AURORAL OBSERVATIONS AT THE ALASKA AGRICULTURAL COLLEGE AND SCHOOL OF MINES, 1930-31[1]

By Veryl Fuller

Description of stations—The two points of observation used for the

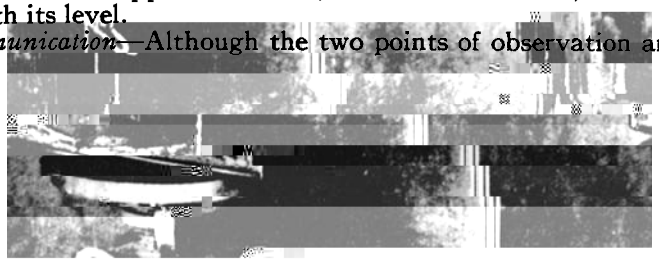
and is at a distance which has proven to be sufficient for most types of auroras.

The distance between the two stations was determined quite accurately by triangulation, using data and base-lines established previously,

measuring parallax. Since the cameras are not intended to be leveled accurately when used for taking auroral pictures no leveling device was incorporated in them and for this reason the level used with the vertical circle is arranged so that it has a vertical motion about the center of

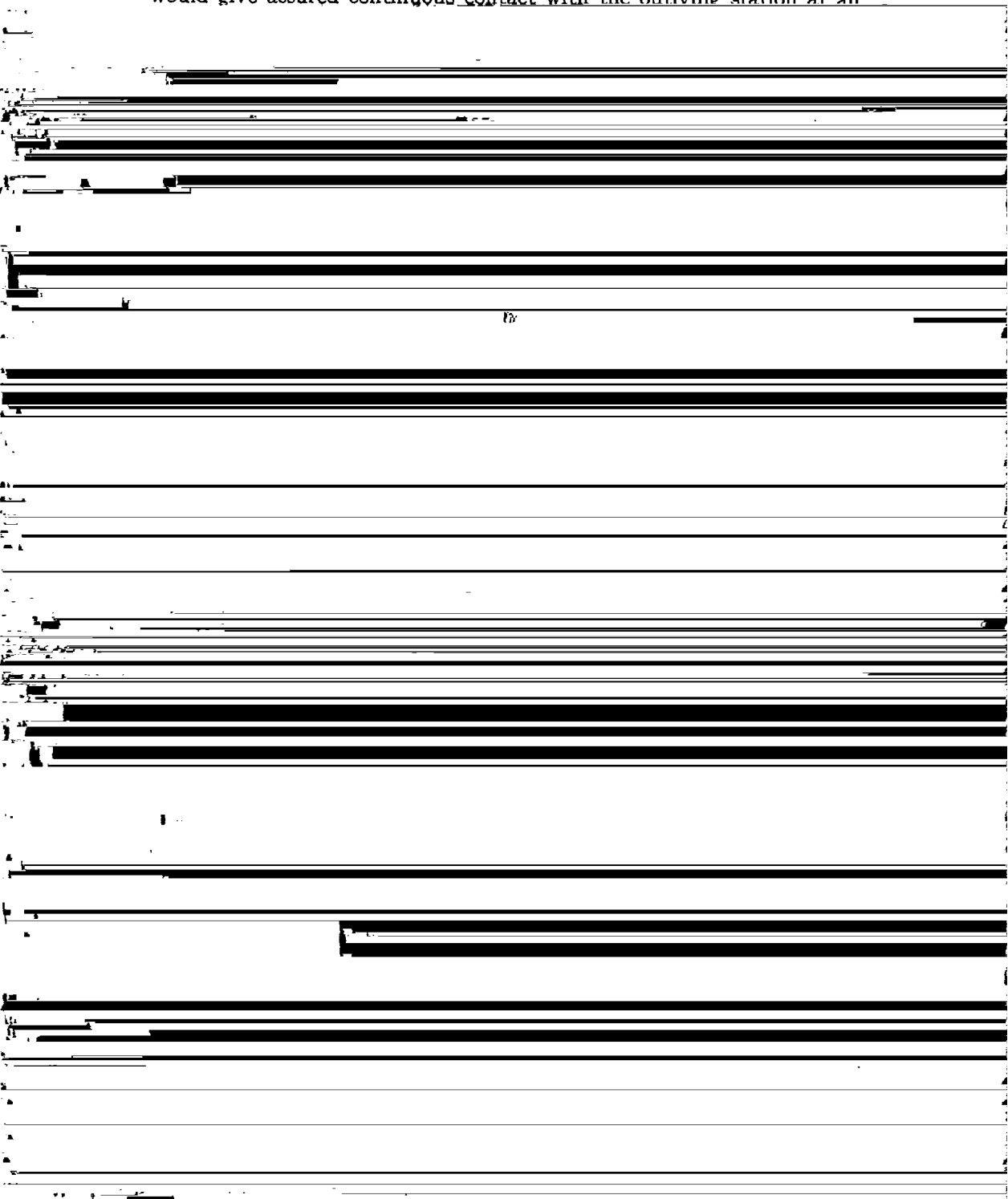
vertical rotation o f the camera.

Figure 2 shows clearly the construction of the camera and also the view-finder on the upper left corner, the horizontal circle, and the vertical circle with its level.



Communication.—Although the two points of observation are located

transmitter installed there was one of the lowest possible power which would give assured continuous contact with the outlying station at all



The same antenna and counterpoise are used for both receiving and sending as are also the "A" and "B" batteries. A push-button operated change-over switch, which is conveniently located for the operator, makes this possible.

Time was kept by a Waltham watch and checked against standard time-signals as often as possible, on an average of three times a week. Its rate was found to be fairly constant and had a mean of 0.093 second per hour. A pendulum-clock was available but its rate was unreliable and it was located in an inconvenient place for observational purposes.

"*Network*" *charts*—In order to measure the parallax shown by the

adds to the difficulty. However, the making of them by this method,

work" from the empirical equation for the distortion of the camera lens and projector lens.

So far only fifteen of these charts have been made; however, these are made for use in the part of the sky where most of the aurora photographs

Visual record of aurora—It is not always possible to send observers

Remarks
gle ray changing in sity but stationary ray visible only short ; rain ray ray showing some ion and color; rain een intermittently ugh clouds; rain
ittermittently through ds; rain
arc; rain
ut at 07h 00m; came as *G* changed to *HA* 3h 30m glow in NE illiant; showing color; ing; changing form g rapidly; showing r
ed to *RA* at 10h 50m; to *HA* at 11h 00m

Remarks
showing color
arcs
ntil after $12^h\ 00^m$
^{m} began to fade; at $_n$ changed to *HA*
c changed to *G* in $_{\text{at}}$ $05^h\ 30^m$
to *HA* at $15^h\ 30^m$

to May 7, 1931—Continued

x. a	Weather	Barometer	No. exp.	Remarks
	Pt. cloudy	28.9	..	
	Cloudy	28.7*f*	..	Very cloudy near horizon
	Cloudy	29. *r*	..	Cloudy near horizon; hazy overhead; snow falling
	Clear	29.1*f*	2	Very brilliant at 06h 30m; sky overcast by 13h 00m; see photo notes
	Cloudy	28.6*r*	..	
	Pt. cloudy	29.9*f*	..	
	Pt. cloudy	30. *r*	5	See photo notes
	Clear	29.7*f*	..	
	Clear	29.3	4	See photo notes
	Clear	29.5*r*	..	
	Clear	29.6	..	
	Cloudy	28.8*r*	..	
	Pt. cloudy	28.9*f*	3	See photo notes
	Pt. cloudy	28.3*r*	..	
	Clear	29.1*f*	..	
	Pt. cloudy	28.7*r*	..	Much frost in air
	Pt. cloudy	28.8	..	
	Clear	28.8*r*	..	
	Clear	28.9	..	Changed to *DG* at 08h 00m
	Pt. cloudy	28.9	..	
	Clear	28.8*r*	6	Corona at 08h 30m; see photo notes
	Pt. cloudy	28.8*f*	..	Rather diffuse
	Clear	28.6*f*	..	
	Pt. cloudy	28.6*r*	..	
	Fog	28.7*r*	..	
	Cloudy	28.9*r*	..	Changed to *DS* at 09h 30m; rays at 09h 40m; came and went until 17h 00m; see photo notes

[redacted]

...marks

...tes

...tes

D and *R* at ...*IA* at 09ʰ 00ᵐ

...ad "S" shape ... NE; changed ...ʰ 50ᵐ

...half arc from

...09ʰ 20ᵐ; broke ...nts at 09ʰ 30ᵐ ...g badly

...tes

...tes

...e

...ning ...*A* from NW to N 75 E to E ...00ᵐ