



Fig. 640.41A Stabilization of tension: Minimum of 12 Spokes:

- A. A solid mast without stays stands erect by itself in "solid" earth. Tension stays may be added at end of the lever arm helping against hurricane "uprooting." Men have until now employed a compression continuity as the primary load-carrying structural system with tension employed secondarily to stabilize angular relationships.
- B. The old artillery wheel provides a series of vaulting poles.
- C. Pole vaulting along, a "pushing-up" load.
- D. Hanging in tension like the wire wheel.
- E. The wire wheel provides a series of tension clings. The axle load of the wire wheel is hung from the top of the wheel, which tries to belly out, so spokes as additional tension members are added horizontally to keep it from bellying.
- F. It takes a minimum of 12 spokes to fix the hub position in relation to the rim: six positive diaphragm and six negative diaphragm, of which respectively three each are positively and negatively opposed turbining torque members.
- G. Many spokes keep rim from bending outwardly any further while load is suspended by central vertical spokes successively leading from top of wheel to hub and its load.