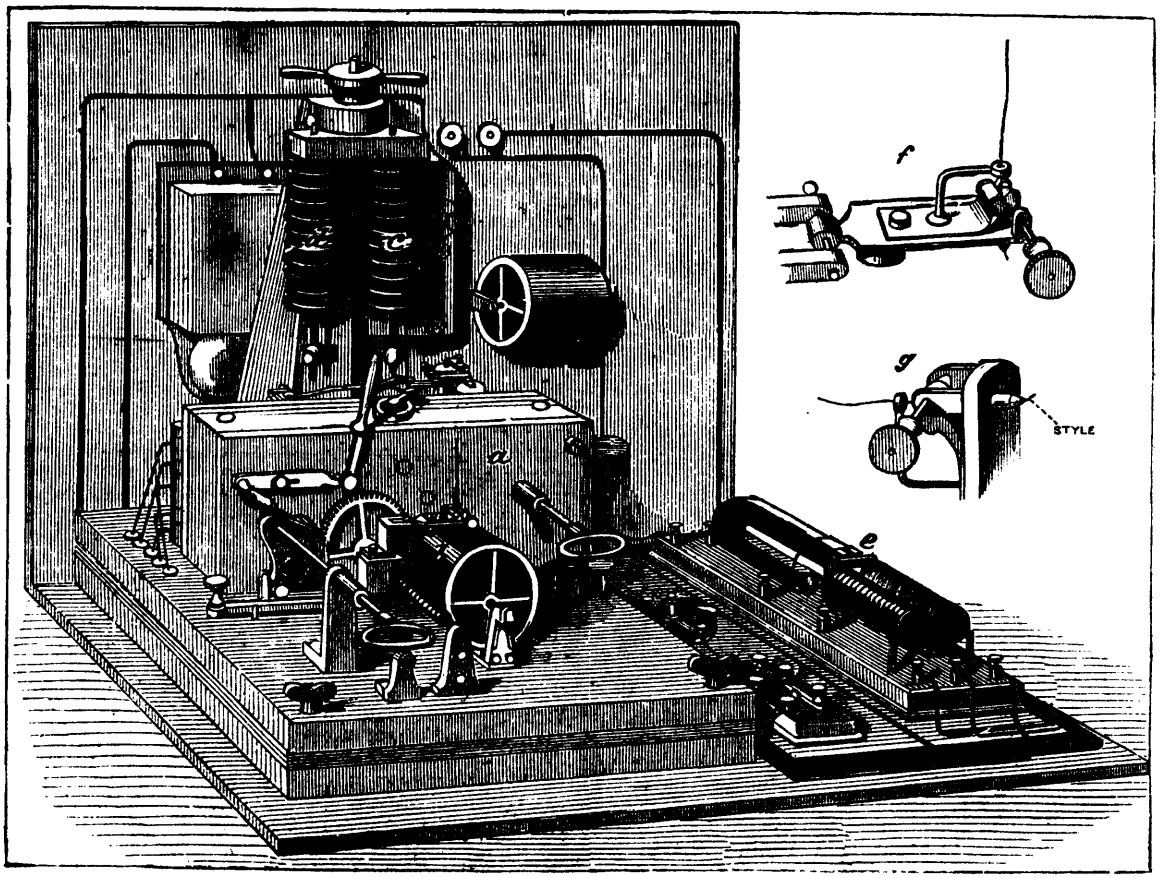

D'ALINCOURT'S COPYING TELEGRAPH APPARATUS.

steel style in each case moves longitudinally and slowly along the cylinder by means of a screw, to which the standard holding the style is fixed. The roller *b*, at the sending station, stops automatically at each revolution, and is restarted by the roller at the proper time. By this means absolute synchronism is obtained, and there can be no accumulation of error. *e* consists of permanent and electro magnets; it forms a rapid relay by the line current, and it relays a current of sufficient intensity to discolour the chemically prepared paper. *f* shows the mechanical arrangement for the adjustment of the style in the proper place on the roller. *g*, end of same, showing its under side.

THE ELECTRIC LIGHT IN A CATHEDRAL.—A novel and interesting experiment was tried in Bristol on Thursday evening, Nov. 28. The Rev. Philip Sleeman, F.R.A.S., &c., took his electric light apparatus in the cathedral, and erected an electric lamp or regulator on Foucault's principle, on the top of the screen. It was intended more particularly to ascertain the effect of the electric light in illuminating the large open space immediately in front of the choir screen; but a good general idea was also obtained of the brilliant results which might be realised if the light could be applied on a sufficiently extensive scale for the illumination of the nave itself. This is the first time that the electric light has been introduced within the walls of a cathedral; and indeed, we believe within any sacred edifice whatever. It is just possible that this seemingly unimportant matter may be of historic interest. There was a great contrast between the electric light and the light of the gas. At the door of the east end of the new nave a person could read with these, whilst a person standing near the screen could but indistinctly see the letters of a book by the light of a gas standard with about fifty jets. So great was the power of the electric light that it then cast shadows of the gas lights upon the walls. The side aisles, however, were almost entirely in the dark, owing to the shadows of the pillars.—*Bristol Times and Mirror.*

THE ELECTRIC LIGHT.—At the time of the departure of the last mail from America, Mr. Edison had his new machine-house for testing the electric light nearly finished. This experiment, including everything, will cost £20,000, and the *New York Sun* points to this as a proof of the faith in the practicability of the invention. The well-known firm of Fabri and Chancery have bought from the Edison Company the exclusive right to use the new electric light in South America, and as the contract for Rio de Janeiro expires shortly, it is expected that that city will be the first in South America to be lighted by electricity. Mr. Edison says that he does not use carbon, and that his light does not burn itself out.

THE RAPIEFF ELECTRIC LIGHT.

This light has passed the experimental stage, and is actually employed in the printing office and composing rooms of the London *Times* newspaper.

The chief novelty of the system consists in the use of four carbons, instead of the two which, in nearly every other arrangement, form the points between which the luminous arc is produced. These carbon rods, instead of being placed parallel with one another, are so inclined that their points meet. Or to put the matter more clearly, the two upper carbons form the letter V, while the two others, forming the letter upside down Λ, are placed so that the combination represents an X. But the lower pair are set at a right angle to the upper. In plan, therefore, the four rods would form a cross.

One great advantage in M. Rapieff's system is that a nearly burnt out carbon may be replaced by a fresh one without any stoppage of the light. This operation, too, can be performed without the intervention of a skilled worker. In Fig. 1, page 58, the attendant—protected from the glare of the naked light by a small screen of colored glass—is in the act of replacing one of the negative carbons. The right hand lamp is shown as commonly used, with the light softened by a globe. The screw S, in both lamps, is the means whereby the distance between the two pairs of carbons is regulated and kept constant. Indeed, we understand that the size of the arc can be so adapted to the current