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Pl. XX. Three distant earthquakes registered by Prof. J. Milne's horizontal pendulum.*—

- (a). Earthquake of Sept. 1st, 1898, recorded by Prof. J. Milne at Shide, Isle of Wight This is the same earthquake as eqke No. 22, Group I, whose diagram from B-apparatus at Hongo, Tokyo, is given in Pl. X. The two diagrams are almost perfectly identical with each other. It is, however, to be observed that each diagram shows evidence of the synchronism of the pendulum with the movements of the ground.
- (b). Earthquake of Sept. 20th, 1899, recorded by Mr. A. Imamura at Hongo, Tokyo. This is the Smyrna earthquake, No. 201, Group I. The diagram from A—apparatus is given in Pl. V.
- (c). Earthquake of Sept. 30th, 1899, recorded by Mr. A. Imamura at Hongo, Tokyo. This is the Java earthquake, No. 207, Group I. The diagram from A—apparatus is given in Pl. VI.

In the cases of earthquakes (b) and (c), the complete period of free oscillation of the pendulum was 15 s in Prof. Milne's instrument and 28 s in my apparatus A.

* Given for the sake of comparison.

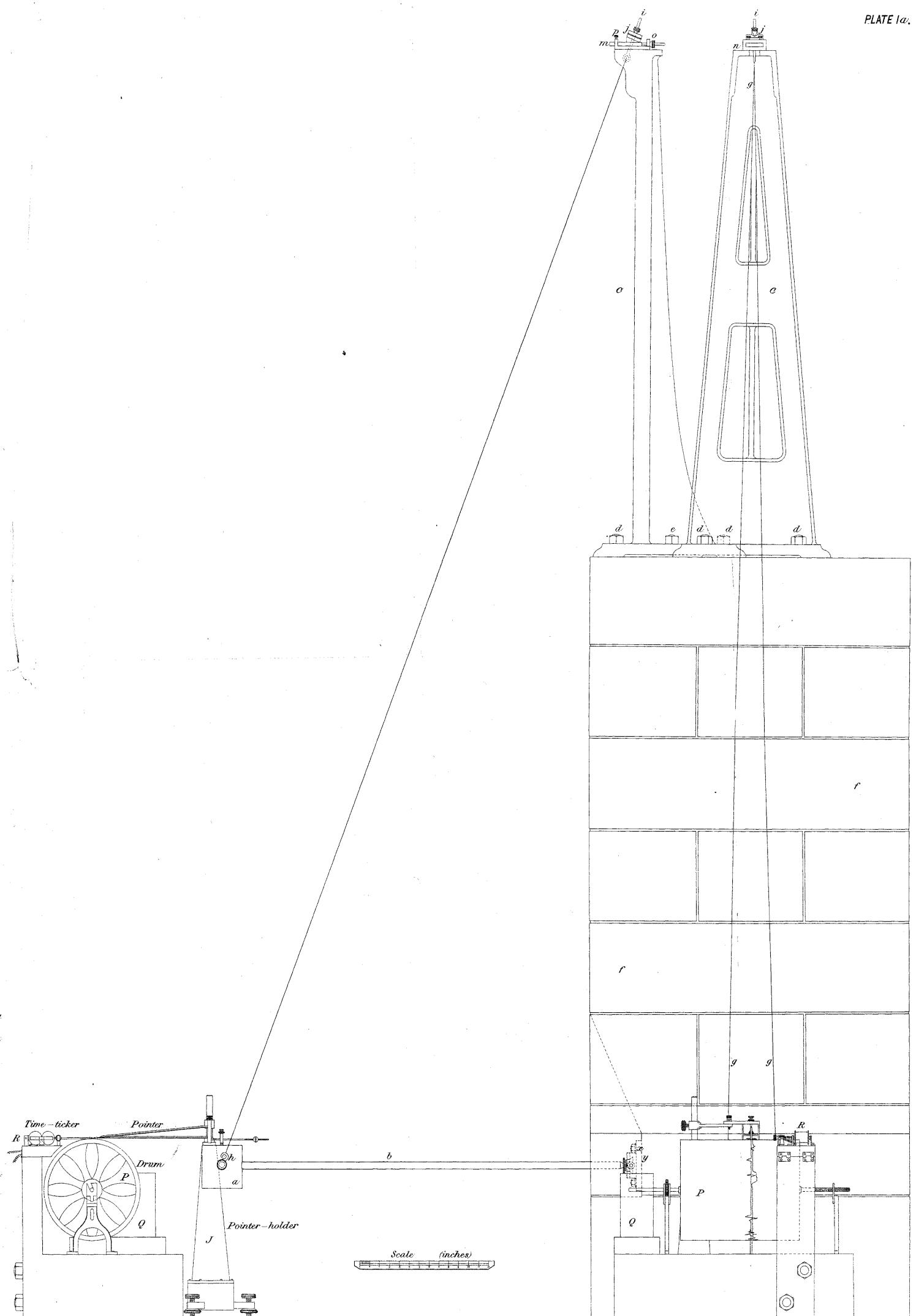


PLATE II.

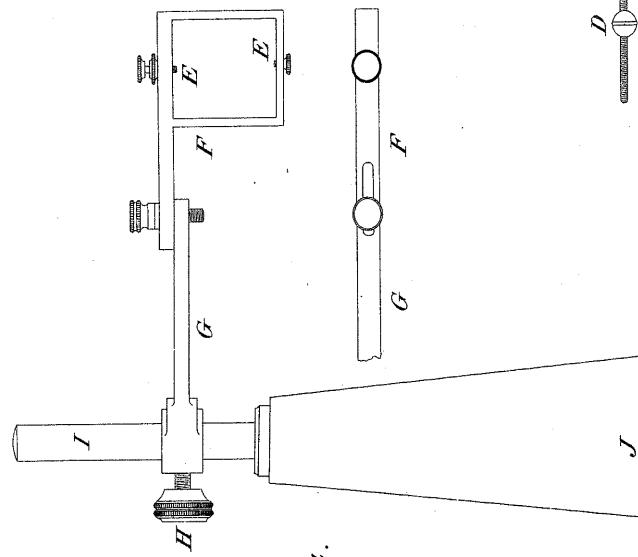


Fig. 4.

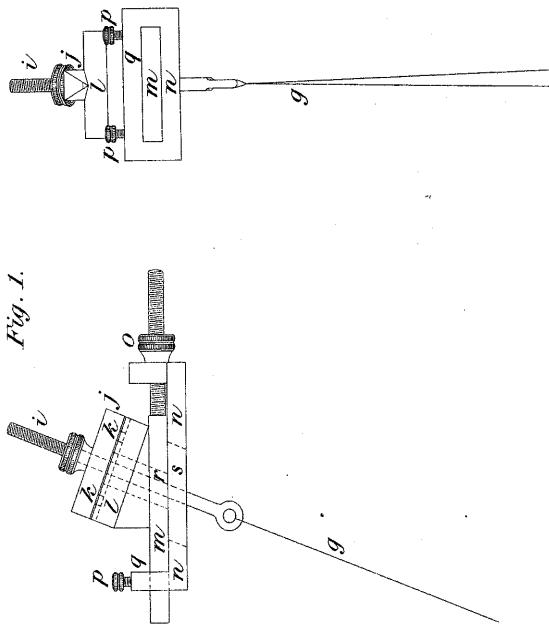
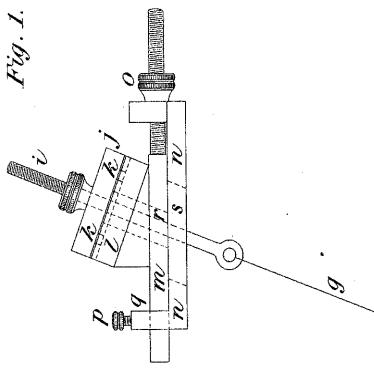


Fig. 1.

Fig. 3.

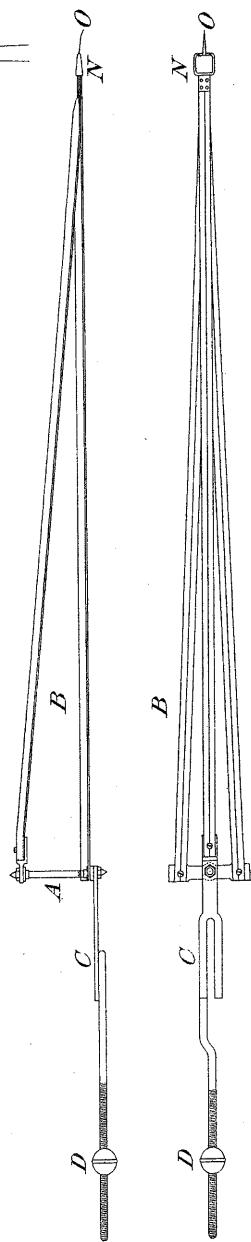
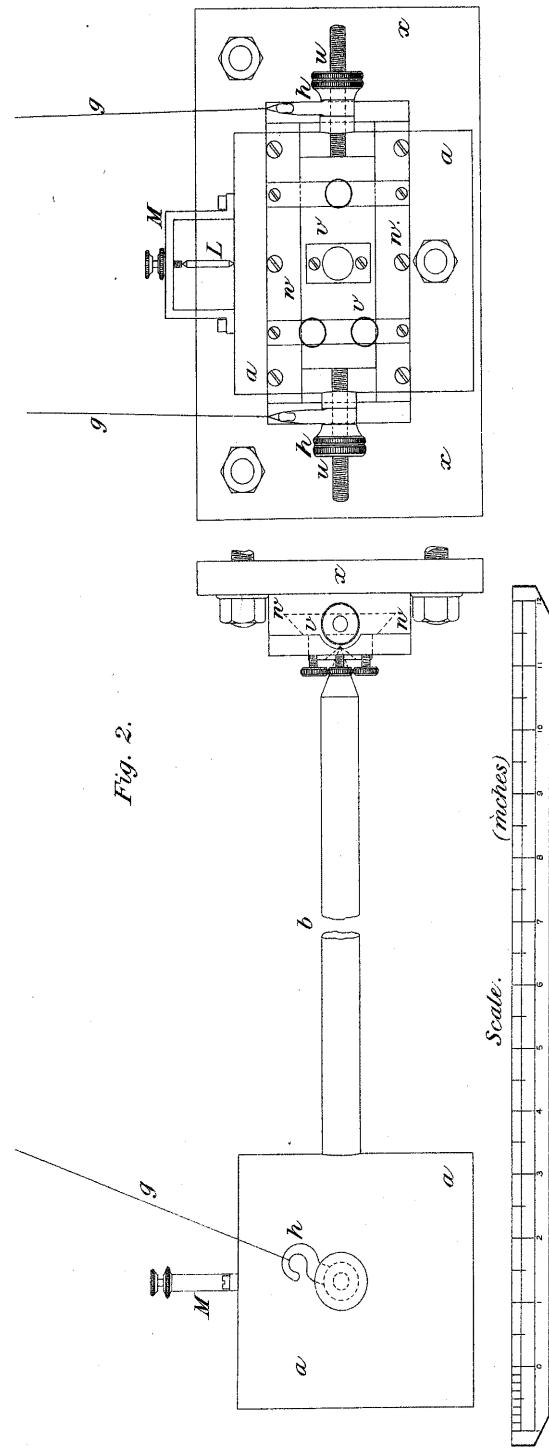


Fig. 2.



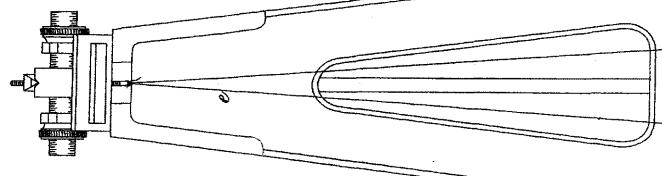


Fig. 1.

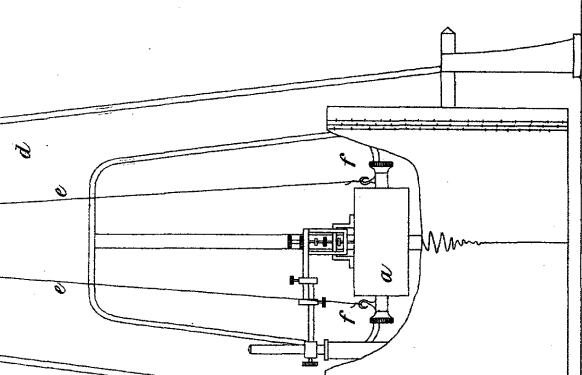
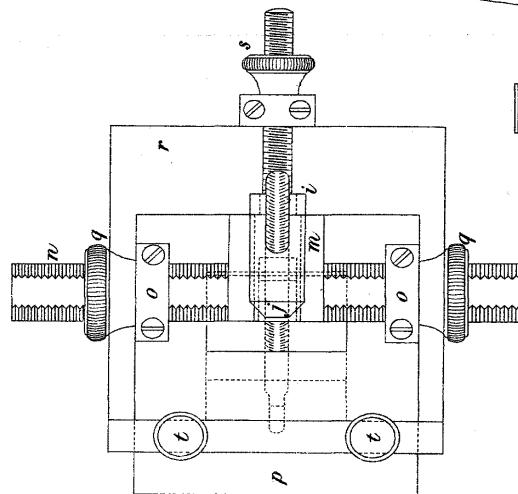
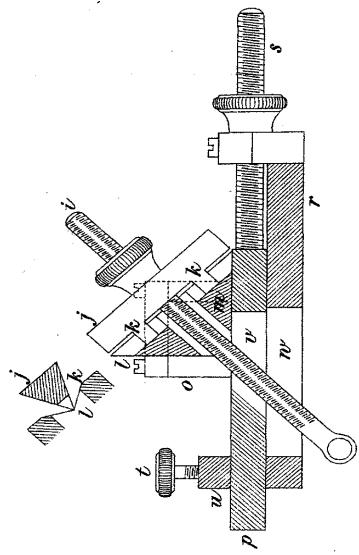


Fig. 3.



(Scale 1/5)

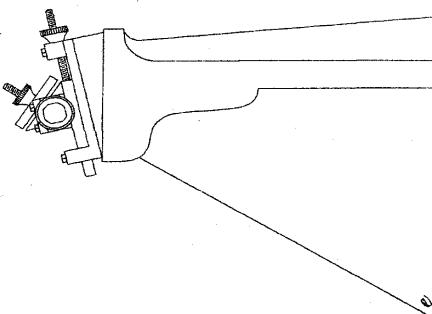
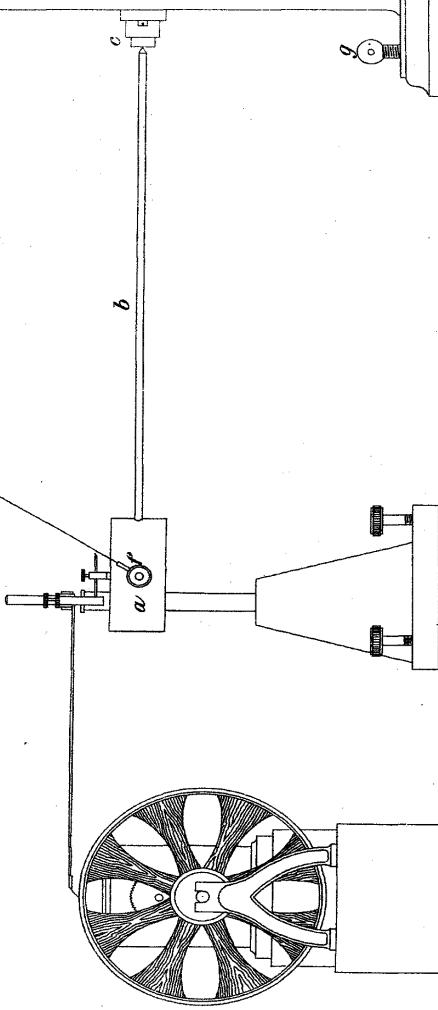
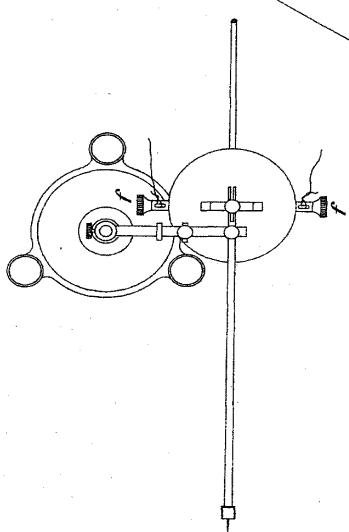
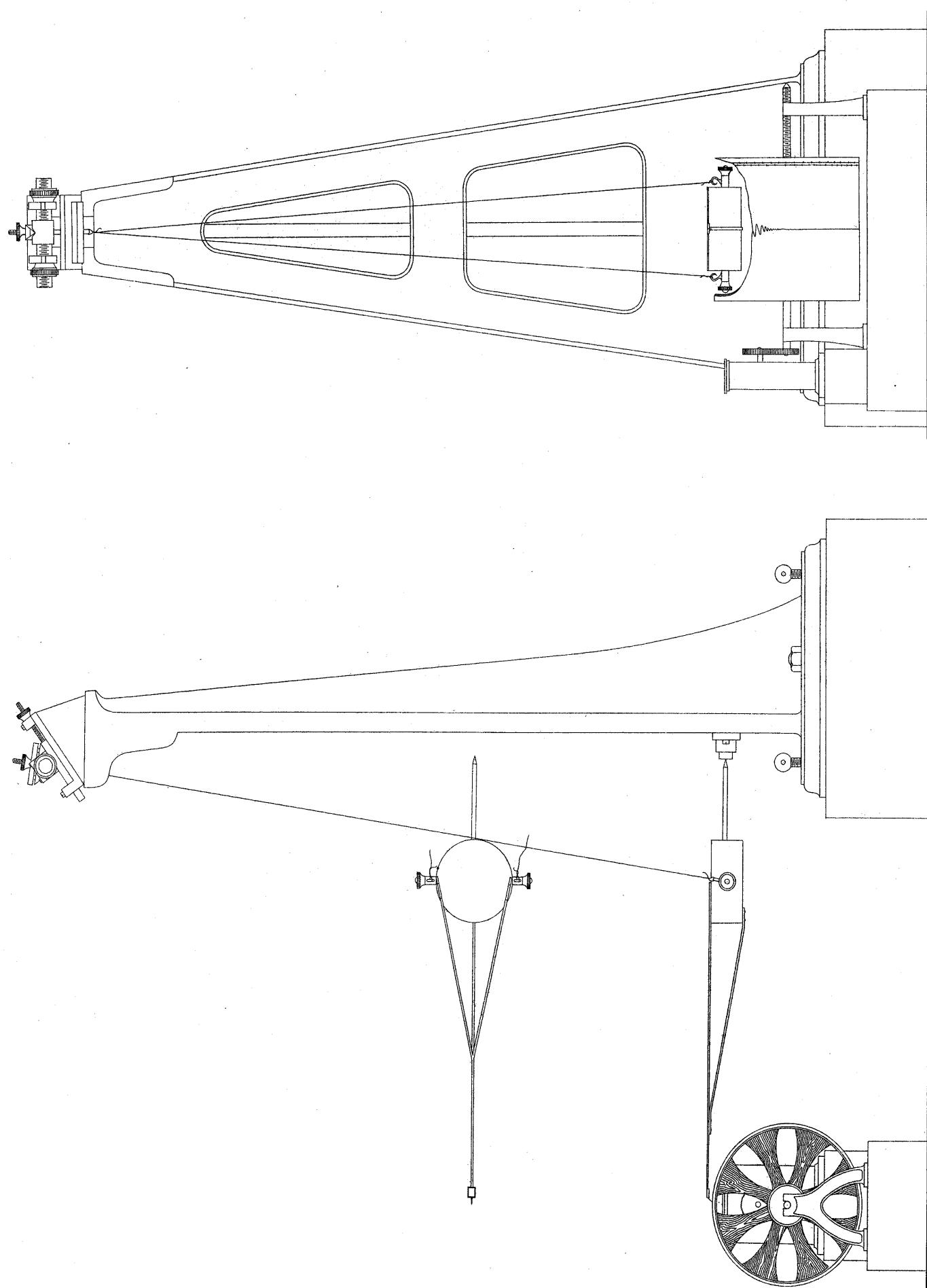


Fig. 2.





Time : 1 tick-interval = 1m.

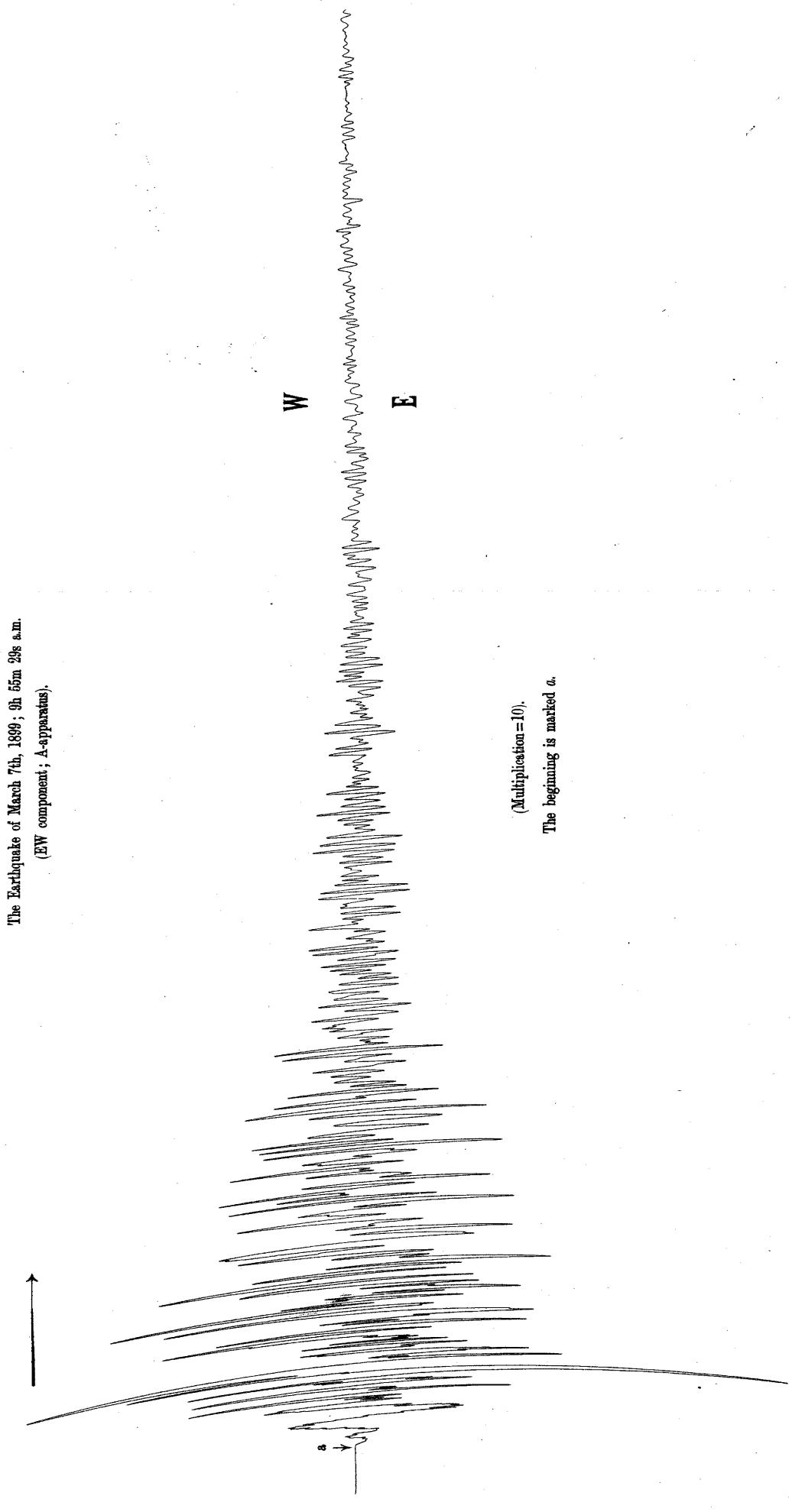


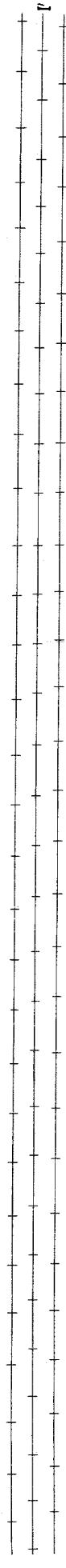
PLATE V.

The Earthquake of September 20th 1899; 11h 24m 27s a.m.
(EW component; A-apparatus). Multiplication=10.

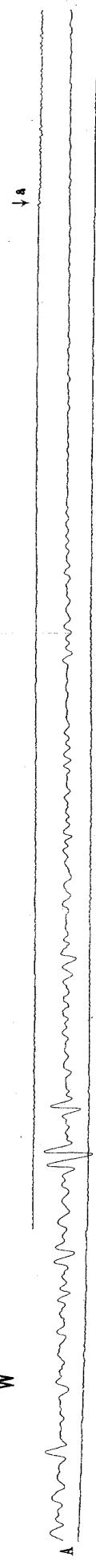
Time : 1 tick interval = 1 m.



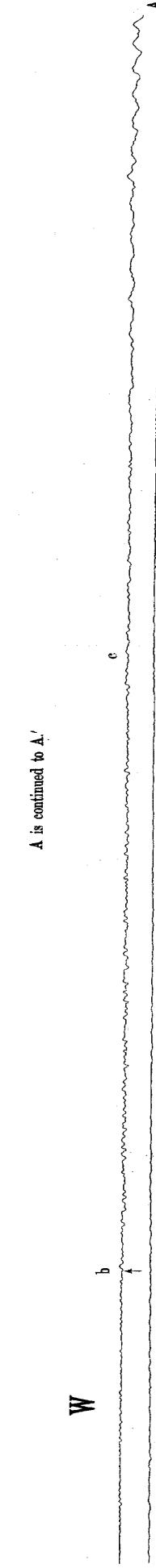
I is continued to I'



W



E



E

a.....The beginning of the earthquake.
ab....." 1st Preliminary Tremor.
bc....." 2nd " "

The Earthquake of September 30th 1890; 2h 11m 0s a.m.
(EW component; A-apparatus). Multiplication=10.

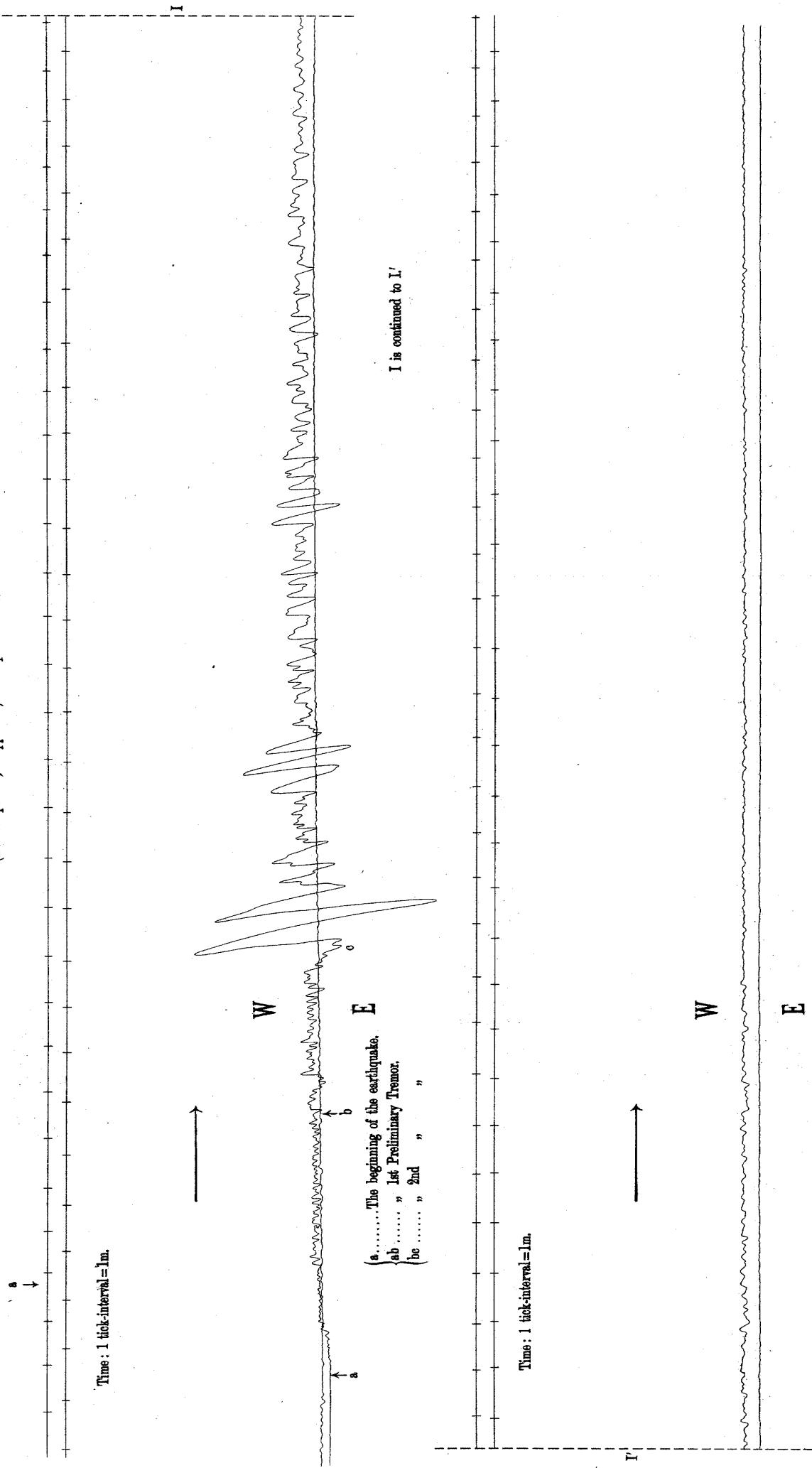
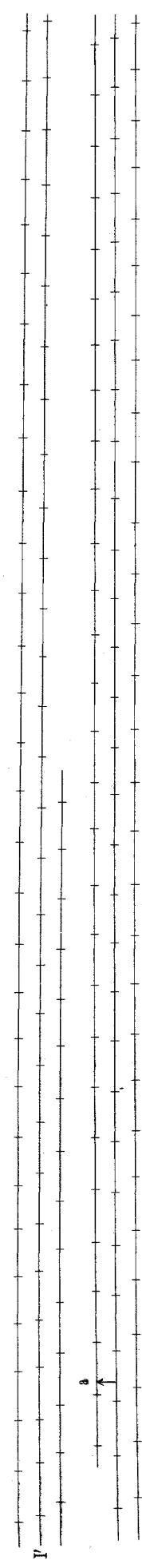


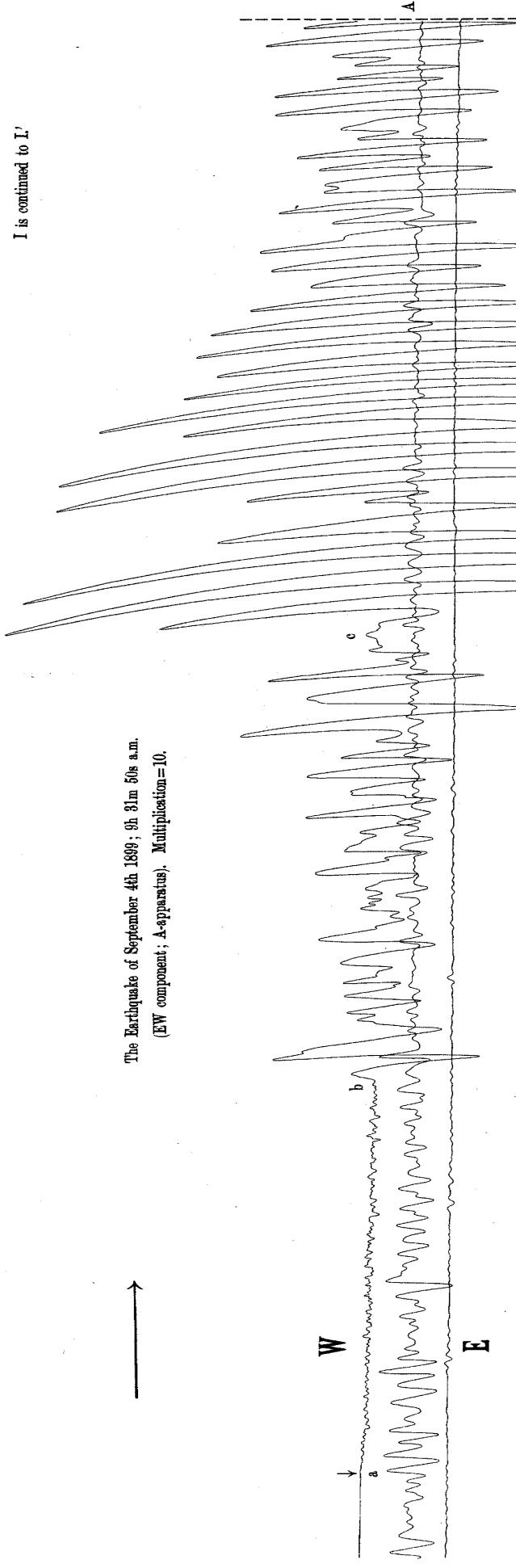
PLATE VII.

Time: 1 tick-interval = 1 m.

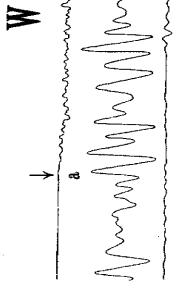


I is continued to I'

The Earthquake of September 4th 1899; 9h 31m 50s a.m.
(EW component; A-apparatus). Multiplication=10.



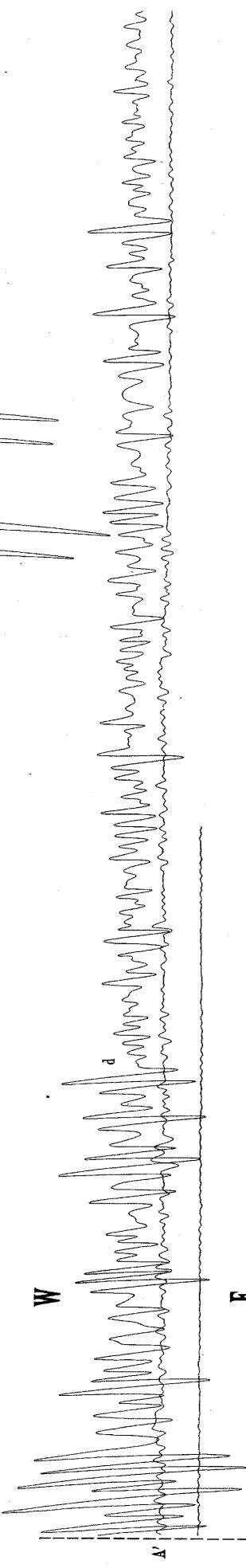
W



E

a.....The beginning of the earthquake.
ab....." 1st Preliminary Tremor.
bc....." 2nd " "

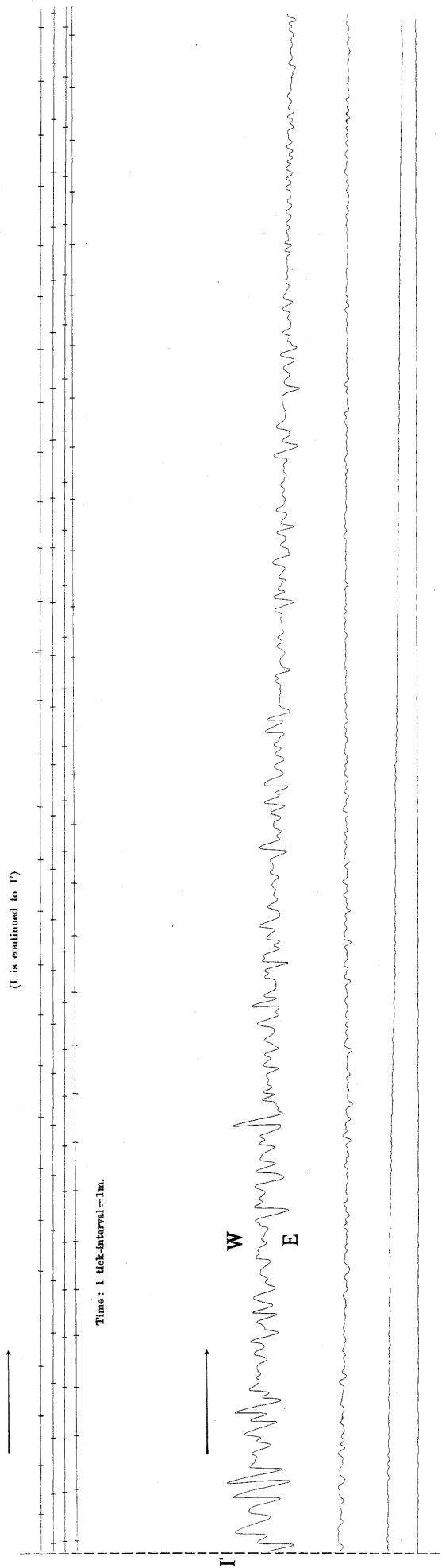
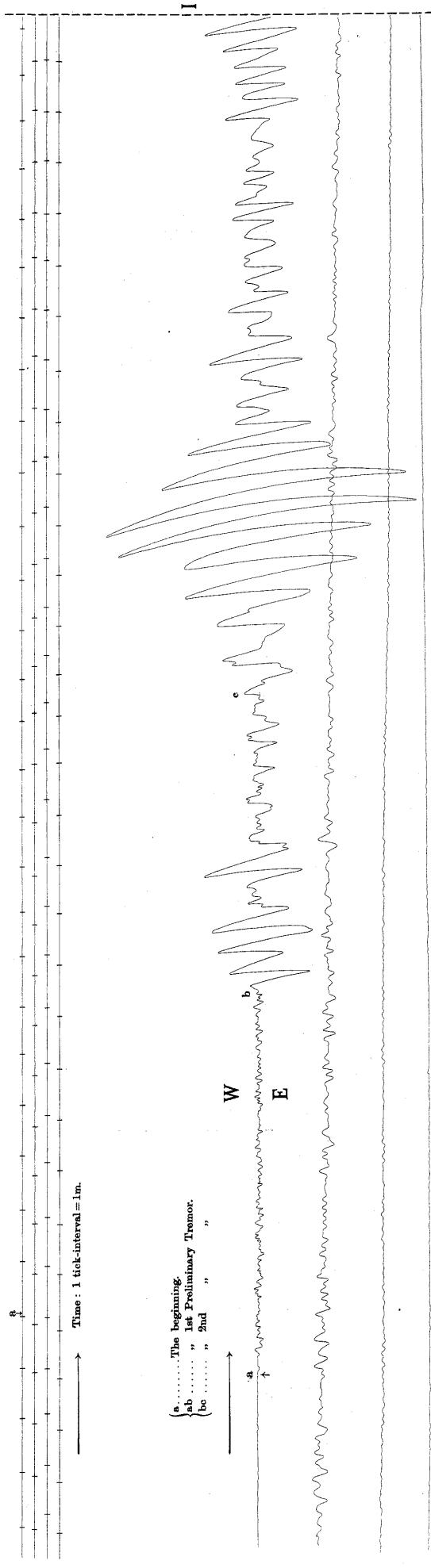
A is continued to A'



E

PLATE VIII.

The Earthquake of September 11th 1899 ; 6h 50m 58s a.m.
 (EW component; A-apparatus). Multiplication=10.

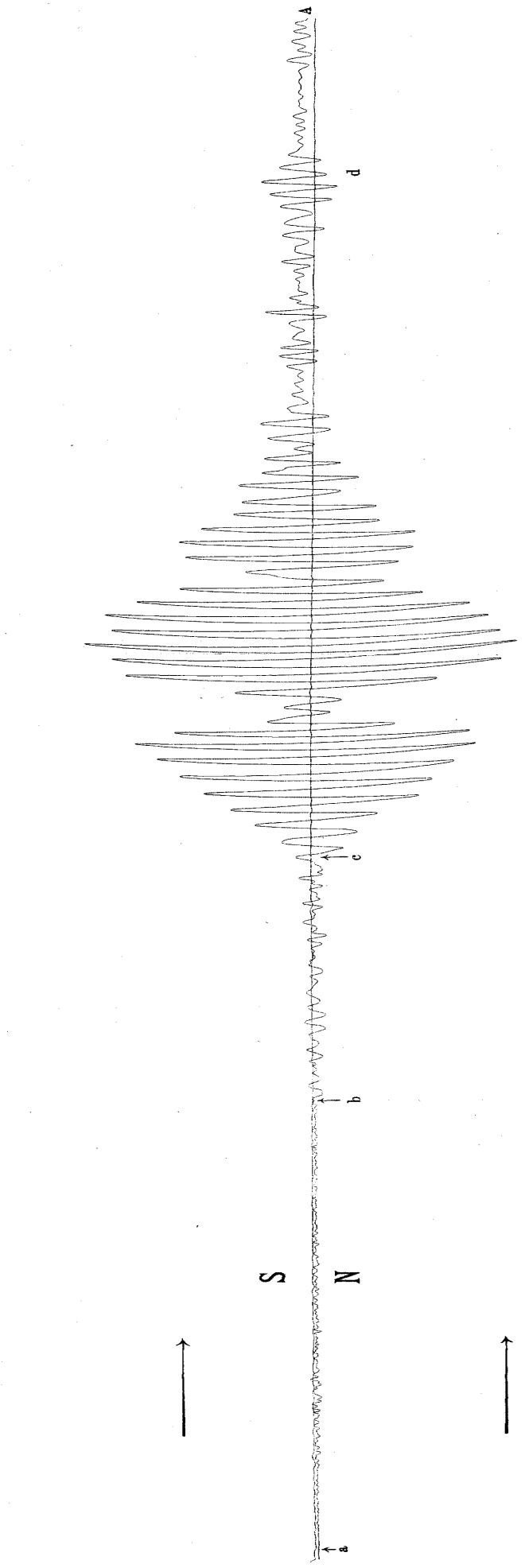


The Earthquake of September 1st, 1898; 5h 0m 57s a.m.

(NS component; P-apparatus).

Time Scale. (1 mm=374s.)

0	1	2	3	4	5	6	7	8	9	10m
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N (Multiplication=10)

a..... The beginning of the earthquake.
 ab 1st Preliminary Tremor.
 bc 2nd " "
 cd Principal Portion.

A is continued to A'.

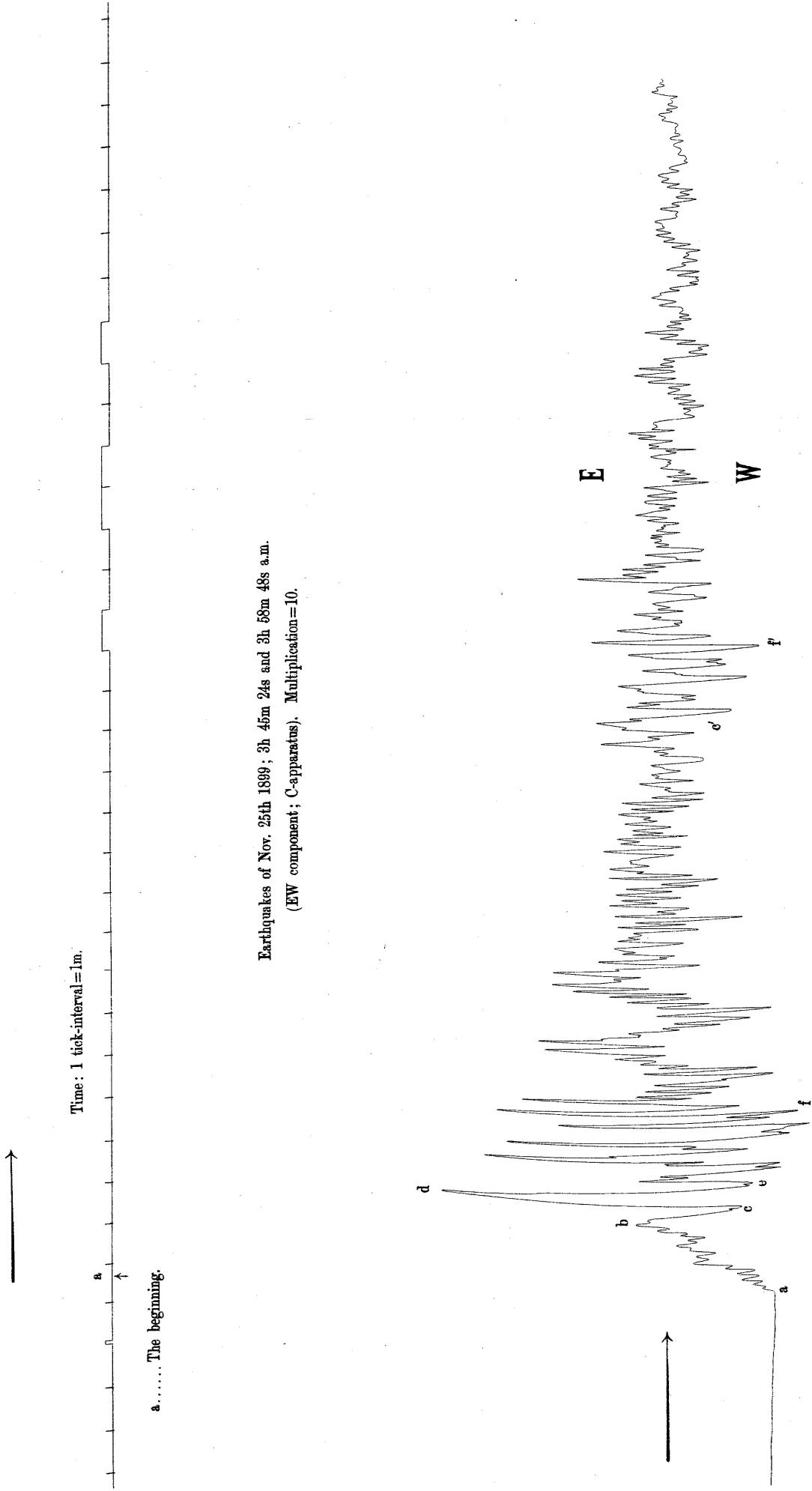
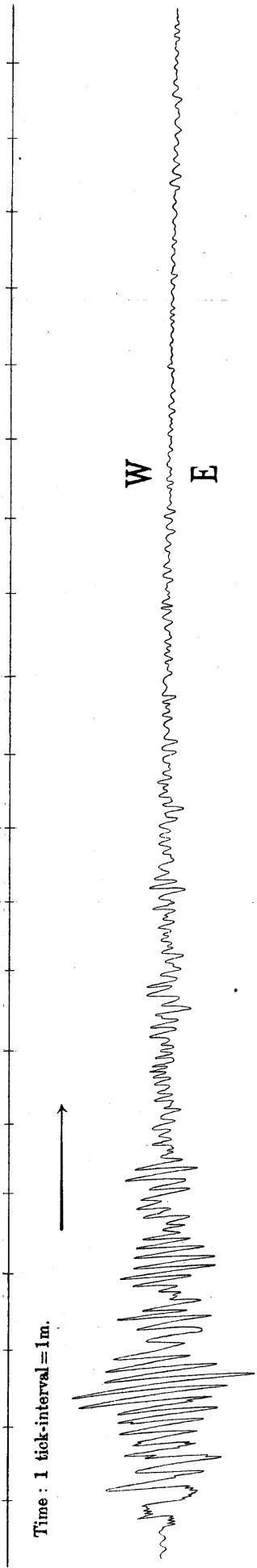


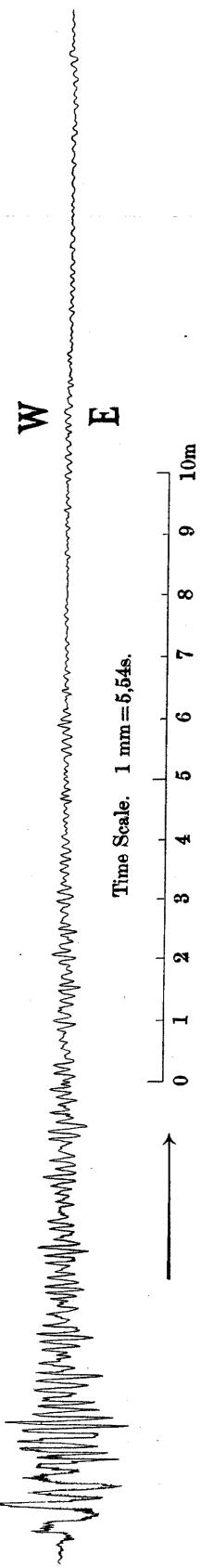
PLATE XI.

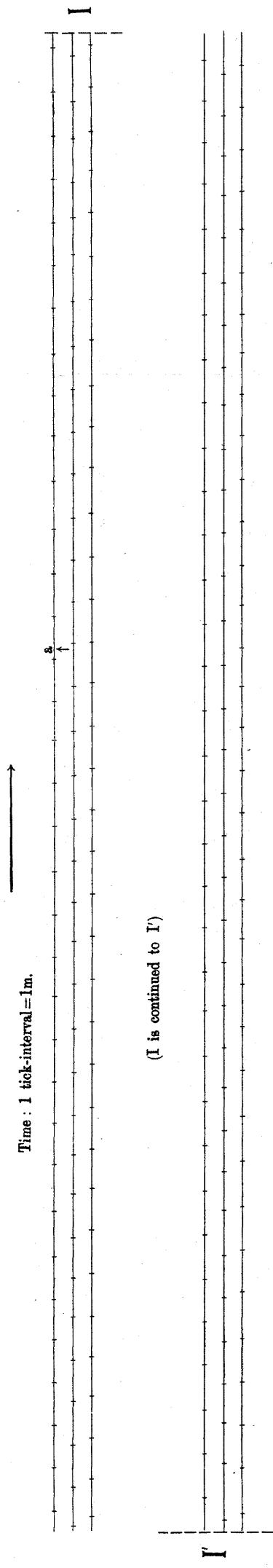
The Earthquake of Nov. 5th 1900 ; 5h 19m 34s p.m.

EW component at Hongo (A-apparatus). Multiplication=10.



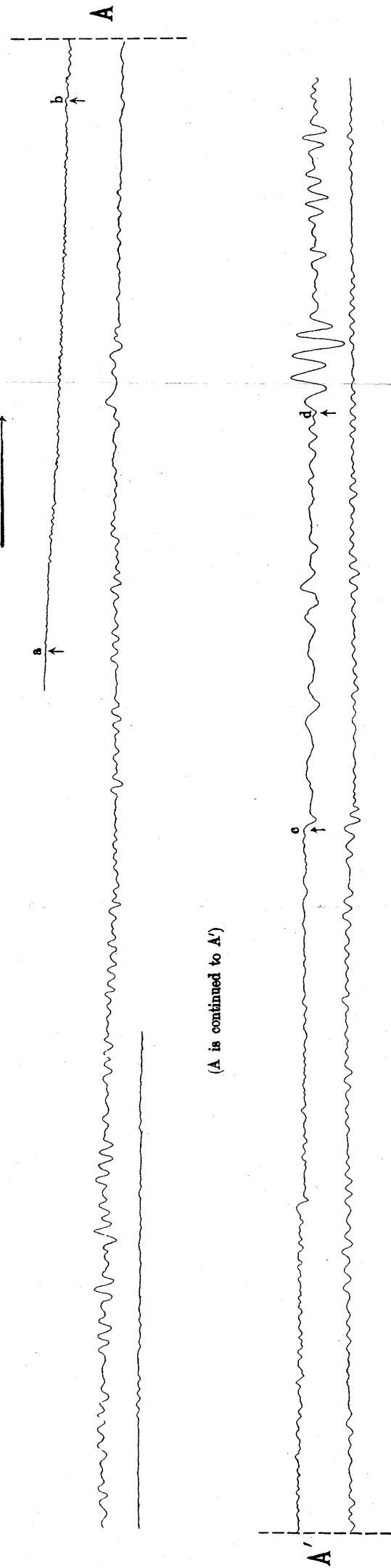
EW component at Hitotsubashi (D-apparatus). Multiplication=8.4.





The Earthquake of Oct. 29th 1900 ; 6h 31m 52s p.m.
(EW component; C-apparatus). Multiplication=10.

$\left\{ \begin{array}{l} a \dots \dots \dots \text{The beginning of the earthquake.} \\ ab \dots \dots \dots \text{1st Preliminary Tremor.} \\ bc \dots \dots \dots \text{2nd } " \\ cd \dots \dots \dots \text{slow-period phase of the principal portion.} \end{array} \right.$



The Earthquake of Oct. 29th 1900; 6h 31m 52s p.m.

(EW component; D-apparatus). Multiplication = 8.4.

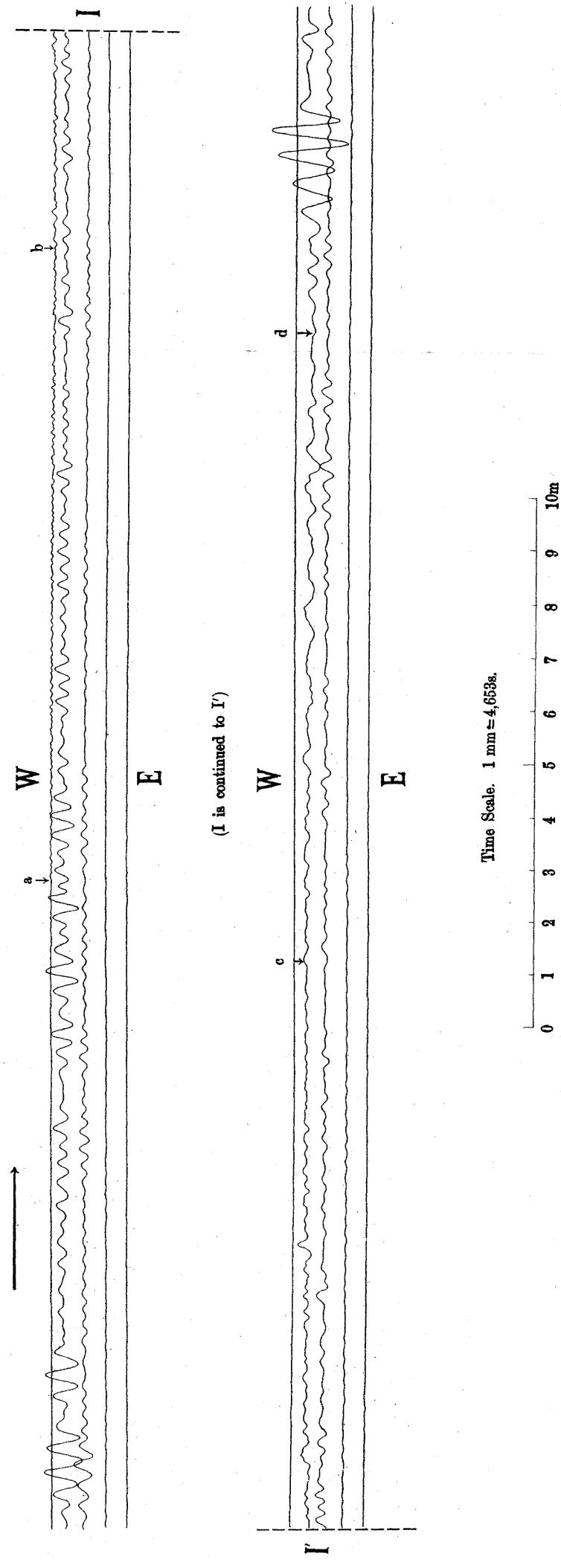
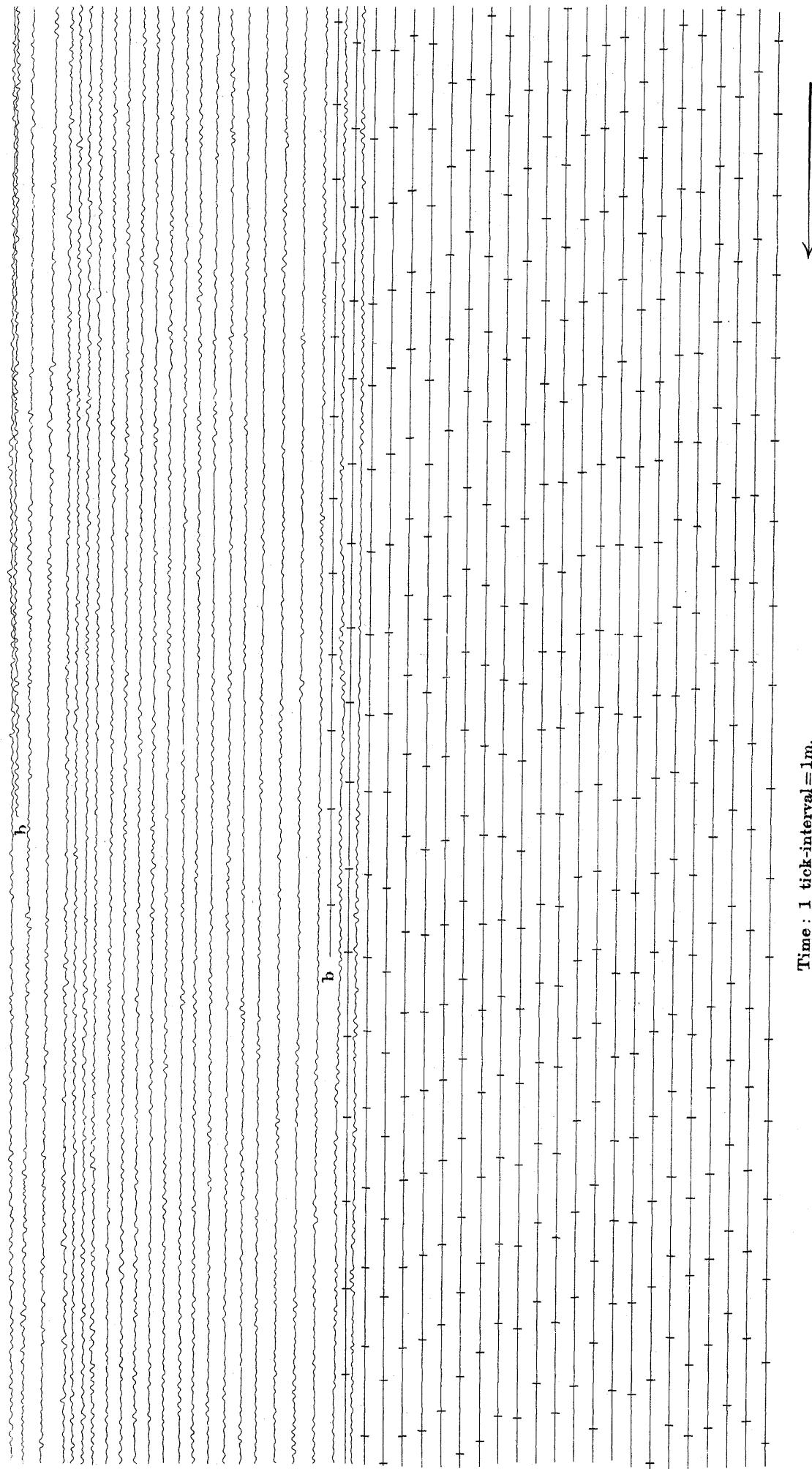


PLATE XIV.

Pulsatory Oscillations on Oct. 6th-7th, 1899.
(Part of the EW component diagram).

Multiplication = 10.



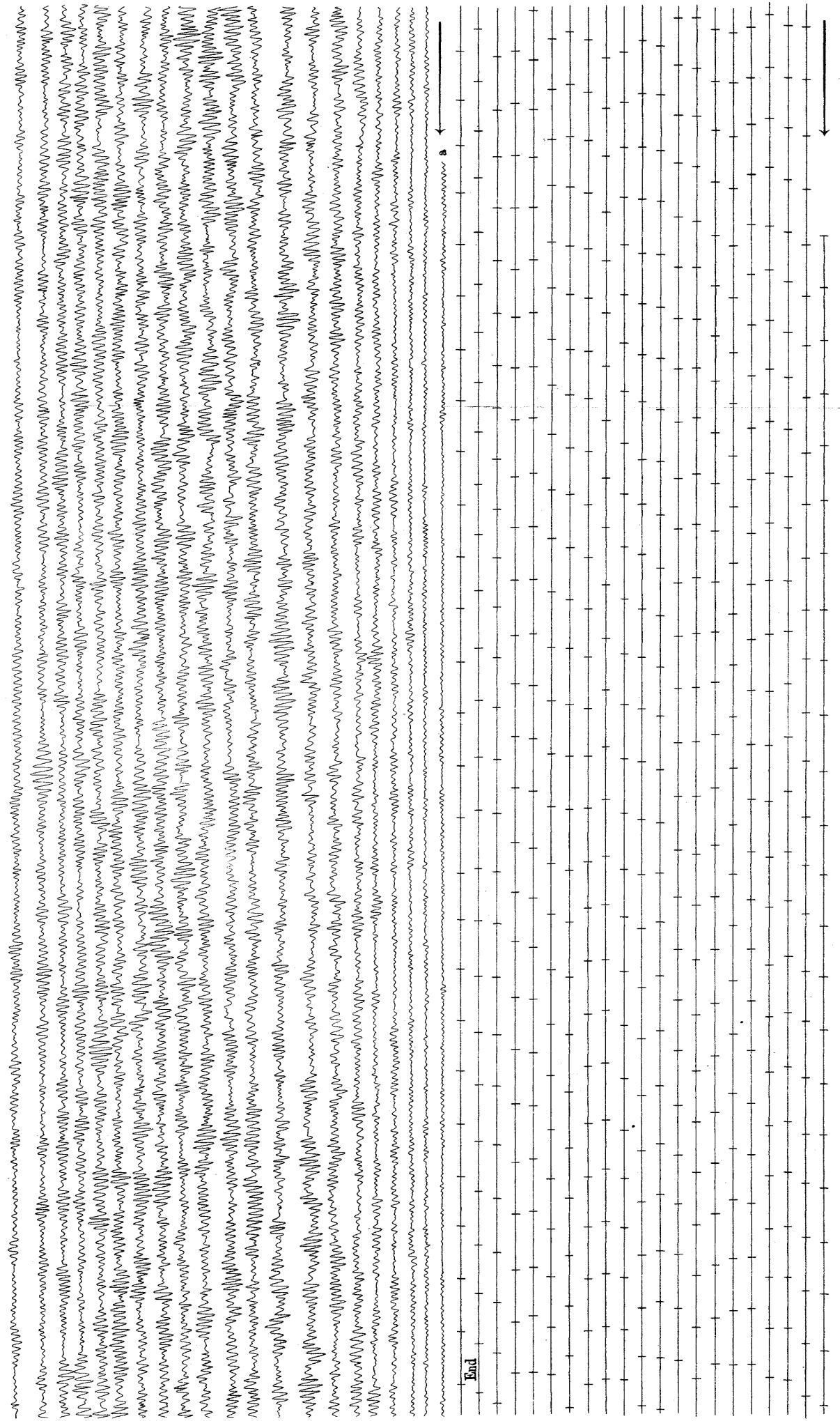
Time : 1 tick-interval = 1m.
b, the end, corresponds to 9h 4m 54s a.m. (Oct. 7th).

PLATE XV.

Pulsatory Oscillations on Nov. 17th-18th, 1900.
(Part of the EW component diagram).

End

Multiplication=10.



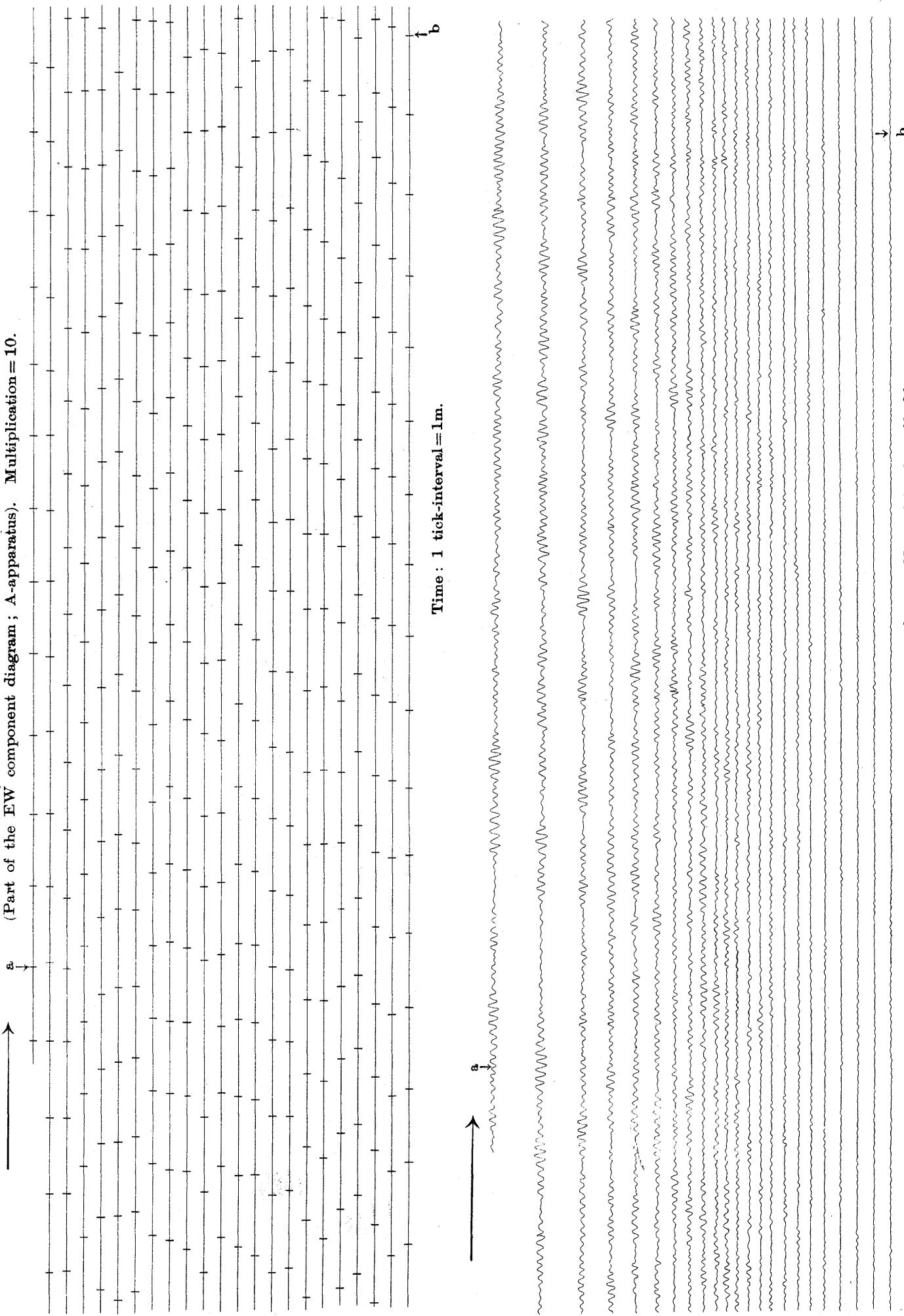
Time: 1 tick-interval=1m.

A, the commencement, corresponds to 0h 28m 0s p.m. (17th)

a

PLATE XVI.

Pulsatory Oscillations on Nov. 18th-19th, 1900.
(Part of the EW component diagram; A-apparatus). Multiplication = 10.



a.....Nov. 18th 1900, 9h 56m 0s a.m. b.....Nov. 19th 1900, 9h 22m 0s a.m.

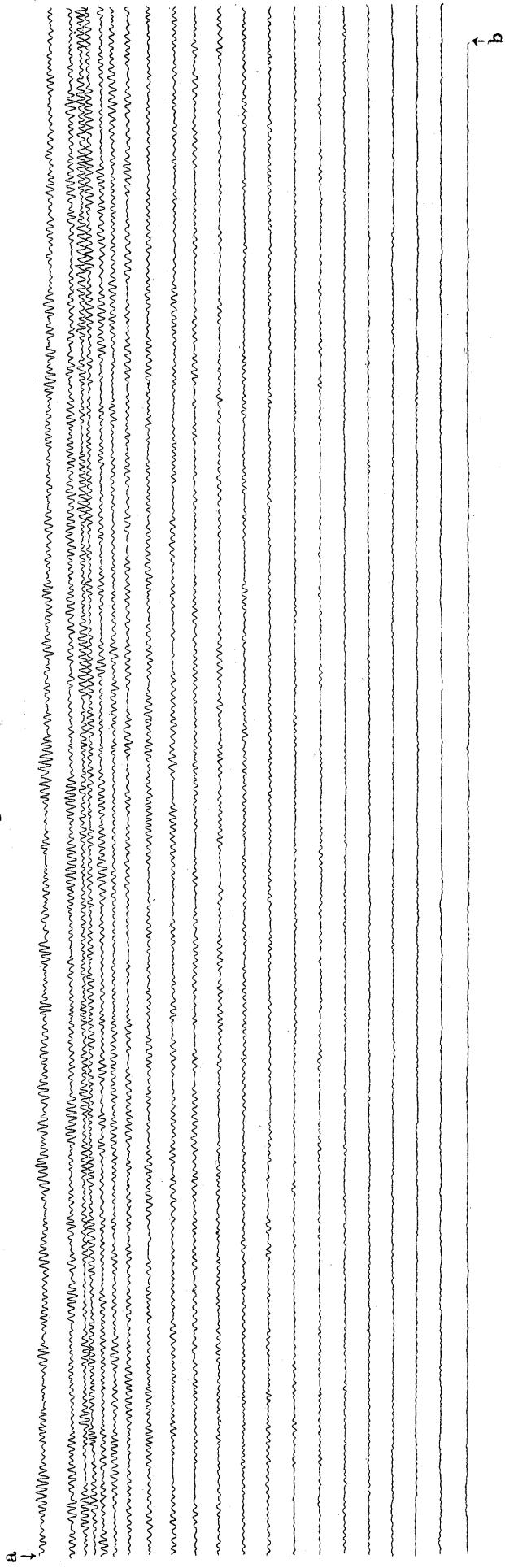
b

PLATE XVII.

Pulsatory Oscillations on Nov. 18th-19th, 1900.

(Part of the EW component diagram; D-apparatus).

Multiplication = 8.4.

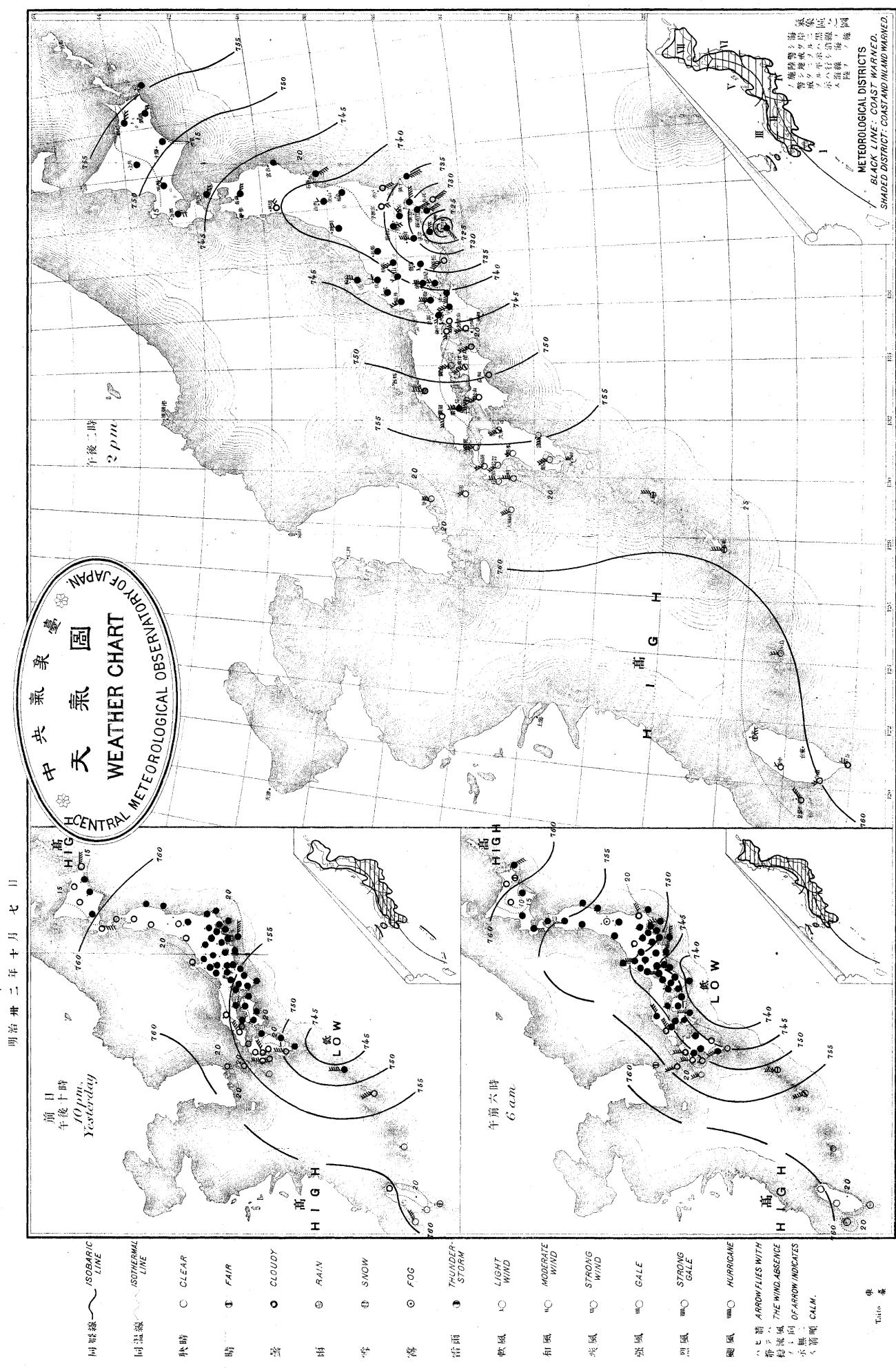


Time Scale. 1 mm = 5,583 s.

0 1 2 3 4 5 6 7 8 9 10 m.

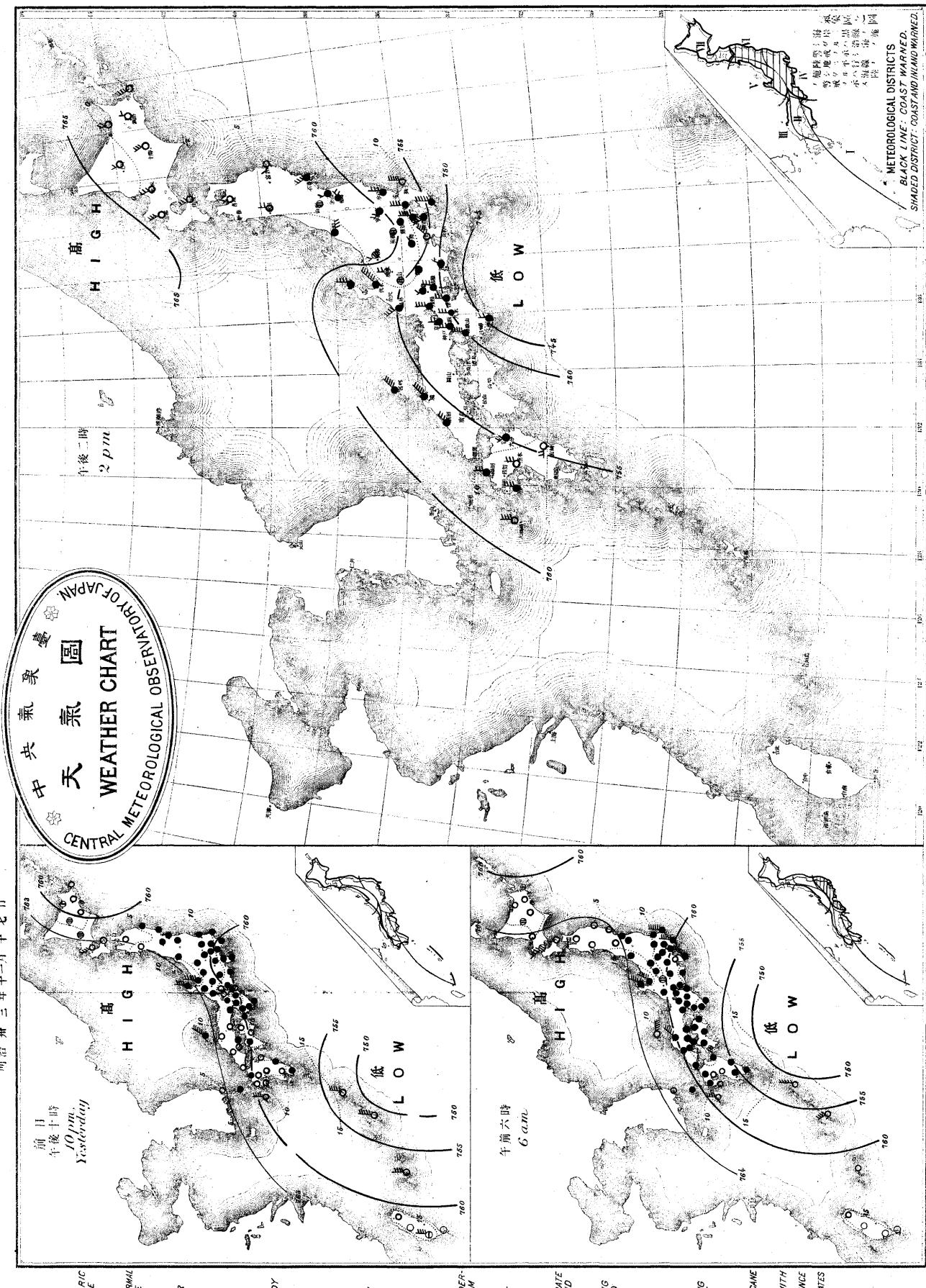
a. Nov. 18th 1900, 7h 9m 17s a.m.
b. Nov. 19th 1900, 6h 32m 35s a.m.

Weather Chart, Oct. 7th 1899.



Weather Chart. Nov. 17th 1900.

明治三十三年十一月十七日



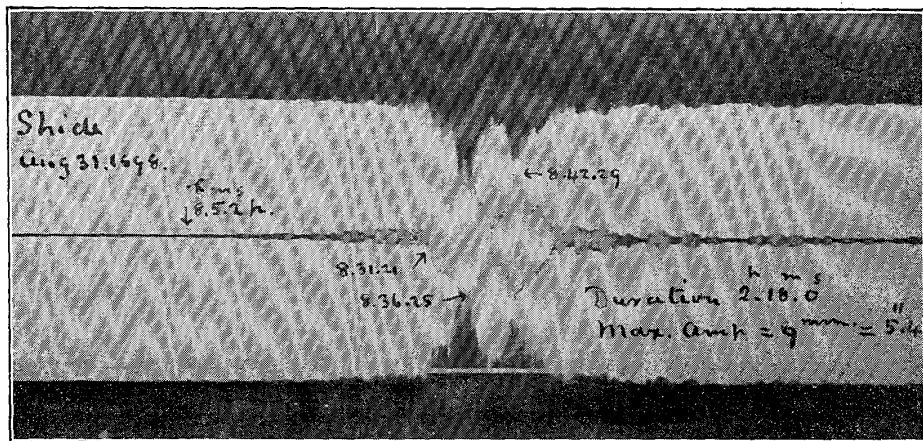
同標線

ISOBARIC LINE

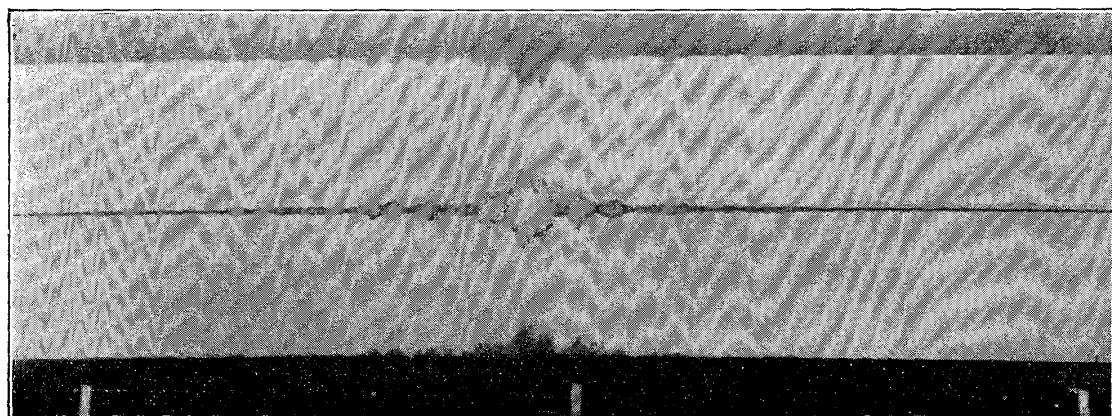
Plate XX.

Seismograms from Professor J. Milne's
Horizontal Pendulum Apparatus.

(a). Earthquake of Sept. 1st 1898.
(Registered at Shide).



(b). Earthquake of Sept. 20th 1899.
(Registered in Tokyo).



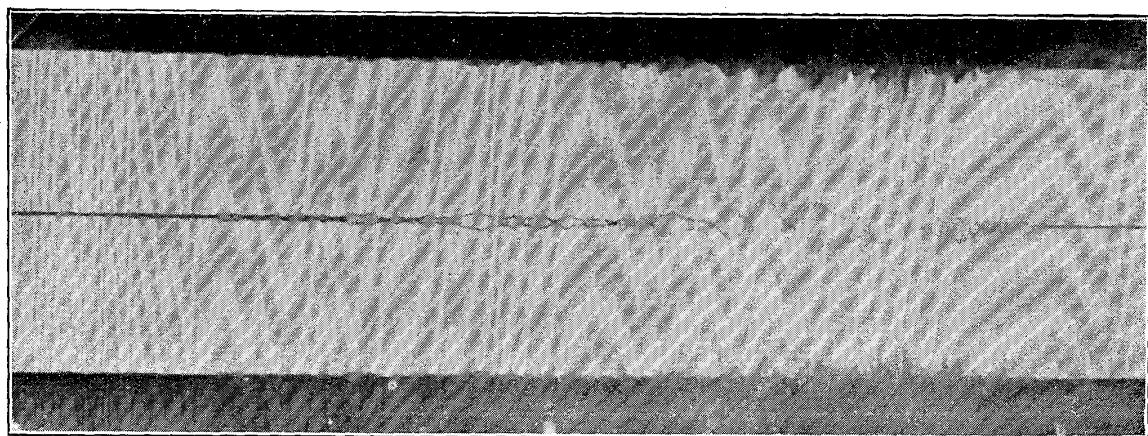
1h

12h

11h

$$\Delta T = +2m\ 22s$$

(c). Earthquake of Sept. 30th 1899.
(Registered in Tokyo).



3h

$$\Delta T = +11m\ 39s$$

2h