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THE ELECTRIC LIGHT AND THE GAS COMPANIES.—REMARKABLE EFFECT OF A NEW INVENTION IN THE STOCK MARKETS.

The announcement that Mr. Edison has discovered a means for dividing the electric current indefinitely, thereby making it possible to use electricity for lighting small areas, has had a marvelous effect in bringing down the value of gas stocks. The stock of the Chartered Gas Company of London, for example, has been depreciated in the market between five and ten million dollars, if we may trust a statement made before a recent meeting of the company. At an auction sale of gas stock in this city, October 16, shares of the New York Gaslight Company, that on September 11 brought 91 3/4, sold for 78 1/2. Shares of the Manhattan Company that sold for 200 1/2 in September went for 149 1/2. Whether this enormous falling off in value in six weeks is to be charged entirely to the fear of electric competition does not appear; but evidently the larger part of it is, for a similar decline is noticeable in other places. Is there any sufficient reason for it?

The manufacturers of gas say that there is none; that the electric light is simply a co-ordinate branch of illumination, and not nearly so dangerous a competitor as the petroleum light is. The electric light may answer and be economical for lighting large spaces from a single source; but even that is made doubtful by recent improvements in large gas burners, with which the increase in illuminating power is very much more rapid than the increase in the amount of gas consumed. The use of electricity for lighting rooms of moderate dimensions is declared impractical from the difficulty or impossibility of dividing the current sufficiently, and unprofitable from the rapid loss of power when the current is divided at all. As Professor Morton explained lately, when the intensity of the light is diminished by subdivision the percentage of light decreases enormously; so that where a given electric force, applied to one lamp, gives a light, say, of eighty burners, it will with two lamps give only as much light as thirty burners.

Whether Mr. Edison has overcome all these obstacles to the economical use of electricity in small lights remains to be proved. Nevertheless his invention seems to have been the occasion of something like a panic among the holders of gas stocks, a panic which would be foolish even were everything claimed for the invention absolutely true and certain; as a little unexcited thought with regard to the nature of gas, and the vast undeveloped fields of usefulness open to it, will show.

But what is Mr. Edison's discovery? A few words will suffice to give an idea of it. It is based on the well-known fact that a wire may be heated by an electric current, the basis of many attempts to accomplish what Mr. Edison claims to have done. The reader may have seen the gas jets of the dome of the Capitol at Washington, lighted by similar means. Over each burner is placed a coil of platinum wire, which, when heated by the electric current, ignites the gas. Mr. Edison uses the coil itself as the source of light, the current sent through it being strong enough to make the coil white hot, or self luminous. The difficulty to be overcome at this point was the liability of the wire to fuse and spoil the light; a difficulty which Mr. Edison claims to have obviated by the introduction of a simple device which, by the expansion of a small bar the instant the heat of the coil approaches the fusing point of platinum, interposes a check to the flow of the current through the coil. This automatic arrangement, in connection with an auxiliary resistance coil, secures, it is said, an even flow of electricity through the coil, and consequently a steady glow of pure light. If this is done economically it is obvious that a marked advance has been made in artificial illumination.

Must gas go out in consequence? Our opinion to the contrary has already been expressed. The communication from Mr. Strong relative to the use of gas as fuel may be read with interest in this connection; it will be found in another column. The enormous capital invested in gas works and street mains is in no danger of being made useless. Whatever may come out of the electric light, the demand for gas is sure to increase enormously. By recent improvements in the processes of gas-making it has become possible to supply this most perfect fuel at rates which must rapidly do away with all other fuels for most domestic and other purposes; and it is quite possible that the gas that will be required for supplying power for the generation of electricity, supposing the use of electricity to extend as its advocates claim, will amply compensate for all that is likely to be withdrawn from public consumption by the advances of the new light. At all events the holders of gas-stocks will do well not to sacrifice their property in consequence of this temporary and uncalled-for flurry.

PROGRESS IN ENGLAND AND AMERICA.

The Right Honorable W. E. Gladstone, Member of Parliament, and lately the leading spirit in English political affairs, contributed to the North American Review (September-October, 1878) a notable paper entitled "Kin Beyond Sea," a paper chiefly devoted to a comparative study of American and British institutions. Mr. Gladstone saw fit, however, to make a few preliminary remarks, in the course of which, speaking of the United States, he said:

"I do not speak of political controversies between them and us, which are happily, as I trust, at an end. I do not speak of the vast contribution which, from year to year, through the operations of a colossal trade, each makes to the wealth and comfort of the other; nor of the friendly

controversy, which in its own place it might be well to raise, between the leanings of America to protectionism, and the more daring reliance of the old country upon free and unrestricted intercourse with all the world; nor of the menace which, in the prospective development of her resources, America offers to the commercial pre-eminence of England. On this subject I will only say that it is she alone who, at a coming time, can, and probably will, wrest from us that commercial primacy. We have no title, I have no inclination, to murmur at the prospect. If she acquires it, she will make the acquisition by the right of the strongest; but, in this instance, the strongest means the best. She will probably become what we are now, the head servant in the great household of the world, the employer of all employed, because her service will be the most and ablest. We have no more title against her than Venice, or Genoa, or Holland has had against us. One great duty is entailed upon us which we, unfortunately, neglect—the duty of preparing, by a resolute and sturdy effort, to reduce our public burdens, in preparation for a day when we shall probably have less capacity than we have now to bear them."

To the American mind all this seems no more startling or unreasonable than if Mr. Gladstone had stated the commonplace geographical fact that the sun shines every day on America after it has set in England. Bishop Berkeley's star of empire takes its way westward as surely and as inevitably as the sun, and no man deserves any great amount of credit or of discredit for frankly recognizing the fact.

It seems, however, that it is a very risky thing to do in England, particularly if it is done by one in Mr. Gladstone's position. At any rate the British journals express their disapproval of Mr. Gladstone's utterance in as vigorous terms as they have at command.

As Americans we must confess that we see no occasion for such a flurry; much less occasion for accusing Mr. Gladstone of predicting the rapid decadence of his own country. Indeed, it is only too apparent that a determination to find fault with a great man in temporary disfavor for his opposition to the present drift of imperial policy, rather than anything actually said by him, is the impelling cause of this outburst of passion.

It is in the nature of things that, with the life and energy of the Anglo-Saxon race, re-enforced by the best elements of all Britain and half of Europe, with British institutions as a basis, and almost unlimited territory to flourish in, America should ultimately become greater and more powerful than the small island which has hitherto been the center and seat of Anglo-Saxondom. Australia must sooner or later outstrip England in like manner, and Canada also; and who knows what other future nations, speaking English speech, in Africa, Asia, or the islands of the Pacific? Surely every true Englishman must feel that England's highest glory is in these, her stalwart children, whether England maintains political supremacy or not. It must be sheer Cockneyism, inspired by party spirit, therefore, that makes the Graphic "suspect" that hatred of the Americans would be the only outcome of a recognition of the destiny which Mr. Gladstone foresees. The better minds of Great Britain have already adjusted themselves to the existence of the Greater Britain that Sir Charles Dilke has so well described; and the circumstance that the larger part of that Greater Britain was driven to political independence by an old-time attempt to arrest the inevitable, should emphasize the folly of keeping up the needless struggle, even in spirit. It is too late to discuss the question whether America would have been greater or less successful, as a nation, under such government as England now accords her colonies. Had such a policy been possible to England without the American rebellion, the rebellion would never have occurred. As it is, the undetached portions of the Greater Britain are largely indebted to the American colonies for the liberties they enjoy. And England is, to-day, in consequence of America, a greater power than she could have been in the absence of the contributions which free America has made to her commercial and industrial prosperity. If primacy in these fields of human enterprise is to fall to and remain with the United States, the change will be attributable not to England's decay, but rather to the relatively more rapid growth of America, made possible by material advantages and a more numerous population.

THE INCOMING COMMISSIONER OF PATENTS.

The newly appointed Commissioner of Patents, Gen. Halbert E. Paine, brings to his delicate and responsible position an excellent record for capacity and efficiency.

General Paine comes of honorable stock; and from the days when his grandfather thrice removed fought in the old colonial wars, down to the present, there have not lacked men of his name who have ably served their country in the field and in responsible places in civil life. Born in 1826, he was graduated at the Western Reserve College at the head of his class in 1845, and admitted to the bar four years later. His military title was won by hard service in the war of the rebellion. Subsequently he was elected to Congress; first to the thirty-ninth, again to the fortieth, and yet again to the forty-first. In his Congressional service the high reputation he had won in the army for sterling capacity and integrity in the conduct of affairs was admirably sustained. He was at the head of the Committee on Militia, served on the Committee on Reconstruction during its whole existence, and was successively member and chairman of the Committee on Elections, in which onerous and difficult position he compelled the admiration of political opponents as well as