

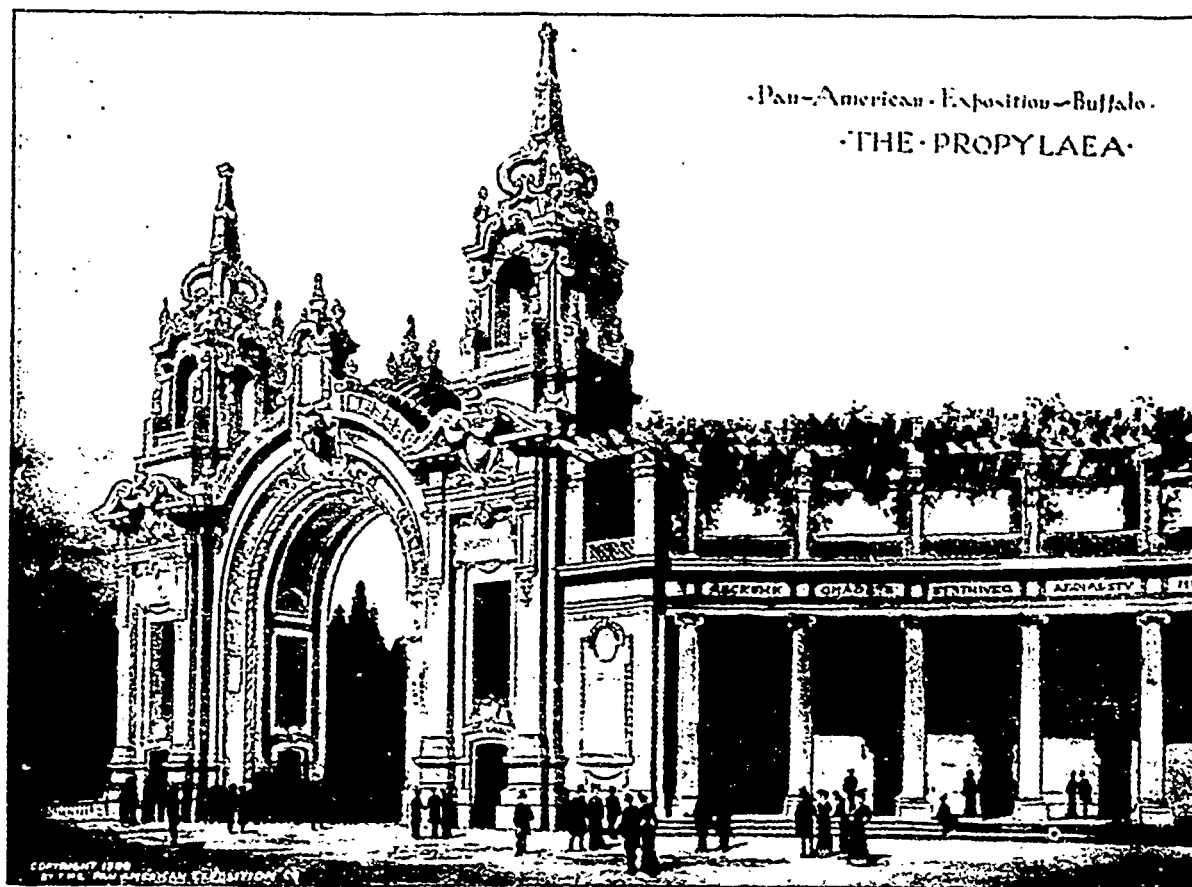
A short focus lens is extremely useful for confined views of architectural work, but its general use is anything but satisfactory owing to the exaggerated perspective between near and distant objects. Such a lens can be converted into one of approximately double its focal length by the simple expedient of removing either the front or back combination from the lens tube. This will be found especially useful for inaccessible objects, such as views on the opposite side of a river. The extra focal length so gained increases the size of the object on the plate.

that a solution of mercuric iodid in hyposulfite of soda results in the formation of a double salt, $\text{HgI}_2 + 2\text{Na}_2\text{S}_2\text{O}_3$. Under the influence of the silver of the plate, the mercuric iodid is reduced to mercurous iodid, with the formation at the same time of iodid of silver, in the second phase of the reaction, the mercurous iodid, in the presence of sodium hyposulfite, decomposes into metallic mercury and mercuric iodid, which latter redissolves in the hyposulfite.

The total reaction may be expressed by the formula. $2\text{HgI}_2 + 2\text{Ag} + 2\text{Na}_2\text{S}_2\text{O}_3 = 2\text{AgI} + \text{Hg} + \text{HgI}_2 + 2\text{Na}_2\text{S}_2\text{O}_3$.

of silver into metallic silver; this is accomplished by using one of the photographic reducing agents. At the same time it was observed that the hypo could be advantageously replaced by sulfite of soda to dissolve the iodid of mercury. The method of reinforcement may be carried out with success as follows:

A bath is formed of 1 gram. of iodid of mercury, 10 grams sulfite of soda, and 100 Cc. water, the proportion of sulfite of soda may be varied within certain limits. The plate, after leaving the hypo, is rinsed and placed in the above bath, the image gradually takes a brown color,



Intensification of Negatives.

Messrs. Lumière and Seyewetz have presented to the Société Française de Photographie a new method for reinforcing photographic plates by the use of iodid of mercury. The action of this reagent has been previously known, but on account of subsequent decomposition it could not be used in practice, the image becoming yellow after a time and diminishing in intensity.

The experimenters propose to remedy this inconvenience (*Scientific American*) and for this they have first established the theory of the reaction, supposing

The intensification of the plate is therefore due to the mixture of mercury and iodid of silver produced by the reaction. In this case the alteration of the image follows after a certain time, and much more rapidly when the plate is kept in water. It may be supposed that under the influence of moisture and oxygen the mercury forms with the iodid of silver a combination of a yellow color, perhaps HgO , AgI ; the experiments made with the plate in its altered condition seem to confirm this hypothesis.

In order to prevent this decomposition and to render the method practicable, the experimenters have transformed the iodid

and the intensification may be stopped at any desired point. This image is not yet in a stable condition, and will take a yellow-green color upon exposure to air if not treated in the following manner. The image is fixed by a solution of one of the well-known reducing agents, such as pyro, hydrochinone, d'amine, paramidophenol, etc. The iodid of silver is thus entirely transformed to metallic silver, the image then being free from iodine. In this condition the plate may be kept indefinitely with no danger of alteration. If it is desired to again reduce the image, it may be placed in a hypo bath, which dissolves out a portion of the iodid of silver; this must be done before the final reduction in the second bath.