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NEW YORK, SATURDAY, MAY 6, 1882.

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# LIGHT, HEAT, AND POWER AT LITTLE COST.

Among the most interesting exhibits to be seen at the Electrical Exhibition now going on at the Crystal Palace, London, is the new secondary electrical battery of Sellon and Volkmar, the operation of which appears to mark the opening of a new era in electrical progress." If all that is said of the new invention be true, the storage of power by electrical means is now reduced to commercial practice, and, as results, we may soon expect to observe some curious changes in the arts, liabits, and wants of the people.

For example, anybody who chooses to put a windmill upon his house or barn will be able, by means of the secondary battery, to light his dwelling at night, supply it with battery. heat and hot water for washing and cooking, drive sewing machines, churns, washers, pumps, keep electrical carriages that will run anywhere about town without horses, do and perform almost any sort of work that may be required. The rotation of the windmill, running day or night steadily or intermittently, costing notbing except repairs, will bave its power stored up and held in the secondary battery, and by the touch of a button to be instantly delivered and put to use when wanted in the form of light, heat, or power. The nected with an electrical lamp yields light, or with an elecof the new invention, if all that is claimed for it be true.

A trial and exhibition of the new battery was lately given | dustries. at the Crystal Palace, before a large number of distinguished guests, among whom were Mr. Warren de la Rue, Professor Alexander Siemens, Professor Thompson, Professor Adams. instrument. The action of the acids soon destroyed the \$50," as security for the defendant's costs and expenses. wraps.

the time when huge plates of half a ton or a ton each will whose rights would be sacrificed entirely. or reservoir. He further said:

rate up to 40 amperes per hour. The next standard size contains of metallic composition rather less than 300 pounds, and can yield five horse power of electrical energy for an consideration in the open market." hour-giving up its 1,800 to 2,000 amperes at any rate up to mersed in acidulated water. In reality they are full of inter use the term) with the plates themselves."

He then proceeded to request that a scientific committee working of their genius, to abandon the profitable practice 5275 5276 should be appointed to examine and verify his statements of dealing justly with and by them. and test the battery. He then continued: "Now as to the practical application of these batteries. BESSEMER'S BRONZE POWDER.-HOW THE PUBLIC To my mind their employment will be almost unlimited. I GAINS BY GRANTING PATENTS FOR INVENTION. can conceive no installation of domestic electric lighting to About forty years ago Mr., now Sir Henry Bessemer, had be complete without them, whether as a supplying or as a occasion to buy some bronze powder, for which he was regulating medium. For motive power I anticipate immense charged seven shillings (about \$1.75) an ounce. On examidemand; and although the factory now nearly in course of nation he found that the metal of the powder was worth construction is upon a scale somewhat commensurate with less than a penny an ounce. So large a margin for profit the business in hand, yet I feel confident that it will form set him to thinking, and his thinking resulted in a machine but the nucleus of an immense and important industry. for making bronze powders rapidly and cheaply. "The application of the forces of nature, such as wind, Having small faith in the adequacy of the protection renrunning and tidal water power, will now, doubtless, receive dered by the patent laws of England as administered at that more engineering attention than heretofore; and electrical time, Mr. Bessemer determined to keep his invention secret. energy, which upon its generation can now be stored and re- He made working drawings of the machinery, and had the served for use as required, must become a much sought for various parts constructed by different machinists in Liverand highly prized source of power. To regard the use of pool, Manchester, Birmingham, and London, so that no one these batteries only as a small matter of personal conve- should be able to guess what the entire machine was innience, take, for instance, my own case. Up to the introduc- tended to be. With two trusted assistants he put his mation of these batteries it had been necessary for me to keep one chinery together, and thereafter only himself and those two of my gardeners every evening attending to the engine and ever entered his factory. At first he charged eighty shildynamo machine up to whatever hour light might be re- lings (\$20) a pound. The same machines, under the super-

quired; for the future he need only set the charging of the batteries in action during the day, and my store will be ready for evening use without fluctuation or intermission. The durability of the incandescent lamps is also greatly increased. and the lights can be regulated to any required degree of intensity if you diminish your electromotive force by cutting off so many cells, and you thereby conserve so much of your electrical power."

The practical exhibition of the new battery is described as having been attended with great success. Many lights were shown, the brilliancy of which could be readily increased or diminished by switching on or off one or more cells of the

#### **► + # →** THE PROTECTION OF SMALL INVENTIONS.

A characteristic feature of the American patent system, his plowing, draw mowers, reapers, seeders, propel boats, and one toward which the patent laws of other countries have been steadily approximating, is the encouragement which it offers to all men, poor as well as rich, to make inventions and publish them to the world under the protection of letters patent. The smallness of the official fees and the exceptionally thorougb protection offered have been very fruitful in calling out and making public inventions which, battery forms in effect a reservoir of force, which when con- like the Bessemer bronze powders (elsewhere commented, upon), are easily open to spoliation; hence the rapid and enortric machine yields heat or motive power. Furthermore, mous multiplication here of individually small devices which the battery is quite portable, and may be placed in an ordi- have had in the aggregate such a shaping, helping, and enrichnary carriage, giving motion thereto, like a locomotive. But ing influence upon all our industries. Not unfrequently there is no boiler to explode, and no fuel or water to be sup- has it happened that seemingly minute and unimportant plied. Women and children may safely use it. Every class devices, inventions which could not have been patented of society, from highest to lowest, every art and industry elsewhere or which the inventors would have been unable in the civilized world, will benefit by its adoption. These, to patent on account of the cost, have here brought liberal we say, are only some of the indicated uses and advantages fortunes to their patentees, vastly greater profit to the public, and sometimes have furnished the beginnings of great in-

Such results are possible only where the inventors' rights, easily secured, are rigorously guarded. One of the strongest Crookes, Professor Hughes, Professor Dewar, Dr. Huggins, safeguards to patents upon easily marketable inventions of general utility is the law which makes the buyer of infring. Mr. Sellon, the principal originator of the invention, was ing devices measurably responsible for the wrong done the called on for a speech and gave the following particulars. rightful patentee, thereby spoiling the market for dishonest He stated that the capital stock of the new company, "The and unlawful products. This vital truth has repeatedly Electrical Power Storage Company," was \$4,000,000, that it been recognized by past Congresses, and quite recently was all subscribed within a few hours, and that he could again by the Congress now sitting in Washington, in defeathave obtained ten times the amount had he desired. The ing projects calculated to sacrifice the rights of patentees of distinctive peculiarity of the Sellon-Volkmar battery is that articles of small market value. The action of the Senate the plates composing the cells are made of perforated plates, upon Senate bill No. 1238, a few days ago, may serve as an the oxides used being held by and within the perforations. example. The first section of the bill provides that in suits Heretofore, as, for example, in the Faure battery, it has been for infringement, where the defendant's purchase was made necessary to hold the oxides in contact with the plates by "in good faith for his own use and not for sale, and not in means of packings or wrappings of cloth or other fibrous sub- any manufacturing process," the plaintiff must recover \$20 stances, the use of which was always attended with expense or he cannot recover costs; while the second section requires and difficulty, and has prevented the actual success of the the plaintiff to deposit "a reasonable sum not exceeding

The chairman of the Senate Patent Committee strenuously In this new form of battery all the clumsy wrappings are urged the passage of this bill; but the objections to it were removed, and simple perforated plates are used, the result so strong that it was withdrawn, it is to be hoped permabeing the production of durable and more powerful cells nently. The provisions of the bill (as will be obvious to than heretofore. Mr. Sellon said that he looked forward to any one) would reach a very numerous class of patentees

be used, and thousands of lamps supplied from one battery A still more reprehensible attempt to remove the legal safeguards of patentees is said to be favored by the Patent "Of the sizes now made, one standard size of the dimen- Committee of the House. According to the Evening Post of sions of forty-three one hundredths of a cubic foot, and con- April 25, the committee that day directed a favorable report taining of metallic composition about 62 pounds, will yield, to be made to the House on a bill providing that no action when properly charged an aggregate amount of current for damages or proceeding in equity shall be sustained, nor equivalent to fully one horse power of electrical energy for the party held liable under sections 4919 or 4921 of the Reone hour, giving off from 350 to 400 amperes at any required vised Statutes, for the use of any patented article or device, "when it shall appear on the trial that the defendant in such action or proceeding purchased said article for a valuable

It is incredible that the House can lend itself to the fur-200 or 250 if required. One set of 39 such cells will be therance of a measure so palpably intended to lay the proseen working 200 Lane-Fox lamps in the Alhambra Courts. perty rights of patentees open to general invasion. Still less The plates have no supports, and are simply in appearance possible is it that both Houses can agree to such an unjustisolid pieces of metal separated by slips of wood, and im- fiable reversion of the spirit which has thus far ruled in American patent legislation. There must be some mistake stices or holes, which contain the packed material. This is in our contemporary's report of the committee proceedings. applied in such a form that it makes a solid alloy (if I may The country is too deeply indebted to the ingenuity of our inventors, and has too much to hope for from the future

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