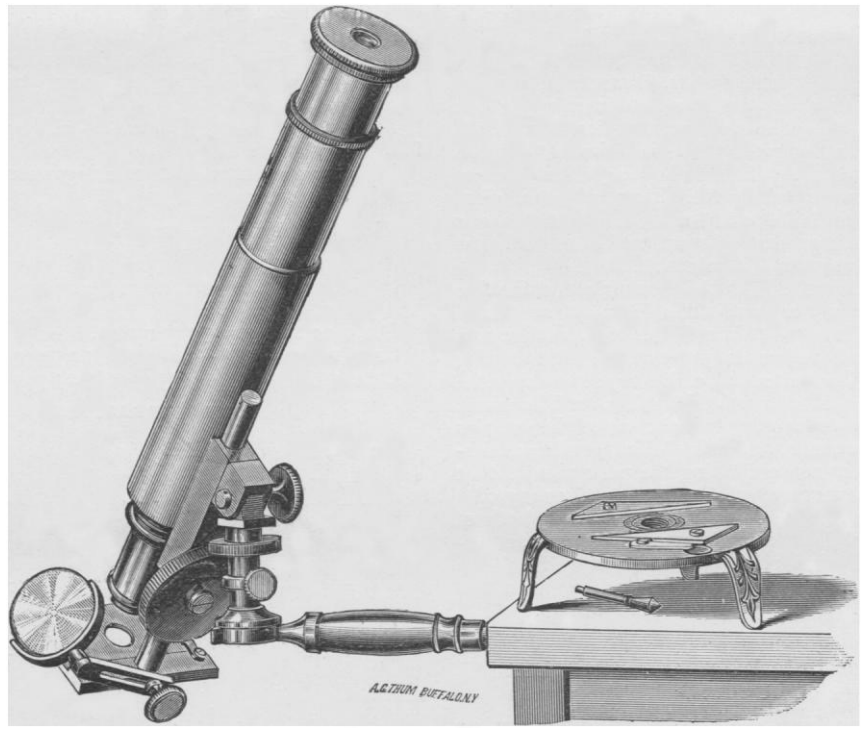
TABLE.

No.	Reading of Poloriscope.	Percentage of Reducing Matter by Copper Solution.	Percentage of Reducing Matter by Polariscope.	+Differences.	-Differences.
1	52.65	53.20	53.44	.23	. . .
2	46.07	61.73	61.66	....	.07
3	52.65	52.36	53.43	....	1.07
4	43.05	62.50	64.90	2.40	....
5	48.04	59.35	58.75	....	.60
6	47.70	61.40	59.63	....	1.77
7	49.80	58.80	57.00	....	1.80
8	48.45	58.55	58.56	.01	....
9	50.26	55.60	56.45	.85	....
10	51.50	53.50	54.88	1.30	....
11	50.57	56.49	56.04	....	.45
12	51.74	56.18	54.58	....	1.60
13	40.83	69.93	68.21	....	1.72
14	40.00	69.30	69.25	....	.05
15	50.53	56.34	56.09	....	.27
16	63.80	39.22	39.50	.28	....
17	51.73	54.05	54.37	.32	....

NEW PORTABLE MICROSCOPE.

We present with this number two illustrations showing a new form of portable microscope stand, designed by Mr. E. H. Griffith, and called by him the "*Griffith Club Microscope*," the chief merit of which appears to be its portability, and adaptability to certain positions, which are impossible with the ordinary instruments.

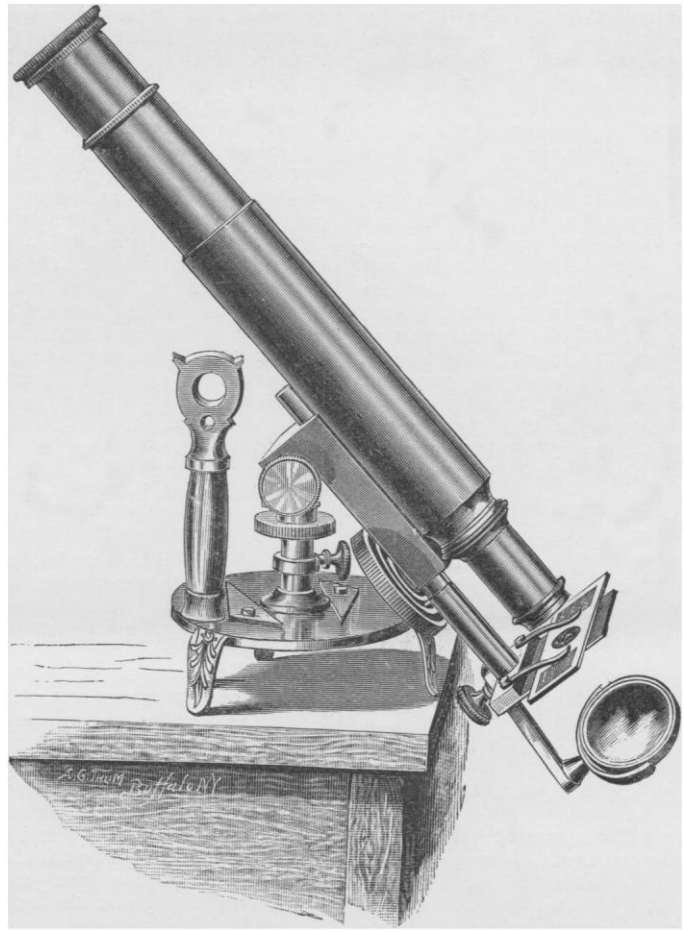
To those familiar with the use of the microscope an examination of the illustrations will suffice to arrive at a clear understanding of what Mr. Griffith has produced. It will be seen that much originality has been displayed, and that novelty of construction is a leading feature. The greatest innovation is the use of an ordinary self-centering turn-table for mounting, as a stand for the instrument; if, however, the turn-table is required for use, the microscope can be closed and used as a stand for the turn-table. The fine adjustment is also an original device of Mr. Griffith, and will be noticed as a large milled-edged screw in the cut. On the inner surface of this cir-



GRIFFITH'S PORTABLE MICROSCOPE. (Fig. 1.)

cular plate is a spiral groove into which works a pin controlling the stage. Mr. Griffith states that with this appliance, a very perfect focal adjustment can be obtained.

Illustration No. 1 shows the instrument attached to a table by a screw support, the mirror placed in position above the stage. As an adjunct to a dissecting table the Griffith microscope, thus used, would be found most useful, occupying no surface space. In excursions it could by the same means be attached to the side of a tree or to a fence. No arrangements have been as yet completed for the manufacture of this instrument, but it is believed they will shortly be made by a firm who will undertake to produce them at a reasonable cost, as Mr. Griffith has aimed to construct a serviceable portable instrument at a moderate price.



GRIFFITH'S PORTABLE MICROSCOPE. (Fig. 2.)

ON CHICKEN CHOLERA: STUDY OF THE CONDITIONS OF NON-RECIDIVATION AND OF SOME OTHER CHARACTERISTICS OF THIS DISEASE.*

BY M. L. PASTEUR.

I.

In the communication which I had the honor of presenting to the Academy in the month of February last, I announced, among other results, that chicken cholera originates in a microscopical parasite; that there is an attenuated virus of this disease, and that one or more inoculations of this attenuated virus may preserve chickens from death when inoculated with the virus of maximum virulence. On account of the striking similarity that these two forms of virus present with the effects of variola and vaccine in man, it becomes interesting to ascertain not only if the immunity from the more aggravated form of virus is absolute, for the regions of the body which have undergone the preventative inoculation, but also if this immunity exists in the system, no matter what portion of the animal may have been inoculated, and what may have been the manner of introducing the virus.†

To explain with brevity the results which I have to communicate, I may be allowed to use the word *vaccinate*, to express the act of inoculating a chicken with the attenuated virus. This being admitted, I may state, as the result of many experiments, that the effects of vaccination are very variable. Some chickens are little affected by the most virulent virus after one inoculation of the attenuated virus; others require two such inoculations, and even three. In every case, the preventive inoculation does some good, be-

* Translated from the *Comptes Rendus de l'Academie de Sciences*, of April 26th, 1880, page 952, by P. Casamajor. The translation of the first paper of this series appeared in the *Chemical News*, vol. xli., page 4 (July 2nd, 1880).

† From all I have seen and read of vaccine in man, and from my experiments on chicken cholera, I infer that *vaccine* rarely acts as a complete preventative. There are cases cited of vaccinated persons who have had the variola, and there are even cases of persons who have had it, afterwards, as much as three times.