

# CANADIAN ELECTRICAL NEWS

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## SPEED AND VOLTAGE REGULATOR.

We illustrate herewith a speed and voltage regulating device which has been in satisfactory operation for a year past in the water power station of the Niagara Falls Park and River Railroad Co. at Niagara Falls, and a patent for which has lately been granted at Ottawa. It is the invention of E. A. Barber, electrician of the Watertown, N. Y., Street Railway. In this method the speed is kept constant by automatically throwing in a dead resistance, when the load is small, and throwing this resistance out when the load is large. In the engraving, 1 is the generator, 2 and 3 the mains. The regulating resistance, 4, is thrown in and out by the contacts, 6 and 7. A solenoid, 16, is connected across between the mains, and hence its pull will vary with the voltage. When the voltage rises above a certain point, the iron core, 17 (which is normally held by the spring, 18), is drawn down, so that the contact is made between 19 and 20. These contacts are the coil 10, which is in parallel with the mains through a high resistance, 15. The coil, 10, being short circuited, the iron plunger, 9, is let down, the contacts 6 and 7 come together, and the load of dead resistance is thrown in. A piece of iron, 12, is put on top of 10 to assist in lifting the iron core, 9, and also to act as a stop when it is lifted. It is manifest that a number of these regulators can be used and adjusted to different voltages, so that more resistance can be cut in with each rise of voltage.

It has been found necessary to make the contacts of carbon, to prevent the injurious arcing. The many unsuccessful attempts that have been made to regulate successfully with water power make the results attained by this device especially gratifying.

## THE ASSESSMENT OF GAS AND ELECTRIC LIGHT PLANT.

A strong deputation representing the gas and electric companies of Ontario waited upon the Ontario Government on March 14th, to urge that the street plant of gas and electric companies should not be made subject to taxation. In support of their contention the deputation submitted the following substantial reasons:

1. The business carried on by these companies, is of a hazardous nature. Under the most favorable circumstances, frequent alterations and renewals of plant are required. Their works and plant are liable to serious injury from various causes. In the case of companies using or producing electricity, and of gas companies, the depreciation of plant is specially great. New inventions in electricity are yearly being made, and plant which has cost a large sum, after having been in use but a short time, is rendered practically valueless, by being superseded by new inventions.

2. It is a mistake to assume that the business of any of these companies has been unduly profitable, and it can be truthfully asserted that the returns to those who have invested money in such enterprises, have been, and continue to be very moderate, even in the most successful cases. In many cases the returns have been much below what should have been received, and in not a few instances, there has been a direct loss. In this respect

the returns from the investment in such enterprises, have been much less than those from investment in banks, loan companies and other corporations, whilst there is always the risk of the loss of the whole or a large part of the capital.

3. These companies are not free to do business where and with whom they wish, as ordinary trading companies are. They are more or less subject to municipal and legislative control, and are restricted to localities, and therefore have a common interest with the public, not an adverse one.

4. None of the companies engaged in lighting are able to oppress the public, because of the keen competition amongst themselves, and with other illuminants. The municipality in which a water company exists, has by law, the right to acquire its property and works. There is no monopoly on the part of telephone companies unless the municipalities think proper to grant them such, and in all cases in which exclusive rights have been granted, the municipalities derive a yearly revenue therefrom.

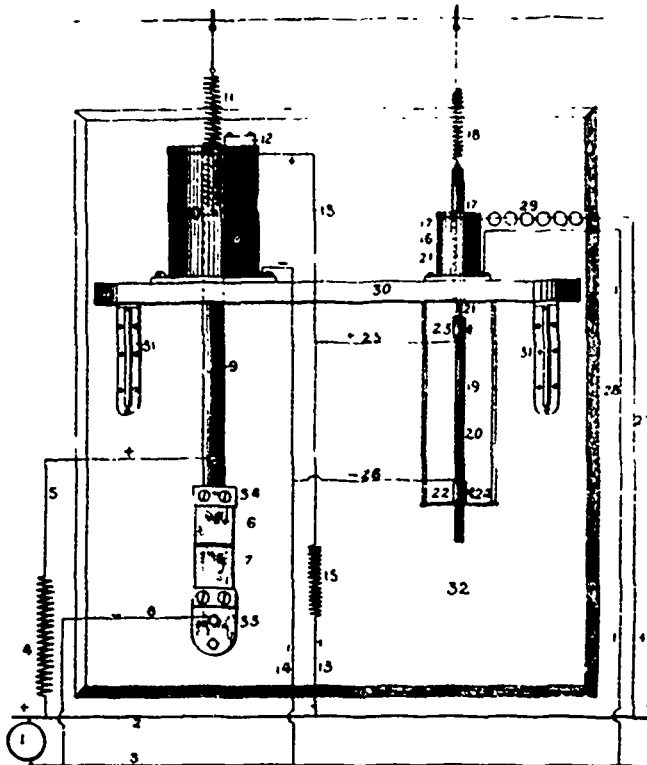
5. The present charges for gas, water, electric light and telephone service are reasonable. In many cases the companies concerned do not derive a fair return for their investment, while in some cases they are unable to meet expenses. The companies recognize the necessity of reducing rates from a time to time, as much as is consistent with a fair return. If any additional burdens be cast upon them by an increase in taxation, their ability to reduce present rates would be interfered with and in some cases the result would be an increase in the rates.

6. Gas is now largely used for fuel, not only by those in good circumstances, but it is rapidly finding its way into the houses of persons in moderate circumstances. To increase the taxation of gas companies, may in some cases cause an increase in the cost of gas for this purpose, and in all cases, must postpone the reduction in the price, whereby its general use as a fuel must be delayed.

7. With regard to any proposal involving the casting of increased burdens by taxation, upon the companies in question, they submit that to do so would be an unjust discrimination against vested interests, and would check the investment of capital in such enterprises. If there is to be one general principle, upon which all property, and income derivable from property, real or personal, is assessable, then these companies must submit to such a law; but so long as special interests, such as banks, loan companies, railways, vessels, manufacturing companies, and others to-day enjoy certain exemptions, the companies in question, with at least equal force, are entitled to claim equal consideration, and would feel the injustice of being subjected to further burdens of taxation.

These reasons were supplemented by a statement from the various interests that they would be willing to be taxed on their net income. In this way taxation would be equalized and companies best able to bear the burden would pay the most.

A young subscriber of the *ELECTRICAL NEWS*, who has had about two years practical experience in electrical work is desirous of finding an opening for his services in an electrical manufactory, or in default of that, electrical employment of any kind. We shall be pleased to send his name and address to anyone who may desire to open correspondence with him.



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