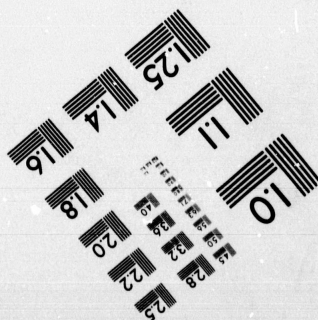
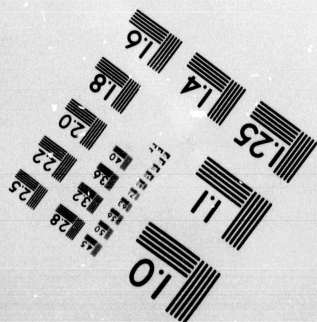
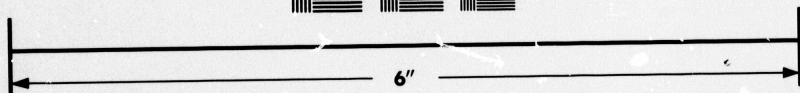
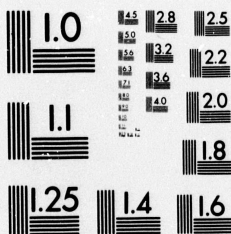


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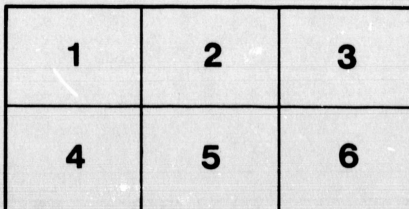
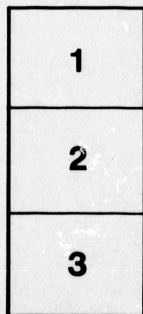
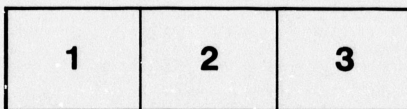
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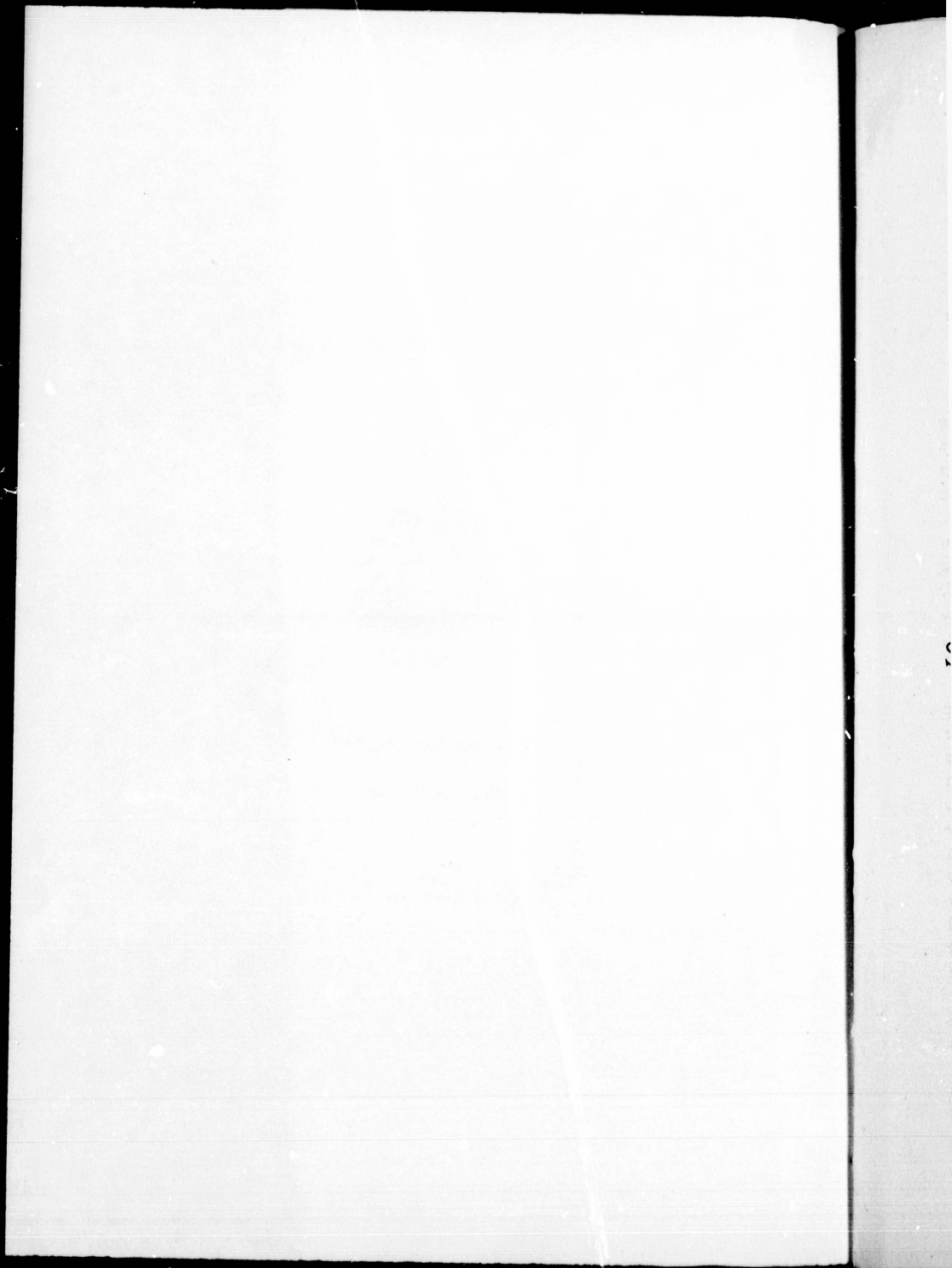
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BUFFALO CONVENTION.

REPORT

STANDARD TIME COMMITTEE

AMERICAN SOCIETY OF CIVIL ENGINEERS.



1884
(27)

BUFFALO CONVENTION
OF THE
American Society of Civil Engineers.

THE SPECIAL COMMITTEE ON STANDARD TIME

REPORT:

The Committee beg leave to refer to the Report submitted at the Annual Meeting of the Society, held at New York, on the 16th January last, in which they set forth the various steps taken by the Society, in promoting the proper regulation of Time, and the adoption of Time Standards.

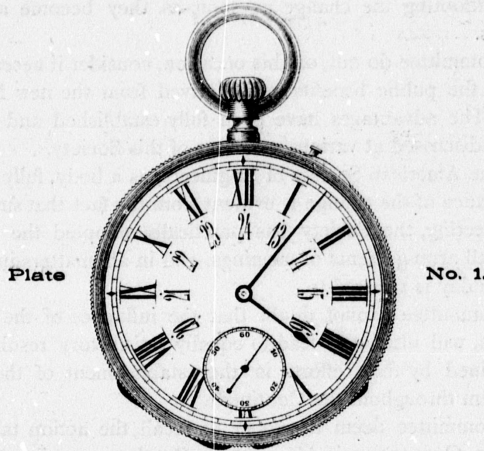
The Committee referred with much satisfaction to the fact that the Railway authorities generally had determined to adopt one of the reforms advocated by the Society, and that on the 18th November last, trains commenced to run throughout the United States and Canada, by Hour Standards, and that the public, with singular unanimity, accepted the change, which they now universally recognize as a great public boon.

In the documents widely circulated two years ago by the Committee under the authority of the Society, a series of questions bearing on the whole subject, were submitted to men in prominent positions in the Railway world, including Engineers, Traffic Managers and known Scientists in every State in the Union, and in every Province in Canada. To these questions the Committee invited replies, and among the large number of replies received, the Committee had an emphatic expression of opinion from many persons with respect to the division of the day into hours. Ninety-two (92) per cent. of those heard from, gave their unqualified support to the proposal, to abandon the old traditional division of the day into halves of twelve (12) hours each, and to adopt a single series of hours from midnight to midnight, numbered from one to twenty-four (1 to 24.)

A list of gentlemen who have carefully examined this branch of the subject and who in their replies referred to, have given opinions decidedly in favor of the proposed change, is appended to this Report.

It is proposed to adapt clocks and watches now in use to the change, by having inscribed on the existing dials the new numbers of

the afternoon hours,—thirteen to twenty-four (13 to 24) inclusive, as in the Plate No. 1.



The only practical difficulty to be overcome is met by the simple expedient of placing on the face of the watch or clock a secondary dial showing the new afternoon hours in Arabic numerals within the present Roman figures.

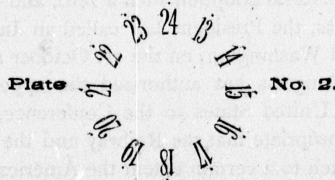


Plate No. 2 shows the secondary dial, it must be of thin material and it has been found that made simply of paper and secured to its position by any gum which will adhere to an enamelled surface, the object is attained without any further alteration of the watch or clock.

The Committee is aware that these seem trifling matters to bring under the notice of the Convention, but questions of great moment not seldom hinge on small details. It is evident from what has been set forth, that every person in the community, may at the cost of a few cents in each case, adapt his watch to the 24 o'clock system.

The Committee accordingly repeat their conviction that with the

disappearance of the only practical difficulty at an insignificant cost, there is nothing to prevent the Railway authorities and the Community at large, adopting the change as soon as they become alive to its advantages.

The Committee do not, on this occasion, consider it necessary again to refer to the public benefits to be derived from the new Notation of the day. The advantages have been fully established and have been frequently discussed at various meetings of this Society.

That the American Society of Engineers, as a body, fully appreciate the importance of the change is evident from the fact that since the last Annual Meeting, the Society has practically adopted the 24 o'clock system in all arrangements of meetings, and in all matters in which the hour of the day is referred to.

The Committee cannot doubt that the influence of the Society in this reform, will ultimately lead to equally satisfactory results, as have been obtained by their efforts in the establishment of the Standard Hour system throughout the Continent.

The Committee deem it proper to recall the action taken at the Washington Convention in May 1882. On that occasion the Society resolved to petition Congress to take steps to establish a Prime Meridian as a zero for reckoning Time, and for the computation of longitudes. Subsequently Congress passed a Joint Resolution authorizing the President to call an International Conference to fix on and recommend for universal adoption such a zero, and in conformity with the Act of Congress, the President has called an International Conference to be held at Washington, on the 1st October next.

The Act of Congress has authorized the appointment of Three Delegates for the United States to the Conference, and it appears to the Committee appropriate that the Railway and the other interests of the Country of which to a certain extent the American Society of Civil Engineers is the exponent, should be there represented.

Your Committee accordingly recommend that the President of the United States be respectfully memorialized by the Society to appoint one delegate to represent these important interests at the Washington Conference.

For the Special Committee on Standard Time.

SANDFORD FLEMING,
Chairman.

BUFFALO, 10th June, 1884.

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THE 24 O'CLOCK SYSTEM.

List of Engineers, Railway Presidents, Traffic Managers, Scientists and other prominent persons, who, in their replies to questions issued in 1882 by the Standard Time Committee, gave their unqualified preference to a division of the day into a single series of hours numbered from one to twenty-four (1 to 24).

In addition to this list a number of gentlemen expressed themselves in favor of the 24 o'clock system for Railway Time Tables, but were in doubt as to the possibility of bringing it into common use for all purposes.

Only eight (8) per cent. of all heard from expressed themselves as unfavorable to the 24 o'clock system.

The names with an asterisk (*) are members of the American Society of Civil Engineers.

NAME.	OFFICIAL TITLE.	ADDRESS.
W. J. McAlpine, M.I.C.E.*	Past Pres. Am. Soc. Civil Engineer	Bay Ridge, N. Y.
M. Becker*	Chief Eng'r P. C. & St. L. R. W. Co.	Pittsburgh, Pa.
Martin W. Harrington...	Director Astron. Observatory	Ann Arbor, Mich.
H. T. Eddy, Ph. D.	Prof. of Mathematics, Astron. and Civil Eng., Univer. of Cincinnati.	Cincinnati, Ohio.
Robert Fletcher, Ph. D.*	Prof. of Civil Engineering	Hanover, N. H.
P. H. Philbrick*	Prof. C. E., State Univ. of Iowa	Iowa City, Iowa.
E. A. Doane*	Chief Eng., Rome, W. and Og'gh. R.	Oswego, N. Y.
Henry B. Richardson*	Chief State Engineer	New Orleans, La.
H. Stanley Goodwin*	Asst. Gen. Super. Lehigh Valley R. R. Co.	Bethlehem, Penn.
Robert Briggs*	Philadelphia, Pa.
S. Spencer*	3rd V. P., B. & O. R. R.	Baltimore, Md.
C. B. Comstock*	Lieut.-Colonel of Engineers	Detroit, Mich.
W. A. Doane*	Principal Asst. Eng., R. W. & O. R. R.	Oswego, N. Y.
Francis J. Lynch, M.I.C.E.	In charge Canad'n Pacific R'y office	Ottawa, Canada.
James H. Rowan, C. E.	Ex-District Eng., C. P. Railway	Winnipeg, Man.
R. M. Harrod, C. E.*	Member Miss. River Commission	New Orleans.
C. S. Master*	Engineer in charge Western Division W. L. & G. R. R.	St. Louis, Mo.
James Hall, D. P. S.	Ex-Sheriff and Ex-M.P.	Peterboro', Ont.
W. A. Sweet*	Prest. Sanderson St. Co.	Syracuse, N. Y.
Wm. T. Jennings.	Rest. Engr. C. P. R.	KeeWatIn, Man.
M. G. Howe*	Eng. and Sup., H. & T. C. R. R.	Houston, Texas.
Robert H. Sayre.	Sup. and Eng., Lehigh Valley R. R.	Bethlehem, Pa.
Robert Moore, C. E.*	St. Louis, Mo.
J. Foster Crowell*	Assistant Engineer, P. R. R.	Pittsburgh, Pa.

NAME.	OFFICIAL TITLE.	ADDRESS.
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Julius W. Adams	Past Pres., Am. Soc'y Civil Eng..	Brooklyn, N. Y.
F. N. Gisborne	Super. Tel. Sig. Serv., Dom. Canada	Ottawa.
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Edward S. Philbrick*	12 W. st., Boston, Mass.
Kivas Tully	Vice-Pres. Canadian Institute	Toronto.
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Sir Charles Tupper	Minister of Railways and Canals...	Ottawa, Ca.
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L. B. Archibald	Supt. Prince Edward Island R'y...	Charlottetown.
E. P. Stearns*	Asst. Eng, Boston Imp. Sewerage	Atlanta, Mass.
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Edward Maguire	Captain of Engineers, U.S.A.....
E. G. Ferris	Engineers D. & N.R.R.....	South Norwalk, Conn.
Collingwood Schreiber...	Chief Eng. and Gen. Man. Canadian Government Railways.	Ottawa, Ca.
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James P. Howley	Asst. Provincial Geologist	St. Johns, Nfld.
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F. M. Towar	U. S. Asst. Engineer.....	St. Paul, Minn.
Julius J. Duraye	U. S. Asst. Engineer.....	St. Paul, Minn.
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Edward C. Pickering	Director Harvard Coll. Observatory	Cambridge, Mass.
H. F. Royce	Division Superintendent.....	Des Moines, Iowa.
J. S. Sewall*	St. Paul, Minn.
Wm. B. Hazen.....	Brig. and Brevet Major-Gen, Chief Signal Officer, U.S.A.	Washington.
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George S. Gatchell.....	Gen. Supt. B. N. Y. P. R. R.....	Buffalo, N. Y.
H. S. Pritchett	Prof. Astron'y and Director Obser- vatory, Washington University..	St. Louis, Mo.
C. J. Ives.....	Gen. Supt. B. C. R. & W. R'y	Cedar Rapids, Ia.
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J. L. Gillespie.....	U. S. Asst. Engineer	St. Paul, Minn.
William P. Anderson ...	Eng. to Marine Dept, in charge construction Can. Light Houses	Ottawa, Canada.

NAME.	OFFICIAL TITLE.	ADDRESS.
Rufus Ingalls	Quarter-Master General and Brevet Major-General, U. S. A.	Washington.
W. E. Jacobs	Salt Lake City.
Winslow Upton	Army Signal Office	Washington.
H. A. Howe	Prof. of Math. and Astron'y, Univ'y of Denver.	Colorado.
D. R. Taylor	District Supt., N. P. R. R.	Mandan, D. T.
J. R. Eastman	Prof. Math U. N. S., U S. N. Observ'y	Washington.
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DeVolson Wood*	Prof. Math. and Mechan., Stevens' Institute, Tech	Hoboken, N. J.
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Wm. Brydone Jack	Pres. University, New Brunswick..	Frederickton, N. B.
John B. Hamilton	Supervising Surg.-General, U. S. Marine Hospital Service.	Washington.
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William F. Bradbury	Hd. Master, Cambridge High School	Cambridge, Mass.
M. Giddings	Bangor, Me.
J. W. Mallett	Prof. Chemistry, Univ'y of Virginia.	Albermarle Co. Va.
D. Hudson Shedaker	Civil Engineer	Philadelphia.
John Twigg	Town Clerk	Picton, Ont.
E. P. Dunnington	Prof. Anal. Chem., Univ. of Virginia
Francis H. Smith	Prof. Natl. Phil'y, Univ'y of Virginia
Clarence J. Blake	Fellow Am. Acad. Arts and Sciences	Boston.
Wm. M. Thornton	Adj. Prof. Eng., Univ. of Virginia.
Albert Chapman Savage	City Engineer	El Paso, Texas.
M. C. Fernald	Pres. State College	Orono, Me.
John H. Plake	Poston, Mass.
Ed Fontaine	Professor, etc., etc	Jackson, Wis.
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