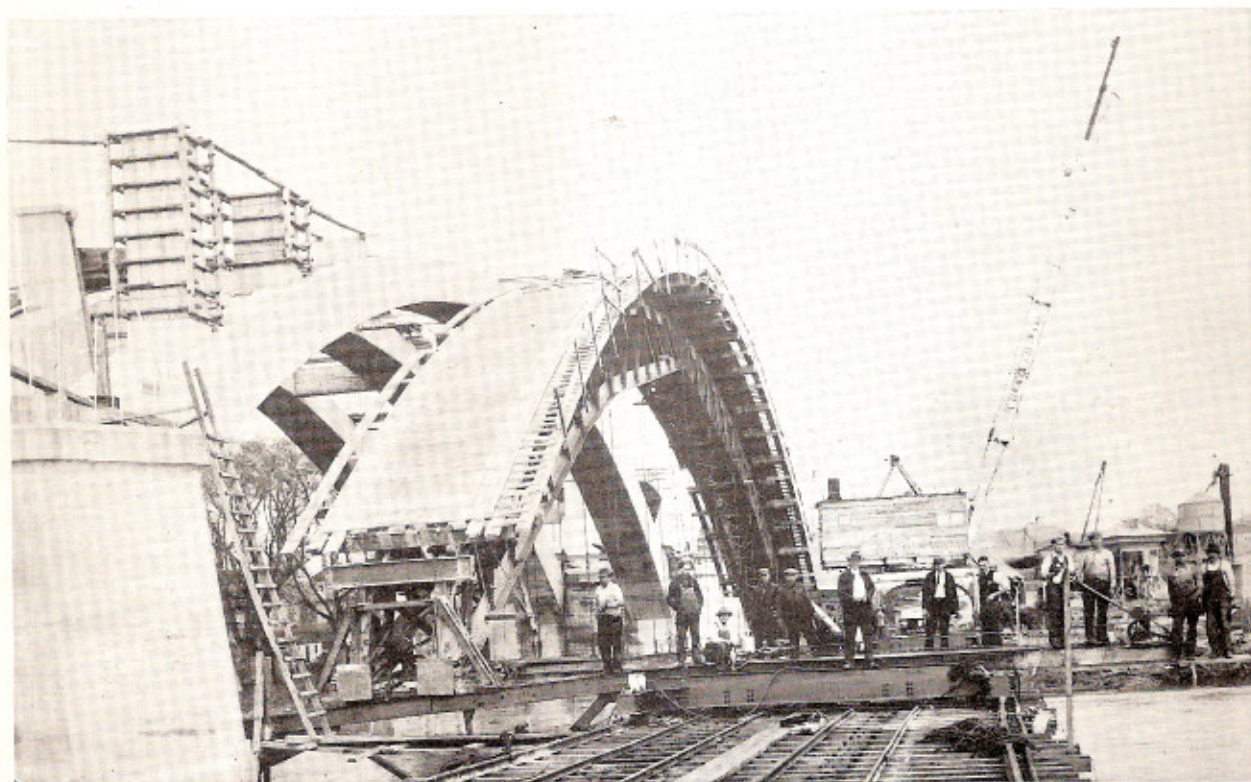
As soon as the trestle was completed from the shore to the location of the first pier in the stream, preparations were begun for the construction of this pier. The cofferdams for the various piers ranged from 6 to 11 feet deep, with water not greater than 9½ feet at the deepest dam. In most cases there was but little covering on the rock which made sealing of the dams more difficult. The cofferdams were of the open type, double-wall construction, 2½ feet larger on each side than the pier

footing itself and the outer wall 5 feet larger all around than the inner wall, the space between the walls being puddled with clay to above the water line. Half of the dams were of the box type with sheeting running horizontally, and the other half of the continuous waler type with sheeting driven vertically in place.

In the case of the former, the dams were built in sections of inner and outer wall tied together, taken out to the location of the proposed pier, anchored in place and sealed. In

age and contained about 240 cubic yards of concrete. Little difficulty was encountered in keeping the dams dry, a single Mott and McElrath gasoline pump with a 4-inch discharge being sufficient in most cases.

The pier shafts, to the upper surface or extrados of the arch, were on the average 32 feet high. The entire shaft was poured in one lift. It had been originally intended to cast the piers in three sections with vertical construction joints, but the idea was abandoned inasmuch as the plant layout and facili-



MOVING ARCH CENTERING ONTO CARS ON TIMBER TRESTLE

the case of the latter type of dam, the walers were framed near the shore, pulled out into the stream, guyed in place, sheeting driven vertically and the dam puddled. What little earth excavation existed over the side of the dam was largely removed by clamshell. Rock to the depth of about 2 feet on the average was loosened by pneumatic drills and dynamite, broken up by sledges and removed, so as to secure a footing well anchored in rock to resist the pressure from great masses of ice and floods to which the river is subject. Each footing was about $5\frac{1}{2}$ feet deep on the aver-

ties for handling large forms made it more economical to pour the shaft as a monolith. The yard was well lighted and equipped for night work and concreting was carried on twenty-four hours a day during this operation.

Five complete pier forms were used for the twenty-seven piers, or on an average the forms were used about five and one-half times. Of course, on one or two occasions, they had to be rebuilt or repaired. Forms of this character, which are well designed, substantially built and carefully handled can be used several times, but with each set-up minor repairs are

necessary, as they generally suffer some damage in stripping and handling. These forms were built in panels of approximately 14 by 24 feet and so constructed as to be readily removed. It required about two and one-half days to set up forms, align, rod and place the 15 tons of reinforcement in each pier. The period of concreting required about 45 hours, and each pier was allowed to set six days before forms were stripped.

The centering for the construction of the concrete arches was structural steel. The

This was accomplished by means of four 3½-inch bolts at each end of the center hanging from a grillage of channels resting on the tops of the umbrellas. In other words, the vertical dead load of the steel center, forms and green concrete in the rib was carried from the center directly through the 3½-inch hangers to the umbrellas, while the horizontal component was transmitted to the pier itself through a cast steel shoe and a block of concrete poured between the shoe and the pier. As stated before, the center carried a tie of



THREE-RIB PARABOLIC ARCHES, TIMBER TRESTLE AND GASOLINE LOCOMOTIVES

contractor provided ten sets for the 84 ribs. There were several interesting features in the design of the centering. The centering for each rib comprised two trusses on 4-foot 9-inch centers and a 32-foot rise, tied together by lateral and sway bracing. This ratio of 185 foot span, 32-foot rise and 4-foot 9-inch spacing between trusses presented a center of very slender appearance, with a center of gravity well above the heel. The centering was hinged at the crown, with a tie along the level of the heels acting only during the moving of the center.

The center instead of being supported, as is usually the case, on bents resting on the footings, was hung from the pier "stub" or "umbrella" which was cast with the pier.

[Forty-four]

two small channels which functioned only during the operation of shifting centers.

As before noted, the vertical load was transferred through the four 3½-inch bolts to a grillage resting on the top of the umbrella. This grillage in turn rested on two blocks of concrete cast between the grillage and the top of the umbrella to give an even and uniform bearing. These blocks of concrete, together with the grillage, were removed after the center was lowered and shifted to its next position.

After the concrete in the rib forms had attained the required strength of 2,000 pounds per square inch and the concrete in the second span ahead had aged nine days in accordance with the specifications, the steel centers were

lowered. This was effected by lowering the large bolts carrying the load to the grillage above until the steel center rested on two channels fastened to the sides of the pier by bolts. These channels served as a track along which the center was slid laterally into its new position under the second rib. When the second concrete rib was completed and had aged, the center was lowered and moved out along the channels to the position of the third rib. This operation of lowering and shifting laterally to an adjacent rib required less than four hours.

After the three ribs in one span were con-

forms was poured the latter part of the same month. The last concrete rib was cast in the last week of June, 1930. It thus required less than ten months to cast the 84 ribs containing 22,000 cubic yards of concrete, or more than 2,200 cubic yards of rib concrete on the average per month, in addition to concrete poured in other units of the structure including piers and floor system.

The formwork and falsework for the floor system was so designed and erected as to permit later being lowered and moved ahead in units with a material saving in time and cost.

The first concrete in the floor system was



SPAN COMPLETE EXCEPT FOR HAND RAIL, SAW MILL IN FOREGROUND

creted, the steel center was moved out laterally from under the arch span, along the channels and across a specially designed steel bridge onto trucks operating on an 18-foot gage track paralleling the center line of the bridge and supported on the wooden trestle. Once resting securely on the trucks, the center was moved out over the trestle longitudinally with the bridge to its respective position between the next abutment piers. This operation of moving the steel center longitudinally and under another span required about a day.

The first arch center was erected on August 13, 1929, and the first concrete in the arch

cast in February, 1930, adequate precautions having been taken to prevent freezing of the concrete by heating the materials with live steam and by the use of salamanders. The final concrete in the floor system was poured over the center pier in the river in August, 1930.

Thruout the work special effort was made to produce concrete of uniform strength and proper consistency. All mixes were carefully designed according to the water-cement ratio and fineness modulus for the particular aggregates used. Concrete cylinders were made from each mix daily and tested on the job on a 200,000 manually operated Olsen compres-

sion machine. In addition, 6 by 8 by 30 inch plain concrete beams were molded and tested as cantilever beams to determine the modulus of rupture. Special effort also was directed toward the proper curing of all concrete.

Eleven bids for the construction of the Columbia-Wrightsville Bridge were received by the Lancaster-York Intercounty Bridge Commission on April 9, 1929, ranging from approximately \$2,500,000 to \$3,300,000. On May following, the Commission awarded the contract to Wiley-Maxon Construction Company, the lowest bidder. Within a short time the contractor had started work and on June 12th, the first concrete was poured.

The contract called for the completion of the work by February 16, 1931. With the aid of favorable weather, well-chosen equipment and excellent plant lay-out, the contractor was able to complete the work by Sep-

tember 28, 1930, one hundred and forty days in advance of the contract time.

Some of the interesting features in connection with the bridge and its construction are:

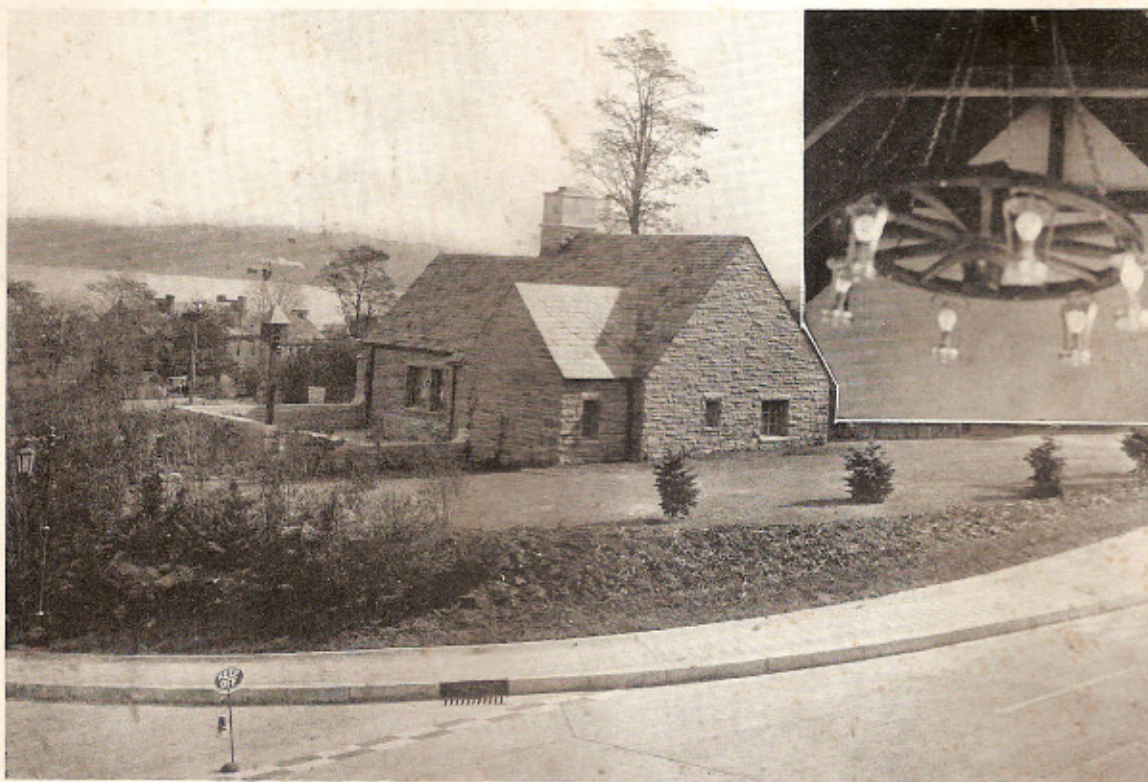
Width of river at point of crossing	1 mile
Overall length of bridge	7,500 feet
Width of roadway	38 feet
Width of sidewalk	6 feet
Number of arch spans	28
Number of girder spans	20
Total yardage of concrete	101,000 c. y.
Weight of reinforced steel	7,991,000 lbs.
Number of asphalt blocks	597,000
Amount of lumber used in construction	5,000,000 bd. ft.
Total weight of structure	425,000,000 lbs.
Total construction cost including Administration Building and landscaping	\$2,529,000



COMPLETED BRIDGE



MISCELLANEOUS VIEWS OF THE BRIDGE



ADMINISTRATION BUILDING OF LANCASTER-YORK INTERCOUNTY BRIDGE COMMISSION, LOCATED AT WRIGHTSVILLE, YORK COUNTY, EAST OF THE APPROACH. PICTURE IN UPPER CORNER SHOWS WAGON WHEEL AS CHANDLIER IN COMMISSIONERS ROOM.



MONROE H. BENTZ

Administration

BRIDGE Superintendent Monroe H. Bentz, is a resident of York, Pennsylvania. Mr. Bentz was appointed by the Lancaster-York Intercounty Bridge Commission, with office in the administration building, located at the Wrightsville approach. The superintendent's office has modern telephone connection with all toll houses on both ends of the bridge.

During the month of October 136,397 vehicles passed over the bridge bringing in an income of \$39,794.90. Thirty-two persons are employed in the operation of the bridge.