to 4, the cost per ton with the labor at one dollar per day will be from 25 cts. to 66 cts per ton, even when the peat has to be wheeled some distance (say an average of 22 feet, that is from 4 to 40.) There is a great discrepancy here, but very probably in a good bcg the taking out and spreading may not exceed 35 cts. per ton.

In the estimated "cost of production" the amount set opposite "cutting and spreading" is partly based upon the percentage of yield of dry fuel from wet peat, from a well-drained bog, according to Leavitt. This yield, as will be remarked, is much higher than in the figures that Percy gives as Schroeder's experience in Hanover, and consequently the cost of excavating per ton of dry fuel might be greater. However a great deal depends on the state of drainage of the bog, and the character of the peat. It would appear from the extract that the peat from Schroeder's turbary was of good quality, and in all probability, as well or better drained than the majority of the bogs in this country. The weight of the air-dried peat at the figure given in the extract from Percy's Metallurgy, as below, (viz.:— 1-16 cubic foot weighs $1\frac{1}{2}$ lbs. (Hanoverian ?) is 648 lbs. to the cubic yard (English).

DRYING:—A. M. P., in his report on the manufacture of peat from the Welland bog, says that the cost of turning and stacking should not add over 30 cents. per ton (though varying with different circumstances.) This means 24 cents with labor at 10 cents per hour. The marking and cutting of puddled peat (necessary where a dredge is used) would add something, but how much is doubtful.

TRAMMING :—He gives the cost of loading, tramming and unloading at $12\frac{1}{2}$ cts. with labor at \$1.25 per day; but the distance, though not given, may be presumed short, from the circumstances of his experiment.

If a man can load one ton on a car in half an hour, which I calculate as safe from a small experiment, and if it will take a man, going and returning, 45 minutes, averaging the distance at $\frac{3}{4}$ of a mile (that is from 100 yds. to $1\frac{1}{2}$ miles), the cost will be for loading 5 and tramming $7\frac{1}{2}$ cts. per ton with labor at \$1.00 per day.

Now suppose a carrier or elevator 18 in. wide with a load averaging 6 in. deep per foot of carrier, we have $\frac{3}{4}$ cu. ft. or 17 lbs. per foot. If the carrier is travelling 30 ft. per minute, it will take away over a $\frac{1}{4}$ ton per minute, or a ton in 4 minutes, therefore it will not take the man more than 5 minutes to dump his load by portions on the carrier, the cost of this therefore, is not more than 1 ct. per ton. The cost of the tramming may be reduced by bringing in the cars in a train by means of a small locomotive.

STEAM EXCAVATOR:—The crew would consist of, say, one runner at \$60 per mo. (12 hour day), one assistant at \$40, one fireman and one extra man at \$30 each, and allow three men at \$30 on the field to clear the ground, distribute the puddled peat, collect fuel, etc.; total, \$250, but including board, \$325. Product estimated at 1,200 cubic yards per 12 hours, yielding from 100 to 250—say 150—dry tons, or 3,750 tons per month of 25 days. The cost per dry ton would be thus under 10 cents; repairs, oil, etc., extra. This estimate is considered fair.

TRACKS :—In order to have two sets of tracks one on each side of the cut which is gradually being widened, we shall require $2\frac{1}{2}$ miles of track.

FOREMAN :---A foreman over the field work at \$2.00 per day would add 2c. per ton (calculating that 6 months' outside work is done per annum and 15,000 tons of dry peat excavated.) Allow two foremen when dredge is not used. For 15,000 tons the gang of men excavating might number 60, and drying and tramming the same.

The over-feeding of the breakers may be prevented by the installation of a chain-raker over the breakers.

The excavation and training would probably be done by contract.