

action, besides numerous examples of the manner in which the obedient "fluid," if fluid it can be called, is made to do all kinds of mechanical work. There are here shown many domestic labour-savers in action, such as sewing machines, washers and wringers, boot-cleaning contrivances, and various other things of a similar nature.

Such an exhibition as this will make the enterprising photographer dream of the advantages which electricity will presently confer upon him. First and foremost, of course, there is the arc light, which will make him independent of sunbeams. Then he will see how his reception-room can be pleasantly illuminated by incandescent globes of different tints fitted to the most artistic brackets and electroliers. He will also see before him the possibility of using the current in various ways as a motor. His developing dishes will rock automatically, and his washing machine—albeit somewhat different in character to the washers shown at the Exhibition—can be made to work so regularly that every trace of hypo must quickly disappear. There is little doubt that, with the current at hand, the ingenious worker will find out many ways in which it can be made useful in his every-day practice.

A photograph was recently published in an American paper which purported to represent a shell in flight, fired from an eight-inch mortar, every part of the landscape being in good focus, with an exposure of 0.0000076 of a second. An expert photographer thereupon wrote to the editor of the paper, and pointed out that, at any time of day, when a shadow as long as that cast by a certain figure in the foreground occurs, with a lens stopped down sufficiently to give such sharp outlines to distant woods, and a shutter speed sufficient to get the ball at all, such a picture is an impossibility, and that nothing more than the faintest outline of the highlights would be developed. Inquiry led to the acknowledgment on the part of the picture producer that he had touched up and intensified that ball. This is an example of cooking a photograph which all honest men will condemn, while they must admire the acumen of the intelligent critic who took the trouble to expose the fraud.

The old controversy between the advocates of micro-photography and those who believe in making drawings by hand has a good chance of being revived. There was certainly material enough at a recent meeting of the Royal Astronomical Society, to which meeting a reference was made last week. Mr. Mayall's contention is, that certain chemical manipulations may give a false rendering of the microscopic preparation when reproduced by photography. Some workers, for instance, had been led away by the energetic action of powerful reducing agents such as hydroquinone, and induced to aim at producing photo-micrographs of exaggerated contrast, instead of contenting themselves with a simple reproduction. The chairman seemed also inclined to hold this view, for he advanced the opinion

that, contrary to a common doctrine, it was quite possible for a photograph to lie. It would almost seem, from the tone of the discussion, that microscopists now-a-days are photographers first and microscopists afterwards, whereas the reverse should be the case. It is a serious matter if it be true, as Mr. Mayall said: "In twenty years hence the student who should examine the Society's collection of photographs would be sorely puzzled to determine what the present generation of photo-micrographers had really been aiming at."

A platinum mirror is the latest scientific toy. A platinum mirror has the peculiar property of both transmitting and reflecting light, and this property has been utilised by M. M. Dodé in the following way:—Behind the mirror they place a movable panel or shutter, and between this panel and the glass is placed a picture or photograph. When the panel is shut the picture is invisible, and the person gazing in the glass sees his or her reflection. When the panel is opened the reflection disappears, and the picture or photograph appears. These platinum mirrors may be used for other purposes. Placed in the panels of doors, they will light up a corridor or a gloomy room, and on the other side they form mirrors, so that, standing on the reverse side—that is, the platinised side—one can see through the glass without being seen. Anyone who is curious to try the experiment will find the formula for the preparation of the platinum solution in the last issue of *La Nature*.

Collectors of early editions of Dickens have reason to rejoice that photography was not discovered when *Pickwick* was written. The sale of the work, we are told, so greatly exceeded all expectation that new sets of plates had to be prepared for the successive editions. There was no means, as now, of reproducing the plates by automatic process, so they were copied by hand, and, in copying them, the artist took any liberty he thought proper. Sometimes he left out one detail, such as a lady's bonnet-strings, and sometimes he added another. The different "states," therefore, are most distracting, and one has to be an adept to know the very first at a glance. But this variety it is which gives value to the early editions, and the keenest of pleasures to the enthusiast when he secures a copy. Could the first plates have been photographed, all the exercise and nicety of judgment which the connoisseur likes to display would be lost.

We have before written upon the curious resemblance between the portraits of the Oxford and Cambridge boating crews. Every year these sixteen young experts are all photographed; but, for any great difference that exists, the same photographs would do year after year. We are not alone in noting this fact. The *National Observer*, in an article on the race, says: "The illustrated journals will, as usual, give portraits of the members of the crews, printed all from the same negative, with moustaches added to order." This really is no exaggeration.