yond it anteriorly, the space between them on the broad frontal limb being occupied by a small swelling or boss that, but for the slight transverse dorsal furrow between it and the glabella, might be mistaken for a continuation of the latter; the eye lobes are comparatively large for a species of this character and occupy a prominent position on the outer margin of the cheeks, a distinct ocular ridge crossing the latter from the anterior margin of the eyes to the dorsal furrow on a line with the front of the glabella; the lateral limbs are narrow, rather short, and slope rapidly downward back of the eye-lobes; frontal limb broad at the center, narrowing in front of the fixed cheeks, and bordered anteriorly by a not very distinctly defined rounded margin. The facial suture curves a little inward in front of the eye and appears to terminate on the front line somewhat in advance of a line passing through the center of the tubercle in front of the glabella; behind the eye it extends obliquely outward and backward to the posterior margin of the head, outlining an elongate triangular postero-lateral limb.

Under a strong magnifying power the surface is seen to be finely granulose (see p. 32).

Free cheeks, thorax, and pygidium unknown.

Its associated species are mentioned in the introductory remarks of this bulletin.

*Formation and locality.*—Middle Cambrian. Mountain shale band of the Prospect Mountain section, on the east slope of Prospect Peak, Eureka District, Nevada.

### PTYCHOPARIA TRILINEATA Emmons (sp.).

Plate xxvii, fig. 1, 1*a–c*.

*Atops trilineatus* Emmons, 1844. Taconic system, p. 20, fig. 1, pl. ii, fig. 3. *Idem*, 1847. Agrl. Rep. N. Y., vol. i, p. 64, fig. 8; pl. xiv, fig. 3. *Idem*, 1849. Proc. Amer. Assoc. Adv. Sci., vol. i, pp. 16, 17. *Idem*, 1855. Amer. Geol., vol. i, pt. 2, p. 115, pl. i, fig. 16.

*Atops trilineatus* Haldeman, 1848. Amer. Jour. Sci., 2d ser., vol. v, p. 107.

*Atops trilineatus* Barrande, 1861. Bull. Soc. Géol. de France, 2e sér., t. xviii, p. 269, pl. v, fig. 1.

*Calymene Beckii* Hall, 1847. Pal. N. Y., vol. i, p. 252, pl. lxvii, figs. 4*a–c*. *Idem*, 1848. Amer. Jour. Sci., 2d ser., vol. v, p. 322.

*Calymene Beckii* Fitch, 1849. Trans. Agrl. Soc. N. Y., vol. ix, p. 865.

*Calymene Beckii* Walcott, 1879. Pamphlet in advance of vol. x, Trans. Albany Inst., p. 23.

*Atops punctatus* Emmons, 1859. Manual of Geology, p. 88, fig. 71.

*Atops punctatus* Barrande, 1861. Bull. Soc. Géol. de France, 2e sér., t. xviii, p. 271, pl. v, fig. 3.

*Conocephalus* (*Atops*) *trilineatus* Ford, 1871. Amer. Jour. Sci., 3d ser., vol. ii, p. 33.

*Conocephalites trilineatus* Ford, 1873. Amer. Jour. Sci., 3d ser., vol. vi, p. 135.

*Conocephalites* (*Atops*) *trilineatus* Ford, 1875. Amer. Jour. Sci., 3d ser., vol. ix, p. 205.

*Triarthrus trilineatus* Miller, 1877. Cat. Amer. Pal. Foss., p. 223.

*Conocoryphe* Ford, 1880. Amer. Jour. Sci., 3d ser., vol. xix, p. 152.

This trilobite has an interesting history that connects it with the Taconic controversy. First characterized by Dr. Emmons as typical of