Total Movements of the Air.—The following are *the largest*, as recorded at the Signal Service stations, viz: Kittyhawk, 12,987 miles; Cape Lookout, N. C., 12,751; Cape May, 12,541; Pike's Peak, 12,491; Sandy Hook, 12,107; Cape Henry, 11,917; Thatcher's Island, 11,358; Cape Hatteras, 10,556; Sandusky, Ohio, 10,525; Key West, 10,454; Barnegat, 10,272; Indianola, 10,101; Dodge City, 9,217; Easport, 9,159; Breckenridge, 8,705; New York, 8,618; Grand Haven, 8,448; Cleveland, 8,462; Tybee Island, 8,163. *The smallest*, are: La Mesilla, N. M., 1,115 miles; Visalia, Cal., 1,164; Boise City, 1,370; Virginia City, 1,600; Augusta, 2,445; Lynchburg, 2,606; Nashville, 2,832; Springfield, 2,873; Salt Lake City, 2,978; Shreveport, 3,172; Sacramento, 3,187; Eagle Pass, 3,230; Knoxville, 3,248; Brackettville, 3,325; San Antonio, 3,501; Los Angeles, 3,705; Laredo, 3,969; Pioche, 4,048; San Francisco, 4,058; Mobile, 4,064.

VERIFICATIONS.

Indications.—As worked up three times daily, they have been carefully compared with the actual conditions during the succeeding twenty-four hours, and the following result obtained, viz: The percentage verified averages 85.9 for New England; 86.5 for the Middle Atlantic States; 87.7 for the South Atlantic States; 82.9 for the East Gulf States; 84.2 for the West Gulf States; 84.9 for the Ohio valley and Tennessee; 88.2 for the Lower Lake region; 83.5 for the Upper Lake region; 80.0 for the Upper Mississippi valley; 78.0 for the Lower Missouri valley. For all the districts the average verified is 84.2 per cent. By elements the percentage verified averages 87.1 for the weather; 82.8 for the wind direction; 85.7 for the temperature; 80.8 for barometric changes. There were 32 ommissions to predict (5 for weather, 9 for wind direction, 12 for temperature, and 6 for barometer) out of 3,720, or 0.9 per cent. Of the 3,688 predictions that have been made, 129, or 3.5 per cent., are recorded as having completely failed; 137, or 3.7 per cent., as one-fourth verified; 436, or 11.8 per cent., as one-half verified; 544, or 14.8 per cent., as three-fourths verified; 2,442, or 66.2 per cent., as completely verified.

Cautionary Signals.—The display of signals was discontinued at the Lake stations, excepting Milwaukee and Grand Haven, on the 16th inst., on account of the close of navigation. Out of 187 signals ordered, 155, or 82.9 per cent., were reported justified by subsequent hourly velocities of 25 miles and over, but of these six were late. There were 32 reported as not justified. From scattered stations there are 54 reports of the wind having obtained an hourly velocity of 25 miles and over without the display of signals; excepting on 2nd, brisk to high northerly winds from southern New Jersey to the North Carolina coast; on the 7th and 8th, southerly to westerly winds along Lake Erie.

Sunsets.—The characteristics of the sky, as indicative of fair or foul weather, for the succeeding 24 hours, have been observed at all Signal Service stations. Reports from 111 stations show 3,414 observations to have been taken. Of these 63 were reported doubtful; 2,823 cases, or 84.2 per cent., were followed by the anticipated weather, and 588 were not.

NAVIGATION.

Stages of water in rivers.—In the table on chart No. III are given the highest and lowest readings on the Signal Service river-gauges, from which it will be seen that at no time has the danger line been reached. The following reports of the effect of ice upon navigation have been received, viz: Missouri river—at Yankton, 1st to 24th, channel closed by ice; 24th, river opened; 31st shore ice. Upper Mississippi river—from Lake Pepin to St. Paul, 20th, ice broke up and disappeared; at St. Paul, 22nd, ice in river moved at 4 p. m. La Crosse, 1st, ice in river; 2nd, frozen over, and navigation closed; 20th, ice thawing rapidly; 21st, 11:30 a. m., ice broke up; 2 p. m., river open to navigation—ferries commenced running. Dubuque, 1st, navigation closed; 6th and 10th, floating ice in river; 15th, main channel free of ice; 20th, ice disappeared. Davenport, 1st to 11th, floating ice in river; 12th, river clear, and navigation opened. Burlington, 1st, floating ice in river. Keokuk, 1st, float ng ice in river; 5th, river free of ice. St. Louis, 2nd, floating ice in river; 4th, noon, ice disappeared. Upper Lakes—Port Huron, 10th, navigation closed on Lake Huron. Sault Canal, 1st, closed. Duluth, 7th, navigation was virtually closed on Lake Superior, but on the 22nd the last boat is reported as arriving from Buffalo. Lower Lakes—Buffalo, 13th, navigation closed. Cleveland, 19th, navigation closed. North Volney, N. Y., navigation on Lake Ontario open throughout month. Red river of the North—Pembina, 1st, partially frozen over. Dakota, Morristown, 26th, river full of floating ice. Illinois—Rockford, 1st to 3rd, 7th and 8th, river frozen over; 6th and 11th, river clear. Ohio—Ringgold, 1st, Miama canal closed with ice; 4th, free from ice. New York—Albany and Rochester, 7th, canal navigation closed. Canastata, 29th, Erie canal free from ice. Rome, 2nd, canal frozen over. Hudson river, 14th, Albany and New York boats withdrawn for season. Maine—Bangor, 30th, Penobscot river frozen, navigation closed. Gardiner, 10th, Kennebec river closed. Massachusetts—Lowell, Merrimac and Concord rivers closed by ice.

Special River Report.—At Omaha the channel in the Misouri river is reported to be regaining its former position between piers 9 and 10, the river bed filling up between piers 7 and 9, counting from the Nebraska shore.

Temp. of Water omitted

Cut out on account of length of Review. R.C.