MARCH 3, 1877.

struck, it has invariably been proved that the rod was in de of experience and observation, as well as on theory. In readfective condition; and defects in this regard are more com- ing over this instructive discussion, we cannot help being mon than is generally suspected. Professor Maxwell goes struck by the fact that, with all our progress in the science on to state what, according to his ideas, would be required of dynamic electricity, and its applications to telegraphy, to prevent the possibility of a discharge within a certain re- electro-plating, artificial light, etc., we know little more of gion. Take for instance a gunpowder manufactory. He static electricity than we did seventy-five years ago: while says that it would be sufficient to surround it with conduct- our forefathers' heads were clear on the subjects of static and from the weather, and their free exposure to the sun. ing material, to coat the roof, walls, and ground floor with atmospheric electricity, more so than those of our present thick sheet copper, and make no earth connection. He even professors, and much more so than the heads of our modern proposes to isolate the building and its contents with a layer lightning rod men, who, by their lamentable ignorance, have of benefit. of asphaltum. He says that if the building were struck it done much to bring lightning rods into disrepute among would remain charged, and that a person standing on the many classes. ground outside, and touching the wall, might receive a shock, but that no electrical effect would be perceived inside the building. We need hardly say that the execution of In our last issue, we reviewed the alleged capabilities of suncal application objectionable on account of the cost; but we etc.; and by reference to numerous experiments, we reached from thunderclouds, thus making explosive discharges less | cussion by examining into the effects of light and darkness | publishers to offer such works at anything like the price at destructive, if not preventing them entirely. It would ap-upon organisms. And we may especially here recall the fact, which ordinary works of the same size would afford a profit. pear that Professor Maxwell wishes to prevent this dis- that General Pleasonton claims that not only does the blue charge, and desires to charge the isolated gunpowder maga- light stimulate growth, but that it is a positive remedial treatise may be, say, ten dollars, four fifths of which will zine with the electricity of the cloud; but he forgets the agent for such severe ailments as spinal meningitis, nervous have gone for composition, engravings, etc., before the work vicinity of the conducting earth under the layer of asphal- irritation and exhaustion, rheumatism, hemorrhage of the is put upon the printing press; the other fifth will cover the tum. The surface of the earth always becomes charged by lungs, deafness, partial paralysis, shock due to severe con- cost of paper, printing, binding, and the author's pay. If induction when an electrically charged cloud is over it; and tusion, and others, of all of which he cites cases. if, according to Professor Maxwell's proposition, the powder The theory that various colored lights exercise different will have to charge from fifteen to twenty dollars a copy to magazine were isolated, and charged from the cloud, it would effects on the human system is an old one. In 1831, Dr. get his money back. But if, instead of an edition of a thouonly serve to make the induced charge of the earth's surface Newbery of this city asserted that yellow light stimulates sand copies, it is possible to sell promptly ten, twenty, or fifty stronger in proportion as the powder magazine is nearer to the the nervous, pink the nutritive, and blue the locomotive thousand copies, the cost of each volume will be very mateearth than to the cloud, of which, electrically speaking, the temperament; and recently Dr. Ponza, an Italian physician, rially reduced. While the smaller element of the cost repowder magazine would become a part. If there were no con- has asserted that lunatics are greatly affected by being mains substantially unchanged, the larger will be distributed nection between the cloud and the magazine, layers of dryair placed in different colored rooms. Red light, Dr. Ponza over ten, twenty, or fifty times as many copies, the share for intervening, the powder magazine, being placed between the says, removes feelings of depression, blue induces calmness; each being proportionately reduced. In other words, the first negative earth and the positive cloud, would not have its and by violet light a crazy person was in one day cured. charge equally distributed, but its floor would have an excess of positive electricity, and its roof an excess of comparatively negative electricity. If a better communication, by means the development of the healthy bodily structure is arrested. er can afford to sell the work for very much less than fifteen of moist air, were established with the cloud, so as to neutralize the negative electricity and charge the whole powder magazine with positive electricity, the danger would be remains a tadpole. Plants in darkness become blanched and in all cases, whether the first cost be ten dollars or one dollar, of a different nature. Having the same charge as the cloud, and being, as we have stated, a part of the same, its antagonist is now the earth; and a discharge between the gunpowder mill and the earth, through or along the asphaltum isolater, is now to be feared, changing suddenly the electric condition question, it will be more safe not to run the risk.

Professor Maxwell goes further on to state that it is unnecessary to connect large masses of metal, such as engines, tanks, perfect nutrition. etc., in the building. But if any conductors communicating with outside objects, such as gas or water pipes, telegraph darkness or shaded light is advantageous to the bodily con- the money through the usual channels of the trade. wires, etc., enter, they must be connected. This is a very cipally depends? If the gunpowder mill be connected with the earth, it can no more be charged like the cloud, but will, by induction, possess the opposite electricity, and the chances of explosive discharge will be made much greater. The greatthese may be good enough to draw slowly the negative elections may be utterly inadequate to discharge suddenly a and insane people which Dr. Ponza has remarked. large quantity of electricity flashing from the cloud to the find, and so does the damage. Professor Clerk-Maxwell says, nected with nor enter a powder mill, as it would make the light, very slightly shaded; and the animal or plant exposed and certain market. telegraph useless; we would add another important reasonwould be dangerous visitors.

In order to avoid the expense of covering a whole powder mended by physicians for nervous diseases. Dr. Hammond, gent public, valuable scientific matter at a price which rivals mill with sheet copper, the Professor finally suggested sur- in one of his lectures, says: "In convalescence from almost that of the cheap story paper. Relatively, the readers of rounding it with a network of copper rods, one fourth of an all diseases, it acts, unless too intense or too long-continued, Science are yet few in comparison with those who content inch in diameter, the rods passing round the foundation and as a most healthful stimulant, both to the nervous and phys-themselves with trash; but their number is increasing, and up each of the corners and gables, and along the ridges. He ical systems. * * * The delirium and weakness, by no with them the possibility of printing Science for the million also proposes to build the copper wire in the wall to prevent means seldom met with in convalescents kept in darkness, at a price within the means of all. theft, and recommends that it be connected with all metals | disappear like magic when the rays of the sun are allowed Our readers will bear witness that, from year to year, as the range of scientific readers has widened, there has been a on the outside of the house, such as sheet lead, rainwater to enter the chamber." pipes, etc., and also with the gas and water pipes in the To recapitulate in brief, General Pleasonton's claims, of corresponding improvement in the scope and value of the building; but if these be not present, he says that there is no any superior powers for blue glass on account of the color reading matter and illustrations given in this paper. It is our necessity to take any pains to facilitate an escape of the which it produces in transmitted light, are, when tested by purpose to maintain the same progressive character in the electricity into the earth; neither is it, he thinks, advisable the result of previous investigations, unfounded. In some future, giving our readers the full benefit of the cheapening to erect a tall conductor with a sharp point, to relieve the instances, where it is desirable to reduce the intensity of the effect of increased circulation by furnishing, so far as possithunderclouds of their charges. light, blue glass may be used; but any other mode of shad- ble, more and better matter for the same subscription price. Now with all respect to Professor Maxwell, we must re- ing the light, as by ground glass, thin curtains, etc., would Thus we make it for the personal advantage of each and mark that all this is a mere rehash of a very old discussion, without doubt serve equally as well. The cures produced every reader to do what he can to enlist the interest of other on a question which was thoroughly ventilated and disposed are ascribable to two causes: first, to the healthy influence readers.

THE BLUE GLASS DECEPTION.

tissues is arrested, a modification of the coloring principle editions and a ready sale. takes place, and they appear white instead of green. The Still another and often very important reduction in the

dition. Fowls, for instance, may be fattened much more

But General Pleasonton does not use blue-violet glass alone. simply takes a sun bath-the solarium of the ancients, who,

which had not), he exhibited all the symptoms of that disease. Another person is reported to have shown all the signs of collapse from loss of blood, from the suppositious idea that he was bleeding to death. As regards the animals fattened under the glass, all the circumstances go to show that the result was due to their enforced quiescence, their shelter

It is hardly necessary to add that in our opinion the use of blue glass, as advocated by General Pleasonton, is devoid

HOW WE ARE ABLE TO DO IT.

Hitherto the price of technical publications, especially in the departments of mechanics, engineering, and the chemica. arts, has been relatively very high, and for good reasons. such a proposal would be so expensive as to make its practi- light filtered through blue glass, in causing plants to grow, The original cost of such matter is usually many times greater than for matter of a purely literary character; the must point out that the arrangement would lack one of the 'the conclusion that the light transmitted through the violet- tables and engraved illustrations are expensive; the market main virtues of ; good lightning rod, namely, the gradual blue glass is nothing more than normal sunlight diminished for technical works is limited, and their sale for the most and silent discharge of atmospheric electricity, and also that in intensity. We propose in the following to finish our dis- part very slow. Consequently it has been impossible for The actual cost of each copy of an edition of a technical the sale of the work 1s at all slow or doubtful, the publisher cost of each copy will be not two dollars plus eight dollars, It is a thoroughly demonstrated fact that light is an im- but two dollars plus eighty cents, forty cents, twenty cents, portant vital stimulant; and that, if its operation be excluded, or even less, according to the numbersold. Hence the publish-Naturalists tell us that in the absence of light the trans- dollars-perhaps for half what each book would have cost formation of a tadpole into a frog is stopped, and the reptile him in an ordinary edition. The same conditions hold good stunted in growth; the process of fixing the carbon in their the essential factors in determining cheapness being large

sad effects of deprivation of sunlight are especially observ- cost of printed matter, technical or other, can be effected by able among those who live in crowded alleys or cellars, or choosing a form economical for printing, and a more comof the magazine. We ask if this may not be undesirable, or who work in mines, where the light of the sun seldom or pact yet still legible type; and by dispensing with cloth or even dangerous? Certainly, if this be considered an open never penetrates. The total exclusion of the sun's beams other binding, a further very considerable saving can be produces an impoverished and disordered state of the blood, made. Given, then, a form of publication like the SCIENemaciation, muscular debility, and the diseases due to im-TIFIC AMERICAN and a large circulation, it is easily possible to furnish, as we do each year, an amount of valuable and On the other hand, it is known that for certain purposes timely matter, many times greater than could be afforded for

The same is shown even more strikingly in the SCIENTIFIC curious statement. What now becomes of the isolation, rapidly in the dark, and it would seem that the absence of AMERICAN SUPPLEMENT, in which is furnished for five dolon which, according to Professor Maxwell, the safety prin- light exercises a very great influence over the power pos- lars a year an array of useful and instructive matter fully sessed by food in increasing the size of animals. It likewise equivalent to fourteen ordinary volumes of five hundred seems to exercise a soothing and quieting influence, increas- pages each, with something like two hundred engravings to ing the disposition of animals to take rest, making less food each volume, many of them very large and costly. An exnecessary, and causing them to store up more nutriment in amination of the tables of contents given with the two voler or less danger from such explosive discharges depends en- the form of fat and muscle. Now, if the organism to be umes for 1876 will discover the titles of about ten thousand tirely on the degree of perfection of the ground connections; treated is subjected to light, all of which is filtered through separate articles, a large number of them elaborate memoirs, blue violet glass, then, as we have previously demonstrated, for which in the ordinary form, in paper, the price would be tricity from the ground, induced by a positively charged it is in light which is considerably shaded. And very prob- from fifty cents to a dollar each. In addition to numerous cloud floating over the building, which would also charge ably to this cause-and not at all to the peculiar hue of the original and timely articles of great value from the ablest the building strongly by induction; but these very connec- light-is to be attributed the quieting influence on nervous American engineers and scientists, the SCIENTIFIC AMERI-CAN SUPPLEMENT is giving from week to week either a full reprint or a critical abstract of all the best contributions to all building: in which case the current is not confined to the On the contrary, he employs a combination of blue light and the leading scientific and technical publications of the world grapery, for example, only every eighth row of panes is the price we charge for it. The ability to do all this with further, that no telegraph wire from without should be con- blue. The mingled light consequently is merely pure sun- profit to ourselves hinges on the single condition-a wide

Thanks to the co-operation of the thousands who subscribe namely, that sparks of atmospheric electricity entering the knowing the vivifying influence of the sunbeams, had ter- for the SCIENTIFIC AMERICAN and the SUPPLEMENT, we are mill by telegraph wire, as they often do telegraph offices, races built on the tops of their houses so that they might able to do what many have dreamed of but despaired of acbask in them. This sun treatment is now frequently recom- complishing, and that is to lay before an increasingly intelli-

of some seventy-five years ago, as will be found on reference of the sun bath, and secondly, to the very powerful influence to Gilbert's "Annalen der Physie," volumes VIII. and IX., of the patient's imagination. There are abundant cases NO CONNECTION WITH THE SCIENTIFIC AMERICAN.-We wherein is described a controversy between Professors Wolf, known where imagination has so powerfully affected the learn that certain parties in Chicago have set up a soliciting of Hanover, and Reimann. Professor Wolf attacked the body as to cause death. business under the title of Munn & Co.

then increasing notion that tall conductors with sharp points | Experiments upon criminals have shown that in one in- | We beg to inform our patrons that the Chicago concern were needless and even dangerous; the latter defended their stance, where a person was placed in a bed which, he was has no connection with the SCIENTIFIC AMERICAN or the use, and attempted to prove their effectiveness on the basis informed, had just been vacated by a cholera patient (but publishers of this paper.