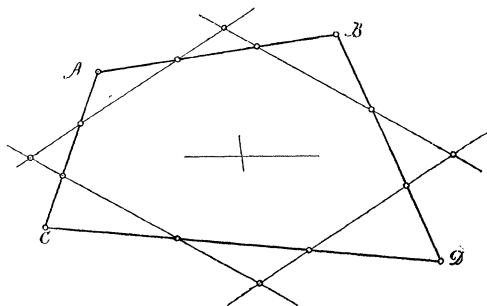


## SHORTER ARTICLES.

## CENTROID OF A QUADRANGLE.

So far as I can ascertain, the following construction is new. If it be old, it would seem worth while to recall attention to it.

To find the centroid of any quadrangle  $A, B, C, D$ , divide each side into three equal parts, and draw lines through adjacent points of division, as indicated in the figure. It is easy to prove that the new figure is a parallelogram, the center of inertia of which coincides with the center of inertia of the original quadrangle, both occurring at the intersection of the diagonals of the parallelogram. The areas of the two figures differ.



In that admirable digest, 'Des Ingenieurs Taschenbuch herausgegeben vom Verein Hütte,' 17th edition, no less than thirteen constructions are given for finding the centroid of quadrangular figures. It would seem to me that one convenient and easily memorized construction should suffice, and that the space thus saved should be otherwise utilized.

G. F. B.

## EFFECT OF DIMINISHED AIR-PRESSURE ON THE PULSE.

TO THE EDITOR OF SCIENCE: In a recent trip to the summit of Pikes Peak I made some observations on the rate of my pulse which show a rapid increase of beat corresponding with a rapid decrease of pressure. The ascent was made from Manitou on the cog railway, and as I was comfortably seated all the way and spent most of the time looking from the car window, the influence of exercise on the results was eliminated, because there was no change in this respect. The train stopped after each climb of about 2,000 feet to take on water and at these

stops I took the rate of my pulse. The heights of the different points are taken from a guide furnished by the railway company, and these with the number of observed pulse beats per minute are given in the accompanying table.

RATE OF PULSE PER MINUTE.

Name of Station.	Height in Feet.	Rate of Pulse.	
		Ascent.	Descent.
Manitou.	6,662	78	78
Half Way House.	8,907	...	83
Gulch Tank.	10,067	85	85
Windy Point.	12,233	...	90
Summit Pikes Peak.	14,147	92	92

It is seen that the pulse increased regularly to the summit and decreased to the same amount on the way down. When near the summit I asked a lady sitting near me to give me her pulse rate and she found it the same as my own, namely, 92 per minute.

The average rate of my pulse at the same time of the day (near mid-day) at sea level is about 75.

The ascent was made on September 1, and the time occupied in the ascent and return was about four hours, between noon and 4 P. M. About an hour and a half was taken for the ascent and about an hour and a half for the descent, leaving about an hour for remaining on the summit.

I did not notice any difficulty of breathing while on the summit of the Peak, or any sensations markedly different from those experienced at sea level.

On the day of my visit the Peak was between two strata of cumulus clouds. One was evidently formed over the plateau to the west of the Peak and floated over some distance above the summit. The other stratum was formed over the plains to the east and was far below the summit of the Peak.

HENRY HELM CLAYTON.

BLUE HILL OBSERVATORY,

October 7, 1901.

## NOTES ON INORGANIC CHEMISTRY.

THE nature of an antimony salt described in 1882 by Setterberg has lately been cleared up by Wells and Metzger, writing in the *American Chemical Journal*. This salt was formed by the