

THE ADVANCE OF KINEMACOLOR.

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AN opportunity has presented itself since writing my semi-technical article on Kinemacolor, as published in last year's issue of the PICTORIAL ANNUAL, to put the Kinemacolor process of animated photography in natural colours to a very severe test, from both photographic and commercial stand-points.

The opportunity alluded to has been set down in history as the Indian Durbar, where our most gracious Majesties, their Royal Highnesses the King and Queen have been proclaimed Emperor and Empress of India. One can scarcely realize the triumph of Kinemacolor in recording the whole ceremony with its life, blaze of colour so bewildering to a stay-at-home Englishman, and that elusive quality, so much sought for by the artist, but seldom found, the atmosphere, with all

its varying degrees of colour, light, shade and burning sun such as an Indian atmosphere can give. The event, which is regarded by the universe as being the most gorgeous and majestic the world has ever seen, has been, thanks to Kinemacolor, fully and faithfully recorded, and with the co-operation of the proper authorities, steps should be taken to preserve the negatives as a national heirloom.

Mr. Charles Urban is indeed to be congratulated on his wonderful organization in securing such a successful result, for it must be remembered that in addition to the ceaseless thought required in mastering the various spectacles in detail, so that same may be



recorded by the camera, enormous difficulties had to be surmounted in connection with the technical photographic problem made so apparent by the abnormal conditions of the Indian climate ; in the first place, the method of producing the negative stock film as employed by Mr. Urban, in order to render the film panchromatic, had not previously been put to such a severe test as would undoubtedly be imposed upon it by subjection to high temperatures and humid atmospheric influences ; experiments had to be carried out in order to ascertain to what extent it was possible to risk the condition of panchromatism, as it is well known that a hot and humid atmosphere has a very deleterious action on all dyes used in combination with any emulsion for orthochromatic purposes, and further, such a process cannot be carried out in an atmosphere that is known to act with such disastrous consequences. As a result of the experiments which were obviously carried out in England, it was found that the best means of transit was to place the package of film in as near as possible a similar condition to that prevailing at the time of its manufacture, that is to say, the amount of moisture present in the emulsion and the materials used in packing (which is always present in a more or less degree) must be maintained ; the residual moisture cannot be condensed by placing the film in either vacua or a freezing mixture, neither can it be absolutely dispersed without subjecting the film to a higher temperature than that of the normal. That a sound method of transit for so delicate a chemical structure as a panchromatized emulsion was secured is verified by the resulting negatives which Mr. Urban obtained.

Disposing of the sensitizing difficulties, I will now touch upon the developing. As already mentioned, if the Indian climate would speedily destroy the qualities of the unexposed film, it would deal much more harshly with the film after exposure, as naturally the film would be obliged to run the gauntlet for a matter of some hours whilst in the camera, it therefore follows that the only way to secure the negative was to develop as quickly as possible after exposure ; imagine developing 30,000 feet of film in a perfectly light-tight box 6 feet cube, temperature average 90°F., and obliged to make free use of ice to cool the developing, fixing and washing baths, as a temperature of 80°F. is sufficient to cause the wet gelatine to either slip off or frill from the celluloid base, so destroying the negative. The negative finally dried, two more trials awaited Mr. Urban's progress, and I may venture to say that there are not many photographers who could guess what they were ; one was white ants, and the other, the great possibility of fire ; as most readers are doubtless aware several fires broke out in the camp. To overcome the last two obstacles, a very ingenious and ready device was resorted to. All the films, both unexposed and negatives, were buried in a miniature sand-pit at night, and dug up in the morning. The depredations of the white ants are enormous ; nothing but sheet-iron or steel can stay them.