

Sunbeams

A Report by the Eminent Prof. G. Howie Raves before the Assinian Society of Utopian Engineers.

Mr. Chairman and Fellow Assinians :

It pleases me to be able to give much of the credit for the following theory to the late lamented Prof. Ima Knutt. In his celebrated Almanac, Prof. Knutt proves definitely that within the next twenty years there is certain to occur in that part of the United States north of the Ohio River a most sudden drop of temperature. This will probably take place during the months of January or February, and may be as much as from plus 40° to minus 40° F. Such an occurrence would be accompanied by most serious consequences. If it occurred within the space of 30 seconds, as Prof. Knutt seems to believe, the beautiful clouds now floating peaceably above, would suddenly congeal and fall enmasse upon our heads. The damage wrought in rural districts would be a minimum, but in the great cities, much loss of life and property would inevitably result.

For example the weight of but one cloud can be calculated as follows :

Approximate dimensions =

$$3000 \times 5000 \times 50$$

$$\text{Volume} = 750,000,000 \text{ cu. ft.}$$

$$\text{Density of water vapor} = .0005 \text{ lbs. per cu. ft.}$$

Weight of cloud =

$$750,000,000 \times .0005 = 37,500 \text{ lbs.}$$

Now the velocity acquired in a fall of one miles and the kinetic energy gained thereby may be found.

$$V^2 = 2gh$$

$$V = 584 \text{ ft. per sec.}$$

$$\text{K. E.} = \frac{1}{2} MV^2$$

$$= 200,000,000 \text{ ft. lbs.}$$

This energy, if released at one time, as would here be the case, would be sufficient to destroy the entire loop district of Chicago. If three or four such clouds should fall together, the damage inflicted could scarcely be imagined.

It is with the prevention of such a calamity that the author wishes to deal. It is obviously impossible to develop a protective system for the whole region involved, as the outlay necessary would not be justified. It is perfectly possible, however, to protect our great cities. There are two methods available. The first, and most easily conceived, would be to support the clouds upon a frame-work of steel or concrete covering the metropolis under consideration. Manifestly, there are disadvantages to this method. The cost would primarily be excessive. The labor involved would render other building impossible at the time, and it is doubtful if there is sufficient material in the world. Then too, such a structure would cut off the source of light of a large part of the surrounding country.

From this reasoning it is quite easily seen that a structure of steel or concrete beams is out of the question. There is left, then, as a sole preventive

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