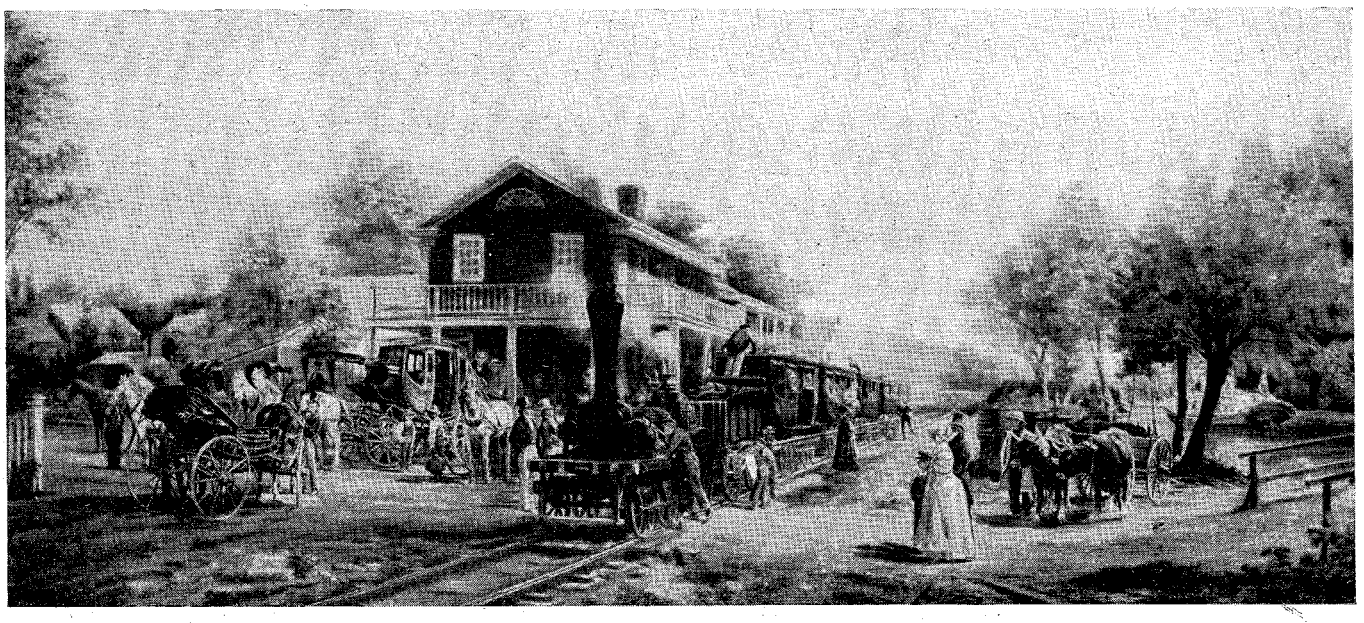
REPRODUCTION OF PRINTS, DRAWINGS, AND PAINTINGS OF INTEREST IN THE HISTORY OF SCIENCE AND ENGINEERING

8. "Steam Locomotion as an Art Subject"

By E. C. WATSON

ONLY rarely have either great artists or great poets dealt with steam locomotion. This is perhaps understandable even though it is regrettable, for as the Scottish engineer says in Kipling's "M' Andrew's Hymn":

"Lord, send a man like Robbie Burns to sing the Song o' Steam!
To match wi Scotia's noblest speech yon orchestra sublime
Whaurto—uplifted like the Just—the tail-rods mark the time.
The crank-throws give the double-bass, the feed-pump sobs an' heaves,
An' now the main eccentrics start their quarrel on the sheaves;
Her time, her own appointed time, the rocking link-head bides,
Till—hear that note?—the rod's return whings glimmerin, through the guides.
They're all awa! True beat, full power, the clangin' chorus goes
Clear to the tunnel where they sit, my purrin' dynamoes.
Interdependence absolute, foreseen, ordained, decreed,
To work, Ye'll note, at any tilt an' every rate o' speed.
Fra skylight-lift to furnace-bars, backed, bolted, braced an' stayed.
An' singing like the Mornin' Stars for joy that they are made;
While, out o' touch o' vanity, the sweatin' thrust-block says:
'Not unto us the praise, or man—not unto us the



praise!'
Now, a' together, hear them lift their lesson—
theirs an' mine:
'Law, Order, Duty an' Restraint, Obedience,
Discipline!'
Mill, forge an' try-pit taught them that when roarin'
they arose,
An' whiles I wonder if a soul was gied them wi'
the blows."

In 1844, however, that master of light and color, J. M. W. Turner (1775-1851), was inspired by a scene on the Great Western Railway in England to paint a superb picture dedicated to steam and to speed. Although an old man at the time, Turner comprehended the dynamic poetry of a train in motion through a landscape simultaneously swept with rain and drenched with sunlight, and portrayed it upon a canvas that now hangs in the National Gallery in London.

While no other treatment of steam locomotion compares in artistic merit with Turner's "Rain, Steam and Speed", there do exist a few paintings of early trains which merit reproduction in a series of this kind because of their historical accuracy. Among these are some of the works of the American historical painter, Edward Lamson Henry (1841-1919).

To quote from the Dictionary of American Biography, "Henry's major interest was in the past life and customs of the United States, especially during the first half of the nineteenth century. He began soon after his return (from study in Paris under Suisse, Gleyre, and Courbet) to paint pictures which were accurate to the last chair and the most minute button. Owing in part to his attention to detail, his work was of greater historic than artistic merit . . . Primarily an illustrator in oils, he found an appreciative public in that vast majority which demands of a picture first of all that it tell a story."

Plate 1 reproduces Henry's painting of the first train operated in the state of New York. The locomotive portrayed, named the "De Witt Clinton", made its first trip in July, 1831, over the Mohawk and Hudson Railroad (now the New York Central). On August 9, it made the trip from Albany to Schenectady, a distance of seventeen miles, in less than one hour.

A painting of a railway scene of a somewhat later period (1837) by the same artist is reproduced in Plate 2. Unfortunately, a copy of Henry's better-known painting, "Railway Station—New England" is not available to the writer. Although not great art, Henry's paintings, because of "their rare sincerity and their quaintness," probably "will always be of interest and of value . . . and will throw an ever-penetrating light into our vanished customs and past social history".[1]

1. Lucia Fairchild Fuller, *Scribner's Magazine, 66,* 256 (1920).

C.I.T. NEWS

C.I.T. STARRED SCIENTISTS

IN a recent letter to California Institute of Technology, Stephen S. Visher, professor of geography at the University of Indiana, enclosed a summary of the graduates of C.I.T. who have received stars in present and past editions of "American Men of Science".

Professor Visher's summary includes the following C.I.T. starred alumni. *In chemistry:* Joseph E. Mayer, '24, Kenneth S. Pitzer, '35. *In physics:* Carl D. Anderson, '27, Richard H. Crane, '30, J. W. M. DuMond, '16, Robley D. Evans, '28, Edwin M. McMillan, '28, William Shockley, '32.

The list also includes the following C.I.T. starred alumni in doctorates. *In astronomy:* O. C. Wilson, '34. *In chemistry:* L. O. Brockway, '33, R. G. Dickinson, '20, P. H. Emmett, '25, Sterling B. Hendricks. '26, Linus Pauling, '25, E. Bright Wilson, '33, Don M. Yost, '26. *In mathematics:* H. P. Robertson, '25. *In physics:* Carl D. Anderson, '30, I. S. Bowen, '26, R. M. Bozorth, '22, H. Richard Crane, '34, J. W. M. DuMond, '29, Robley D. Evans, '32, Charles C. Lauritsen, '29, A. C. G. Mitchell, '27, S. H. Neddermeyer, '35, H. Victor Neher, '31, L. N. Ridenour, '36, Robert B. Brode, '24. *In zoology:* Albert Tyler, '29.

Stars in "American Men of Science" indicate that in the opinion of his peers the starred scientist is distinguished for research. It implies either a large volume of good work or a considerable amount of original work. It does not imply that the work done by other scientists is not outstanding, but merely that it has not impressed the voters as being quite so worthy of approbation.

Professor Visher's letter also contained Table I reprinted from "Science", which is reproduced below. Column I gives the number of scientists first starred in 1933 to 1944, serving on the faculties of the universities which had three or more such scientists in 1944. Column II is the number of the members on the teaching staff on November 1, 1944. Column III is the number of scientists starred in 1933-1944 per 100 members of the 1944 teaching staff. It indicates that in this respect C.I.T. leads the field.

TABLE I

	I Starred Scientists 1933-1944	II Total Teaching Staff 1944	III Starred Scientists Per 100 Members of Staff
Brown	4	157	2.6
California	41	2,376	1.7
California Institute of Technology	20	140	14.3
Chicago	30	798	3.8
Columbia	36	2,488	1.4
Cornell	18	1,052	1.8
Duke	3	465	0.6
Harvard	50	1,775	2.8
Hopkins	16	765	2.1
Illinois	18	1,743	1.0
Indiana	7	467	1.5
Iowa	10	622	1.6
Iowa State	4	413	1.0
Massachusetts Institute of Technology	19	442	4.3
Michigan	30	820	3.7
Minnesota	18	836	2.1
North Carolina	6	311	2.0
Northwestern	12	1,330	0.9
Ohio	9	1,123	0.8
Pennsylvania	14	1,322	1.1
Penn. State	3	864	0.3
Princeton	26	220	10.2
Rochester	7	544	1.3
Rutgers	5	444	1.1
Stanford	22	645	3.4
Swarthmore	3	91	3.3
Virginia	6	270	2.2
Washington (St. L.)	6	468	1.3
Wisconsin	13	1,469	0.9
Yale	22	994	2.2