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THE GRAND PRIZE DIPLOMA OF THE FRENCH EXHIBITION.

The accompanying excellent engraving represents a facsimile of the grand prize diploma, awarded to a few of the most meritorious exhibits displayed at the French International Exhibition last year.

According to the statement of Mr. McCormick, our Commissioner General, there were only eight grand prizes awarded to United States exhibitors. The Wheeler & Wilson Manufacturing Company received, in addition to the grand gold medal, the grand prize diploma from which our engraving is taken.

Although there were hundreds of sewing machines exhibited by manufacturers from almost every country, it was left to our countrymen to bring away the only grand prize awarded to this class of exhibits.

Dr. Cresson's Megascopie.

The Whittaker will case in Philadelphia brought into prominence the need of some more efficient means of examining and comparing documents where alteration or forgery is suspected. The result is an improved megascopie, devised by Dr. Charles M. Cresson, in which the object to be viewed is firmly fixed upon a sliding screen, and is illuminated by two calcium lights placed on either side of the instrument, and so arranged that by means of compound condensing lenses of five inches diameter, the rays thrown upon the object by one light are reflected by the condensers of the

opposite light, making a thorough illumination. There is provided, also, a device by which the rays from a third calcium light can be thrown upon the back and through the object under examination, if the nature of the object will permit it. The image is projected on the screen by an enormous compound achromatic objective lens of over seven inches in diameter. The screen is made of plate glass, finely ground upon one side, and is movable and suspended in a frame by steel tapes and accurately balanced. The frame which carries the screen is placed upon large rollers, and the focusing is done by moving the screen instead of the lens. In order to secure a uniform light, the massive blocks of lime upon which the hydro-oxygen flame is thrown are moved by clockwork, so as to continually present new points of contact for the flame. In using the apparatus, the object to be viewed is laid upon a table in the exact position in which it is desired that it shall be represented upon the screen. A sliding frame is then pressed upon it by springs, and the table with the object on it is slid into place.

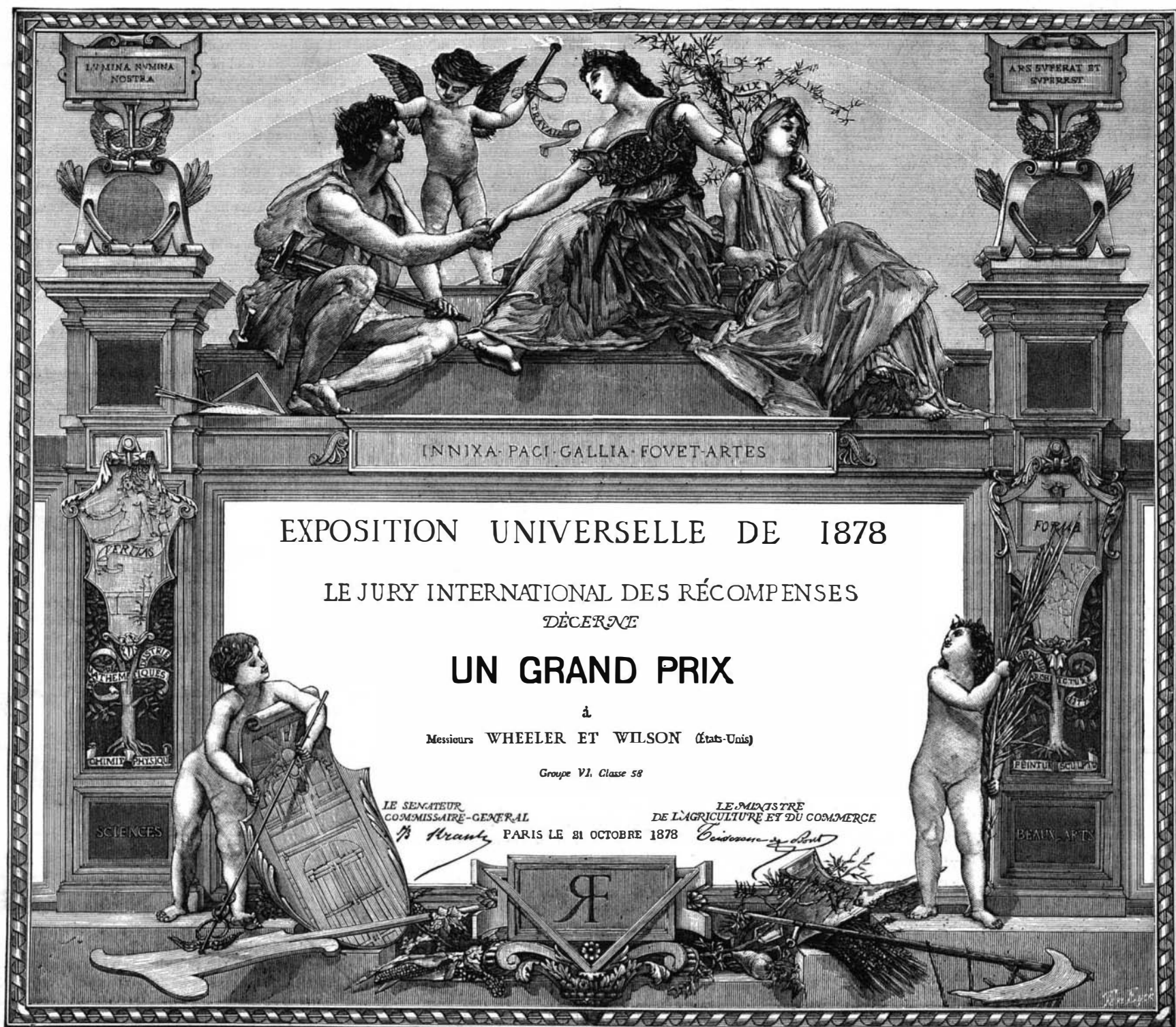
This instrument, the Philadelphia *Record* says, has been successfully used in the examination of altered documents and altered and counterfeit bank notes. In legal contests, where the merits of a case depend upon the genuineness of a particular signature, or that of an entire written document, the megascopie, though dumb, is capable of giving stronger evidence, and more reliable, than the most consummate expert that ever took the stand. Placing the genuine and spurious documents side by side in the instrument, after placing the

screen before the eyes of the jury, both documents are thrown upon it, so that the jury may decide for themselves which is the real and which the fraudulent. The eloquence or ingenuity of counsel cannot disturb its story.

The peculiar arrangement of the lights and screen enables the examiner to discover the surface of the paper through the ink, so that patching or shading or painting of letters becomes evident the instant it is brought under the focus of the megascopie. An arrangement of screens by which the light is cut off alternately from either side of the instrument discovers any tampering with the surface of the paper either by scratching or washing with chemicals. The instrument is of sufficient capacity to view at once two bank notes placed side by side, and the pictures are of such fineness that the image is produced without color from chromatic aberration or distortion from spherical aberration.

Alexis St. Martin.

Alexis St. Martin, whose open stomach furnished Dr. Beaumont an opportunity for studying directly the processes of gastric digestion, is still living at St. Thomas, Canada. He is described as hale and hearty at the age of 87, though the orifice in his stomach is still open. It will be remembered that the wound was the result of a charge of buckshot accidentally received, laying open the stomach so that food could be injected and removed at will by the attending physician, whose observations were of such great value to medical science. It is now 57 years since the accident occurred.



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