accurately the time by a second watch, that it takes to float to the lower stakes. Repeat this, say five times, entering each trial in the proper column in Book No. 1. The mean time and velocity per second will afterwards be found in the office.

5. The cross sections where the stakes are driven will be measured by a line and rule or other means when the water falls.

6. Special observations will be required for large rivers, and full enquiries should be made with regard to the effects of ice, the highest known floods, &c, &c.

7. The velocity of very small streams such as those less than 2 feet wide and 6 inches deep need not be ascertained, but these and streams of every description should be entered in columns A and C, Book No. 2; and all but the exceptions named, in column B.

8. The inclination of streams may be ascertained at any time before or after the freshet, and entered in column A, Book No. 2; the tape and spirit-level should be used in making these measurements.

9. All field measurements and observations should be entered as they are made in the proper place in the books provided for the purpose. Field notes should be disdinctly made in pencil, and remain unaltered. Notes recorded in the office should be in ink.

10. The mean sectional area, velocity, and volume, when ascertained, will be transcribed from Book No. 1 to Book No. 2.

11. As much accuracy as possible is requested, and it is especially enjoined that when a freshet occurs, whatever the condition of the weather or the travelling may be, the opportunity of obtaining the information desired will not be allowed to pass, and that means may be adopted to have every stream on the line examined whilst the water is high.

12. In the event of the water in any stream having fallen before being reached, the Engineer making the examination will judge from water-marks on the banks as to the greatest height of the water, and leave the cross section stakes driven at this height; he should, however, ascertain the velocity of streams