supplied by more individual owners—have become necessary. Hence, railways and manufacturing establishments are being drawn together under unified control, but with widely diffused ownership. The recent absorption of the Burlington system of railways may be cited. This property has been brought under the control of the Great Northern Railway and its ally the Northern Pacific Railroad. The ownership of its stock will be transferred to these corporations, but not by depriving the former owners of any property. In place of their interest in Burlington they receive an interest in the three great properties that are to be under unified control. This, however, does not extend ownership; it merely leaves wider interests in the hands of those already owners. The diffusion of ownership is, however, equally certain, though it comes a little later. Distribution of risks is certain to diminish those incurred by the owner of each unit of securities. Crop failures, for example, cannot constitute so great a danger to a system traversing both wheat and corn areas, like the unified Great Northern-Pacific-Burlington system, as to either of those properties when separate. The small investor demands, above all things, stability in his investments. As soon as this appears to be one of the incidents of the recently created securities, their distribution among small holders will commence. The existence and utilization of such means of investment are among the essential conditions of generally diffused property, and constitute a chief necessity of the American people in order that their present prosperity may be made permanent. A further requirement deserves attention. Attacks upon industrial combinations, as such, must cease, and the fear of adverse and restrictive legislation must be removed before the people will dare utilize their securities as means of investment as generally as is desirable.

Whenever the conditions indicated are established, it will appear that the present movement does not ultimately lead to the creation of great fortunes in private hands, but rather in the opposite direction. Great fortunes usually grew out of the establishment of new conditions, because only the few perceive the tendencies in time to take the fullest advantage of them. Fortunes which accrue to leaders in such movements are usually fully earned, for they represent social and economic improvement far in excess of the greatest of them. Stationary conditions diffuse these accumulations in many ways, but do so most rapidly when an energetic and enlightened public has at hand the means for investing and moderately increasing the savings of its industry and skill.—H. T. Newcomb, Editor The Railway World, May 11, 1901.

THE WEATHER BUREAU.

The weather bureau exhibit in the agricultural division in the north annex of the Government Building of the Pan-American Exposition is of great interest to the general public as well as to meteorologists.

A fifteen feet model—one-fifth the actual size—of a tower used to display signals along the coast of the Atlantic, Gulf, and Great Lakes is shown. This tower is not used in all cases, but only where the circumstances are such that the flag poles cannot be placed in positions of sufficient prominence. The actual towers are seventy-five feet in height and made of galvanized steel. On these towers are displayed storm signals, flags by day and lanterns by night, when a storm is expected. Only in case of the probability of heavy winds is the signal raised. In Buffalo the "qualifying velocity" is forty-two miles an hour.

On the miniature tower of the exhibit miniature flags and lanterns will be raised in the same manner as on the actual towers.

Another interesting feature of this exhibit is a plaster paris chart showing topography. The chart is a section of a globe and is so made as to represent the altitude above sea level in its surface. Lines showing the mean annual temperature are drawn across the map. The annual rain fall is also shown, the coloring of the map marking the amount of rain fall. A self-recording rain gauge of the newest type is another most interesting feature. Below the tunnel from which the water drops is a "tipping bucket." The form of this is like two scoops placed end to end. It is so placed that when it begins to rain the water falls into one compartment of the bucket, when .05 of an inch has fallen the weight is sufficient to tip it the other way, so that the water is dumped, but the bucket does not tip back to its first position until the second compartment has been loaded with the amount of water caused by .05 more of rain fall. Each time the bucket tips it records itself electrically on an indicator in the office below.

The old style gauge is also shown. It consists of two cylinders, one inside the other, having a proportionate capacity of ten to one. The inside cylinder measures twenty inches in height, and consequently holds a two-inch rain fall. If the rain fall is greater then the overflow goes into the outer cylinder which is just the size of the tunnel that catches the rain, hence, in case of a rain fall over two inches, it is measured by the actual depth in the outer cylinder plus ten per cent of the inner. The working of the former gauge will be shown by dripping water.

An exhibit of kites is also seen. These kites have been used in scientific demonstrations of the conditions of the upper air, recording relative humidity, temperature and pressure.

DESTRUCTION OF AMERICAN FORESTS.

Mr. John Norris, business manager of the New York Times, in his testimony before the Industrial commission, on April 12, 1901, said, among other things:

"The menace to our national interests by the denudation of American forests was fully set forth in a brief submitted to the Joint High Commission on Jan. 23, 1899, by the American Newspaper Publishers' Association, which showed that the stripping of our forests by pulp mills and saw mills of the four states of Maine, New Hampshire, Vermont and New York, was progressing at the rate of 1,700 square miles per annum. The state of New York, to protect the flow of its rivers, and because of its appreciation of the relation of forest cover to the water supply, prohibited the cutting of timber of any kind in a territory comprising 4,000 square miles for a period of twenty years.

Destruction of American Forests.

"The chief of the Bureau of Forestry of the National Department of Agriculture has reported that 'the original forests cannot long suffice to supply the increasing demands for spruce which are made upon them.' Three commissions of New Hampshire have reported that the present methods of cutting, if continued, will entail baleful scenic, climatic, and economical results, injuring the health and property of all citizens, impairing the industrial development of the State, and rendering intermittent the flow of the rivers, which are most important to agriculture and manufacture. Every public interest requires the conservation of our forest resources and the adoption of that provident policy which shall keep our future wants in view, and not put a premium upon the destruction of great national treasures.

"My suggestion is that an effort be made to promote trade relations with Canada for free pulp and free paper, or at least free pulp, thereby protecting our forests and utilizing Canada's great stores of timber. Consideration should also be given to two points: first, the statement of President Chisholm, that America can successfully compete for the markets of the world, and it therefore needs no protection; second, that the labor employed on the newspapers affected by this tariff numbers forty times the force employed in the paper mills, and is equally entitled to consideration and protection against a movement that has taken advantage of tariff legislation to oppress and tax a purely American industry. Any tax upon news print paper is a tax upon knowledge and upon the education of the people."