

三井地球物理研究所  
觀測報告

REPORTS OF  
GEOPHYSICAL OBSERVATIONS  
IN THE  
MITSUI GEOPHYSICAL OBSERVATORY

No. 1.

(April 12—Dec. 31, 1933)

Mitsui Geophysical Observatory,  
Susaki, Siduoka-ken, Japan.



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the Director of the Mitsui Geophysical Observatory, Susaki,  
Siduoka-ken, Japan.

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本観測報告ニ關スル照會ハ静岡縣賀茂郡濱崎村須崎、三井地球物理研究所長へ  
宛テラレ度シ。



## 1. Seismometrical Observation.

(April 12—December 31, 1933)

(1) *Co-ordinate of the station.*

{	Longitude	(E)	138°	58'	50"
	Latitude	(N)	34°	39'	54"
	Height above mean sea level				+1.5 <sup>m</sup>

(2) *Instruments.*

### List I.

No.	Name or type component	Weight of the bob (kg.)	Magnification	Natural period (sec.)	Damping ratio	Time scale mm./min.	Remarks
1.	Horizontal pendulum.						
	(N.S.)	32	25	15	8	30	With magnetic damper
	(E.W.)	32	25	15	8	30	With magnetic damper
2.	Ishimoto's acceleration seismograph (E.W., N.S., Vert.)	16.5		0.15	∞	77	1 mm. deviation of the index end = 1 gal. ca. With air damper.



- (3) *Sensible and non-sensible earthquakes in Japan and her vicinity registered by the seismographs at Susaki for the period April 12—December 31, 1933.*

## List II.

*Time* = Central standard time of Japan (Civil mean time of the meridian 135°E.)

*Notations:*

Prel. tr. = Preliminary tremor.

N.S. = North-south component.

E.W. = East-west component.

2 A = Range of motion.

T = Period of the earthquake motion.

$\lambda$  = Longitude

$\varphi$  = Latitude

D = Depth of the earthquake focus.

*Intensity:* 0 (insensible), I (slight), II (rather weak), III (weak), IV (rather strong), V (strong), VI (violent).

No.	Date	Time of Commencement	Duration		Maximum Motion				Initial Motion		Epicentre		Depth	Intensity
			Prel. tr.	Total	N.S.		E.W.		N(+) S(-)	E(+) W(-)	$\lambda$ (E)	$\varphi$ (N)		
					2 A	T	2 A	T						
1	April 19	h m s 11 57 12.0	m s 1 16.2	m 10	mm	s	mm	s	$\mu$	$\mu$	144.5	39.6	—	0
2	April 19	15 48 54.0	3 54.6	38	0.100	14	0.113	14	—	—	121.7	24.3	—	0
3	May 21	20 56 35.7	50.8	13	0.024	8	0.048	12	—	—	SSE from Hatizyôzima		—	0
4	May 29	8 41 01.7	45.7	4.5	0.0025	0.8	—	—	+ 0	—	138.0	32.4	km. 300 ca.	0
5	June 2	16 41 30.1	—	20	0.040	6	0.032	7	—	—	131.1	31.7	—	0
6	June 9	3 12 27.4	1 28.1	18	0.072	7	—	—	—	—	144.0	40.2	—	0
7	June 14	5 35 23.5	1 27.0	12	0.072	4.0	0.068	3.2	—	—	143.7	40.7	—	0
8	July 6	10 59 57.0	15.3	4	0.072	0.4	0.072	0.4	+ 3.2	+ 3.2	139.9	35.6	km. 30	I
9	Aug. 15	11 59 37.5	1 15.6	6	0.020	1.6	0.016	1.2	+ 1.2	—	144.0	29.2	—	0
10	Aug. 15	23 29 56.1	—	—	—	—	—	—	—	—	—	—	—	0
11	Sept. 15	22 54 20.5	31.0	3.5	0.028	1.1	0.0272	0.8	+ 3.2	- 2.0	141.2	33.5	Shal- low	0

(to be continued)



## List II. (continued)

No.	Date	Time of Commencement	Duration		Maximum Motion				Initial Motion		Epicentre		Depth	Intensity
			Prel. tr.	Total	N.S.		E.W.		N(+) S(-)	E(+) W(-)	$\lambda$ (E)	$\phi$ (N)		
					2 A	T	2 A	T						
12	Sept. 20	<sup>h</sup> 12 <sup>m</sup> 57 <sup>s</sup> 28.4	<sup>m</sup> 43.0 <sup>s</sup>	m 3.5	mm 0.018	<sup>s</sup> 2.4	mm 0.030	<sup>s</sup> 2.2	$\mu$ - 0.8	$\mu$ - 1.2	136.6°	34.1°	km. 330	0
13	Sept. 21	12 14 12.4	38.0	12	0.300	6.6	0.708	8.5	+ 0.8	- 2.4	136.97	37.07	ca. km. 10	0
14	Sept. 21	18 49 17.1	1 8.6	9	0.060	4.3	0.088	4.8	- 0	-	143.0	39.3	-	0
15	Sept. 22	4 44 48.5	1 1.6	8	0.028	3.4	0.028	2.0	- 0	-	143.0	38.2	-	0
16	Oct. 1	23 35 51.5	39.8	8	0.016	2.4	0.028	2.0	-	-	141.4	36.2	-	0
17	Oct. 4	3 39 36.2	36.0	15	0.440	5.0	0.380	3.4	- 2.8	+ 0.4	138.80	37.20	m. 35 ca. km.	0
18	Oct. 9	21 6 46.6	9.5	4.5	0.160	1.6	0.110	2.5	- 2.8	+ 2.4	138.9	35.4	5	I
19	Oct. 11	22 58 44.8	48.6	7	0.008	2.0	0.008	2.4	-	-	141.9	38.3	-	0
20	Oct. 20	2 23 21.4	5.3	3	0.040	1.2	0.124	1.2	- 4.0	+ 2.8	139.2	34.5	-	I
21	Oct. 20	2 31 18.4	4.6	3	0.060	0.5	0.252	0.4	- 12	+ 8	139.2	34.5	-	I
22	Oct. 20	2 33 42.9	4.5	1.5	0.008	0.4	0.024	0.4	- 1.6	+ 2.0	139.2	34.5	-	0
23	Oct. 20	2 37 44.0	4.3	1	0.006	0.2	0.012	0.2	-	-	139.2	34.5	-	0
24	Nov. 1	17 22 22.2	26.3	6	0.020	1.4	0.028	1.4	+ 0.8	+ 3.2	140.7	35.7	-	0
25	Nov. 6	21 21 -	-	-	-	-	-	-	-	-	-	-	-	0
26	Nov. 6	21 54 55.2	8.2	0.8	0.024	0.4	0.010	0.3	+ 1.2	- 1.6	-	-	-	0
27	Nov. 19	10 34 23.3	36.2	3	-	-	0.008	2.0	-	- 0	139.0	32.6	km. 250 ca.	0
28	Dec. 5	4 36 43.2	213.5	16	0.132	2.9	0.292	3.9	- 0.8	+ 1.4	144.0	45.2	Deep	0
29	Dec. 8	3 37 31.7	7.5	7.5	0.180	1.4	0.256	1.3	+ 3.6	+ 2.8	139.04	35.04	km. 30	I



(4) *Important distant earthquakes as observed at Susaki.*

## List III.

Date	Phase	Time of (G.M.T.)	Amplitude 2 A	Period	Probable Epicentre.
1933					
Aug. 25	P	<sup>h</sup> 7 <sup>m</sup> 56 <sup>s</sup> 31			
	PP	7 57 32.5			
	S	8 1 31	(E.W.) 0.5 <sup>mm.</sup>	22 <sup>s</sup>	30.5°N, 103.5°E Destructive near Chengtu, Szechwan.
	SS	8 4 06			
	L	8 5 03	(E.W.) 0.1	40	
	M	8 7 47	(E.W.) 0.3	25	
Nov. 20	P	23 32 48.6			
	S	23 42 57.8			
	L	23 57 57.6		24	Northern part of Atlantic Ocean.
	M	00 01 48.6	(E.W.) 0.04	22	73°N, 69°W.



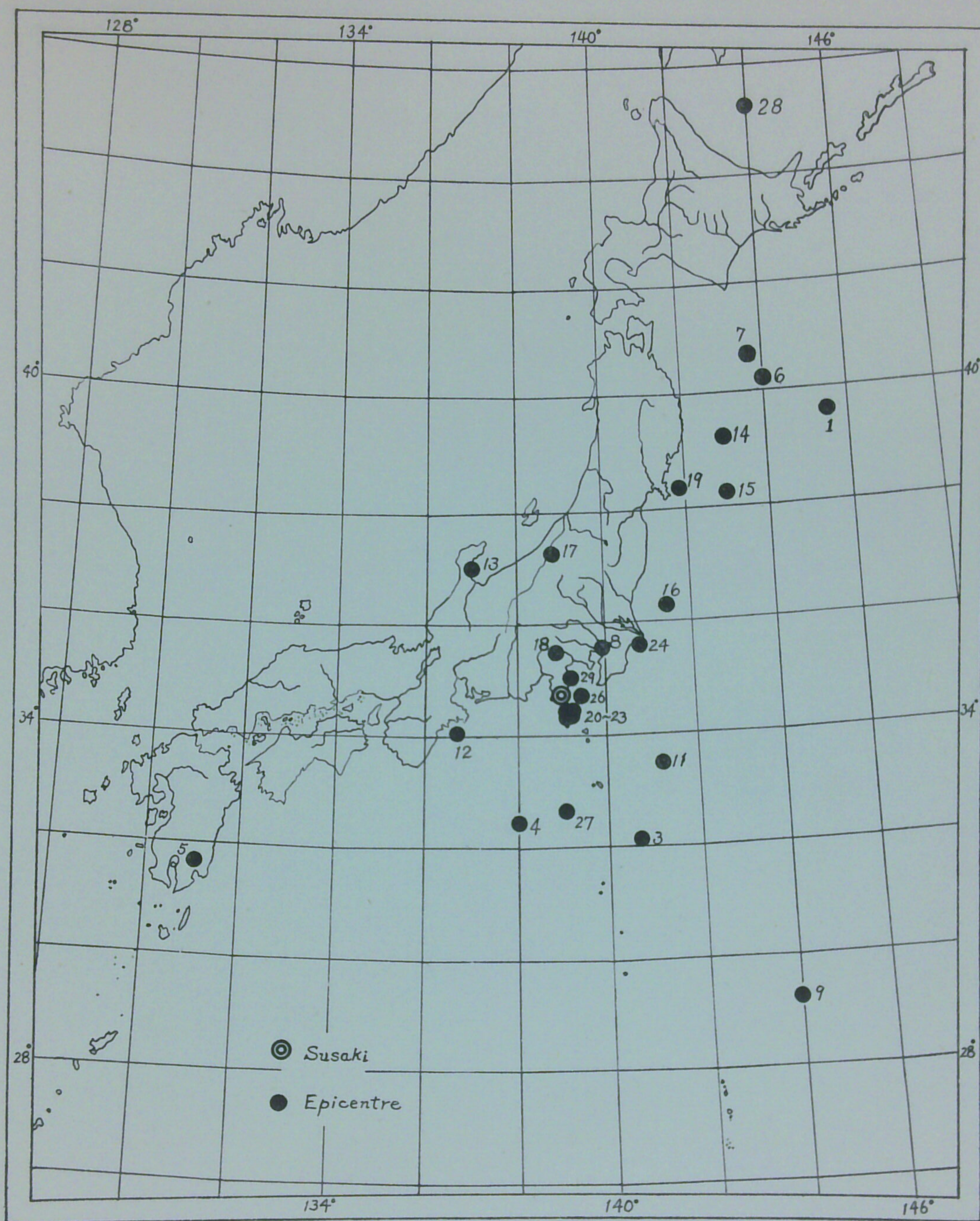


Fig. 1. Distribution of sensible and non-sensible earthquakes that originated in Japan and in its Vicinity and were registered by the seismographs at Susaki for the period April 12-December 31, 1933.

(Figures attached to each epicentre indicate the earthquake number in List II.)



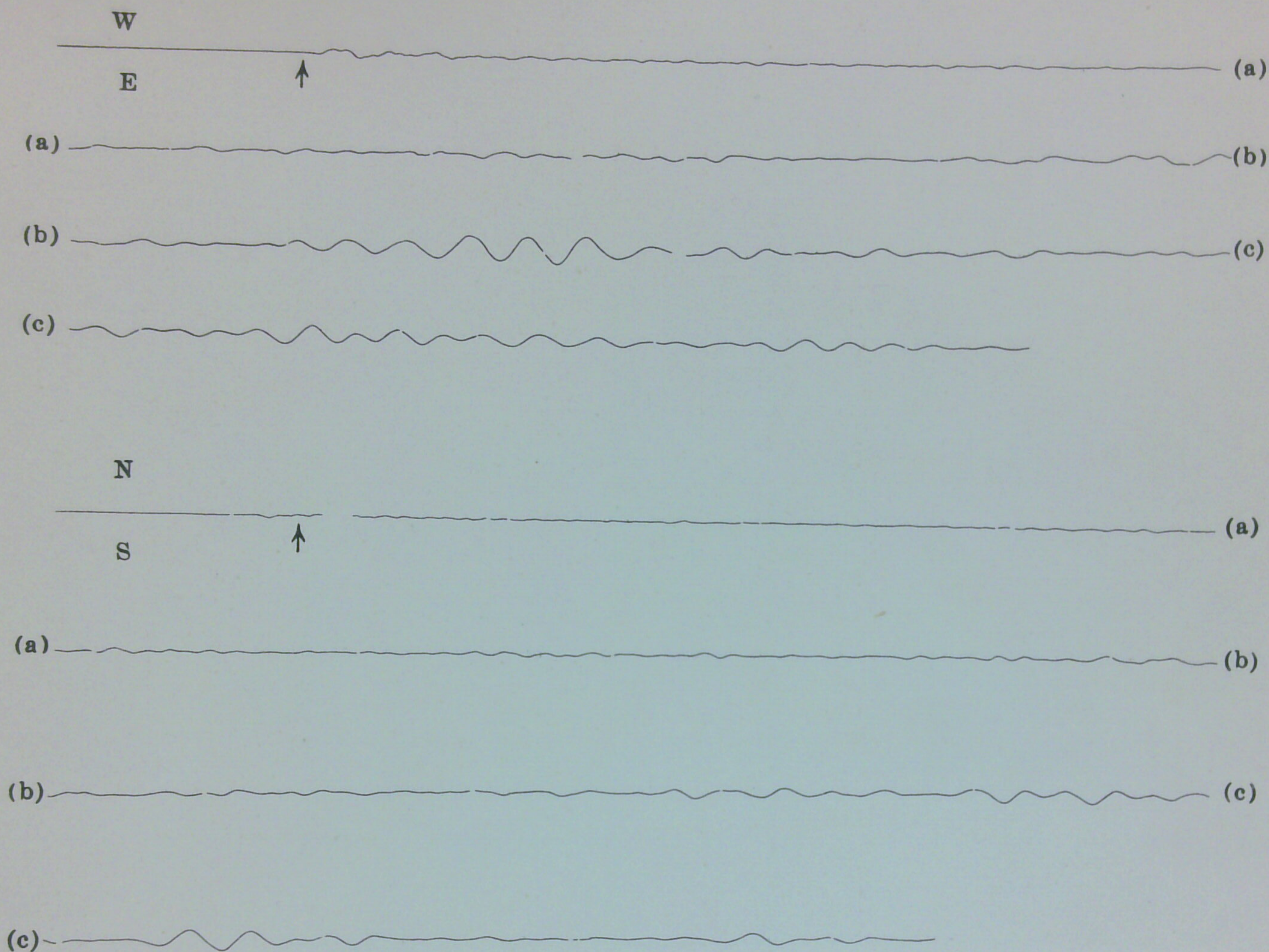


Fig. 2. Seismograms due to the earthquake of April 19, 1933. (2) (1 minute = 30.2 mm., × 25)

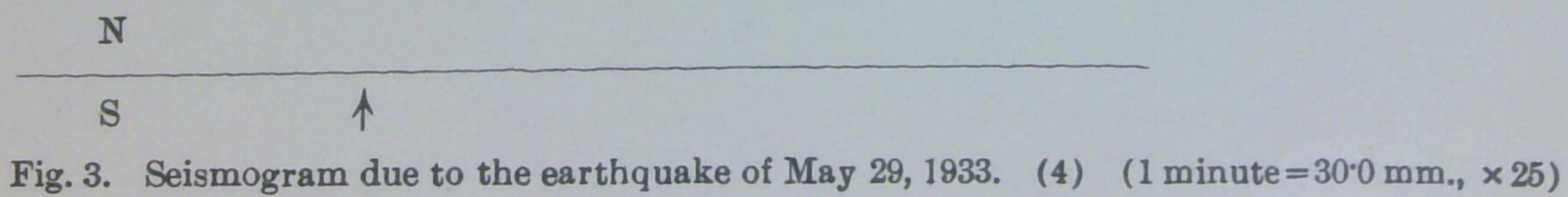


Fig. 3. Seismogram due to the earthquake of May 29, 1933. (4) (1 minute = 30.0 mm., × 25)

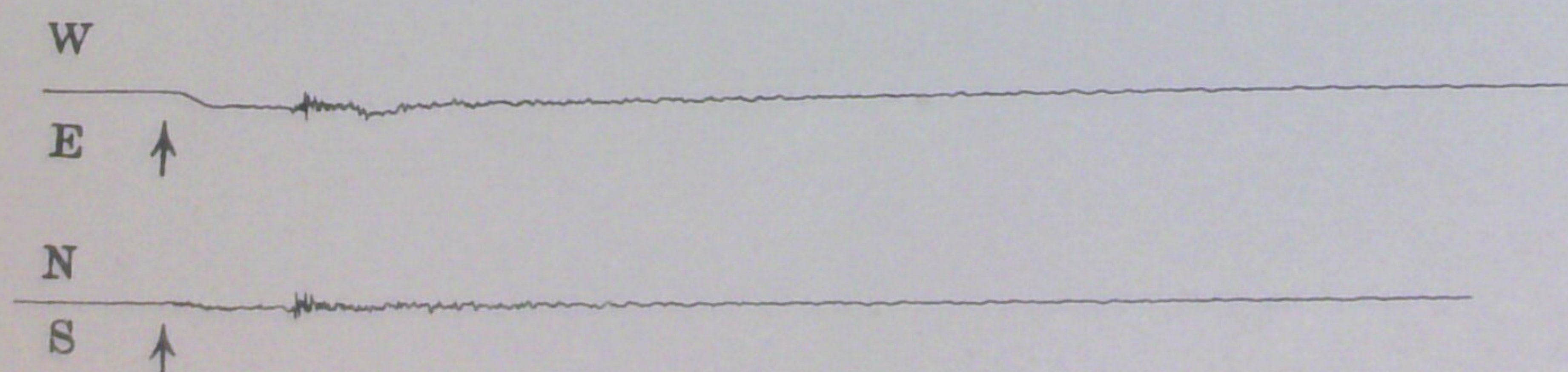


Fig. 4. Seismograms due to the earthquake of July 6, 1933. (8) (1 minute = 30.0 mm., × 25)



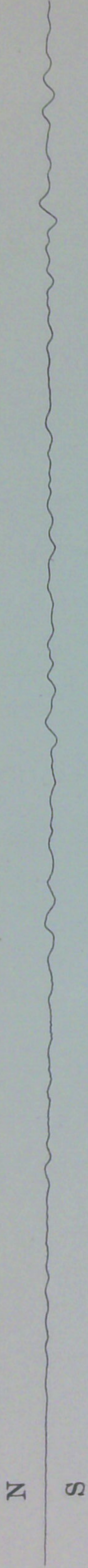


Fig. 5. Seismogram due to the earthquake of June 9, 1933. (6) (1 minute = 30.4 mm., x 25)

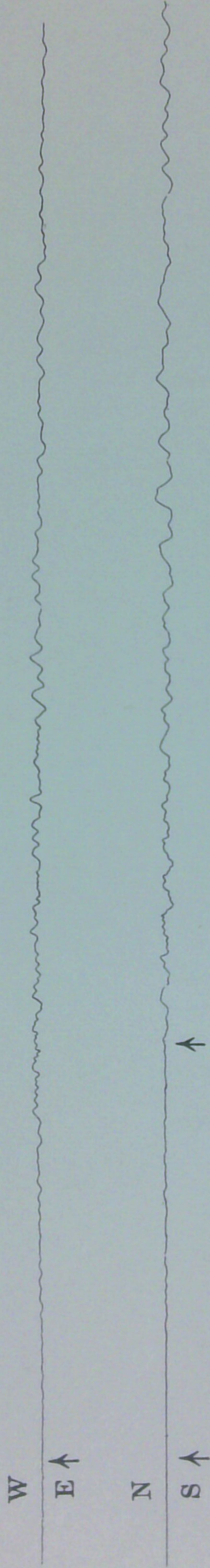


Fig. 6. Seismograms due to the earthquake of June 14, 1933. (7) (1 minute = 30.0 mm., x 25)

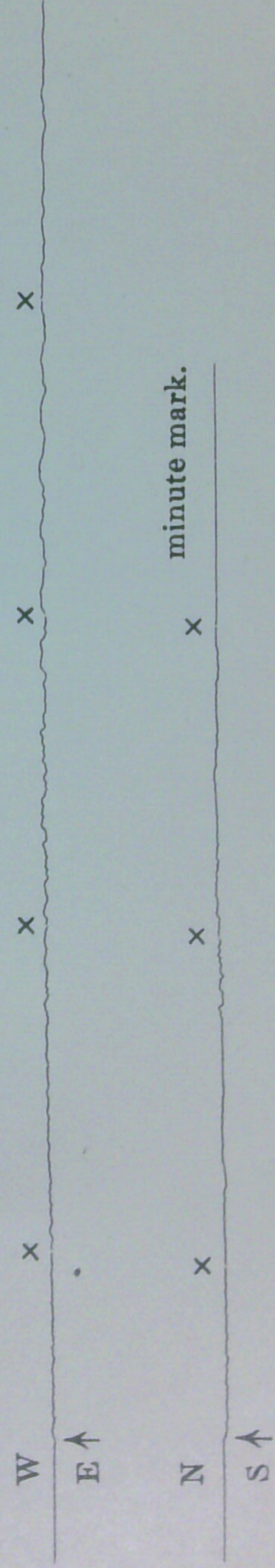


Fig. 7. Seismograms due to the earthquake of Aug. 15, 1933. (9) (1 minute = 30.1 mm., x 25)



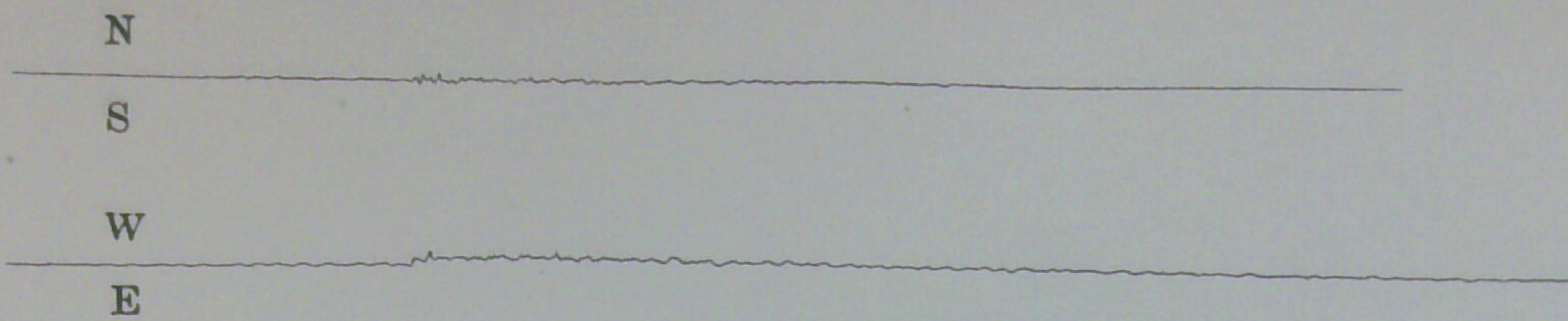
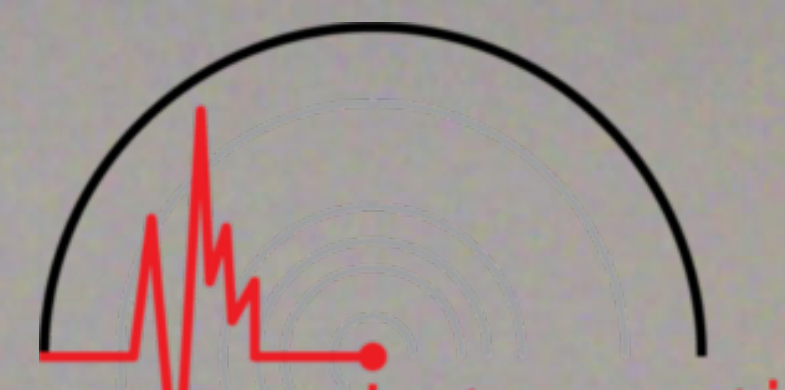


Fig. 8. Seismograms due to the earthquake of Sept. 15, 1933. (11) (1 minute = 30.5 mm., × 25)

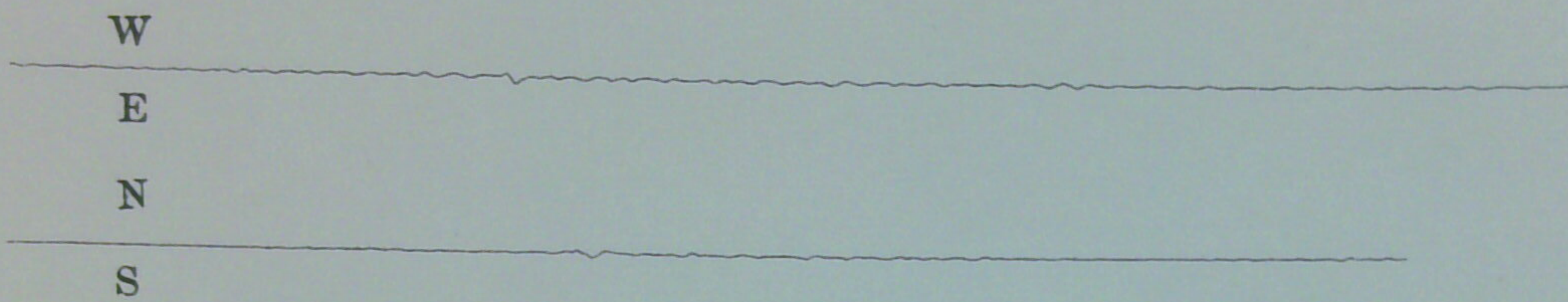


Fig. 9. Seismograms due to the earthquake of Sept. 20, 1933. (12) (1 minute = 30.6 mm., × 25)

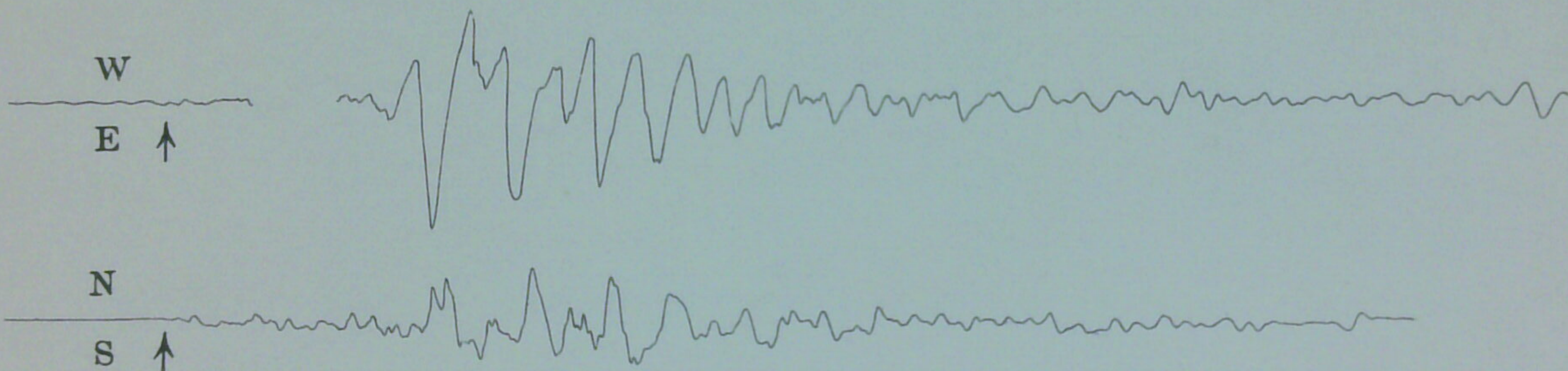


Fig. 10. Seismograms due to the earthquake of Sept. 21, 1933. (13) (1 minute = 30.0 mm., × 25)

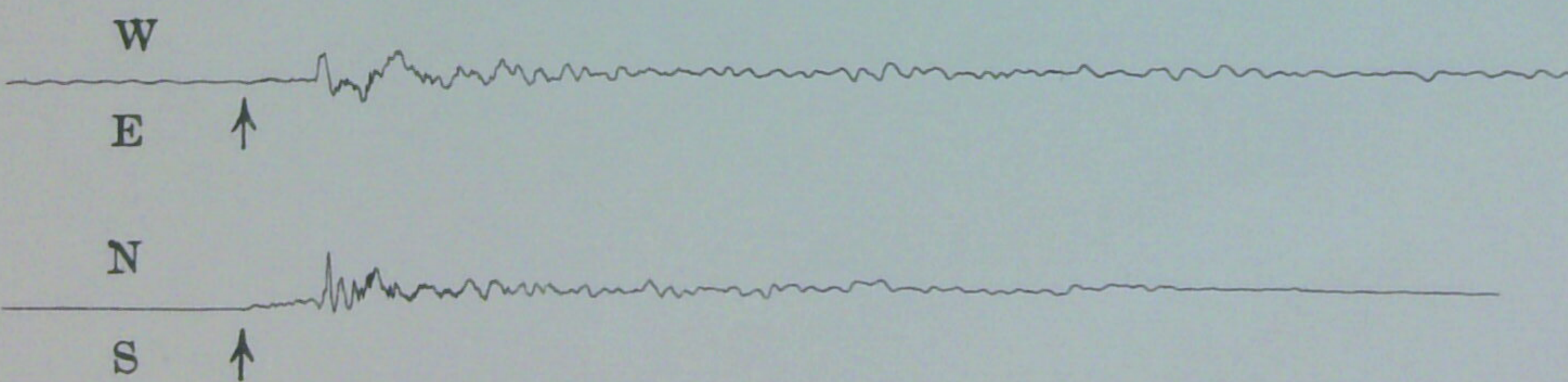


Fig. 11. Seismograms due to the earthquake of Oct. 9, 1933. (18) (1 minute = 30.9 mm., × 25)

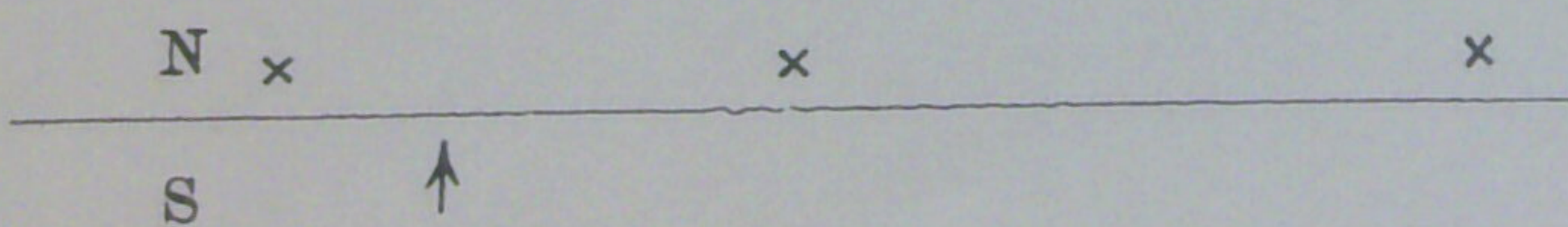


Fig. 12. Seismogram due to the earthquake of Nov. 19, 1933. (27) (1 minute = 29.3 mm., × 25)



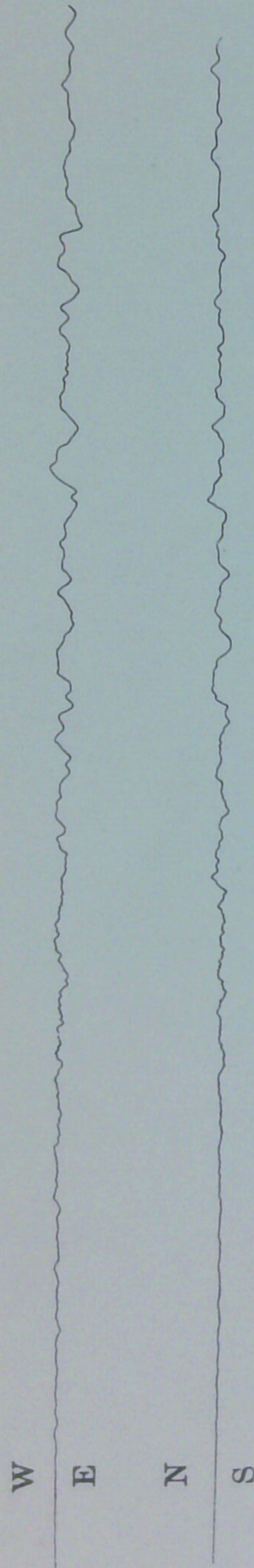


Fig. 13. Seismograms due to the earthquake of Sept. 21, 1933. (14) (1 minute = 30.8 mm., x 25)

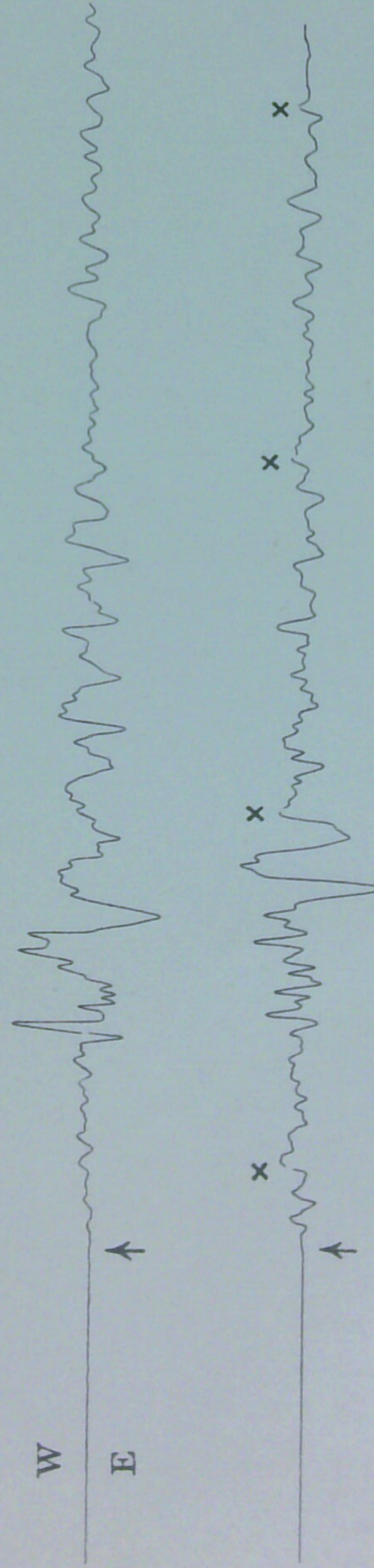


Fig. 14. Seismograms due to the earthquake of Oct. 4, 1933. (17) (1 minute = 30.3 mm., x 25)

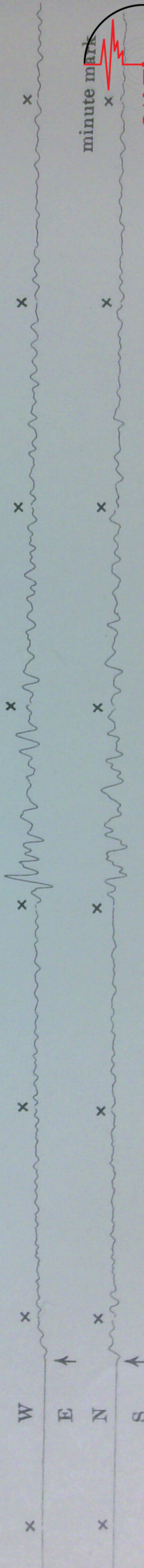


Fig. 15. Seismograms due to the earthquake of Dec. 5, 1933. (28) (1 minute = 30.6 mm., x 25)



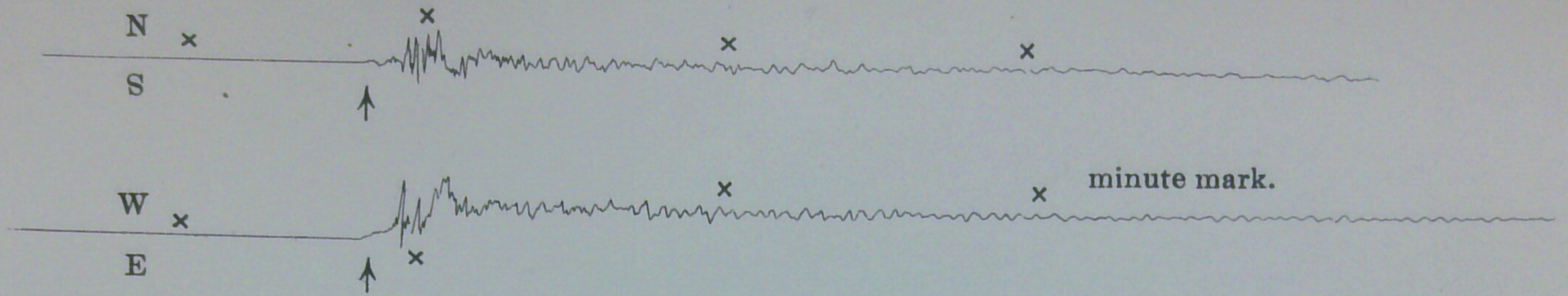


Fig. 16. Seismograms due to the earthquake of Dec. 8, 1933. (29) (1 minute = 29.5 mm., x 25)

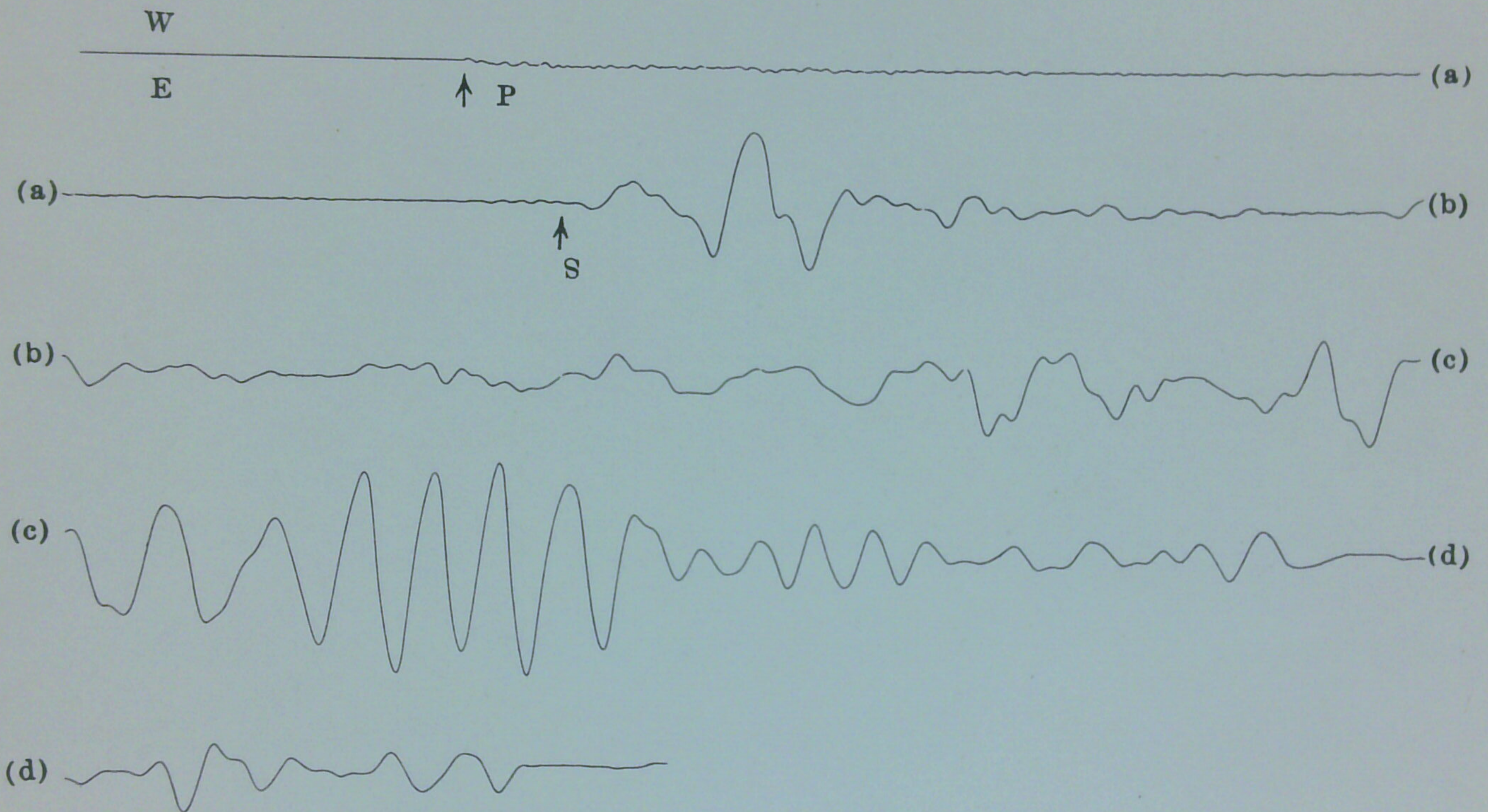


Fig. 17. Seismogram due to the earthquake of Aug. 25 (G.M.T.), 1933. (1 minute 30.0 mm., x 25)

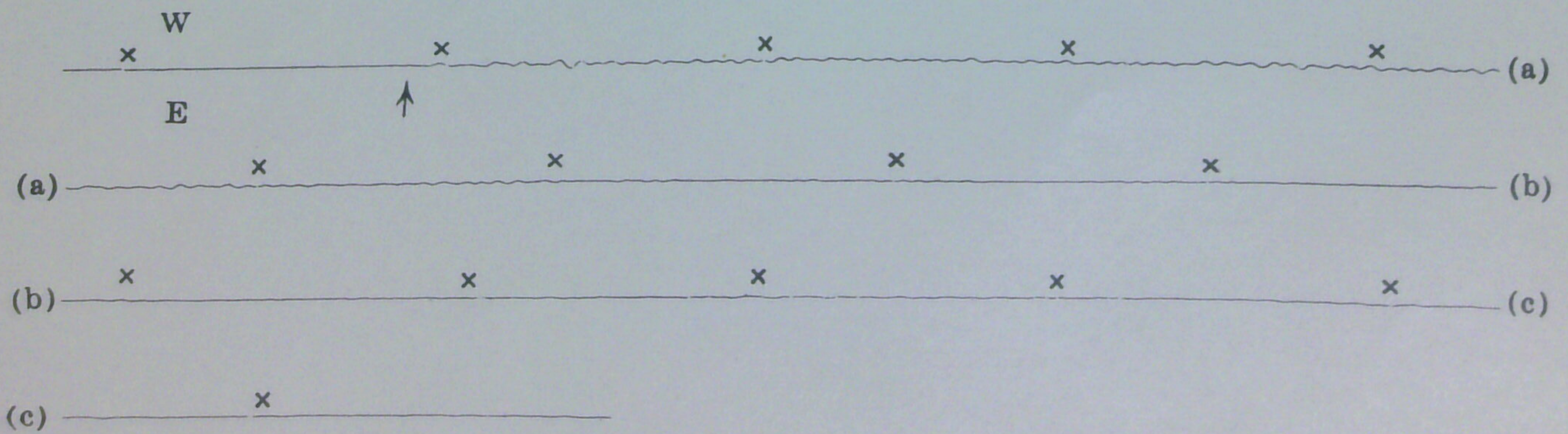


Fig. 18. Seismogram due to the earthquake of Nov. 20 (G.M.T.), 1933. (1 minute = 30.4 mm., x 25)



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