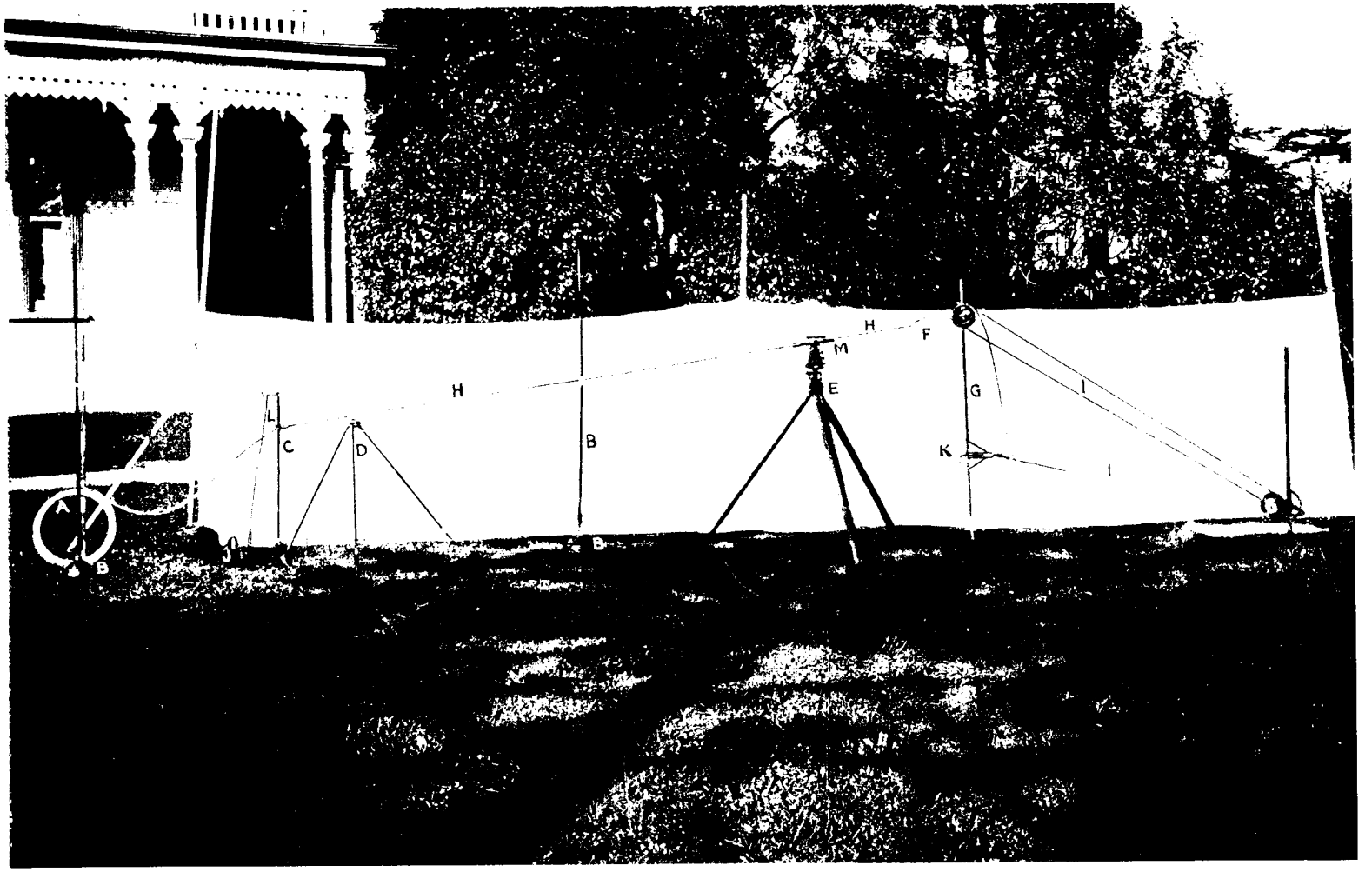

General View of Base-measuring Apparatus set up ready for use.

A. Tape-winder. Steel-wire frame, covered with stout leather, 18 in. inside diameter.
B. Cast-iron universal-jointed support-stands (Crabs). (For details see Fig. No. 11.)
C. Measuring-stand. (For details see Fig. No. 8.)
D. Measuring-tripod. Galvanized-iron tube legs, gun-metal top. (For details see Fig. No. 7.)
E. Five-inch Troughton and Simms transit theodolite, with brass and steel reading-scales attached to the vertical arc. (For details see Fig. No. 6.)
F. Spring balance.
G. Tension-gear. (For details see Fig. No. 10.)
H. Tape.
I. Tension-wires.
J. Weight.
K. Winch-handle of slow-motion screw of tension-gear.
L. Slow-motion screw of chaining-stand.
M. Scale attached to axis of vertical arc of theodolite.

When measurements are being made in the field, the observer at the scale stands abreast of the theodolite and reads the position of the graduated mark on the tape where it passes the scale M or A clearly shown in Fig. No. 6, always using a strong magnifying-glass.

The observer at the rear end, or tripod D, stands abreast of the tripod and makes the contact of the rear graduated tape-mark with the zero-mark on the tripod-head (see Fig. No. 7) by means of the slow-motion screw at L or B in Fig. No. 8. The fine scale on tripod is only in the position shown when the tape is on the comparator.

The tension-recorder stands abreast of F and keeps the index-mark of the balance true by means of the winch-handle K of the slow-motion tension screw.