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SATURDAY MORNING, JULY 7, 1860.

on, they are held responsible. worts have decided that refusing totake newpa-me the office, or immoving, and leaving them un-or, is prima facia evidence of intentional fraud. VOL. XXXVI.

MEDICINAL.

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B. BANNAN.

Prize Essays on Mining. From the London Mining Journal. SYSTEM OF COAL MINING AS PURSUED IN

SOUTH WALKS......No. 1. Although elementary treatises upon the physical sciences are familiar to all, it is trange that scarcely anything has been written of a generally interesting character upon the working of coal mines. There is no brief, simple, and reliable manual of mining extant which colliery proprietors may consult when other sources of information are not open. Coal mining is acknowledged to be a subject of great national importance; and, of late years, public attention has been attracted to it most forcibly and painfully by explosions of fire-damp and other catastro-phies. There may be one or two works of a strictly professional character which treat upon the subject in question, and a varied mass of useful information may be scattered through a series of Government reports.-However, the number and size of these latter volumes are so formidable, that neither colliery proprietors or the public can be expected to have the courage or time to peruse them. Such being the state of things, we feel we cannot too highly praise the excel-lence of the present movement, both in a lit-erary and business point of view. It has been instituted by a few generous parties, who wish that an exposition of the most advanced principles of coal mining should be attainable and offer practical inducements to any who may be able and willing to furnish the information. Thus the requirements of colliery proprietors, of the humane and enlightened public, and, to a certain extent, of students, are admirably supplied by

the self-same movement. Having indulged in these few preliminary remarks, we now feel prepared to enter upon a description of the most economical and efficient system of coal mining, as pursued in South Wales. That to which such epithets are applicable is, unquestionably, the pillar and stall system, and, perhaps, it may be well to say a few words as to the meaning of the terms. The stall is a chamber of a certain particular width, which is driven on upon the plane of the coal seam and occupied mostly by two workmen. A distance of 12 yds. generally lies between each stall. Of this, 6 yards are worked as the stall progresses and when it has attained the requisite distance the remaining six are worked backward toward the heading. This process is called drawing a stall back." More will be said of this again, but it is necessary, first, to state a fact intimately con-nected with coal mining, and to which the above-mentioned term "plane" refers. Owing to the operation of certain geological phenomena in times past, the coal seams lie at very various degrees of inclination in the earth. In some logalities the gradient may be that of 6, 3, or 12 inches in the yard, elsewhere the veins may be perfectly horizontal. Now, the leading features of the pillar and stall system, in so far as they are affected by this peculiarity of inclination, are the; nain level, the heading, and the brings us to the essential part of the subject, which deals with the rationals of the system under the review. The main level is driven onward from the bottom of the downcast shaft upon the plane of the coal, and acts as an exploring drift to win the coal field, as a passage for the ingoing current of ventilation, and as a transit for the empty and loaded wagons. In course of time what is termed a heading, or gallery at right angles to the main level, is worked to the rise of the vein. From it, at various intervals, like alleys branching from a leading street, stalls are opened out, running in a direction parallel o the level, and of course, at right angles to the heading. And it is simply by a very great number of these stalls, opened out of a series of headings, that the collieries in South Wales are generally exhausted. When men tion has been made of the thirling-and the two principal air courses, all the gal leries and chambers of a colliery worked

upon the South Wales system, will have been passed before the reader's notice. An air course or wind-way, is invairably driven simultaneously with, and parallel to, the main level, acting as a means for furnishing the workmen therein with a supply of fresh air, and as a temporary return air-course during the period when the colliery is being haid out. The former end is soon and sim-ply effected by working a communication from one to the other, the distance generally being not very great, but depending, of course, upon a variety of circumstances, such as the depth of the mine, and the con sequent amount of pressure to be withstood. As the level progresses, and new communications are formed, the last in succession is invariably closed by a door, or gaging, so sweep the working-face of the level as much as possible. The thirling, which is also a communication from stall to stall, made par-allel to the heading, and upon the rise of the vein, is used for the purpose of passing the ventilating current from one chamber to an other. Lastly, but very far from being the least in importance, the uscand general character of the return air-course has to be explained. It is driven parallel to the before mentioned main level, and at a distance from or above it, depending upon the "range" o length, to which the headings are extended and its practical use is as follows:-The body of ventilating air, after rushing down the downcast pit, first traverses the main level, then may be divided into a series of mi-nor currents, which passeach up their respective headings, airing the stalls on their way. This being done, each stream of air has its vent in the return air-course, along which opening to the surface or an upcast shaft is arrived at. Theoretically speaking, the return air-course should be of larger dimensions than the intake level, owing to the considerable expansion which the air has undergone during its passage through the heated

Thus much having been said, upon the leading features of the pillar and stall sysem, we now pass on to consider the "most efficient and economical" method of driving main levels. A most excellent plan, where practicable, is that of driving first to the boundary, and then working backward to the shaft, instead of turning headings as soon as possible from the main level, and ommencing the extraction of coal near the shaft, which is the prevalent plan. Of course, to carry out the system recommended, extensive capital is required, to enable the proprietor to afford the delay of waiting sometime before any remuneration is received. It is also equally clear that the system supercedes, to a great extent, the constant and heavy expense of keeping a level in repair; and moreover, the old workings, a great source of danger, are left behind; and so the risk attending them is greatly diminished. It may be well to state that this has been eulogized as the most advanced principle of coal mining by very eminent colliery engineers before the Select Committee of the House of Commons, and we are happy to say we have seen its practice at a few collieries in South Wales attended with most satisfactory results. Another praiseworthy method is that of driving straight main levels, in order that a winding-engine may be placed at a convenient position, and haul the wagons to and fro by the adoption of an endless chain. This is decidedly a more enlighten-Delicate Females.

culture and alimentationed on the delignments and alimentation and the extra removed or present the who regards her own or her child with should fall to have them within her reach.

of food or stone. The general area of an organization of the usual employment of a number of horses, which, unfortunately, are liable to be killed by heavy falls study should fall to have them within her reach.

of food or stone. The general area of an organization of the usual employment of a number of horses, which, unfortunately are liable to be killed by heavy falls and the state of the usual employment. ed, and very much more economical, princi-ple of action than that of the usual employdinary level varies from 40 to 50 square feet; but occasionally when the roof is remarkably strong, the width may be equal to that of a stall. When the financial part of the subject is treated, it will be seen that the nature of the roof regulates, to a great extent, the expense of coal mining. The terms "single and double range" denote the two classes into which the headings are divisable. The former implies one which has stalls at work upon one side only, the latter one that has them on both. Another Inflammation, Vousseal Affections Worms of allikinds.

Manufactories in Professor Heatowix, 50 gle-range headings, the distance between each is generally 72 yards; in the other case it amounts to 120 yards; and, consequently, it is necessary in such a generally. it is necessary in such a case to have an airheading at half the distance to carry forward the current of air. Both of these systems are usually at work in a large collery, but double range headings are obviously preferable in an economical point of view. When

a heading is started from the main level it is

customary to assign it to some particular line

straight. This is effected by the use of the dial, and is an excellent plan, because there are certain slips or lines of cleavage running in particular directions through the coal seam; and it is most desirable that the head ing should cross them in the shortest time; possible. If this be not done, and the heading is allowed to be driven in the line of the slips, very great and dangerous falls may be expected occasionally, unless a very strong roof overlies the coal seam. The dimensions of headings are generally equivalent to those of an ordinary level and their length depends greatly upon the nature of the roof, and the extent of property to be worked. A principle to be mentioned as a most praiseworthy one, is that in case of a heading being driven from one to canataexpected occasionally, unless a very strong ing being driven from one to another level no stalls should be turned before the heading has advanced to the upper level. The reason is very clear. If a course oppo-site to that recommended were pursued, the consequence would be that the stalls in the heading would be destitute of any regular supply of ventilation, the heading itself enjoying only a small modicum, conveyed through air-pipes. But if the plan which is being advocated were practised, a constant supply of fresh air would be traversing the heading and could easily be diverted by doors into the stalls, after the usual manner. To return now to the subject of the stalls, matters of detail will be given, as to the width, ex-tent, and process of "drawing back," before referred to. The width to which a stall is driven may be stated to be an average of 6 yards; the extent of its course to be 60 vards. It is almost unnecessary t suggest that, as a general principle, the distance and width to which either a stall or a level may be carried depends almost entirely upon the nature of the roof. If it be very weak, and consequently more or less dan-gerous, it is obvious that the sooner such a state of things is passed through the bet-ten; and to effect this the stall, or level, must be narrowed. The process of drawing a stall back is attended with considerable personal danger to the collier, and it would be most unwise to allow a man to work alone at such a time. The operation is commenced by driving a small heading to the rise of the vein, and then excevating the whole breast of the cost onward gradually toward the heading. The danger is so formidable, owing to the roof being very apt to fall sudden-ly in masses; indeed the same may be said of the coal itself, which is generally in a very loose state at this stage of the proceedings. Here it is particularly necessary that the under ground overlooker should see himself that as mamy props of timber are extracted as is consistent with a proper regard for the safety of life and limb. Another salient fea-ture of stall-working remains to be noticed. Whatever refuse or useless small coal may be produced by the excavation of the coal is stowed together upon the lower side of the stall, forming what is technically termed by the colliers the "gob." This should be done in such a manner as to allow a moder ate space to intervene between the "gob" and the lower side of the stall, in order that the air, on issuing from the thirling, should he compelled to skirt the stall, and ultimatesuccessful mode of ventilating stalls than this does not, we believe, exist at present. The "gob" should also be packed as closely and as high as possible, in order that the super incumbent weight of the roof may be relieve ed: and, if this simple precaution were al-ways carried in practice, no small saving of timber would be effected Neverthele wherever there may appear the slightest real need of it, it should always be furnished, very great loss of life unhappily occurring from the full of coal and roof. The interests of humanity, and of enlightened coal mining alike, demand it; but, at the same

time, the strictest supervision should be ex-

ercised, in order that the proprietors' prop-

erty may not be wantonly wasted. No. 2. It should have been remarked before that particular care must be taken that the atempt to draw a stall back before its neighboring upper stall has first passed through the process, should never be made. It may be well to state that in well laid out collieries it is the practice to have at all times a large area of work open, ready at any time, if necessary, for the immediate ex-traction of coal. Moreover, a large area of underground workings, that might have been seriously relied upon, is liable to become of-ten greatly out of order, owing to the presence, perhaps, of an extensive crush, and so be incapacitated from producing its usual amount of coal. Hence the necessity of having some ample reserve to fall back upon in times of urgent need. This provision deserves the strongest terms of recommenda-tion, inasmuch as sudden demands are frequently made for increased quantities of coal at extensive coal mines. The methods of forming sumps and driving cross-cuts from one vein to another are common to all systems of mining, and the modus operandi in either case may be said to be the same everywhere; consequently, we do not feel our-selves under the necessity of entering upon the explanation of either subject, but shall make a few remarks as to the plan of examitting the workings daily with a safety-lamp. The discharge of this duty should devolve upon a most active, trustworthy, intelligent man. His duty is every morning to explore a certain district of a mine with a locked safety lamp in his hand, and wherever the presence of carburetted hydrogen is indicated the rules ordain that two posts of wood, with a third fastened cross-wise, should be placed at the opening of the stall, as a pro-hibition to enter. In addition, the word "fire" is written upon one of the posts, and this constitutes the danger signal. In such a case the proverbial recklessness of the col-lier, and the very general indolence of the overmen, have to be strictly guarded against. Unfortunately, it is to be lamented these danger signals are repeatedly ignored by parties, although the word "fire" them in the face, and despite the awful warning of colliery explosions so frequently and vividly presented to their minds. But, in the meantime, no work should be carried on in the stall where the explosive gas is located. At night the fireman's duty is to take any requisite measures for introducing a current of fresh air to sweep away the gas, he himself using a locked safety-lamp; and so, perhaps, the next morning the spot may be ready and safe for the entrance of the workmen. Before this part of the subject is dismissed, it may be well to recommend the use of a door or gate placed at any convenient and efficient position, in order that the fire-man, on his entry in the morning, should lock it, and so prevent to a certain extent, the possibility of colliers going to their stalls before the fireman's examination had taken place. Ordinary wrought-iron plates are generally, and rails but rarely, used in South Wales. The latter expedient has been fairly tried, but not, we believe, with very satisfactory results. One rather weighty objection to their use lays in the fact that loaded wagons, on descending the headings, had a tendency to run violently off the rails when they reached the bottom, the curve being mostly more or less sharp at that point. The system of timbering pursued in South Wales is very simple. Two props called arms, are fixed one on each side of the level, another, called a collar, rests upon them, and aseries of liighter timbers, known by the technical home of "laggings," are arranged in the opnosite direction to the collar. The in the opposite direction to the collar. The most improved method is that the collar, instead of being cut to suit itself to the arm, should rest entire upon a notch formed in the arm. The advantages of the latter plan are very clear, the strength of the collar bering judiciously preserved, and so, of course, its power increased of supporting the weight of the roof. There is nothing peculiar to be mentioned in connection with building arches underground: they are constructed upon the common principles of masonry, according to which arches are generally made on the surface. It was thought that a system of circular arching would be an improvement, and the experiment was tried, but, for various reasons, it proved a decided failure. The principal precautions to be taken in regard to arching are that the sides are verti-cal, sufficiently thick, and that the space hetween the top of the arch and the roof of the coal seam is filled up. A few words should be said with regard to the mount of pillar to be left as a barrier between a level and air course, or the highest stall of a heading and the adjoining level. It is clear?

ly impossible to lay down any arbitrary rule,

when so many circumstances regulate the

The safest policy is to have at all times a superabundance of pillar, especially if the mine be rather deep, for by so doing the dan-ger of a creep is very much lessened. Neither will any waste ensue, because the ma-jority, if not the whole, of the pillar may be worked out when the mine is being drawn back. The percentage of mineral that can be exhausted by the pillar and stall system, and the cost of working coal per ton, is also difficult to state, so much depending upon the circumstances of the particular case. Too much stress cannot be laid upon the economic importance of a good top in mining; indeed, a vein with a strong rock roof can often be worked more cheaply than a far thicker vein which labors under the disadvantage of an inferior roof. An important department of our subject will now be brought forward, which explains the system upon which the wages of underground workmen are regulated. In the first place, one general rate is fixed for the cutting a ton of large coal, varying from 1s. 2d. and 1s. 6d. to 2s and 2s. 6d., but rarely becoming so high as the last mentioned. It may be here stated that, during the absence of a rereceives so much per yard for the labor of driving them on, and this expense forms one leading feature of what is called "dead work." Levels are usually worked for 3s. to 4s. 6d. per yard; headings 3s. to 4s.; thirpaid about 30s. per week; firemen, 20s. to 24s.; doorkeepers, 2s. 6d. to 3s.; haulers, 15s. to 24s.; timberers, 20s.; and fluemen,

duction of wages, the earnings of a collier in the extensive iron-works district vary from 20s. to 30s. per week. In addition t this sum per ton, in the case of levels, headings, air courses and thirlings, the collier ings, 1s. 3d. to 1s. 8d.; cross-measure, 18s. to 20s.; cutting bottom, 5d. to 7d.; timber is set for about 1s. a pair; and overmen are 12s. to 14s. These matters are stated so fully to answer one special requirement of the essay that "such general information" should he given as ought to " be possessed by propri-ctors of coal lands to enable them to ascertain the amount of capital" requisite for mining purposes. When the roof is very strong, and the level can be driven the same width as a stall, the collier receives a trifling additional sum to compensate for the loss of his pillar It should be stated that generally the collier working in a stall receives nothing but the money for the ton of coal which he cuts. The colliery viewer measures, at certain periodical times, the amount of "dead work" driven by each man, and the coal produced is weighed by a machine on the surface near the pitis mouth. A very heavy source of expense coal mining is the great tendency of the floor to rise, and consequently a staff of men are constantly employed cutting it down.
Timbering and arching, especially the former, are also costly items. This rapid sketch of the expensive features of coal mining hav-ing been given, it is clear that the constitu-ents of what is called the "cost" of a ton of coal are the cutting, the hauling, dead work, and materials. The hauling generally lies in the hands of a trustworthy contractor, who has undertaken to deliver the coal at so much per ton from the workings to the bottom of the shaft. The scale of prices varies from 6d, to 1s. 2d., the exact sum depending upon the length of the level, steepness o the headings, and such like matters. The expense of sinking shafts of the usual dinsions of 18 ft. by 10 ft. varies from 9l. to 181.. the precise sum depending upon the nature of the ground, the quantity of water, depth to be sunk, and the amount of walling. The leading features and working details of the pillar and stall system have now been passed under review so fully that very little lescription remains to be given of the appearance presented by an "extensive colliery There would, of course, be one at work.' or several main levels, air-courses, thirlings,

a ventilating furnace perhaps, and air-pits, and a number of headings, some preparatory, others with a number of stalls opened out. The stalls and headings would be in various stages, some advancing, others being drawn back, and some on the point of being finished. Any headings, or levels, that are being driven on would be furnished with wooden air-pipes, in order that the current of air might be brought forward as near the working face as possible. There would be also wooden doors, in which the pipes are inserted, so that the air may be compelled to pass through. Supposing 200 tons of coal to be raised in a South Wales colliery, the number of workmen would probably amount, on a rough estimate, to 130. Of these, 100 might be colliers, the remainder being timberers, haulers, masons, road cleaners, firemen, overmen, and door-keepers. The exact proportion of each of these classes, it is almost unnecessary to state, would depend upon the particular circumstances of the mine whether wet, fiery, well ventilated or possessing the advantage of a good roof. The system of management lies solely in the hands of the colliery manager and overman, the latter, of course, being subordinate to the authority of the viewer, but, during his absence, holding complete sway over any employed in the mine. When any particular measures are to be taken, orders are comnunicated to the overman, whose duty is rigidly and speedily to execute them. Par ticulars will now be given of "implements employed." The list comprises two chisels, one churm, four mandrils, one pick, one light sledge, one hammer, one wire, one scraper, and one rammer—the three last being blast ing tools. Their probable value would be from 8s. to 9s. The value of the ordinary coal train used underground is about 34 10s. and it may be interesting to know that the cost of a yard of wrought-iron plates, form-

ed on a road, and sleepers excepted, amount. ed to 5s. in the year 1856. With regard to the names of the makers of implements, it is sufficient to say that a smith's and carpenter's shop is invariably in connection with every moderate sized colliery, so that the tools can be manufactured on the spot. Most interesting and valuable details have now to be brought forward as to the "most approved machinery," &c. The pumping-engine generally used is a single-acting condensing one, the cylinder varying from 30 inches to 80 inches in diameter, according to the amount of water to be raised. The usual length of a lift is 60 yards, and should not exceed 90. The most efficient pumps are forcers" but, when the workings are in danger of being drowned, lifting-pumps may be resorted to with advantage. The size of pumps varies from 9 to 20 inches in dismeter. Their expense is about 9%, per ton, and that of pumping-engines from 6001. to 2000. The most generally used boilers are the tubular, or cylindrical, with spherical ends. A boiler 30 ft. in length and 6 ft. in diameter will weigh about 8 tons, and prob ably cost 160l. A species of winding-engine to be recommended is a double 24-in. cylinder: acting horizontally, and upon high-pressure, and working the drum-shaft direct.

It may cost about 20001 and would possess

power to raise 1000 tons of coal per day
from a depth of 150 yards to 200 yards. The pithead frame ought properly to be about 40 feet above the level of the pit's mouth, the sheaves being from 6 to 8 feet in diameter. A great variety of pit indicators are in use, but it may be well to mention that an excellent one consists of a small spindle attached to the end of the drum-shaft and winding a copper cord over a pulley. This is fixed at the top of a graduated board, a weight being attached to the end of the cord, so it works up and down the board. A T.-rail, fixed to "byats," constitutes an approved guide rod; single-linked chains. wire-ropes, and bolt iron are also employed for the same purpose. The names of the principal makers of stationary engines in Englandare Maudsly, London : Penn, London; Fairbairn, Manchester; Neath Abbey

Company, Neath; Bush, Bristol; Murray, Leeds; Boulton & Watt, Birmingham. The desired "details" having now been furnished, we proceed to treat as briefly as possible, the question of colliety centilation. We are engaged in circumstances are not controlled with the viewed in jwe lights—strength of the people. We have engaged in circumstances are not fashioned, unreliable lating documents, but they are in the inference to tree States.

Firstly, as implying the agent which causes the ventilation; and secondity, as the most efficient and economical method of distributing air through the ramifications of a mine. The generally prevalent ventilating agent in South Wales is the air furnace. It is placed at the bottom of the upcast shaft, and by creating an intense heat has the effect, of the meanest thind. The Skindard of this than Bor 9 ft., and if one of this size were properly supplied with local, its rarefying power would be intensely; and the controlled shows a apperiodity over well the suspendent were invested to boots of section area of the upcast shaft, and by creating the air currents. It is sorted that they resort to calcumy against Lincoln, to the meanest thind. The Skindard of this boot over the state of the regard to the meanest thind than Bor 9 ft., and if one of this size were properly supplied with local, its rarefying power would be intensely great. We be lived that almost as great a quantity as 1000 cutifified per minute for every foct of section area of the upcast shaft has been nation between the state of the upcast shaft has been as taking to both the state of the propiet. The lice has been nationally burning within a brite of every foct of section area of the upcast shaft has been as taking to the upcast shaft has been as taking to the upcast shaft has been nationally be exercised in a state of the upcast shaft has been as taking the proper shaft has been as the proper shaft has furnished, we proceed to treat as briefly as

the construction of an air furnace, to prevent the possibility of any danger arising from the fire coming into contact with the neighboring coal. It is generally the custom of the total purto build two arches, one for the main purpose of sustaining the roof, and the other to act as the flue arch, there being an empty space between A great amount of acceptific discussion has taken place as to the compar-ative power of the steam jet and furnace, but we believe the majority of the profession are in favor of the furnace, and retain it as an old and efficient friend in spite of the alleged improvement. An objection has been urged against the furnace that its use in a fiery colliery is dangerous; owing to the frequently explosive nature of the return air; but the risk can be easily obviated by having resort to a "dumb-drift." This is a simple contrivated by mple contrivance, by which the return air is admitted into the upcast shaft, at a suffi-cient height above the fire to prevent all chance of an explosion. It is also an im-portant truth that the furnace possesses the great advantage of being comparatively free from the liability to get out of working gear, common to all mechanical agents. It is the custom in some places to fill up the space below the fire-grate with ashes and cinder, in order, as it is susposed, to increase the rarefying power of the furnace. This is most strongly to be condemned, the theory of the supposition being radically false. We are happy to say we have seen the ex-periment fairly tried; and would earnestly recommend the plan of preserving the said space as clear as possible. An upcast shaft is generally walled with fire brick, and the making one out of a pumping pit should as a general rule, be strictly avoided. The use of Byram's anemometer to test the amount of air circulating in a mine, and of a water-

guage to ascertain the "drag" of the air, is recommended by very high authorities.—
The same may be said of a barometer and These few remarks having been made upon the efficacy of a rarefying furnace, we pass on to express an opinion as to the most efficient and economical method of distributing the air. This is, undoubtedly, a plan not by any means peculiar to South Wales, termed the "splitting of air." The principle involved is that a collery should be divided into a content of the south of the be divided into a series of districts, or headings, according to the South Wales system, and that each of these should be independent of the other in every respect. A separate current of pure air should be arranged to pass up each, the particular amount being regulated by a check-door upon the top-of each heading. The beneficial results of such a system as this are very obvious. In case an explosion of fire-damp were to occur in one heading, the terrible after effects of it would, in all probability, be confined to the particular fatal spot, instead of being diffused through the whole mine, to the hor-rible destruction of human life. The latter is the inevitable result where the "coursing" system is pursued; in other words, where one stream of air is made to travel up and down through the whole extent of a large colliery, becoming naturally at last very highly charged with dangerous impurities. The principle which we are endeavoring advocate has been most warmly praised by very eminent colliery engineers before the Committee of the House of Commons, under the name of "ascensional" ventilation, and we are happy to say that we have seen i carried into practice, and attended with the most decided success. Moreover, to discuss the economy of the question, a great saving of doors may be effected by this method, for the coursing system requires a door to be placed on every stall, and, of course, a large staff of doorkeepers. If one or more of these doors happen to be open, which is continually the case the course of the ventilation is instantaneously deranged But if the plan advocated were pursued, and dance of air would be so great, and its dis-tribution so simple and efficient that without the assistance of doors the current would naturally rush into the stalls. As a princile, a system of ventilation should be maile to depend upon as few doors as possible.— The long-wall system of coal mining may also be said to be highly favorable to a simplicity and efficiency of ventilating; but in South Wales, owing to many sufficient reasons, it is far from being extensively practised. It is very clear that the abovementioned plan of "splitting the sir," ensures the colliery being in a far healthier state than the coursing" method does. The collier in his stall has a greater and purer supply of air, and, consequently, is better able to do his work. The immense importance of another matter has to be ationed. All the air courses in a mine should at all times be maintained in good repair, and be made of ample dimensions: therwise, spacious upcast and downcast shafts, even though accompanied by a powerful furnace, are of little avail Imperfectly as this excellent system of colliery ventilation has been treated, we cannot but feel that its advantages are obvious. The loss of human life has been so immense of late in coal mines, attended with circumstances so appalling, that any remedy, recommended alike by common sense and reason, deserves to be most fairly tried. It

colliery explosions, the general cause is found to be a defect in the ventilation—the system either radically false, or the quantity of ventilation advocated by the highest authorities of the profession, as the most scientifically advanced and the most practically efficient. Neither does there appear any reason to fear that it may not be applicable to the circumstances of mines in general. Believing honestly such to be the case, we feel we cannot close our subject without giving the system a bearty and final recommendation to the profession at large, and without an earnest hope that ere long it may become universally prevalent, and that great blessings may accrue from it in the preservation of human life. THE nomination of Stephen A. Douglas is a mortifying circumstance to the Administration of Mr. Buchanan. It is a rebuke by his own party such as no other President has ever received. It is more than probable Patents granted to Free States, that two electoral tickets will be run by the factor of the patents granted to Free States. that two electoral tickets will be run by the Democrats in all the States. Although Douglas had a clean majority in the National Con- Excess in favor of Free State vention, there are thousands of Democrats who have clung faithfully to the fortunes of the Administration, who would rather sink with Breckinridge than aid in the triumph of Douglas. Beside it will not be forgotten, that the Anti-Lecompton leaders have assumed a tone of insolence which grates harshly upon the minds of high spirited and honorable men; they know that they were told that Le-

is scarcely necessary to state the melancholy

fact, that when investigations are made into

fawning spaniels crawling into the camp of the Anti-Lecompton Democracy. SENT TO THE WRONG PARTY -- Last week under the frank of the Hon. Thomas B. Flo- Excess in favor of Free States rence, the distinguished member of Congress from the First Congressional District, we received a circular requesting us to disseminate | Excess lu favor of Pree States. an "Appeal to the common sense and patriotism of the United States." The same request is made to Postmasters. As the "Appeal" is for the benefit of the Democratic party and its Pro-Slavery interests, we respectfully decline. We are engaged in circu- Excess la favor of Free States.

communism should come to be despised, and

that its advocates would be glad to come like

of direction, to ensure its being tolerably depth of the mine and the nature of the roof. Very great caution should be exercised in Pah! it is contemptible.

Doeten.

THIS fine poem is as full of beautiful thoughts as ev birds and flowers: From the Louisville Ja

THE BEAUTY-HAUNTED. BALLIE M. BRYAN,

I remember it all—how the alony June.

Was breathing her life in sweetness that night.

How she drew the empurpled clouds from the mot
As a languid quiesel of the Orient might.

Draw a shadowy vall from her fair, pale face.

Or a tropical sen its dinky wave.

From a great, white pearl. I remember the place,
And the thoughts, as weary as galley-slaves. I remember the filly, which bent, like a nun In her saintly grace, so sevens and cold, where the glow worms beside her dropped, one by Like the beads from a rosary of gold; I remember the wood, and the meaning dove Hid down is the shade on his lonely breast, Like the sighing surf of a decolarly love. Neath the sabla fold of a hermit's vest.

I remember the breese, which mang on the bill,
And the waving bloom of the grany plain—
All the roses will blow in the gradens still,
But they'll never bind in my beart again—
I remember the broken stones and staves
Of the church yard near, and the child salesp,
The shade on the grade, the tight on the grates.
And the fancy, which caused me to joy and weep.

And the laney, water causes my to you was a way.

And th! I remember the most of all
The last hot clasp of his snowy hand,
And the horrible colquest, which seemed to fall
On the summer sky and the summer land,
When I hade him to go to his home afar
And shook his smile from my sorrowfal heart,
As the night might have shaken a blasted star
From its dark, or the storm a lightning dark.

And I know how the score from my passionate lip
Followed him on toward the splender away,
As the tempest will follow a figing ship
Toward the spice air of an Indian bay,
Or an arrow a swift, bright bird toward a next
I a s lotus grove. It is over now,
And I am alone—and perchance it is best—
With a viewless vall on my pallid brow.

I shattered my heart on his beauty, alas!
As a billow shatters a rose-lined shell
On a coral lise, and the music did pais
From that beart, in a murm rous faint farewell
Like a mean from that shell. But his memory y
As pale and cold as the ghost of a drism,
Dritts over my bosum upon a regret.
Like a shivering swan on a wild, dark stream. And oft in the middle of night, as of old
I call his name and think he will hear.
And tangle my hand in his ringlets of gold.
And wake, and find that he is not near.
Ahl the lovellest loveliness still may rise
O'er the scenes from whence he vanished of yore,
But such red curved lips and such videt ages
Will never be seen on earth any more.

Now I think of a thousand old things and sweet,
Of a thousand visions fair—and vain.
And their allvery wings do glitter and beat
To the dim, slow sound of the twilight rain;
I think of the blossoms blown purple and red,
Of the reliow modelight's glimmering fall,
And—and—of althousand sweet things linkye sale
But he was the sweetest among them ail.

Well, I'm dreaming too much. He's in Hes ven now But lest he is changed in the Infinite bliss, I fancy the Glory which burns ou his brow Will not atone for the loss of my kiss. And that oft when he looks thro' the radiant bard Whose splender divides the earth and the skirs. He thinks there's no pleasure in reading the stars. Like he used to find in reading my eyes.

And a something of Eden is everywhere !.
It smiles in the sun and stags in the sea.
But the convent gates of a story despair
Are shutting the beautiful world from me. And they tell me that Love is filling with light The void which he left in my bosom's deep— When it takes the angels away from sleep,

United States Patents.

[POR THE MINERS JOURNAL.] THE PATENTS GRANTED IN 1858. Missis. Entross:—We propose giving you at succinct account of the number of patents granted by the United States Government to her citizens during the year 1858, and a comparison between the inventive genius of the two great divisions of the country—Free and Savemay not be inappropriate. In gathering together these facts we should have been pleased to have found the facts we should have been pleased to have bound the number of patents granted to the slave-hiding States; but it has not been so—and in endeavoring 40 trace the cause, we must sat it down as another of the myriad of abuses and "deep, burning wrings" the system of American Slavery sugenders and propagates.

The fullowing is a complete list of the patents granted in 1858 to our own citizens:

Arts Polite, Fine, dc.
Patents granted to the Free States,
Slave States,
D. C., Excess in favor of Free States

Patents granted to Free States,
Blave States,
D. C., Patents granted to Free States

Excess in favor of Free States Patents granted to Free States,

" Blave States, Excess in favor of Free States Patents granted to Free States,

a Slave States,

b C., Excess in favor of Free States

Seam and Gas I

Excess in favor of Free States Flave States, D. C., U. S. N.,

Mathematical inp.
Patents granted to Free State.

Slave States.

D. C., Excess in favor of Free States Patents granted to Pres States,

Patents granted to Free States,
Slave States,

Lever, Serve, do Patents granted to Free States, Slave States, Excess in favor of Free States.

Excess in favor of Free States

Patents granted to Free States. Patents granted to Pres States,

2. Mass 16; Ind. 2. M. H. 1; Ohto, S. N. J. 1; Illaria all 94 patents granted, only of which went to the Slave States.

Patents granted to Free States.

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Excess in favor of Free States.

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Excess in favor of Free States.

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Excess in favor of Free States.

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Excess in favor of Free States.

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Excess in favor of Free

North.

Let us see how the Patent Reports prove this. Va., received for agricultural improvements 10 patents. S. C., 3; Ky, 9; Texas, 5; Md., 12; Ga., 6; Dei, 4; Fis., 1; Miss, 9; Ala, 5; D. C., 5. Mc., 12; Ga., 6; Dei, 4; Fis., 1; Miss, 9; Ala, 5; D. C., 5. N. C., 5. Here we see that Va., received 7 more patents than S. C., Ky, 4 more than Texas; Mil., 6 more than Ga.; Del, 3 more than Fis., Miss, 4 more that Ela., Miss, 4 more that Fis., Miss, 4 more that Fis., Miss, 4 more that Ala., N. C., 2 more than the D. C. for which she deservals considering the extent of ground occupied by each sternal hone. I more than the D. C. for which she deserval hour. In the comparison between the series and bace sternal hought and observation; we see a free and happy people acting harmonlously to relieve each other of cumbrous bordens; the warm heart that beat for others wees. The other side of the picture presents a sad scene for contemplation and on which let silence drop her will.

During the same year, 232 Patents were granted for improvements in household furniture, etc., and were distributed among the syveral States as follows: N. Y. received 17: Va. 1; Ohio, 34: Ala., 3; Pa., 33; Md., 8; Conin, 29: Mo., 3; Mass, 33; Ed., 2; III, 2; Ky., 1; Ind. 1; N. J. 6; N. C., 2; D. C., 6; Del., 1; etc., the D. C., being 4 patents ahead of N. C., in household improvements; The same stagnation, however, is again observable in the Southern mind.

Péople of the South I is Shivery after this exhibition. more beneficial toy on than Freedom? Freedom enables mad to the in the scales of being and take his station Let us see how the Patent Reports prove this. Ve

more beneficial to you than Preedom? Freedom enables man to rise in the scales of being, and take his station among those who are great as thinkers and inventors, writers and schollars. Slavery reduces him to a state of shectness, apathy and ignorance.

Let us trust that the day is not far distant when the foul bid of Slavery will be effectually grased from our fair and beautifully diversified country; when any man, be he black or whiteleas as with Mrs. Stowe's beto, "I am he free a man a few arms to the heaven few it."? im he free a man as ever breathed beaven's free air hen will dissension and turnoil among

common country, come, for the cause shall be removed, and we will be a band of universal brotherhood. Pullaneaparta, Jame 27th, 1860, W. W. B.

Political. Hon. James H. Campbell, Hon. Robert Mc.

of perusal:

Else why does he now acknowledge the con-

stitutionality of the Dred Scott decision? THE DEMOCRATIC RECORD. Congression. ally at the late session, it may be summed up briefly, as follows: Refusal to admit Kansas. Defeat of the Homestead Measure.

Open action for Disunion. Are the people of any consequence in the eyes of the Democracy? COMPORT FOR DOUGLAS AND BRECKEN-RIDGE.-No candidate nominated from the Senate Chamber, has ever been elected Prestdent of the United States although a number

Defeat of the Tariff Bill.

Miscellany.

DIAGRAM OF THE ECLIPSE OF THE SUN,

have heretofore been nominated.

July 18, 1860.—An excellent one has been calculated and drawn by Asa Smith, Esq., of New York City. Mr. Smith in his description of the path of the eclipse over the earth. says that the "Penumbrd, or partial shadow of the moon, will first come in cortact with the earth at the rising of the sun in the north. ern part of Texas, between the Indian Ter-ANOTHER tremendous demonstration of ritory and New Mexico; it will then take a the People was made in Philadelphia, on northeasterly and then a southeasterly course Toesday evening week. Thousands of people over the earth. The Umbra, or total dark went to the meeting in a series of torch light shadow of the moon, will first come in contact processions, and the greatest enthusiasm pre- with the earth in the Pacific Ocean 100 vailed. Speeches were delivered by Hon. miles west of the coast of Oregon, directly John Covode, Hon. W. A. Howard, of Michi | west of Oregon City, and a little to the south gan, Hon. F. P. Blair, of Missouri, Hon. An- west of the mouth of the Columbia River; it son Burlingame of Massachusetts, Hon. G. will then pass in a northeasterly direction A. Grow, Hon. John A. Bingham, of Ohio, over British America to Hudson's Bay, near Hon. J. B. McKean, of New York, Hon. E. Ford Fork, at the mouth of Nelson's River, Joy Morris, Hon. F. W. Kellogg, of Michi crossing Hudson's Bay and Labrador to Cape gan, Hon. John B. Alley, of Massachusetts, Chidley, which will be the most favorable position on the continent for observing the Knight, and others. We have only space for Mr. Covolds remarks, which are well now the form of pressal?

Allowed times I hands talk to how than the non-contribution of the second products of the residuate of the times I hands talk to how than the non-contribution of the times I hands talk to how the house of the residuate of the times I hands talk to how the house of the times I hands talk to how the house of the times I hands to great positions, that have no individual to the house of the times I hands to the house of the times I hands to the times I hands to the house of the times I hands to the house of property—and as the sales for the hands of the time to the back of the time to the hands of the ha Knight, and others. We have only space for Total Eclipse. It will then enter the Atlantic Mr. Covode's remarks, which are well worthy Ocean, passing due east until nearly south of Cape Farewell, the southern cape of Green-