of such a calamity, the pride of the author's nimble brain—a structure composed of—

SUNBEAMS!

The natural advantages of such a construction are obvious. Sunbeams are plentiful; they would cut off no light from the surrounding country—nay, they would add to it. Prof. Einstein has recently proved that they have weight, whence it is quite possible to use them to support the clouds, the sun itself being one support, and a high spot on the earth the other. Of course some research work would first have to be gone into. The following possibilities are suggested:

The mass of a sunbeam could be accurately measured by exposing a light absorbing substance of known weight to a beam of light of known cross section for a known length of time. It could then be weighed again, and the gain would represent the weight of the sunbeam. Multiplying the time by the velocity of light would give the length of the beam, and as the sectional area is known, the volume could easily be calculated. The weight divided by this volume would give the density of the sunbeam under consideration.

The deflection of a sunbeam due to the elements could easily be computed. The formula for the deflection of a simple beam reads as follows:

$$\text{Deflection} = \frac{KWL^3}{EI}$$

All of these quantities are either known or can be determined. K is a constant depending on the nature of the beam. W is the mass of the clouds to be supported. L is the distance from the sun to the earth. I is the moment of inertia of the beam (easily found from its dimensions). E is the modulus of elasticity of light, the determination of which is discussed in the next paragraph. This deflection must be considered in determining the height of the structure supporting the beams upon the earth.

The modulus of elasticity of light could best be determined by photomicrography. A beam of light of known dimensions could be supported on suitable foundations in the laboratory dark room and a modern motion picture camera, operating at about 500 exposures per second, could be set up in front of it. A drop of water of known weight could be placed upon the center of the beam, and the camera operated. From the photographic record thus obtained, the deflection could be measured. As the other values in the above formula are known, the modulus of elasticity could easily be calculated.

Other factors will probably enter the problem of sun beam study, and should be taken up in due time. Among these are the effect of moisture upon the strength of a sun beam (particularly of thundershowers); the effect of the friction of the atmosphere upon the velocity of light (in view of the Einstein theory); the factors of safety to be allowed; the probable effect of electric storms upon beams exposed to them; and the loss in the density of light due to its passing through a rainy day. All of these factors must be studied in detail before the problem can be solved.

We shall now consider the practical side of the problem. As explained before, the proposition is to support the clouds upon sunbeams, one end of