## THE PHILADELPHIA ECLIPSE PARTY.

### The Official Report.

ence of the Philadelphia Evening Bulletin.] Mr. Editor: From a brief notice appearing in your issue of Friday, I see that you are informed, in general terms, of our great and most gratifying success, but presume that the detail of these pleasing results, and the means by which they were secured, will be of interest to you and your readers.

Our party was eminently a co-operative one, and the unusual success which has attended our efforts is largely due to the thorough har mony of effort and the, self-denial and devotion to the general success, irrespective of in-dividual interest, which has characterized the entire history of this expedition.

The work we had in hand was of a nature which, in the first place, required the combination of a high order of ability in many distinct branches. It was necessary that the best op tical skill should be enlisted in the structure and arrangement of the lenses. It was essential that the very best mechanical ability should be applied to the details of the various adjustments of clock-work and cameras. The largest experience in photographic operations was equally necessary. So also was a thorough and ready skill in the refined details of practical astronomy. Besides this, it came of necessity that the failure of any one, would ruin the work of all, as each step must be secure, or the pinnacle of success could not possibly be reached.

Under these circumstances, when we say that we have no failure to regret, and that no reproach has had cause to be uttered, the highest commendation possible has been implied towards all and every one concerned.

In this connection I cannot do better than transcribe the letter sent to me for my parties by Prof.Coffin on our way through Burlington,

hen returning. BUBLINGTON, Iowa, Aug. 9, 1819.—My Dear BUBLINGTON, Iowa, Aug. 9, 1899—My Dear Sir: In separating from the parties organized by you for photographing the solar eclipse of August 7, I desire to express my full appreciation of the valuable services they have trendered and the abundant success of their labors. The carnestness and zeal with which each one performed his allotted work, the harmony which prevailed throughout, the sendenial which shut them out from the view of a grand and glorious scene, witnessed but rarely more than once in a lifetime, and the excellence of their work, have all been peculiarly grafifying. Please present my thanks to each one and my cordial good wishes for requal success in

I am. with sincere regard, your obedient

J. H.O. COFFIN, Professor of Mathematics, U.S. N. Professor HESRY MOHTON, Ph. D. Professor HESAY Mouron, Ph. D.
Where all were unremitting in effort and excellent in execution, it is not easy without injustice to any to indicate the special merit developed by opportunity or taying einergency in some; but we cannot refrain from drawing especial attention to the very valuable aid which was afforded by Prof. A. M. Mayer, Ph. D., through his intimate familiarity with all the niceties and most refined improveall the miceties and most refined improve-ments in practical astronomy; by Mr. Joseph Zentmayer, through his admirable ingenuity and construction of the various in the devising and construction of the various mechanical and optical details required in the several instruments, and by Mr. O. H. Willard, through the unsparing devotion of time and energy, and the indomitable perseverance by which all the preliminary arrangements were pushed to a successful issue, and his own department developed to its highest perfection.

tion.
While affording gladly this special distinction to some, we repeat that all were equally meritorious, and that the work of no one would have been of the least value without the

These points being premised, I will proceed with a brief history of the PHILADELPHIA PHOTOGRAPHIC ECLIPSE PARTY from its

origin.

In the early part of May, Prof. J. H. C. Coffin, head of the Nautical Almanac office, in Washington, in whose hands had been placed the appropriation of funds voted by Congress for observations of this eclipse, wrote to me and requested that I would take charge to me and requested that I would take charge of the organization, equipment and management of a photographic party, to be made up of volunteers from this vicinity. This I undertook, after reflection, and with the aid of various gentlemen, Col. Scott, Prof. Kendall, Prof. Riche, Mr. R. H. Lamborn, Mr. Graeff, and others, had soon secured such a supply of instruments and such facilities for transportation as promised to put our expedition on the best possible footing.

best possible footing.

The next question that presented itself was The next question that presented itself was the arrangement of the telescopes for photographic work. Having already, on other accounts, studied carefully the results which had already been obtained by De la Rue in 1860, and by the English and German parties in 1868, it did not take me long to decide that our best course would be to follow the plan devised by De la Rue, and which had in his liands produced fur better results, than those obtained otherwise by any other observers, with only such modifications as his experience seemed to suggest.

seemed to suggest. 1 therefore, determined that in all the in-I therefore, determined that in all the instruments, eye-pleces should be employed, by which an enlargement of the direct image formed by the objective should be produced apon the plate of the camera in this respect following the method of De la Rue, with only this modification, that the amount of enlargement should be much less than was given by him—thus securing not only a greater concentration of light, and quicker working, but also a more accurate definition, as the want of correction in the eye-piece, when used in this also a more accurate definition, as the want of correction in the eye-piece, when used in this way, would be less effective in proportion as its focus was longer. On this conclusion we have every reason to congratulate ourselves; no work done with instruments otherwise no work done with instruments otherwise ranged bearing any comparison with ours. The carrying out of these general ideas was confided to Mr. Joseph-Zehtmayer, whose eminent ability as a student of optical science in its higher branches, as well as his unrivaled skill in the construction of the most delicate optical instruments, rendered him preeminantly fitted for the task. All details of the arrangements, by which the various and variable exposures were made, and which afterwa ds operated on the field with such perfect s. ecess, the method of inserting and adjusting 53's spider lines for determining angles of position, as well as the arrangement of lenses constituting the eye piece, are entirely due to his knowledge skill, and inventive

As soon as one of the eye nieces and cameras with its attachments was ready (having been fitted to the University telescope of 4 inches aperture as the only one at that time available. for immediate use,) it was at once set up on Mr. O. H. Willard's premises, 1206 Chestnut street, and tested in the production of a number of sun pictures. Much time was devoted to these experiments and the knowledge obtained from them was invaluable in carrying out the work upon the larger instruments. Having obtained from Mr. John Sellers permission to use his very conveniently located grounds in West Philadelphia for the purpose, and caused to be erected a temporary building

with movable roof, I next had the two large telescopes (belonging to the High School and Pennsylvania College of Gettysburg) removed to that place.

Prof. Mayer, who had already promised to join our party, at my request now came to the city, and with his aid and direction one of the city, and with his aid and direction one of the telescopes was put in accurate adjustment, (by a very beautiful and efficient method which he has himself carried out in a full theoretical discussion.) so that Mr. Willard, who during all the time of our preliminary experiment, extending over more than two weeks, had devoted himself literally day and night to the work, was apabled. more than two weeks; had devoted himself ite-rally day and night to the work, was enabled to get some good pictures of the moon (then full) with exposures of about one minute. Much interruption was experienced from bad weather after this, but the rainy days were utilized by Mr. Zentmayer in putting the bad weather after this, but the rainy days were utilized by Mr. Zentmayer in putting the driving clocks of both instruments (which were in very bad order) in admirable adjustment, so that, on the few occasions that the sun did shine, enough work was; done by the rest of the party to make them familiar with the processory recognitions.

the necessary manipulations.

The instruments were dismounted, boxed, and packed in the special car furnished us by Colonel Scott, on Saturday, July 31, when it was found that, with the various photographic appliances, they made no less than five furni-ture-car loads of material.

On Monday, August 2, we started, and on Wednesday, the 4th, about noon, reached Burlington, Iowa, on the bank of the Missis-

In arranging the division of our party into three sections, with the three telescopes, so that they might be distributed along the line of totality, and thus diminish the chance of universal extinction by local clouds; I was chiefly guided by the desire of securing in each party such a diversity of special ability as might make each self-dependent and complete; also, to leave nothing undone to secure content and harmony of feeling. I assigned myself to the University telescope, which, being of smaller size than the others, and without clockwork movement, could not be expected to do as good work as the others; though, should fleey by chance be overclouded, its result would be invaluable.

I therefore divided the parties as follows: With the High School telescope, 6 inch aperture, 9 feet focal length, Prof. A. M. Mayer, Ph. D., and Mr. O. H. Kendall in charge of the adjustment of the instrument and management of the apparatus for exposures, and Messrs. O. H. Willard, H. C. Phillips In arranging the division of our party into

charge of the adjustment of the instrument and management of the apparatus for exposures, and Messas, O. H. Willard, H.C. Phillips and J. Malloney having charge, of the entire photographic work. This party was stationed

at Burlington.

With the Gettysburg telescope 6 inch aperture, 82 feet focal length, Professor C. F. Himes, Mr. J. Zentmayer and Mr. E. Moelling in charge of the instrument, &c., and Mr. J. C. Browne and Mr. W. J. Baker, who managed all the photographic processes. This party was stationed at Ottumwa, about 75 miles nearly west of Burlington.

ington.

With the University telescopes were Mr. E.

L. Wilson and myself, in charge of the instrument, and Messra, F. C. Clifford, James Creemer and W. V. Ranger as photographers. We were also joined by Mr. John Carbutt, of Chiman, as a volunteer, who gave us most efficient. cago, as a volunteer, who gave us most effi-cient aid. This party was placed at Mr. Pleas dent aid. This party was placed at Mt. Pleas ant, between the other stations. The various parties having reached their destinations during Wednesday, arrangements were at once made to get the instruments into position in the locations previously prepared by Prof. Cotin: In the case of the Burlington party all went smoothly, and the dark weather alone prevented final adjustment until the night of the 6th or morning of the 7th, when this was secured with great nicety by Prof. Mayer, who sat up all night for the purpose.

With the Ottmuwa instrument it was, how-

with the Ottninwa instrument it was, however, found that the clock-work had become entirely deranged in carriage, so that Mr. Zentmayer was obliged to take it entirely apart and refit it. This he accomplished with entire success, and it may be regarded as one of our many pieces of providential good fortune, that since one of the clocks was to go wrong on the journey, it was that one which was within reach of this gentleman's skill. The trouble and anxiety which this cause of delay occasioned, was however, no small trial of fortitude to the Ottumwa party. The final adjustment was also given to this instrument during the night, between the 6th and 7th, by Mr. Zentmayer.

It was expected that a corps of astronomers would have been at this station, whose aid might have been invoked in case of difficulty, but this not being the case, the entire work was left to our party, who acquitted them selves in the most creditable manner of their arduous duties. In this connection speciareference should be made to Prof. C. F. Himes who, by his skill, judgment and coolness in a scrious emergency (occasioned by accidental derangement of the chronograph attached to the telescope), preserved the record of this series of pictures which must otherwise have been in great part lost.

ries of pictures which must otherwise have

been in great part lost.

The telescope at Mt. Pleasant having no clockwork, and being otherwise unfit for any fine adjustment, required no arrangement ex-cept what could be given during the morning

As all know the weather on the eventful As all know the eventual day of the eclipse was, at all our stations, perfect, so rendering needless, but none the less judicious, our policy of distribution.

At the Burlington station an attempt was made to secure a photographic record of first country the expension plates in rapid suggestion. contact by exposing plates in rapid succession about the calculated time. A very good result

was thus obtained.

At Mount Pleasant, we placed a plate ready in the camera and then waited a signal from Prof. Watson, of the University of Alichigan, who, with his party, was on the ground with us, and was watching for the first contact. We thus obtained a picture showing about as slight an indentation as it would seem possible we this obtained a picture showing about as slight an indentation as it would seem possible to recognize. By measurement of this, the time of actual first contact can be reached by calculation, yet more precisely than would be possible with any eye observation.

During the partial phases, accurately timed exposures were made by all parties, at intervals varying from a few seconds to ten minutes, and during the totality, thirteen pictures in all were taken with the three instruments. Of these gix were made at Burlington with exposures of five to seven seconds, four were made at Ottumwa with times of exposure ranging from five seconds to sixteen. These are all admirable negatives which show abundant detail and in some cases much of the corona. One of the Ottumwa pictures, exposed at the very last instant before totality, shows a photographic record of the curious phenomenon known as Bailly's beads, being simply the last glimpse of the sun's edge cut up by the peaks of lunar mountains into irregular spots.

The majority of the solar flames have the apprepriate of recorded countries.

appearance of rounded cumuli, but there is also a curious X shaped figure made by a broad bent prominence crossed by a delicate one, like the hair-line of the letter X. There is also a large region of soft, blended, flame-shaped matter. haped matter.

Prof. E. C. Pickering, of the Massachusetts Institute of Technology, Boston, accompanied this expedition; and made at Mt. Pleasant many interesting physical observations, among which, in the first place, was that of the absence of polarization in the corona, while it was strongly marked in the adjacent sky, and also the seeming alsence of dark lines in the spectrum of the corona. Both these observations would point to the self-luminosity of this object. Prof. E. C. Pickering, of the Massachusetts

peet.
Prof. McClune; of the High School, and Prof.
Gummery, of the Haverford College, accompanied the expedition.

HENRY Morron.

PHILADELPHIA, TUESDAY, AUGUST 17, 1869.

#### THE ECLIPSE IN DARGTA.

Spēcial Correspondence of the Phila. Evening Bulletin. FORT DAKOTA, Dakota Territory, August 9, 1869.—Many of the expeditions sent out to make observations of the solar eclipse will have made their report before correspondence from this advanced post can positively reach you. But interest in a phenomenon, the most absorbing known to this generation of Américan astronomers, will not, it is hoped, die out so soon as to make this paper seem out of

Professor Abbe, Director of the Cincinnati Observatory, conceived an expedition to this point as intermediate between the most advanced astronomical post in the States and that at Alaska. The advantage of independent observations at points as widely sundered as the limits of a total eclipse will admit are so obvious as scarcely to require remark. It was made the duty of this company to leave railroads and other refinements to travel behind them and hide themselves for nine days in the wilds of an almost uninhabited region.

Upon our arrival at Sioux City, Iowa, every Upon our arrival at Sioux City, Iowa, every facility was afforded us by Captain Gillis, U. S. A., in procuring wagons and camp coverings, and the following day the company started on their first journey in emigrant fashion.

Immediately on losing sight of Sioux City, or rather of the high bluffs which shut it in on the west, the open prarie begins. The houses, at first, only small and ill-conditioned, soon begin to assume a wretched appearance; until, before the first half day's drive is over, none remains but unplastered log cabins and,

hone remains but unplastered log cabins and, still worse, little huts of sod.

To one accustomed to eastern luxuries of living, it might seem the last stage of destitution to occupy a house whose walls and roof were piles of clods turned up by the plow; but things are not always what they seem. These little householders are great landholders, and every industrious man among them is being the still work to be seen. little householders are great landholders, and every industrious man among them is heaping up, little by little, a wealth which is measured not by goods which perish with the using, but by enduring lands. of almost unequalled productiveness. A large proportion of the settlers here are foreigners. Their habitations are usually of the humblest but it is said that their pockets are generally better lined than those of their American neighbors. The cattle throughout this region are remarkably fine. But it the inhabitants ever eat beef it must be when no eclipse expeditions, are en must be when no eclipse expeditions are en route, for our admiration of their stock, was per force, entirely of an ocular and insensuous

per force, entirely of an ocular and insensuous character.

The road during the first day's travel lay through the level prairie. Being near the Sioux river, the view was diversified by clumps of trees growing along the water. But on the second day we left the vicinity of the river, and it is there that the idea of a wilderness meets with its first realization. During many hours of travel as far as the eye can see there is nought but an ocean of green, unbroken by tree or house or fence. Even the whigel-tracks a little in advance, are often hard to find. Sometimes billowy and sometimes level, but always inexpressibly desolate, these immense tracts seem hillowy and sometimes level, but always inex-pressibly desolate, these immense tracts seem to shut out from the mind, as well as from the eye, all familiarity with civilized scenes. It seems as if there could be nothing in the universe but grass and sky. But what fertility accompanies this vastness! Looking out from this central spot in the continent, the patriot cannot help exclaiming: "All this is but a tiny part of our great heritage!" In the bottoms, where it is generally moist,

In the bottoms, where it is generally moist, the grass is often as high as the horses, backs. Indeed, some specimens brought away measure eight feet in length. On the higher ground it is shorter and finer, more nearly reground it is shorter and finer, more nearly reground in the shorter and finer, more nearly reground. ground it is shorter and finer, more nearly resembling our ordinary pasture grass. But we must not forget the flowers. Our common Golden Rod is very profuse, so is a variety of dwarf sunflower. Our common little lilac blossom, Oxalis Violacea, is less common. The well-known single prairie rose is seen in small numbers; probably the season is too advanced for it. Wild sage is very common, almost as much so as the daisy is with us. Another plant, so thickly set that it often gives a hue to great patches in the landscape, has large petals of clear green,

set that it often gives a hue to great patches in the landscape, has large petals of clear green, with a wide margin of the purest white. This letter being-written during car travel, or at stations, in order for early publication, the writer regrets that he cannot furnish names with these brief descriptions. But if my readers are interested in the Flora of Dakota he will be glad to have them inspect his preserved specimens. To give an idea of the luxuriance of floral display it may be mentioned that in one-half hour's walk, in the region of Sioux Falls, a score of different species and varieties were gathered; nearly all conspicuous in their adornment of the scene; and this in the month of August.

On the third day out we arrived at the abandoned post of Fort Dakota, where the astronomer had decided to set up his observatory. The settlement formerly here was destroyed by the Indians in 1863, about the time that they massered that they massacred a number of whites in Minnesota. The inhabitants of this place, with the exception of a father and son, saved Minnesota. The inhabitants of this place, with the exception of a father and son, saved their lives by flight. The charred remains of their houses are still to be seen. The little settlement of Sloux Falls, as it is called, contains about a dozen people and four or five houses. It it is on the Big Sloux river, about a half mile above the romantic Falls, from which it is named. Notwithstanding the ferocity lately shown by a part of their tribe, the Sloux, or Santee Indians, still have their representatives lolling about. But it is: "Lo, the poor Indian," again now; for these humbled children of nature are the meekest of the meek. These that remain here are not warriors, and look as if they never could be.

Soon after unloading the wagons our instruments were set in their places, and the regular astronomical, meteorological and chronological observations were commenced. Unfortunately, cloudy weather threatened from the first, and interfered with much of the preparation that was pressing upon us. But there was nothing to be done save to hold ourselves in readiness for work if we were to be favored with a clear sky: for the averging of patterns.

readiness for work if we were to be favored with a clear sky; for the exercise of patience, if otherwise. The photographers got ready their dark room with the aid of a wagon-cover on stills and the Government to work in the constillation. on stilts and the Government tarpaulins. They felt that the sun had fixed his own time to sit or his group-picture with the moon, and they had to be prepared, whether they liked the light or not, for he would not "come again."

The astronomers suffered considerably dur The astronomers suffered considerably during their night observations from myriads of mosquitoes. The air was so filled with these pests during several nights, that they could be felt flying against the face like the sprinkling of sand. There was no rehef from this hindrance but in keeping up a coplous smoke from burning weeds. Sucha fire is called here "a smudge" at night, and the "smudge often got a large share of scient ific attention.

On the 3d and 4th of the most the On the 3d and 4th of the month the sk

was much overcast; the 5th was cloudy; the 6th cloudy. Could it be that we had comesome a thousand and one of us fifteen hundred miles—to be disappointed so bitterly? But at night the stars appeared and hope revived. The astronomers were making their observations till late, and when they came in our of the mosquitoes, reported the weather favorable. One of the party, who could hardly sleep, looked out at early day and roused the sleep, looked out at early day and roused the rest with the cheering assurance of a bright morning. But stop; the clouds are gathering again. It is 10 o'clock on the day of the great event, and overcast; 11 o'clock, cloudy; 12 o'clock; cloudy; 1 o'clock, cloudy; 1 o'clock; cloud interest, which astronomers have been fore. casting for a generation, is about to pass off

just the other side of these clouds half a mile silently steal away." But what if the away, and we can't see it.

It is now within two hours of the calculated the better; the teamster wants it. He has

time of the first contact, and there is a little brightening up. Yes; and there is some blue. Never before did heaven's color look so lovely to our eyes. Three o'clock; hardly a cloud in sight. Everybody is at his post. The astronsight. Everybody is at his post. The astronomer is making a final arrangement of his colored glasses, giving his last direction to his assistants, and briefly answering questlors from everybody. The observer at the polariscope is verifying the position of his prism and refractor, wherewith he means to ask the sun what he is made of. The photographers are adjusting their telescope to the proper line. The meteorologist is noting every indication of his various instruments; the time-keeper is comparing his chronometer; and the recorder of general phenomena, with his binocular in hand, is ready to note such particulars as are best observed outside of the telescope. A little group of men from the settlement are gathered around. They tell us of some who scoff at our expectation. They say the Indians can laughed incredulously, as much as Indians can laugh, when they were told what was to take place. Well, they will see. But it is not strange, after all, that people unformiter. laugh, when they were told what was to take place. Well, they will see. But it is not strange, after all, that people unfamiliar with the wonders of science should refuse to believe in such a prediction. What an astonishing mark of intellect which the Creator has given to man is exhibited to-day. Over hill and dale, along a line of more than five thousand miles, is a strip of territory not more than one hundred and forty miles wide, which is strewn at intervals with companies like our own, drawn thither in perfect faith in human calculations; and these calculations could only be founded on the exactest measurements of inaccessible celestial distances and objects. It is now within a few moments of the time estimated for the first contact, and expecta-

estimated for the first contact, and expectaestimated for the first contact, and expecta-tion holds every one in the profoundest si-lence. Directly the sharpest eye at a telescope discerns a little dent on the western side of the line. "There it comes!" The eclipse has indeed begun. The orb of the moon is sliding like a black pall between us and the only hody in the universe whose existence is necessary to our existence shutting he out from the to our existence, shutting us out from that creation upon which the Creator has, pivoted our motion in space, and the very springs of our being. Is it any wonder that, in ignorant lands men are stricken with horror at the spectacle?

spectacle?

How majestic, and how solemn is the advance of this dark orb in the sky! Come vance of this dark orb in the sky! Come hither, vain man, and inspect the machinery of God. No friction here; no jarring; no hither, vain man, and inspect the machinery of God. No friction here; no jarring; no noise; no motive power, but the original impulse of the Creator's will. This undeviating progress is the visible representation of the march of the universe; it is the footstep of Time; it is as the finger of God pointing us to an exhibition of the resistless energy of His forces. And now the shifted has crept so far that all that is left of the sun is a slender curve of light, and that is breaking up. O, look at these little glimmers, of light chasing each other round the disappearing side of the sun. They look like diamond beads being unstrung. They are called beads, in fact, Bailly's beads,"—after the astronomer who first described them. They are the last glimpses of the sun seen through the rough profile of the lunar mountains, There, the sam is gone, but not all his glory, for see the beautiful corona of soft white light around the dark border of the moon. This is a part of the sun itself, for we can see that it does not move as the moon moves, but remains fixed around the sun. It is, no doubt, a thin envelope or atmosphere, too faint to be seen except at such times as this. But what are envelope or atmosphere, too faint to be seen except at such times as this. But what are those beautiful pink flames here and there around the edge of the moon? They belong to the sun, too, for they keep their position, unaffected by the moon's motion. They are the most unaccountable of all these appears. inanected by the moon's motion. They are the most unaccountable of all these appearances. But the spectroscope may yet show their composition. That one shooting out under the moon's edge is at least ninety thousand miles long. They must be gaseous, if we dare say—"must."

Be quick, now! only a minute of "totality". left. Look at those long rays of light streaming in all directions from the sun's position. They seem to be the effect of the uneven edge of the moon, which allows the sunlight to pass here and there through openings between its mountains. Before the sun reappears cast a glance at the sky. It is about as dark as it usually is in summer an hour after supper a glance at the sky. It is about as dark as it usually is in summer an hour after sunset. Let us count the stars. There are Mercury and Venns, bright enough. What is that little one close to the sun? Why; that must be the inner planet we want to find. Where is the star chart? O. I see, it is only Regulus, in Leo. Pshaw! how provoking; we didn't discover anything after all. There are half a dozen others. Yes, and there is the sun; look at that bright place. Now for "Ballly's heads" again, and all the other appearances, in reversed order. The interest is not passed, but the intensity of it is. Nature begins to look herself again. The chickens which had sought their roosts stretch their necks and gape about again. The chickens which had sought their roosts stretch their necks and gape about astonished, as if they were saying: "Well, that's a short night, anyhow." The astronomers are watching to note the "last contact." The photographer is fixing his plate in its rest to get a final exposure just before the little "dent" of blackness passes off. In another instant the total eclipse of 1869 is passed, so far as we are concerned, forever, and the sun beams down upon the world as grandly as of old.

All the observers, professional as well as rustic, sit down on the grass and compare their recollections while they are fresh. What about the effect of the eclipse on the animals? We saw no confirmation of the extravagant things read of. There was no indi-cation that the lower order had any idea about cation that the lower order had anyther about it beyond an expectation of approaching night.

And how was the human mind affected?

Leaving ignorance and superstition out of the question, we doubt if that universal and unaccountable horror described by strong writers is a necessary accompaniment of a total eclipse. is a necessary accompaniment of a total eclipse of the sun. But that mind must be blunt in-

is a necessary accompaniment of a total eclipse of the sun. But that mind must be blunt indeed which can fail to be deeply impressed with such a spectacle as this. You feel the presence of the Creator in the presence of His greatest works. You have known before, by the hearing of the ear, that mighty orbs are rolling in space, but to-day you have seen it with your eyes. And, if you think a little deeper, you will perceive that whatever may be the extent of interest among other intelligences for other phenomena, the exhibition dependent upon the conjunction of these three orbs can only be impressive to man. It is, demonstrably, man whose intellect has just been had in divine regard. And it would be a pity if the believer in the Christian revelation could not rise a step higher, and, with a nearer love, connect an Almighty Saviour with an Almighty Greator. The words of Paul come to mind: "God, who at sundry times and in divers places, spake unto our fathers by the prophets, hath in these last days spoken unto us by His Son, whom He hath made heir of all things, and by whom also He framed the worlds. Unto the Son He saith: Thy throne, O God, is forever and ever. And Thou, Lord, in the beginning hast laid the foundations of the earth. The heavens, also, are the work of Thine hands. They shall perish, but Thou shalt endure; and they shall be changed; but Thou changes not, and they shall be changed; but Thou changes not, and They ears shall not fail."

Therefore, mighty as are these globes in space, they are but creatures after space, they are but creatures after all; and, in their, appointed time, shal suffer the change that, by turn, awaits all created things. Only in the New Heavens and New Enith will there be Light that shall never be colored. never be eclipsed.

Get ready now for home. Let us "fold our tents like the Arabs, and

silently steal away." But what if the tent is a wagon cover? So much the better; the teamster wants it. He has been very kind to do without it so long. Pack up your instruments, all the "scopes" and all the "nieters," and bid good bye to the pictures of the region of the Fills of the Big Sloux.

But we have not had time to look at the Falls yet. Let us take an hour for it. Here they tumble. For a quarter of a mile the river rushes down irregular steps of cubical red sandstone. Winding about, and descending, in this way, perhaps twenty five feet, it makes a final clear leap of twenty to thirty feet amidst hage rectangular blocks, upon which the boisterous channel seems to have had no rounding effect. It is all noise and foam and flashing of crystal water. All the more entrancing because out of the way of the regular tours of travel.

On our way back we pass one of those Indian groups which we have had around us while here. Three women, a child and two dogs are squatting down inside of what would be an arbor, if there were any vines upon it; or a tent, if there were any cover to it, but it is neither, only some arches of flexible poles with a beaver skin tacked on one side to dry. We are after relies. One of the wretched curs has astring of bear's claws for a collar. How

with a beaver skin tacked on one side to dry. We are after relics. One of the wretched curs has a string of bears claws for a collar. How our boy would like to have that for his dog. We try to bargain; but nobody understands. We point to the dog that wears the collar and pass our hand around the "molded" paper article on our own neck. A glimmer of light dawns on the owner of the dog. We hold up a twenty-five cent note. Great hesitation ensued which might have lasted till now if we had not, in order to church the bargain; clinched the dog. We applied our knife to the coveted collar, and looked around for objections. None being offered, we cut the string and released the dog from the claws of the bear. Then there were great shakings of head. Not enough money. We handed out another note, and all parties were satisfied. We need hardly say that the heads and the wears and say that the heads and the dog that the heads out another note, and all parties were satisfied. another note, and all parties were satisfied. We need hardly say that the bear's claws will have to be purified with much soap and

"There is a pain in doing anything for the last time," says some wise man. And so the few discomforts of a trip are forgotten in remembering the pleasers. membering the pleasant things of a companionship soon to come to an end. In this panionship soon to come to an end. In this view it was painful even to build our last "smudge" and crush our last mosquito, and to get up from our last sleep on cabin floors of "cotton wood," desperately hard in everything but the name.

We climb into our wagons and take the back track across the wilderness; and in good order and time are within reach of railroad whistles, telegraphs, newspaners, hotel, gones

order and time, are within reach of rantom whistles, telegraphs, newspapers, hotel goings and all the signs of familiar life, with the best reasons of laying up with other pleasant memories the Dakota Eclipse Expedition of 1869.

[For the Philadelphia Evening Bulletin.] The Low Water in the Schnylkill. At each recurrence of a drought like the present one, attended by a very low stage of water in the Schuylkill, our citizens are afflicted by an unfounded apprehension that the river is becoming insufficient for the supply of the city. Having, on several occasions, recently explained to personal friends that there are no actual grounds for their fears; I there are no actual grounds for their fears, I have invariably been requested to prepare a short statement to that effect for some public paper, with a view to allay the solicitude which many of our citizens naturally feel on this subject. In compliance with this request, and strongly against my own wishes, I hand you these few lines, hoping they may serve their intended purpose. The Schuyl-bill familiable water abundantly sufficient for

serve their intended purpose. The Schuyl-kill furnishes water abundantly sufficient for all the purposes of the Schuylkill Navigation. Company, and for several cities of the size of Philadelphia. Were Boston, New York, Philadelphia, Baltimore, and any dozen others of our largest cities, all combined into one no other source of water would be needed. The real cause of trouble lies in the fact that the water-wheels at Fairmount, waste more than water-wheels at Fairmount waste more than water-wheels at. Fairmount, waste more than twenty times as much water as they pump into the reservoirs for city use. The waste alone which takes place in ten days, would supply all the lockage water (about 2,200,000,000 gallons) needed by the Schuylkill Navigation Company for a whole year. When our water-works, were first constructed, underthe skillful direction of Frederick Graff, Stather of the present talented engineer of the works, the waste alluded to was a matter of father of the present inlented engineer of the works, the waste alluded to was a matter of no importance; nor was it supposed that Philadelphia would ever attain such a magnitude as to require that steam should be substituted for water wheels for puniping the water up into the reservoirs. But the case is now different. A portion of this waste must now be prevented by the use of steam engines. But a small portion of it, will be required for securing a great superabundance for every purpose; and this being accomplished, we can still afford to waste enough to supply many cities of the same size. No one is more competent than Mr. Graff to decide on all matters pertaining to our city water-works; and there can be no doubt that if the authority to execute, as well as to suggest and design, were placed in his hands, we should have been saved from the present water-panic, as well as from others which will probably attain the formation.

present water-panic, as well as from others which will probably arise in the future. The shameful neglect of the city authorities, formany years, in not dredging out the deposits of mud rapidly forming above the dam at Fairmount, will probably lead to render the water unsafe for drinking purposes if the water unsafe for drinking purposes, if the present drought continues much longer. This mud could be advantageously employed in making wide carriage-drives along the edges of the river through the park.

JOHN C. TRAUTWINE, Civil Engineer. Tragedy in Dover, Delaware—Snicide of a Laboring Man.

The Delawarean of Saturday says: Yesterday afternoon, between twelve and one o'clock, a laboring man named Joseph Keys, committed suicide by taking strychnine. It seems that he bought twenty-five cents worth at Burron's drug store in the morning, about ten o'clock. He afterwards went to Shimiler's beer saloon and asked for a cup, telling Mrs. S. that he was going to poison himself. She got the powder from him, but he forcibly recovered it again and left, remarking that if she would not let him have a oup he would go somewhere where he could take it. He then went to the residence of Wm H Thomas. en went to the residence of Wm. H. Thomas then went to the residence of Win. H. Thomas, on Gowernor's avenue, procured a cup; mixed the poison and drank it. Hereturned to Shindler's and told Mrs. S. what he had done. She did not believe him, and asked him to take some dinner. He said he did not want any dinner, bid her good bye; laid down on the floor of a back shed, and in a few minutes was a counse. Some milk was admirated by a corpse. Some milk was administered by Mrs. Shindler and her hired girl, but withou effect. No reason is assigned for the rash act. Keys had been drinking a good deal lately, but was sober, it is said, the night before, and appeared so to be yesterday morning.

The brother of the Pope who recently died was a respectable old man, of simple tasted and habits, in personal appearance very like the Pope, and in his long, closely buttoned coat, gray pantaloons, and white straw hat of enormous proportions, was a fanillar sight in his ancient haunt and daily neighborhood. He always went out unattended, and generally ended the evening in a chemist's shop, where he met a knot of friends, and discussed with them the politics of the day, particularly. French politics, in which to the last he felt a warm interest.

-General Bragg is in London, Canada. He does not think it wise for the Dominion to dis-cuss annexation, and doubts whether we will ever pay the unitonal debt.

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PRICE THREE CENTS

#### DISASTERS.

Fire at New Brighton, Staten Island.
The New York Herald says:
Early yesterday morning, as one of the in-Early yesterday morning, as one of the inmates of a house on Jersey street, opposite the
Dempsey stables, New Brighton, S. L. who
carrying a mattress from his room to the
piazza to enjoy his night's rest in the
cooling breezes of the open air, he saw an
immense light in the stable building, the glaze
of which rapidly increased, convincing him
that the building across the street, from which
the light proceeded, was on fire. He immediately gave the alarm, and it was found that
the was correct. The origin of the fire is still
involved in doubt, except the fact that it broke
out in the stables; but from what cause no one
seerss positively to know. It is believed, out in the stables; but from what cause no one seers positively to know. It is believed, however, that the accidental upsetting or explosion of a kerosene lamp was the sole cause of the succeeding conflagration. The stables were alled at the time with valuable horses and carriages, but owing to the early alarming of the parties of the person mentioned above time enough was left to remove them all before the building, was entirely enveloped in Hamest, with the exception of one horse, which perished. This livrse was, a good roadster, valued by Mr. Dempsey, his owner, at about \$350.

valued by Mr. Dempsey, his owner, at about \$350.

From the stable building the flames communicated speedily to the adjoining buildings on Jersey street. York street and on the Richmond Terrage road, and twelve of them were either utterly or partially destroyed before the further spread of the fire could be checked. All these buildings were of wood, and three the rapid expansion of the conflagration. At one time, when the fire was at its height, at about four o'clock in the morning, the flagries reached even across Jersey street, scorching the woodwork of the buildings lining that side of the street, and here and there along the eaves and on the roofs the sparks could be seen feeding on the shingles and the framework and gradually growing into flames. It took all the energy, perseverance and courage of a number of men, who were pouring water on the roofs, while their hair and, beards were being singed by the approaching fire, to prevent these buildings from being also consumed.

About this time aid was asked for by fals. About this time aid was asked for by tele

About this time aid was asked for by telegraph from the Metropolitan Fire Department, and the well-known fire aid wrecking steamer John Fuller was immediately despatched to the scene of the conflagration. The steamer reached the New Brighton ferry landing, nearly opnosite which the fire was raging, in an admirably short time, and bringing out its hose the vessel threw the full force of water, by its powerful engine, upon the burning dwellings. When the John Fuller began to send her 8,000 gallons of water per minute upon the flames; it became visibly certain that the fire was at last brought under control, and that the danger of further destruction by the fire king had passed away. This is the second time within a few days that the John Fuller has rendered valuable aid in suppressing a conflagration at Yonkers, and now again at New Brighton, and this wessel has proved herself one of the most efficient means the Fre Department, has adopted to protect proved herself one of file most efficient means the Fre Department has adopted to protect property from destruction by the fiames. The totalloss, when fully known, it is estimated will reach \$100,000, of which it is said about three-fifths are covered by insurance. The fire was fully got under about fixe o'clock in the morning, within half an hour after the John Fuller opened upon it with her numerous streams, and now what but the day before was a busy neighborhood, devoted to business and traffic lies a smouldering mass of ashes, scorched timber and broken from bolts and bars—the sad remnants of years of toil. As the fire spread rapidly from house to bolts and bars—the sad remnants of years of toil. As the fire spread rapidly from house to house, the hour being so early and nost people envrapped in deep sleep, many persons had but a narrow escape from a fiery death, and the loss in furniture and clothing was considerable; but no loss of life is reported.

# MINISTER SICKLES

# Presentation of Credentials to Regent Serrano-Address of the American Representative and Reply Thereto.

[From Galignani's Messenger, Aug. 4.]
General Sickles, the United States Minister

General Sickles, the United States Minister to the Court of Spain, has just presented his credentials to Marshal Serrano, Regent of the Kingdom. Near His Highness were the Minister of State, the Secretary of the Regency. The American representative delivered the following address:

"I have the honor to be the bearer of a letter addressed to your Highness by the President of the United States, accrediting me as Envoy. Extraordinary and Minister Plenipotentiary to the Spanish government. Happy in being chosen to fulfill a mission of friendship and good relations, I should be wanting to my instructions, not less than my own inclinations, if I did not do all in any power to preserve and draw closer those ties of perfect understanding which have been so close and endured so long between the two mations. The people of the United States have not remained indifferent spectators of the great, events, the result of which has been the election of your Highness to the Supremea. Magistracy of this noble country. The United States attributing in great measure their national prosperity to the beneficial influences of liberal institutions and to the good faithe with which they observe all international friendship which unites shem

of liberal institutions and to the good faithe with which they observe all international freaties, appreciate at present, more than exergine to spain, they feel themselves animated in regard to her by that sympathy which wrises from a common participation in the profitable exercise of constitutional liberties."

His Highness replied as follows:

"I receive with satisfaction the letter of the President of the United States according you as Envoy Extraordinary and Minister Plenipotentiary of that Republic to the Spanish Government. You may be assured of finding among us the most cordinal and office eious cooperation for the accomplishment of your noble designs. You may be convinced that our efforts will tend to increase the fraditional relations of peace and good intelligence existing between the two unditions as will be suitable to the interest of two peoples, who, already united by so many ancient ties, possess at present another still more considerable, that is to say, the useful exercise of the most extended liberties which our Comstitution has made to harmonize with the monarchy, the recollections of which are so of the most extended liberies which our Canstitution has made to harmonize with the monarchy, the recollections of which are so glorious for Spain. As to you, sir, whose higher distinguished qualities are known to me, I feel a pleasure in assuring you that the President of the United States could not have made choice of a person more agreeable to me than yourself to fill that honorable position?

Afterward the new Ministey presented to His Highness the members of the Embassy, and retired with the customary ceremonies and honors.

At Zanesville, on eclipse day, just before the beginning of the eclipse. Divid Launder took up a piece of smoked glass for the purpose of viewing the sun, but had scarcely raised it to his eyes when he was attacked with coup de soleil, and fell prostrate to the ground. On recovering he stated that the sensation fell by him was as if a sharp pointed instrument had been driven through the ball of the eye producing a sharp, penetrating pain. producing a sharp, penetrating pain.

—An ill-natured Frenchman has invented a —An ill-natured Frenchman has invenced a toy which he calls the primacticope. You place the carte de visite of a lady friend in the apparatus, and she appears distorted in a thousand hideous ways, the innumerable combinations of the kaleidoscope being successfully applied to the art of making ugly ones follow-greatures.