A Letter of Mr. J. Beaumont containing his Observations of the Fiery Damps in Mines.

SIR,

Receiving encouragement from that favourable acceptance which the R. S. was pleased to vouchsafe my last Communications to Mr. Oldenburg, I send you now an Account concerning some Fire-damps happening in some Coal-works bordering on Mendippe Hills.

Within five Miles Northward of the place where I live, there are six distinct Coal-works in several Parishes, whereof one is within a mile of us; in all which I never heard that any Fire-damp has hap’n’d; the chiefest Observables I meet with in these are,

1. That branched Clift, mention’d in my last, which usually lies over the Coal, and is all wrought with the representations of sundry sorts of Herbs.

2. A Clift all interwoven with Arborescent Marchasites, which commonly lies over the former, and is called by our Colliers, The Thorny Clift.

3. We here observe that some Coal-veins are much more ting’d with Sulphur than others, a Vein being wrought in one of these Works some years since, which receiv’d such a resplendency from its sulphury tincture, that in all its joynts it seem’d as though it were covered with Leaf Gold, and hence by the Colliers it was called the Peacock Vein.

4. I may here take notice that about four years since in one of these Works was found about 2 or 300 weight of very good Lead-Ore growing to a Vein of Coal, of which Ore I have a piece by me, with Coal growing to it, the Ore being ting’d somewhat yellow by the Sulphur: we look upon this as a Rarity with us, none having ever been found in a Coal-pit before; the sulphureous spirit being there generally too strong for the generation of that Mettal.

About two Miles on the South-East of us, at a place nearly bordering to Mendippe-Hills, begins a running of Coal consisting of several Veins which extends it self in length towards the East about four Miles: there is much working in this running, and Fire damps continually there happen: so that ma-
ny men of late years have been there kill'd, many others maim'd, and a multitude burnt; some have been blown up at the works mouth, the turn-beam which hangs over the shaft has been thrown of its frame by the force of it, and those other effects whereof you had an account from other places are generally found. The middle and more Easterly parts of this running are so very subject to these Fire-damps, that scarce a Pit fails of them; notwithstanding which, our Colliers still pursue their Work: but to prevent mischief, they keep their Air very quick, and use no Candles in their Works but of a single Wick, and those of 60 or 70 to the pound, which nevertheless give as great a light there, as others of ten or twelve to the pound in other places, and they always place them behind them, and never present them to the breast of the Work.

When any are burnt, the usual method they observe in their Cure is thus: They presently betake themselves to a good Fire, and sending for some Cows hot Milk, they first bath the burnt places with that; when they have done this a while, they make use of an Ointment proper for burnings, which the Masters of the Works have always in a readiness for such chances, being furnish'd therewith at the cheap rate of twelve pence the pound by a good old Woman living near the Works: the use of this Ointment is continued, the burnt places being always kept moist with it till the burning heat quite ceases, and the Sores are fit to be heal'd, and then the said Woman furnishes them with some ordinary healing Plaisters for that use. I shall now say a little to those Queries which Mr. Boyle directed to Mr. Jeflop.

1. As to Periodical returns, we find by the caution of small Candles, used by our Colliers, that here is a continual propensity to take Fire all the year, which it will freely do, at any time if a Candle be carry'd within Air: And though our Works, which seldom take Fire, are most subject to it (according to Mr. Jeflop's account) in the Summer, and that chiefly in still, close, and foggy weather, when the Air most stagnates; yet our Colliers assure me that those touchy Works which are continually apt to take Fire, do it most, and with most violence in the Winter, and chiefly in a Black-Frost, when the Air runs best: but how this can stand with their Method
Method of carrying always a quick Air to prevent firing, will require consideration.

2. We find the danger of firing alike both in wet and dry Grounds.

3. Here are no fumes coming out at the mouth of any Shaft which will be lighted by a Candle or Torch.

4. I have heard of one Damp here which took Fire of itself, and kindled the Vein of Coal, which burnt a considerable time before it went out.

5. Our Damps lie as well towards the bottom or Soal of the Work, as towards the Roof, it being nothing but an invisible sulphureous breath expanded through the whole Work.

6. I cannot perceive at the mouth any Shaft, or understand by any Work-man of any unusual wind or current of vapours coming from beneath: In wet Works, there are many times Bubbles on the surface of water there standing, which will presently take Fire if a Candle be held to them; but I cannot find that those Bubbles are caus'd by any subterraneous breath, but rise from the falling of Coal into the water, or from dropping of water from the Roof, as we see they do in Ponds from drops of Rain in the Summer.

I may here further acquaint you, as a Novelty, that this last Summer two Fire-damps hapned in our Lead Mines on Mendippe-Hills, but they were of so small a force, that the Work-men received no prejudice by them. I shall trouble you with no more at present, only would wish that it were recommended to the Honourable Mr. Boyle, or some other worthy person who has conveniencies to make a trial, whether a good Load-stone put in an exhausted Receiver will cease to operate on a Needle in a Dyal set without, or whether a Load-stone plac'd without will cease to operate on a Needle plac'd within; of which I should be glad to understand the event.

Concerning the Load-stone, there is this observable, of which I can assure the truth, That those Courses, Veins, or Loads, where Load-stones are found in the lower parts of Devonshire (either as they lye sparingly here and there amongst Iron Ore, or as they lye in considerable Bodys with it) do all generally run East and West, which is contrary to the imagination of those who have thought that
that the Load-stone gave a Northerly direction, because it's natural position in its Mine was (as they fancied) North and South. I am

Stonylaston
Aug. 25.

Sir,

Your, &c.


A Relation of the Prodigious Over-flowing of some Rivers in Gascoyne, with an inquiry after the cause of this Inundation, Translated out of the Journal Des Scavans.

Since the Fountains of the Great Deep were broken up, as the Scripture expresseth it, and the Subterraneous waters were joyned with those which were above the Firmament to overflow the Earth in the 1656. year after the Creation of the World, History mentions not a more extraordinary matter of the overflowing of Rivers, than this which hapned the last Summer in Gascoyne, as well for the Spoil which the overflowing of the Garonne, and some other Rivers made upon so large a space of Land, as for the Nature of those Waters, and the Cause of this so surprising an Inundation.

In the beginning of the Month of July 1678. after some gentle Rainy daies, which had not Swell'd the Waters of the Garonne more then usual, one night this River Swell'd all at once so mightily, that all the Bridges and Mills above Tolouse were carryed away by it. In the Plains which were below this Town, the Inhabitants who had built in places, which by long experience they had found safe enough from any former Inundations, were by this surprized, some were drowned together with their Cattel; others had not sav'd themselves but by climbing of Trees, and getting to the tops of Houses; and some others which were looking after their Cattel in the Field, warned by the noise which this horrible and furious Torrent of Water (rowing towards them with a swiftness like that of the Sea) (in Britaigne he means) made at a dis-