indicate clearly that the beamy sloop can stand up on an even keel under a press of canvas that would overpower her slim and narrow sister. She will have, in this respect, a great advantage in moderate winds. It is true that her great beam will give her bluffer waterlines, and a harder form to drive through the water, as compared with the cutter. But experience has proved that at moderate speeds the difference is slight; and it is only when the beamy boat is driven by strong winds at high speed that wave making sets in. At this point we should expect the fine sharp lines of the cutter to tell in her favor; and experience has shown theory to be correct in this case. In the review of the past ten years' racing, which will be made in the succeeding paper, it will be shown that the lighter the wind the larger was the margin by which the cutter was beaten, and that the only occasions on which she made anything like an even fight were those rare chance when old Neptune was good enough to send the visiting boat a rattling breeze that had something of the English Channel vim and weight to it.

Genesta had one such opportunity in her second race, and Valkyrie in her third race off Sandy Hook. In both cases the advantages of moderate beam, low center of gravity and snug sail spread aloft were clearly proved. J. B. W.

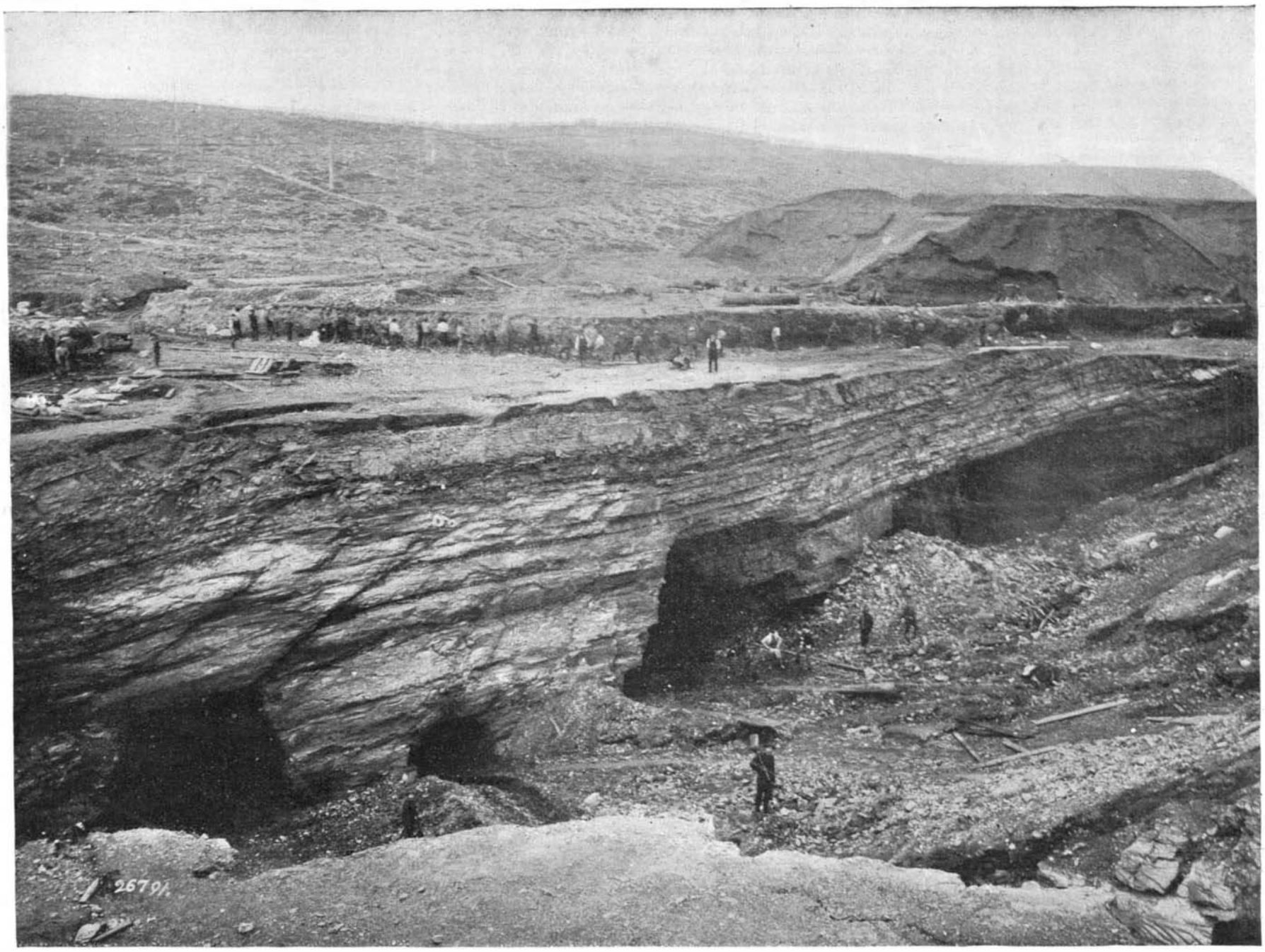
A GREAT COAL VEIN.

Among the largest and most advantageously located coal mining properties in the world are those of the Philadelphia and Reading Coal and Iron Company. In 1894 the company mined 7,415,000 tons, and it receives a large amount annually from royalties on leased collieries. In nearly all the locations where the mines are operated, the coal is obtained in such abundance and with such small expenditure of labor that the operators are extremely wasteful in the work of getting the coal from its place in the earth on to the cars for market, but it is safe to say that there are few places in the world where great quantities of coal are so readily obtainable as on the site shown in our illustration.

At Shenandoah Stupping a thin crustonly of land has to be removed when a vein of coal 50 feet thick and of indefinite extent horizontally is reached. The coal is taken to the breakers at the colliery on the other side of the mountain through tunnels at the base of the vein. This stupping has only been worked a short time, but a half million tons have been taken therefrom.

Velvety Lawns.

In the note on "Brown Lawns," in the issue of the Gardeners' Magazine of August 3, it was conclusively shown that the retention of the verdure of a lawn during a period of dry weather depends to a considerable extent upon the supply of plant food in the soil, and that when it is possible to assist the grass with water, the supplies should not be withheld until it has been burnt up. In this note we purpose making a brief reference to the best methods of maintaining or restoring the fertility, as the case may be, of the soil to insure under adverse conditions velvety lawns. To dwell upon the fact that a vigorous growth of grasses cannot be obtained on soils that have become exhausted is not in these pages necessary, but it is essential to direct special attention to the fact that the application of manure to a lawn requires the greatest care to insure its having a beneficial effect. The importance of this will be fully appreciated when it is remembered that the herbage is of a complex character, and includes both gramineous and leguminous plants; and that as these differ materially in their food requirements, the peculiarities of each class must be duly considered. If this is not done, one or other will assuredly predominate. Without entering at length into the scientific aspect of the question, it may be well to point out that certain manures are more favorable to some plants forming the herbage than to others, and that when one kind of manure only is used, the plants for which it is specially adapted will grow with undue vigor and crowd out the others. For instance, dressings of wood ashes and kainit, in consequence of the potash they contain, and of gypsum, by reason of its power of rendering the potash in the soil available as plant food, have a favorable influence pon the growth of the clovers. On the other hand, nitrogenous manures, as nitrate of soda and sulphate of ammonia, promote the growth of grasses, and as a proper balance of grasses and clovers is essential to the formation of a velvety turf, it is important that the requirements of both classes be properly met. It therefore follows that, when artificial fertilizers are used, they should contain phosphates, potash, and nitrogen; superphosphates or bone meal, kainit, and nitrate of soda will give these constituents and in proper proportions if superphosphate and kainit are mixed in the proportion of two to one and applied at the rate of three pounds to the square rod, and subsequently a dressing of nitrate of soda be applied at the rate of one pound to the same area. The mixture may be applied late in the autumn or in February, but the dressing of nitrate should not be given until the end of March or beginning of April. Although these artificials supply the food required by the various plants, they do not supersede stable or farmyard manure, as the latter not only contains all the food constituents necessary, but act as a mulch, and by increasing the humus near the surface materially assist in conserving the moisture about the roots. As usually applied to lawns, natural manures have an objectionable appearance for a considerable period, and we would suggest that instead of spreading the manure over the lawn in a half rotted state, in accordance with the practice which obtains in dressing pastures, it should be dried sufficiently to permit its passage through a sieve and be then mixed with equal quantities of powdery leaf mould and old potting soil. This mixture spread over the turf in the autumn will quickly disappear, and prove of great value in promoting the growth of the grasses and clovers, and preventing the lawn being burnt up during dry weather.



THE MAMMOTH COAL VEIN, SHENANDOAH STUPPING, PA.

A Mine on Fire Over Forty Years.

The commissioners appointed by the local government to inquire into the "history, causes, and effect" of the coal mine fires of Pictou County have just finished taking evidence. The commission is composed of Inspector Gilpin, Deputy Inspector W. Madden, Henry Mitchell, and A. Dick. The work of the commission was directed mainly to an investigation of the condition of the Foord pit. This mine has been on fire in one place or another since the fifties, and it is burning yet. Explosion after explosion has occurred, and many lives have been lost. When fire broke out in one place the miners resorted to another, sinking a new shaft. To avoid the fire on an upper level, a shaft was sunk and coal taken out on the level immediately below the fire. Soon the fire came through, and again the miners were driven out. Nothing that the owners could do availed to drive out the fire, and the splendid mine has been practically abandoned, though a little coal is now being taken out on a level below a part that is on fire. The object of the commission is to learn whether something cannot be done to save so valuable a property as the Foord pit.—Halifax Herald.