

rus), that "on the whole, this is a very perfectly formed wing, and is more like that of an ibis than that of a goose, as, indeed, is much of the structure of *Phœnicopterus*."

No less eminent an authority than Professor Huxley has strongly contested the point that the flamingoes are more nearly related to the geese than any other birds known to him; and I believe here-

tofore all American ornithologists had the same idea. From my own studies, I am confident that the above opinion of Professor Parker will prevail in the future, and fuller researches into the structure of the several types in question will prove it to be the correct one.

R. W. SHUFELDT.

Takoma, D.C., Sept. 19.

## INDUSTRIAL NOTES.

### A Good Record from Buffalo.

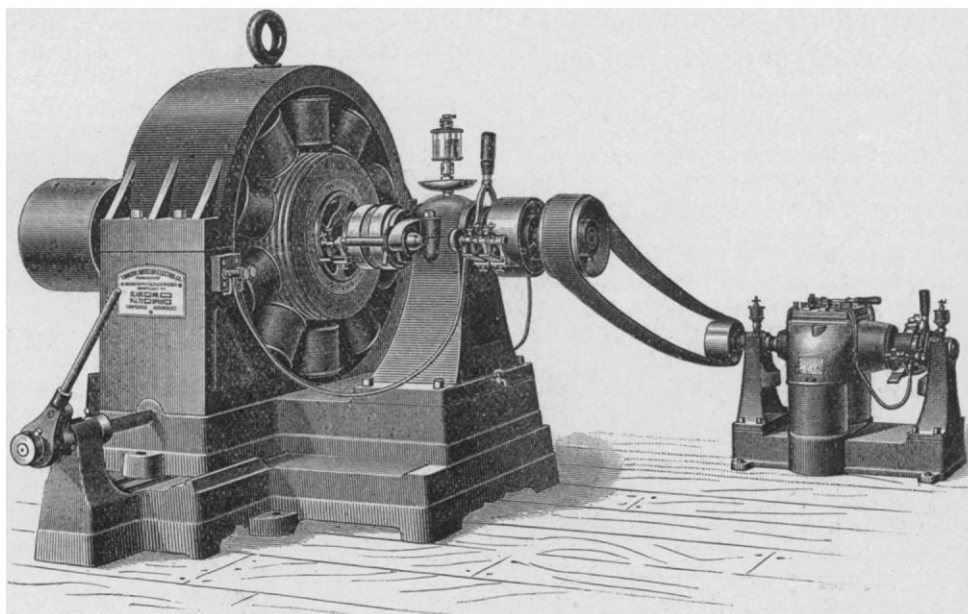
AMONG the cities which are now adopting electricity as a motive power on their roads is Buffalo, N.Y. The Buffalo Street-Railway Company of that city, about two months ago, made a contract with the Sprague Electric Railway and Motor Company of New York for the equipment of four electric cars. This equipment was intended only to try the electric system; and, if the trial should be successful, it was contemplated that an equipment of a very large number of cars would be operated upon this road. The cars have been in operation about four weeks, and carry large numbers of passengers. Upon a recent Sunday, the four cars and four trail cars carried twenty-five thousand passengers without the loss of a single trip. This is a notable record, considering the small number of cars operated and the grades upon this line. The people in Buffalo are enthusiastic over the new system of propelling street-

motors has been built for a long-distance transmission power plant which the Sprague Company have ordered for erecting in South Africa. Other machines of the same size and type go to other parts of the world through the large demand for motors of this size in long-distance power transmissions, mining-work, and general industries.

The efficiency of this machine is claimed to be high, while at the same time the speed is kept quite low; the motor making only about 500 revolutions a minute while operating under full load.

### The Thomson-Houston Alternating-Current Dynamo.

UNQUESTIONABLY the most economical and valuable dynamo in central-station use for long-distance lighting is the alternating-current machine; and its recent adoption for its practical working in this country, although but a matter of a short time, has caused a great change in the methods of supplying illumination by incandescent lamps. The economy with which the electric light can be



THE THOMSON-HOUSTON ALTERNATING-CURRENT DYNAMO.

cars, and say that the management will soon give an order for an increased equipment.

### New 75 Horse-Power Electrical Motor.

UP to this time, nearly all the electrical manufacturers have confined themselves to small motors; and although all have acknowledged that the transmission of power on a large scale is feasible and practicable, yet, so far, it has been found commercially more desirable to keep down the size of motors to something like 25 horse-power or less.

We understand the Sprague Electric Railway and Motor Company of New York has departed from this routine, and that they have received a number of orders recently for a larger motor, which have had the result of calling forth the present new 75 horse-power motor, which is by far the largest electric motor which has ever been built. This machine is not dissimilar in appearance to the ordinary Sprague standard electric motor of smaller sizes.

The first one of these motors manufactured was for the Kearney Paper Company of Kearne, Neb., where about 120 horse-power of electric motors built by the Sprague Company will be used for operating the entire mill. The current for driving these motors is generated by water several miles away. The second of these

produced is dependent primarily upon the source of power for operating the dynamos, and the use of the alternating current renders it possible to locate a central station with particular reference to coal and water supply; and the fact that a high-potential current can be transmitted long distances over a small wire, and at a small loss, renders it possible to make use of available water-powers, which could not be done by any other system. Then, again, the cost of maintenance and construction is greatly reduced, as a current can be conducted to a centre of distribution, from which the circuits for the immediate supply of current to the lamps can be taken.

We illustrate herewith the improved alternating-current dynamo made by the Thomson-Houston Electric Company, which has met with such a deserved success in central-station work. It is a feature of this machine that it is of simple construction, and can readily be taken apart to allow examination, or replacement of any part which may have become injured. This machine embodies most excellent features in construction of the armature, whereby all tendency to overheating is obviated, and its regulation is such that extreme changes in load do not cause any change in the intensity of the light. The dynamo has been largely introduced by the company, and has everywhere met with success.