

the uterus, that it seems highly improbable that they could have originated from the endometrium. In all the other cases the growth was closely connected with the back of the uterus, so that the endometrial origin was at least possible. My original view that these isolated growths were derived from Wolffian remnants is, I think, now untenable. The possibility, however, that they are derived from the Müllerian ducts, at the place where the fused ducts join the solid mass of cells from which the vagina is developed, cannot be disproved. The actual mode of formation of the vagina is not yet settled, and it is, at all events, possible that groups of cells might become detached from the hinder end of the Müllerian ducts, and by taking on separate growth and canalization, might form a new growth resembling the endometrium. The method of origin, that these growths are derived from the peritoneal endothelium, appears to me to be an unnecessary theory, when two, at least, of the other three theories seem to be so much more likely. Tubular structures certainly are sometimes seen in the broad ligaments which appear to be of peritoneal origin, but they are never associated with endometrial stroma or with a new growth of muscle and fibrous tissue. In none of the cases hitherto described has the possibility of an endometrial and Müllerian origin been absolutely negatived.

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### **A Speculum-Camera.**

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FOR many years we have been impressed with the desirability of obtaining photographic records of tumours and other affections of the cervix and vagina, for which the ordinary methods of photography are not suitable. The "speculum-camera" fulfils this purpose. The instrument was put in hand by the maker (James Sinclair and Co.) in May, 1914. Various circumstances have delayed our bringing the instrument to the notice of the profession, and in the meantime (in July, 1914) Dr. Max Cheval<sup>1</sup> has published an account of an instrument for photographing the cervix uteri which differs from ours essentially in the fact that the camera and stand have to be brought up to the speculum in

<sup>1</sup> Max Cheval, "La photographie du col utérin," *Journ. belge de Gyn. et d'Obstét.*, July, 1914.

Dr. Cheval's instrument, while in ours the speculum and camera are combined and the focus is fixed. We have found in using our instrument several points in which improvements may be made; but we think the photographs exhibited (figs. 4, 5, and 6) show that sufficient success has been obtained to warrant our bringing the instrument to the notice of the profession.

The whole instrument measures  $8\frac{3}{4}$  in. in length; the speculum (with the end cut at right angles) is  $6\frac{1}{8}$  in. long and has a diameter of  $1\frac{3}{8}$  in.; at the trumpet end of the speculum is a stud (fig. 2), which fits into a hole in the flange (figs. 2 and 3) attached to the camera, and by means of a hinged catch fixes the speculum and camera together immovably. The figures render any further description unnecessary. The camera is composed of an "Xpress" lens by Ross, of 2 in. focal length, working at f.5.4, and has two stops, F 8 and F 11. The focus is fixed, and has a depth of  $\frac{3}{16}$  in., so that for that distance all that falls in front of a plane  $\frac{1}{8}$  in. inside the speculum is in sharp focus. The plate is  $4\frac{1}{2}$  cm. by 6 cm. The tube of the camera fits into the speculum, but to avoid displacement of parts during its insertion by pushing a column of air down the speculum, some small studs project from the camera, preventing too close apposition of camera and speculum and yet maintaining rigidity between the two. The camera is entirely enclosed, and a disk of plane glass forms an air- and dust-tight window in front of the lens. During use it is necessary to warm this glass cap to prevent condensation of moisture, or the cap may be removed, with the advantage of a slight increase of illumination. The depth of sharp focus mentioned above could be increased by diminishing the size of the stop; but this would lengthen the exposure, which is now from twenty to thirty seconds. The illumination is obtained from a small accumulator by a circle of six lamps surrounding and just behind the lens (fig. 3). By lining the end of the speculum on one side with a piece of white paper better shading is obtained.

The speculum is passed while the patient lies on the left side and the projecting end is supported by sandbags. The cervix is dried and the speculum rotated so that the slide will not fall out when the camera is inserted. After the camera is fixed in position a view of the cervix may be obtained on a ground glass screen if required, but this is found not to be necessary if the cervix does not project beyond the region of sharp focus as measured by a rod passed down the speculum. It would, however, be a simple improvement to insert a focusing arrangement in the camera, if it were required to emphasize by sharpness some special feature.

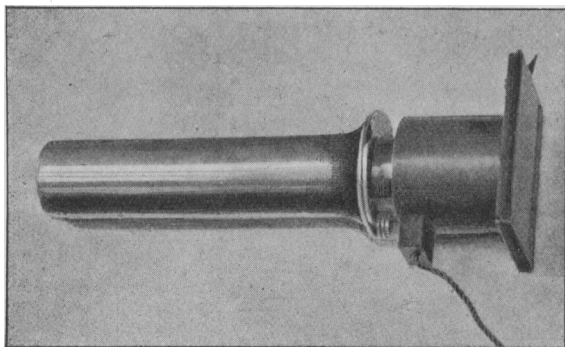


FIG. 1.

The camera-speculum complete; below, the flexible insulated wire passing to the accumulator.

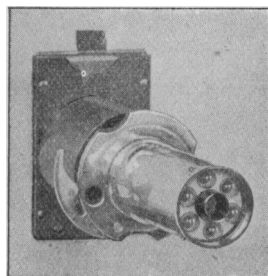


FIG. 3.

The camera, showing the lamps, lens, catch, and hole for stud.

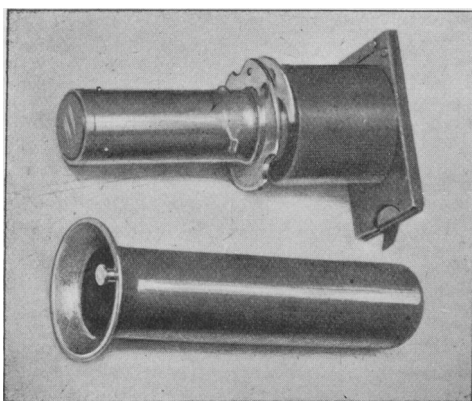


FIG. 2.

The camera and speculum separated, showing the stud and catch for fixing them together.

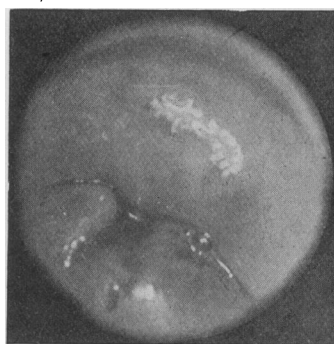


FIG. 4.

Photograph of lacerated cervix. ( $\frac{3}{8}$  natural size.)

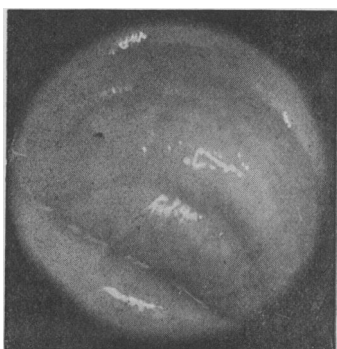


FIG. 5.

Photograph of cervix and fold of vagina. ( $\frac{3}{8}$  natural size.)

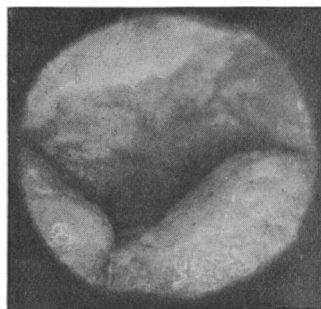


FIG. 6.

Photograph of cervix one week after reduction of inverted uterus, showing gaping cervix with laceration below. ( $\frac{3}{8}$  natural size.)