## PACIFIC COAL CO'S ANTHRACITE BREAKER AT BANKHEAD.

First Plant of Its Kind Erected in Canada.

By Lewis Stockett and Bruce R. Warden.

A T BANKHEAD, ALBERTA, there was creeted in 1905 a modern coal breaker, which was described by Lewis Stockett, manager at Bankhead for the Pacific Coal Co., Ltd., and Bruce, R. Warden, engineer, in a paper jointly contributed to the "Journal of the Canadian Institute, 1906," Vol. IX, as follows:

"The coal breaker recently erected for the preparation of the anthracite coal mined by the Pacific Coal Company may be a matter of interest to mining men, and should be a subject of pride to Canadians, as it is the first plant of this kind to be erected in Canada.

	Per Cent
Moisture	. 0.50
Volatile	. 8.00
Fixed Carbon	. 83.50
Ash	. 8.00
Sulphur	. 0.40
Specific Gravity	. 1.40
Ash, White	•
British Thermal Units	. 14,000

" In the preparation of anthracite coal, machinery is required to screen out all the dust, remove all the impurities, such as rock, sulphur balls, slate and bony coal, and separate it into several sizes. These sizes, conforming very nearly with the practice of the anthracite collieries of Pennsylvania, are divided as follows:

Broken, through 3-in, bars and over 31/4-in, round holes. Egg, through 31/4-in, holes and over 21/4-in, holes. Stove, through 21/4-in, holes and over 11/4-in, holes. Nut, through 11/4-in, holes and over 1-in, holes.



Plan of the Pacific Coal Company's Breaker.

"The geology of the field in which the Bankhead colliery is situated has been described in other papers; it is not therefore the purpose of this article to give any description thereof. Seven of the seams in it have been developed up to date, and a cross-cut tunnel driven across the measures will develop the remaining beds, the prospecting work having shown that there are at least twelve seams in the basin. Of the seven opened up, four are being worked; one is used for the main haulage road and air courses and two are not being worked on account of the friability of the coal and the large percentage of the smaller sizes they make, the market for which is at the present time somewhat limited, but is being extended as the proper appliances for burning these small sizes under boilers are put in.

"An average analysis of the coal is as follows:

Pea, through 1-in. holes and over 9-16-in. holes.

Buckwheat No. 1, through 9-16-in. holes and over 5-16-in. holes.

Buckwheat No. 2, through 5-16-in. holes and over 1/4-in. holes.

Buckwheat No. 3, through 1/4-in. holes and over 1/4-in. holes.

Dust, through 1/8-in. holes.

"All the sizes are marketed with the exception of buckwheat No. 3 and the dust, the latter of which, preparations are being made to briquet, and buckwheat No. 3 will be used under the plant boilers as more and more of the buckwheat No. 2 is taken by the general market.

## RECEIVING THE COAL.

"The accompanying diagram gives graphically the method used in the preparation. The coal is hoisted to the top of the breaker (100 ft. above the railroad