

THE "DAYON"

(Reg. Trade Mark.)

Micro-Telescope Cornell's Patent

AND SUPER-MICROSCOPE.

THE FORMER IS A COMBINATION OF MICROSCOPE AND TELESCOPE.

(NOT A COMPROMISE.)

*Giving, as a telescope, a magnification of from 20 to 80 diameters
and a range of vision from 3 ft. away to the planets.*



AN EPOCH-MAKING INVENTION.

For anything too small for the telescope or too large for the microscope.

MICROSCOPY beyond the microscope stage.

Everything is seen in stereoscopic relief at any distance.

Astronomical observations direct or high angle views.

Anything that can be seen with the micro-telescope can be photographed with it.

— *Photo-micrography or tele-photography.*

The SUPER-MICROSCOPE provides UNLIMITED POWER in the MICROSCOPE both
VISUALLY and PHOTOGRAPHICALLY.

SOLE PROPRIETORS OF THE PATENT AND ACTUAL MAKERS:—

F. DAVIDSON & CO.,

Manufacturing Opticians,

29, GT. PORTLAND STREET, LONDON, W.

And at CAIRO.

Telegrams: "Rewrite, London."

'Phone: GERRARD 6530.

All prices advanced 10%

THE "DAVON"
PATENT
MICRO-TELESCOPE,

Criticism by Professor C. V. BOYS.

Reprinted from "Nature," January 22nd, 1914.
(page 5'5.)

"MESSRS. DAVIDSON & CO., have recently produced a "micro-telescope" an instrument which is essentially a microscope of ordinary construction carrying a short focus telescope objective and tube below the stage. It may here be remarked that the ordinary terrestrial telescope with erecting eyepiece is nothing more than an object-glass and a microscope, for an erecting eyepiece is nothing more than a microscope of low power. This is at times of great use in the workshop or laboratory, where a low-power reading microscope may be wanted in a hurry, but it is not everyone who remembers that a pocket telescope contains within itself this instrument also. While, therefore, the micro-telescope and the ordinary telescope with erecting eyepiece have the same sequence and function of lenses, and each gives an erect image, yet in proportions and practically the micro-telescope is a very different thing. The triple objective in the micro-telescope, though of only $5\frac{1}{2}$ in. focal length, instead of the usual 8 or 9 in., successfully withstood the following severe test. At a distance of a rod, pole, or perch and a half, and a yard and a quarter (which works out as 342in.), a Bellows French Dictionary could be read perfectly and with a $\frac{3}{8}$ in. microscope objective a circle of $3\frac{1}{2}$ in. in diameter could be seen at once all in focus and with no sign of colour. As a more severe test a number of groups of artificial double stars, made by small needle-holes in tin foil, of which the closest group were all separated by $\frac{1}{100}$ in. centre to centre, were set up at the same distance, and all were clearly double stars as seen in the micro-telescope, clear, sharp, and without colour, but with the first diffraction ring clearly showing. These stars subtended centre to centre an angle of almost exactly $6''$ of arc, and as the needle-holes were not geometrical points, this test shows that the object-glass was up to the optical limit imposed by the size of the wave-length of light.

Some crumbs were then placed on the floor at a distance of four yards, and strongly illuminated, and the microscope with a 1 in. object glass focussed on the crumbs. Presently some mice came out, and made themselves at home with the crumbs. The mice could be examined at this distance without their being aware of it so well that individual hairs were easily visible and about half a mouse was in the field of view. In point of size it appeared about the same as a beaver within a foot or two. The magnifying power was measured and found to be 42.

A plane mirror silvered on the front face is provided to be clipped on in front of the telescope objective, so that objects may be examined without tilting the micro-telescope to an inconvenient angle. This has the two motions necessary to bring an object into the field of view. The double-star test showed that the mirror interfered slightly with the perfection of the image, but not to such an extent as to be noticeable except with so severe a test.

A further attachment is provided by means of which the microscope tube is replaced by a camera so that either microscope photographs may be obtained if the telescope element is replaced by a substage illuminator, or if the telescope fitting is in its place the combination enables telephotographs to be taken; some of these submitted by the makers show that in this domain also excellent results are possible.

Altogether the new instrument is one with many possibilities, and it will appeal to people with widely different interests."

By means of this invention or discovery we unite and concentrate the special features of the microscope and telescope in one instrument.

In bringing this invention before the public we feel sure that it will be appreciated. It will appeal to all by its novelty, the manifold uses for which it is adapted, and its moderate price.

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MICRO-TELE ATTACHMENT.

This is composed of a finely wrought object glass of 6" focus in a tube provided with a carefully and correctly graduated series of "stops" so that every trace of halation is clarified from the image lines. The attachment is inserted in the "Abbé" rim of the microscope and a perfect image of a distant object is projected *in air* on the plane of the stage, and one which will stand the tremendous magnifying power of the microscope with a $1\frac{1}{2}$ ", 1", $\frac{2}{3}$ " or $\frac{1}{2}$ " objective. The microscope becomes the eye piece of the telescope.

The results place the ordinary telescope at a great disadvantage whether as regards size and weight for given results, definition or magnification. This result is obtained without impairing in any way the use or power of the microscope itself.

Two micro-telescope attachments are made, No. O 494 for any distance from 3 feet away to the planets and one of short focus, No. O 494 A, for microscopic areas at 12"-15".

The attachments, being made to fit the "Abbé" rim of any standard microscope, any one possessing the latter can by means of these convert it at will into a really wonderful telescope.

When looking through the micro-telescope all objects are seen exactly as the eye sees them.

The focal range is also so deep that features often unseen in their proper relationship now fall into place, producing a complete depth of view quite new in microcopy. The upstanding character of lichen, moss or fungus under high power and all in focus is quite a revelation, and tiny plant life in general can be intimately studied, for whether on the bench or on the ground or on a wall, a turn of the focussing head is sufficient to make all clear.

Used in the conservatory or orchard alike it is invaluable for critical examination of pests and disease on plants out of reach, and the time saved in orchard inspection with the large areas now planted is a valuable item of economy. One can watch and study the habits of bees, ants or other insects 4 feet away or 20 feet away without disturbing them. At a distance of 10 feet a bee has been seen actually gathering the pollen and stowing it away.

"Sixty feet away from the point of observation I could plainly make out the essential organs, the so called 'honey guides' on the petals of the flowers in my garden." The "English Mechanic," July 15th, 1913.

We have seen a few feet away a spider, magnified to the size of a large cat, spinning its web and attacking a fly. We have seen a gnat leaving its Papua case, drying itself, getting its wings into use and cleaning its legs.

"THE GARDEN," July 12th, 1913.

"At a distance of $\frac{1}{4}$ mile I was able to identify plants growing on a wall while the same instrument magnified pollen grains with splendid definition."

Everything viewed through the Micro-Telescope is seen in stereoscopic relief. This feature is one of the most striking characteristics of the instrument and its importance cannot be over estimated.

AS A TERRESTRIAL TELESCOPE.

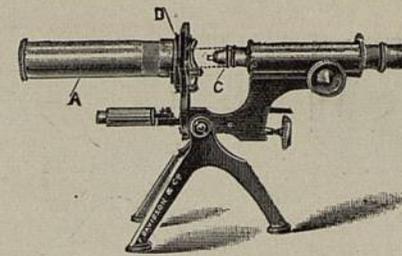


Fig. 1.
The Micro-Telescope
used horizontally.

It is superb. It is rigid and strong and the field of view is very wide considering the magnification, while the illumination is excellent.

"The image excels in brilliant contrast, definition, flatness of field and wide angle." "Science Siftings."

On a clear day the texture of a flag is visible $1\frac{1}{2}$ miles away.

We have compared it with large and expensive telescopes of the ordinary type and it lost nothing in the comparison.

Major — on active service wrote:—"It is a wonderful telescope for its size, quite equal to our large — telescope." Capt. — wrote:—"I was able to read the name of a trawler 4 miles out at sea."

It is only 15" long yet within this short compass we can, by varying the microscope objective and eyepiece, obtain a range of magnification from 25 to 85 diameters.

AS AN ASTRONOMICAL TELESCOPE.

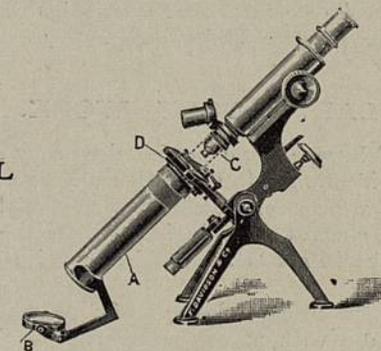
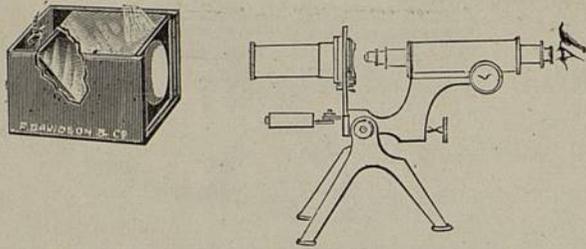


Fig. 2.
For High Angle Views.

It is infinitely superior to any except those of the highest class, the cost of which is prohibitive. It also has the great merit of enabling one to sit comfortably in a chair at the open window and under suitable conditions view a planet in the reflector without having to crane the neck looking upwards. Direct observations can of course, also be made, and, if the weather conditions are really good, under a magnification up to 80 diameters as explained under the chapter on "magnification," &c. In fact the study of astronomy can be easily and interestingly followed in one's own room. For this it is only necessary to be provided with a number of transparencies of the heavens illustrating the appearance of the various planets, constellations, etc., and by means of an illuminated box (No. 593 B, Fig. 3), the phenomena can be seen through the micro-telescope just as one would see them if looking directly at the heavens in the usual way. This feature of the "DAVON" Micro-Telescope possesses infinite possibilities of interest to those who perhaps from conditions of age or health have been debarred from following their, perhaps, favorite science or pastime.

The geography of the moon. Jupiter's Moons, Saturn's Rings are absolutely definable under ordinary telescopic conditions.

Reprinted from KNOWLEDGE, No. 530.—"Although the focal angle is extreme, the flatness of field and the wide angle of same are extraordinary. With a telescopic objective of seven-inch focal length and a micro-objective of one-inch focal length a magnification of forty-five diameters is obtained. With such an arrangement Jupiter and four of his moons were observed with astonishing clearness during June."



No. 593 B. Fig. 3. Astronomy in the home, or for viewing lantern-slides.

Without personal experience it is impossible to imagine the wonderful and beautiful views to be obtained of lantern slides, and we believe that this will be much appreciated whether amusement or instruction is desired. At a distance of 12 feet the whole field of a slide is in view with a depth truly amazing and a general stereoscopic effect which makes this method of observation far superior to the projection method usually employed although the view is not so large and although it can only be seen by one person at a time. The view through the micro-telescope is always stereoscopic although only one eye is employed, whereas a lantern slide shown in the ordinary way presents a large but flat surface.

Here it may be repeated that *everything* seen through the micro-telescope is seen in relief.

An illustration from a book or catalogue or a snapshot photograph will illustrate this clearly whether viewed 6 feet or 50 feet away.

LABORATORY WORK.

The "DAVON" Micro-Telescope fills a gap in microscopy as microscopic areas can be examined under a magnification of 100-200 diameters at a distance of 10-12 inches. For this purpose the shorter focus telescope objective is used. This opens up a field of use to the mineralogist, chemist or biologist. Under the microscope proper the specimen must be flat or it will not be all in focus. With the micro-telescope *this does not matter*.

In the study of Biology the Micro-Telescope may be used with great advantage and the results obtained are without doubt superior to those obtained with the ordinary microscope used, inasmuch as the field of observation is larger, a stereoscopic effect is produced, and again, living specimens may be examined at a distance without unduly disturbing them. A good example of this may be seen in studying a living specimen of Hydra (a most sensitive body which contracts on the slightest touch), and the movement, shape, etc. of its tentacles, hypostome, mouth and Pedal disc may be observed with the greatest ease; at the same time the small water fleas which inhabit the same water as the Hydra may be studied and it is interesting to note how these fleas, on touching one of the tentacles of the Hydra, are drawn into the mouth.

Sections of the earth worms may be studied without the elaborate preparation of slides necessary with the ordinary microscope. The scales and teeth of the Dogfish when examined with the Micro-Telescope are shown to great advantage and in many other instances in Biology may this instrument be used, the results obtained being most pleasing.

MICROSCOPES.

For those who do not already possess them we list two kinds, viz. No. O 595 suitable for all micro-telescopic and photographic purposes, and No. O 596 which is a high class microscope but not adaptable for photography and which can be provided with various mechanical arrangements for the highest class of critical work, as specified on page 14.

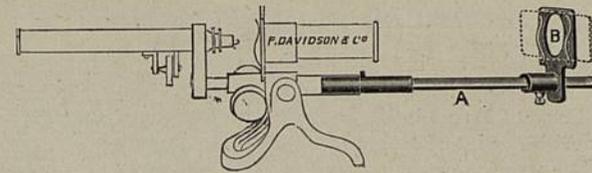


Fig. 4. No. O 541.

"A" Extension Stage fitted to microscope for observation at 12" to 15".

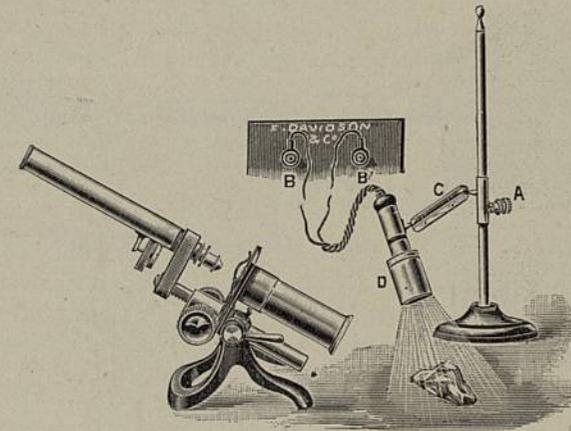


Fig. 5. MICROLITE. No. 536 B.

Illustrating a microscopic view of a piece of stone at a distance of 12", the illumination being supplied by means of an 8 volt lamp and condenser supplied with Microlite No. 536 B, attached to an accumulator. This lamp gives intense light without showing any image of the filament.

The "Davon" Micro-Telescope in Medical Work.

With the long focus attachment it provides an ideal instrument for the examination of the skin which can be effected with the length of an ordinary room intervening. It forms in addition the finest compound corneal microscope ever made. Using the short focus attachment a magnification of 90 diameters is obtained with a No. 3 eye-piece and a 1" micro-objective.

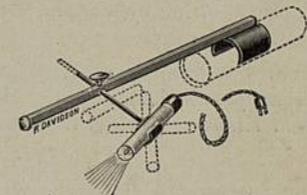


Fig. 6. No. 592 A.

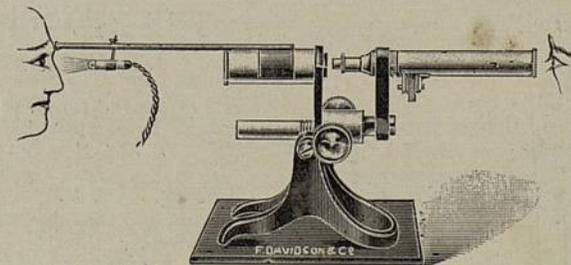


Fig. 7. No. O 595.

(Microscope fitted as a Corneal Microscope, where the electric light is not laid on.)

Source of illumination.—8 volt lamp and condenser as in Microlite No. 536 B.

When one has electric light in the house it is a simple matter to illuminate the cornea by means of the lamp used for other examinations.

MICRO-PROJECTION.

This is not the least interesting use to which the microscope can be put. In the home an endless source of instruction and amusement can be provided. Fig. 8 illustrates the "Davon" Arc Light (500 c/p.) and condenser system. The latter is inserted in the "Abbé" rim of the microscope as shown. The slide is placed in the usual position on the microscope stage. The holder "L" actuates one of the lenses of the condenser system and provides for the necessary adjustment of the light.

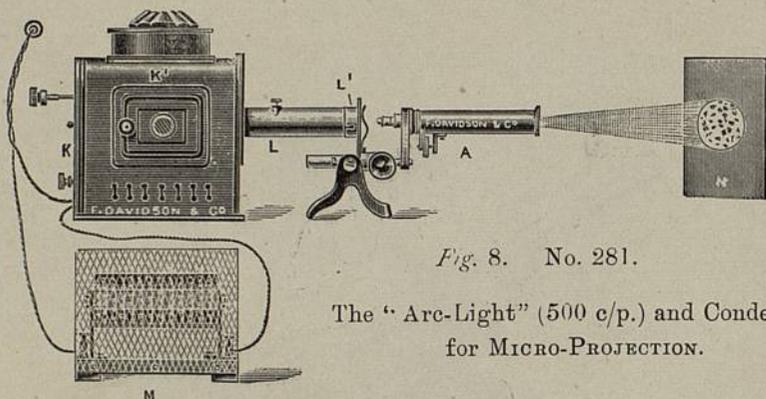


Fig. 8. No. 281.

The "Arc-Light" (500 c/p.) and Condenser
for MICRO-PROJECTION.

OTHER USES.

The Micro-Telescope also lends itself to an infinite variety of further uses; such as the examination of stamps, signatures, erasures on documents, gems, textures of linen, cloth, &c.

In ore smelting, glass, china, pottery and enamelling works and engineering shops, the process of firing could be watched at a comfortable distance and fractures of material viewed under high magnifying power, and an *area* examined instead of a speck which is all the microscope proper is capable of.

Architects and Surveyors can use it with advantage for examining the condition of factory chimney shafts, derricks, bridges, &c., as it can be placed at any convenient distance.

It can be used for reading at distances scales of galvanometers, one to many, electroscopes, barometers and thermometers, as a pyrometer for reading temperatures of furnaces, as a cathetometer.

ITS USES ARE ENDLESS.

There is hardly any walk of life in which the micro-telescope will not be found of some value.

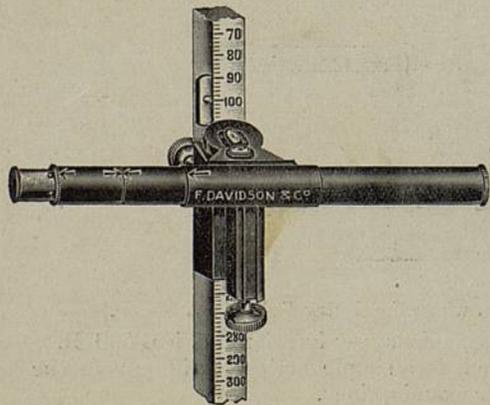
THE "MICRO-TELE"
CATHETOMETER,

as supplied to the Middlesex Hospital.

Fig. 9. No. 760.

The use of a telescope made on the principle of the Micro-telescope adds tremendously to the value of a Cathetometer. The telescope has a magnification of 20 diameters and can be easily removed and used as a telescope in the ordinary way.

Price £7 10 0.



MAGNIFICATION, FIELD & ILLUMINATION.

By using different combinations of eye-piece and micro-objective it is possible to vary the illumination, magnification and field according to requirements. A No. 2 (second power) eye-piece and 1" micro-objective are supplied with each micro-telescope. This forms the best general combination and gives the range of vision already mentioned, the magnification being upwards of 35 diameters. When however it is necessary to examine something that requires the maximum of illumination and field and when a little loss of magnification is of no moment, a stronger eye-piece and weaker objective should be used (the No. 3 or 3rd power eye-piece (+8) and 1½" objective). It is really astonishing to find how much one can see when the light is bad. For terrestrial or astronomical observation under good atmospheric conditions the ×8 eye-piece and a ⅓rds objective give excellent results while under best conditions a ½" objective can be employed giving a magnification of 85 diameters. It is not advised that any higher power than this be used. The extra objectives and eye-piece can be supplied at the prices listed.

Various Powers obtainable with the Micro-Telescope.

Eye-Piece	Micro-Objective	Magnification in Diameters.
No. 2 or × 6.5	1½"	Up to 20
„ 3 or × 8.0	1½"	„ 30
„ 2	1"	„ 35
„ 3	1"	„ 45
„ 2	⅔"	„ 50
„ 3	⅔"	„ 60
„ 2	½"	„ 70
„ 3	½"	„ 85

The above results are obtained with the No. O 494 (or long focus) attachment.

Using the No. 2 eye-piece and the O 494 A, or short focus, attachment with the 1" objective at 12" the magnification is 70 or with the No. 3 eye-piece 90. No. 3 eye-piece and ⅔" will give magnification to 150, or with the ½", 200 diameters. These magnifications are obtained by getting as *close* to the object as possible, the microscope objective being racked as far out as one can. One *can* see at greater distances but the magnification is reduced. This short focus attachment if used as a telescope gives a power of 12-15 but it is not really intended for this. Its proper function is for microscopic observation 12-15" from the stage of the microscope.

Comparison made with a Standard Naval Telescope

with a 2" object glass.

The magnification of the latter was ×26 the field of view in degrees 1.4 and the *apparent* field 36. The *micro-telescope* with an effective aperture of .95 gave a magnification ×35, a field of 1° and *apparent* field 35°.

Although the effective aperture of the latter was less than half that of the former, the magnification was ⅓ greater and the field still good.

"WE HAVE TESTED your MICRO-TELESCOPE and find IT DOES EVERYTHING you claim for it."

Inserted by permission of Ivor JOHN, Esq., M.A.,
Principal of Municipal Training College, Hull.

PHOTOGRAPHY WITH THE MICRO-TELESCOPE.

The wonderful properties of the apparatus already described are added to tremendously by the facilities afforded for photography. *Whatever one can see with the micro-telescope can be photographed with it*, whether the object be on the stage of the microscope (photo-micrography), 12" away, or *as many miles*. Distance may be said to be annihilated both visually and photographically.

"THE BRITISH JOURNAL OF PHOTOGRAPHY" says:—"The micro-telescope is none the less efficient for photography because of the many other uses to which it can be put. The results which we have seen show the extremely good resolution and power which can be obtained."

We have photographed diatoms, seeds, shells, metal surfaces, fish scales, thumb prints, insects, flowers, scab on apples; taken portraits in a studio and 100 yards away, photos of engravings and other photographs and tele-photo views at distances varying from 200 yards to 7 miles; also one of the Gizeh Pyramids at a distance of 15-16 miles.

Depth of focus is again a marked feature while portraits show an artistic softness which is most pleasing.

We are only able to illustrate a few of the photographs we have taken but we invite all who can do so to call and see specimens of the wide range of photography which can be accomplished.

THE CAMERAS.

Two types are made, No. O 709 of fixed focus which can be used with or without the tripod, and No. O 710 the "SUPER-CAMERA."

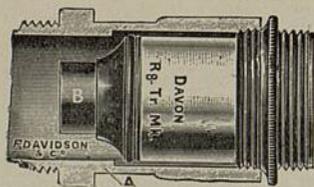


Fig. 10.

Showing microscope objective reversed for photography.

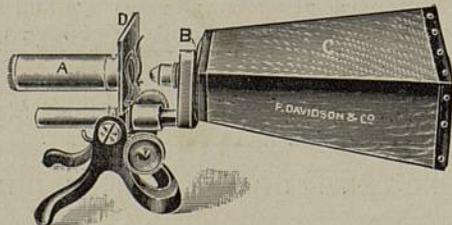


Fig. 11.

Camera No. O 709.

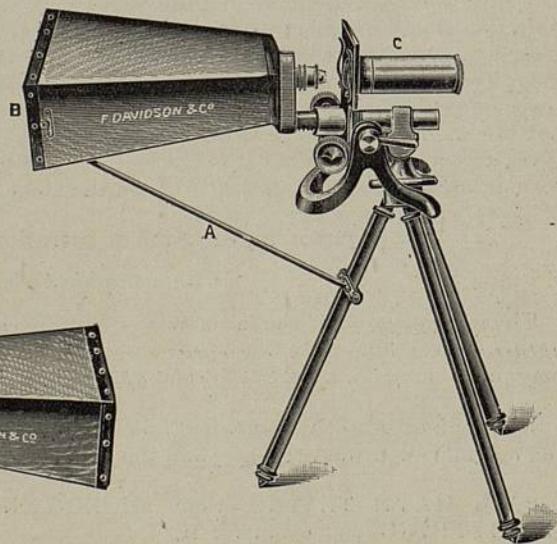
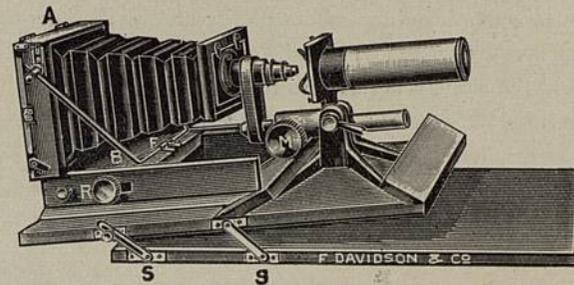


Fig. 12. No. O 606.

Tripod and Camera Support.

THE "SUPER-CAMERA."

No. O 710. Fig. 13.



on tilting base-board providing the maximum of rigidity for all classes of photography.

Fig. 14.

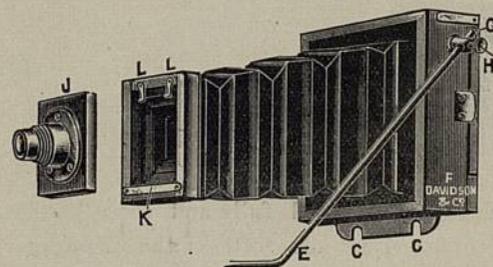
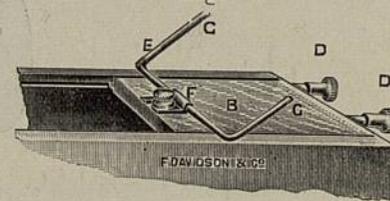


Fig. 15.



Figs. 14 and 15 show the construction and the mode of adapting it to the microscope. The front "J" fig. 14, is first inserted and then the body of the camera is brought up to it and put in position. The fitting "G G" fig. 15, is inserted into each side of the camera at "G" fig. 14, and fixed on the base-board at "F." This provides the maximum of rigidity. Focussing is done by means of the microscope and the camera. As "snap-shot" photography cannot be done a simple shutter is provided. A slight turn of the handle will open or close it. Exposures down to $\frac{1}{2}$ second can be made. For photo-micrography the "super-camera" should rest directly on the lower board; for tele-photography it is first raised *from the front*, tilted to the desired angle and then locked in position by the thumb screws on the supports "S.S."

TELE-PHOTOGRAPHY AND HIGH POWER PHOTO-MICROGRAPHY.

It is a well-understood fact that in these branches of photography the best results are only possible if the camera is fixed rigidly in the necessary position. It will be realized that extreme rigidity is not obtainable with any support such as a tripod affords. If in tele-photography care be used and the legs of the tripod are placed fairly wide apart, a sheltered position selected and finally, when the plate is *in situ* and the shutter withdrawn and *before the exposure is made*, a few minutes be allowed for the apparatus to free itself from vibration, fairly good results may be anticipated. The use of the tripod for tele-photography is simply a matter of expediency, but where it is possible to do so, a more rigid support must be utilized and for this purpose we have constructed a camera which can be readily adjusted on its base-board and fixed in position. Low power photo-micrography can be done with the No. O 709 camera but for high power work the No. O 710 is essential.

GENERAL INSTRUCTIONS FOR PHOTOGRAPHY WITH THE MICRO-TELESCOPE.

The same camera is employed for photography at any distance and the eye-piece of the microscope is never used. The tube carrying the eye-piece is removed from the microscope and the camera is put into its place.

For the best results the special "Davon" *Photo-Micro Objectives* should be used, as the covering power, definition and depth of focus obtainable with these is very far in advance of what is possible with objectives mainly for telescopic purposes. They are equally superior for all other uses. They should be reversed for photography, see page 8.

The long focus attachment (No. O 494) is used for all distances beyond 3 feet from the stage of the microscope. In all photographic outfits this attachment is provided with an Iris Diaphragm.



Fig. 16.

For photographic purposes the diaphragm is opened fully and the "outside stop" (fig. 16) put in front of the lens, (for visual observations the diaphragm should be closed down to about 5-6 $\frac{m}{m}$).

For distances from 1-3 feet the short focus (No. O 494A) attachment is employed with the "outside stop." For photo-micrography no attachment at all is used, the micro-slide being placed on the stage of the microscope, transparencies being illuminated from behind and opacities from the front.

In taking a photograph at a great distance an easy way to get the picture on the screen is to first focus an object 8 or 10 yards away in the direct line of vision of the distant object. This is quite simple. It is then only a question of gradually depressing the camera and slightly altering the focus to pick up what is desired.

The micro objectives usually employed are either the 1" or $\frac{2}{3}$ ", but the $\frac{1}{2}$ " may also be used if one wants the greatest magnification of say, any single detail.

We have found the Imperial Sovereign plates to be uniformly good for general use with pyro soda developer, but for special work, such as photo-micrography, insects, butterflies, moths, flowers and anything with various colours or extremes of light and shade, the Imperial Ortho-chromatic non-filter plates give most satisfactory results. They soften down the extremes of shade and colour and in many cases can be used without the yellow light screen. For long distance photography these plates should also be used as they require less exposure than the Imperial Sovereign and give good contrast and definition.

For photographs at say from 4 to 10 feet the exposures are roughly 5 to 30 seconds.

For photo-micrography the exposure varies with the subject to be photographed and the light employed.

For tele-photography the exposures vary from $\frac{1}{3}$ to $\frac{1}{4}$ seconds according to the light.

PRICE LIST.

No. O 494. Telescope Attachment for observations from 3-4 feet to infinity and for photography	... ..	£2 10 0
No. O 494A. Ditto, short focus, for microscopic observations and photography, 1 foot away from the stage with magnifications up to 200 diameters	... ..	2 10 0
Mahogany padded Box for either attachment	... ..	0 3 0
Fitting Rim to understage when required	... .. from	0 7 6
No. O 594 Special 2" Astronomical Reflector (B Fig. 2,) silvered on the surface, in gymbal mount with protecting cover: made to clip on to the attachment	... ..	1 5 0
Suitable Microscope Objectives for telescopic work and students' microscopy $1\frac{1}{2}$ ", 1", $\frac{2}{3}$ ", $\frac{1}{2}$ " (not for photography)	... .. each	0 15 0

The "Davon" Photo-Micro Objectives have been specially computed and designed for the best photographic work and are equally superior for microscopic observations and the lower powers (up to $\frac{1}{2}$ ") for telescopic work as well.

The "Davon" special Photo-Micro-Objectives:

$1\frac{1}{2}$ " and 1" N.A.O.26, $\frac{2}{3}$ " and $\frac{1}{2}$ " N.A.O.34,	... ..	1 17 6
$\frac{1}{4}$ " N.A.O.75	... ..	2 5 0
$\frac{1}{6}$ " N.A.O.85	... ..	2 10 0
$\frac{1}{8}$ " N.A.O.85	... ..	2 15 0
$\frac{1}{10}$ " N.A.O.85	... ..	3 5 0
$\frac{1}{12}$ " Oil Immersion N.A.I.30	... ..	5 0 0

MICROSCOPE WITH ACCESSORIES.

No. O 595.



No. O 595. *Micro-Tele Outfit.* Microscope, heavy bronzed stand with coarse and fine adjustments, No. 2 Eyepiece, Attachment No. O 494, 1" Microscope Objective, Astronomical Reflector, complete in Case to take complete micro-tele apparatus with handle and lock and key. Magnification 35 diameters

8 5 0

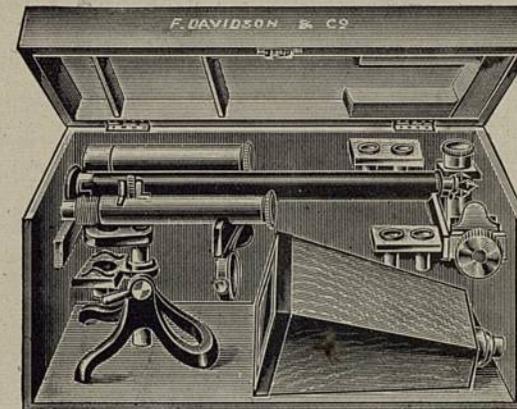
PRICE LIST.

No. O 5951. As No. O 595 with in addition 1½", 1", ¾" and ½" Objectives and No. 3 Eye-piece, giving range of magnification 25-85 diameters	£10 15 0
No. O 5952. As No. O 595 with in addition No. O 494A (short focus) Attachment for observations up to 70 diameters 12" from the microscope	10 15 0
No. O 5953. As No. O 5951 with No. O 494 A Attachment (telescopic observations up to 85 and microscopic up to 250 diameters at 12") The "Davon" Photo-Micro Objectives can be supplied to above outfits at an extra cost of £1.2.6. on each objective.	13 5 0
No. O 5954. As No. O 595 (long focus attachment with Iris Diaphragm), 1" "Davon" Photo-Micro Objective, Camera No. O 709, ¼ plate focussing screen and metal plate holder	10 17 6
Extra metal plate holders 2/6 each.	
No. O 5955. Ditto, with No. O 494A Attachment in addition	13 7 6
No. O 5954A. As No. O 5954 with Super-Camera No. O 710 and 1 double dark slide instead of Camera No. O 709	15 2 6
No. O 5955A. As No. O 5955, with Super-Camera No. O 710 and 1 double dark slide instead of Camera No. O 709	17 12 6
No. O 591. Set of Microscope Accessories to any outfit: Reflector 8/6, Condenser on stand 8/6, Stage Forceps 7/6, Revolving Diaphragm 8/6, Live Cage 3/-, Tweezers 6d., Tank for viewing pond life 3/6.	2 0 0
No. O 606. Tripod and Camera Support (not needed with the super-camera) Double Nosepiece to microscope extra 15/-. Triple ditto 25/-.	1 10 0
THE ABBÉ ILLUMINATOR completely mounted for substage with Iris Diaphragm and Carrier for stops N.A.1.20	2 2 6
Either Camera made for films including Film Pack Holder	extra 0 15 0
No. O 710. Super Camera made for films and plates including Film Pack and 1 Double Dark Slide	extra 1 10 0
½-Plate brass bound Super Camera with 1 Double Dark Slide extra on outfits No. O 5954A and O 5955A	4 0 0
¼ Plate do.	8 0 0
Extra Double Dark Slides ¼ plate 7/6, ½ plate 12/6, ¾ plate 16/-.	
Eye-pieces × 5.0, × 6.5 and × 8 (1st, 2nd and 3rd powers) to fit our own microscopes	8 0 0 6 0 12 6
If specially made for other microscopes	0 8 6
The "DAVON" Achromatic Eye-piece × 12 for our own microscopes	0 15 0
Ditto, specially made for other microscopes	1 0 0
No. 593B. Light Box, fig. 3, page 4, for viewing lantern slides &c. complete with No. A 16 Lamp, fig. 21, page 15. (Please state voltage of house current)	1 12 6
The lamp can also be used for microscopy with a condenser.	
A variety of assorted Lantern Slides, astronomical & terrestrial, per doz.	0 18 0
Special sets of Lantern Slides of following subjects: Pathological, entomological, physiological, botanical and mineralogical, per doz.	1 16 0
Lantern Slides of Diatoms	0 3 6
" " showing fly's eye photography	0 3 6

NEW MICRO-TELESCOPE OUTFITS.

Complete for visual observations and photography at all distances.

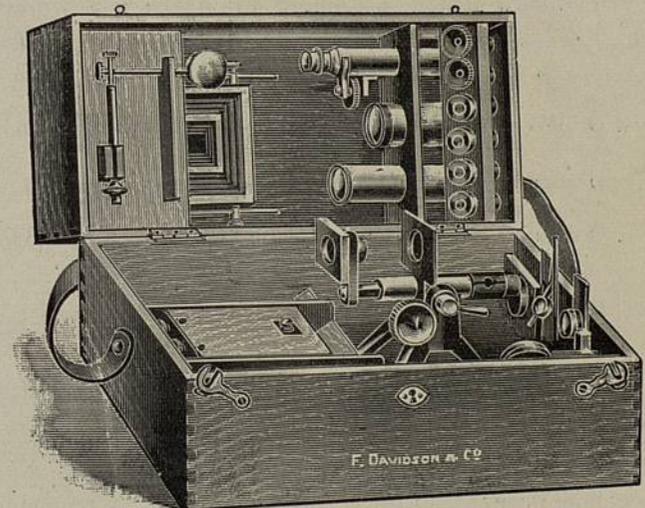
No. O 595 E. The "Traveller" comprising No. O 595 Microscope, 2 Eye-pieces (× 6.5 and × 8), long and short focus Telescope Attachments Nos. O 494 and O 494 A, one each best "Davon" photo-micro Objectives 1½", 1", ¾" and ½", Astronomical Reflector, ¼ plate Camera No. O 709, focussing screen and 6 metal plate holders, No. O 606 Tripod and camera support. The whole is contained in a solidly made teak case with waterproof canvas cover. Weight, complete 18lbs. Size 18½" × 7" × 8".



No. O 595 E. Fig. 18. The "Traveller."

PRICES.

No. O 595 E.	£22 5 0
No. O 595 F, same as No. O 595 E but including microscope accessories	
No. O 591	£24 5 0



No. O 595 H. Fig. 19.

No. O 595 H. The "Super Outfit" comprising No. O 595 Microscope, 2 Eye pieces, long and short focus Telescope Attachments, 4 best "Davon" photo-micro Objectives and Astronomical Reflector as in No. O 595 E, the Super Camera (No. O 710) on base-board and 3 double dark slides, all contained in solid oak case
 £24 0 0 || Weight 21¼ lbs. Size 17" × 9½" × 8½". | |

No. O 595 J. Same as No. O 595 H, but with microscope accessories, No. O 591, £26 0 0.

In the above outfits the long focus attachment is provided with an Iris Diaphragm. Waterproof Canvas Cover, extra on above outfits, 15/- 1. 10. 0

MICROSCOPE.

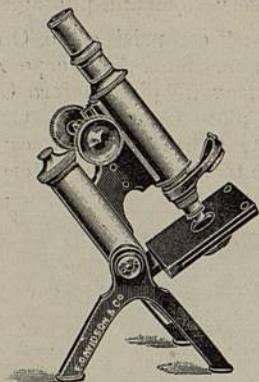


Fig. 20. No. O 596.

No. O 596. MICROSCOPE. A fine extra rigid instrument of brass and bronze: the stand is machined and ground from solid casting, the coarse adjustment is by means of diagonal rack and pinion; the fine adjustment is enclosed in a strong dust proof tubular casing, particularly safe from injury through careless handling. It is of the direct acting type and is sensitive to the slightest movement. This is a fine instrument for bacteriology, histology, or biology. It has a double nose-piece, draw-tube and is finished in best London style. Complete with No. 2 eye piece, 1" micro-objective, No. O 494 attachment, astronomical reflector, in case as No. O 595 £10 12 6

No. O 596A as No. O 596 but with No. O 494A attachment in addition 13 2 6

No. O 596B as above and with microscope accessories No. O 591 ... 15 2 6

No. O 596C as No. O 596B but with, in addition, No. 3 eye-piece and micro-objectives 1½", ⅔rds and ½" ... 17 13 6

No. O 596D as above but without microscope accessories ... 15 13 6

Triple nose piece to outfits Nos. O 596 to O 596D, 10/- extra.

NOTE.—No. O 595 microscope is the only form which can be adapted for photography.

"DAVON" Photo-micro Objectives instead of the ordinary (the best for microscopy) ... each extra 1 2 6

Extra for mechanical stage, sub-stage with vertical rack and centering screws and Abbé condenser with iris diaphragm ... 7 0 0

No. O 595. Microscope Stand and 1 eye-piece ... 3 0 0
In oak case 20/- extra.

No. O 596. Ditto ... 5 15 0
In oak case 20/- extra.

No. O 541, Extension Stage, (fig. 4, page 5) ... 1 1 0

ILLUMINATING APPARATUS.

The "DAVON" Arc Light and Condenser System No. 281, pages 6 & 22 £8 10 0

The arc light is also provided with metal carrying case.

LAMP.

Lamp for use on the house current.

No. A 16 (fig. 21) £1 2 6

Please state voltage of house current.

Invaluable for use with the micro-telescope for illuminating lantern or microscopic slides.

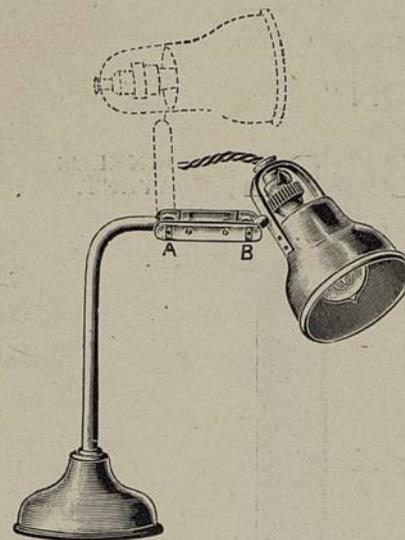


TABLE LAMP

Fig. 21.

No. 536B. The "Microlite" (see page 5, Fig. 5,) 8 or 12 volts, with special form of condenser ensuring a strong transmitted light without showing any image of the filament ... £1 2 6

No. 536C. Ditto on tripod ... 1 10 0

The source of illumination may be an 8 or 12 volt "Davon" Accumulator.

No. 592A. Illuminator for cornea or skin as No. 536B but made attachable to the attachment of the microscope (see page 5, fig. 6) ... 1 2 6

No. 592B. Ditto for use on house current (without lamp) ... 1 5 0

No. 536 C.

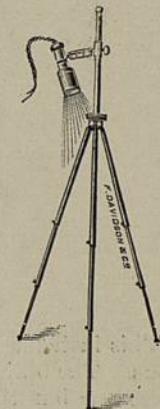


Fig. 22.

THE "DAVON" ACCUMULATORS.

8 volts. 5 plates per cell.

Capacity:—34 Ampère hours.

Charging rate,—1¼ Ampères for 12 hours.

No. 26B. In polished Walnut or Oak Box and outside terminals ... £3 5 0

No. 26C. Ditto 12 volts 4 12 6

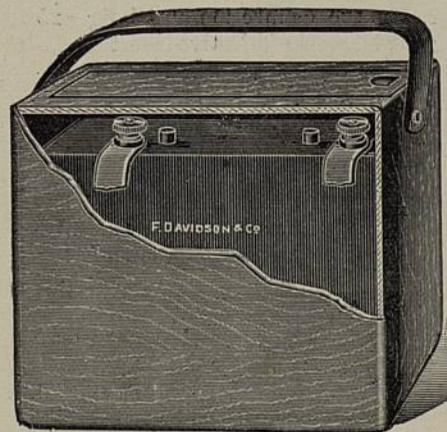
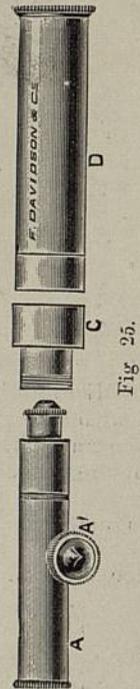
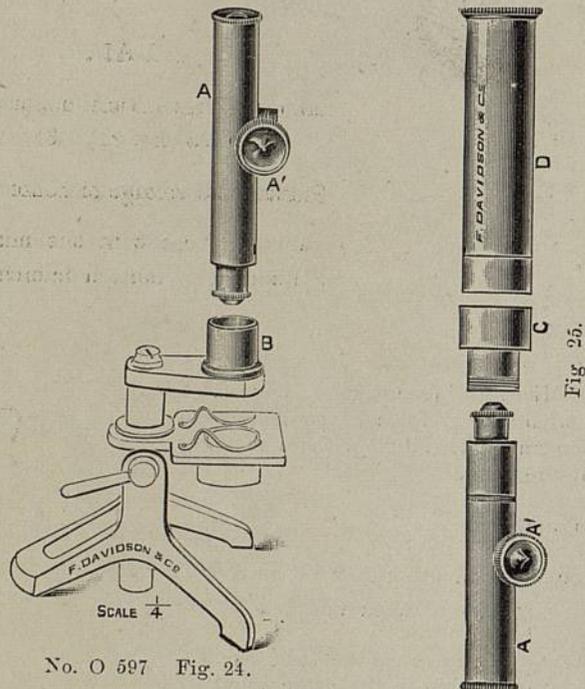


Fig. 23.

New Development of
THE "DAVON"
 (Registered Trade Mark.)
MICRO-TELESCOPE, CORNELL'S
 PATENT.
 DISMOUNTABLE TYPE.



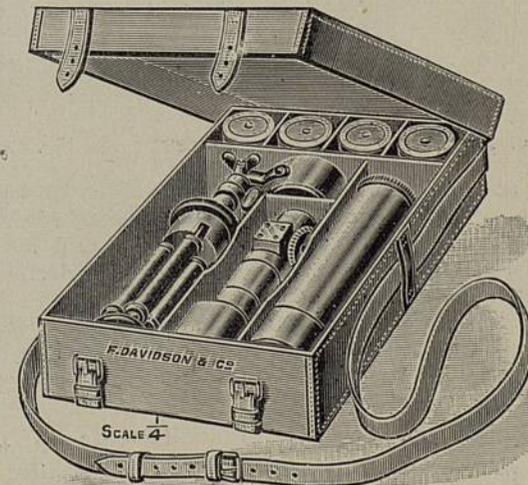
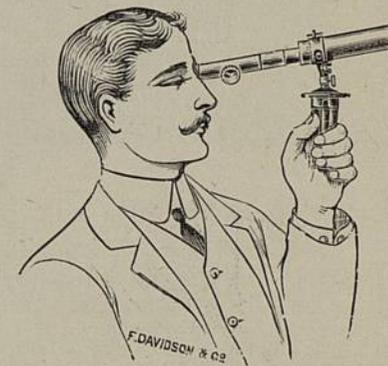
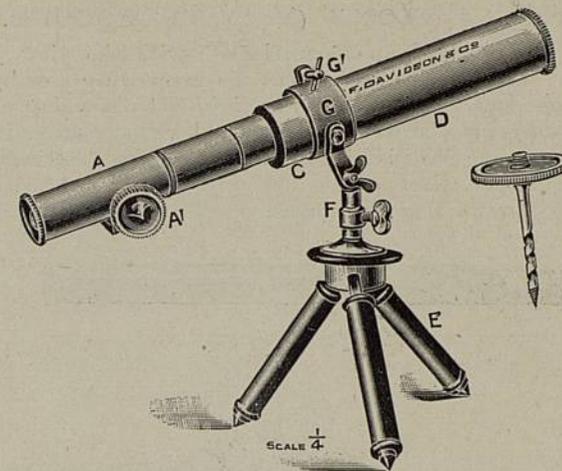
This instrument will prove an acquisition as will be apparent from the illustrations. The optical system in this is the same as that in the regular form of Micro-Telescope but the focussing arrangement is different. The milled head "A'" actuates a gearing which provides the coarse adjustment. The fine adjustment is obtained by means of the eyepiece. When it is not desired to use the microscope stand, the eyepiece tube "A" is bodily withdrawn, the connection "C" fig. 25 screwed on and the attachment "D" containing the telescope objective inserted.

The tripod, fig. 26, is 5" high and is surmounted by the telescope holder possessing a fine firm but free universal motion controlled by thumb-screws at "F." The full height is 9". The ring "G" which is lined with felt holds the telescope securely.

The whole are fitted into a best quality solid leather case measuring 9" x 6" x 2 1/4", and weighing complete with sling strap 3 lbs. (fig. 28.) The length of the telescope closed is 12" and will open to 14": all that is necessary. When one is travelling it is generally easy enough to find something on which to rest the little tripod but it can be conveniently held in the hand for observation, the elbow resting against the body and the tripod closed, see fig. 27. Held in this way we think it will prove useful for "deer-stalkers."

The "Gimlet" fitting, fig. 26, used instead of the tripod will enable a tree to be utilized.

The same range of vision (from 3 ft. to infinity), the same field and illumination and, with various objectives and eyepieces, the same range of magnification (from 25 to 90 diameters) can be obtained as with the regular type, although the telescope is but 12" long. In the Gallilean type this is impossible.



THE "DAVON" (Reg.) TELESCOPE.

We are continually engaged upon experiments with the view of still further improving the field of use of this invention. Telescopes can now be made without the microscope stand, small in size, light in weight yet possessing almost the same extraordinary features of the larger instrument, and we have succeeded in producing one in every way unique. The illumination is however *less* than in the regular type because of the smaller objective.

It is made in dark brown enamelled brass.



Fig. 29. No. O 610.

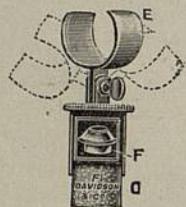


Fig. 30.

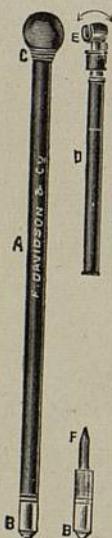


Fig. 31. No. O 611.

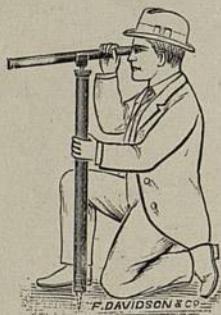


Fig. 32.

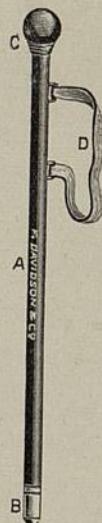


Fig. 33. No. O 612.

Here we illustrate the "DAVON" Telescope. It is about 12" long and $\frac{3}{4}$ " in diameter, and weighs but 8 oz. (Fig. 29.) It can be supplied in leather sling case or complete as a walking stick (Fig. 31,) the weight complete being 2 lbs. In the latter form 2 objectives are supplied, the one not in use being screwed into its place in the fitting (Fig. 30) at F. The magnification is 25 diameters. By reversing the ferrule "B" of the walking stick one has an "Alpenstock end" "F" and the fitting (Fig. 30) easily removable in order to get at the telescope provides in addition a rest for the telescope with a universal motion joint. The sling attached as at Fig. 33 will be useful for transport purposes.

No. O 610. Telescope Fig. 29, in Solid Leather Sling Case	...	£3 10 0
No. O 611. Telescope in Walking Stick with accessories as illustrated in Fig. 31,	... ..	£5 7 6
No. O 612. ditto with sling Fig. 33.	...	£5 10 0

THE "DAVON" SUPER-TELESCOPE.
FOR SERVICE PURPOSES.

This has been constructed with due regard to service conditions. It is leather covered and provided with a sun shade and rubber eye cap. It is made in two pieces instead of three and the finest possible optical system employed. The definition, illumination and field are alike excellent and will compare favourably with much larger and more expensive kinds of the usual type.

Its length is 13" and weight 20 ozs. and any desired magnification can be had from 25 to 100 diameters.

Major —, on active service writes: "It is a wonderful telescope for its size, equal to our large — telescopes."

Capt. —, R.G.A., writes: "The telescope is undoubtedly excellent. I have read the name of a steamer at 7,100 yards. I have compared it with our 'D.R.F.' telescopes and it gives with equal illumination and *superior* stereoscopic power, approximately *twice* the apparent field of view."

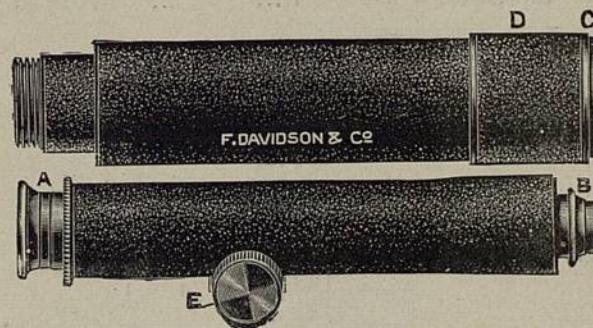
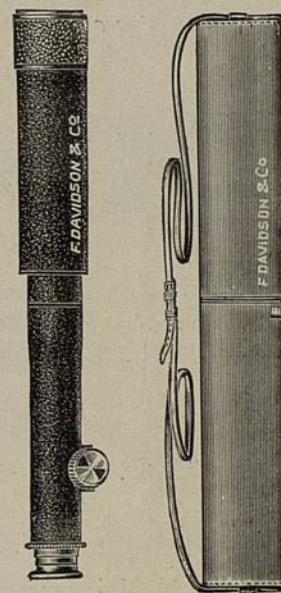


Fig. 34. No. O 615.

This is a light, portable telescope, splendidly adapted for service conditions, giving extraordinary results when its size is taken into consideration. With it, magnifications of from 20 to 100 diameters can be obtained giving clear-cut, well-illuminated images, which it has been admitted equal those of large instruments. Tested under difficult conditions, this telescope gave a large and perfectly distinct magnification of small type, although this was viewed in the deepest shadow, but its most remarkable property is the stereoscopic effect it introduces. Everything shown stands away from its background in bold relief.

Fig. 35.

Fig. 36.



PRICES.

No. O 597. Complete as illustrated (Page 16, Figs. 24 and 25) with astro. reflector, 1 eye piece and 1 objective, in oak case	...	£8 5 0
No. O 5970. As above but with best objective	... ..	9 7 6
No. O 597A. Ditto with 3 extra objectives and 1 extra eyepiece	... ..	10 15 0
No. O 5971. As No. O 597A but with best objectives	... ..	14 2 6
Short focus attachment extra to any of above	... ..	2 10 0
No. O 607. Tripod and telescope holder (not in case)	... ..	1 0 0
<i>These are necessary when one wants to use the telescope without the stand.</i>		
No. O 608. Solid leather sling case to take all without the stand, (fig. 28)	... ..	1 2 6
No. O 614. Telescope (in brass) with tripod and holder—without microscope stand—in solid leather sling case. Magnification 25, 30, 40 or 50 diameters (Fig. 26)	... ..	6 0 0

(Please state which is required.)

PRICES—Continued.

No. O 6140. As No. O 614 but with best objective	... ..	£7 2 6
No. O 614A. As No. O 614 but with 2 extra objectives and 1 achromatic eye-piece, giving magnifications from 25 to 90 diameters	... ..	8 5 0
No. O 614A.I. As No. O 614A but with best objectives	... ..	11 12 6
No. O 614B. Dismountable microscope as fig. 24, (without eye-piece or objective)	... ..	3 0 0
No. O 614c. Eye piece tube and eye piece "A" and connection "C" fig. 25 (without objective)	... ..	1 12 6
No. O 615. The "DAVON" Super Telescope figs. 34 and 35 (any desired magnification 20-100) in leather case fig. 36	... ..	7 0 0
No. O 615A. Ditto with 3 best photo-micro objectives and 1 extra eye-piece, providing full range of magnification 20-100 diameters, tripod and leather case as fig. 28	... ..	11 0 0
No. O 615B. As above but without tripod. The extra objectives are supplied in a separate small leather case	... ..	10 10 0

THE "DAVON" SUPER-MICROSCOPE (Cornell & Davidson Patent).
For super-power microscopy and photo-micrography.

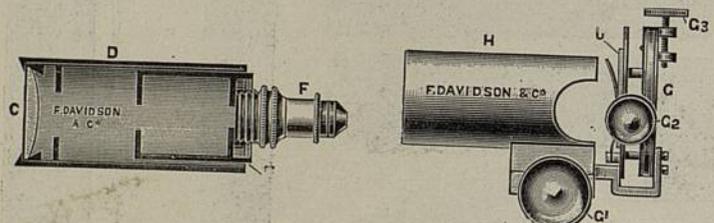


Fig. 37.
The "Primary"
Microscope,
No. 770.

Showing together with Fig. 38. the application of the power of one microscope, the "Primary," to another called in this case the "Secondary."

The combination is called the "Super-Microscope."

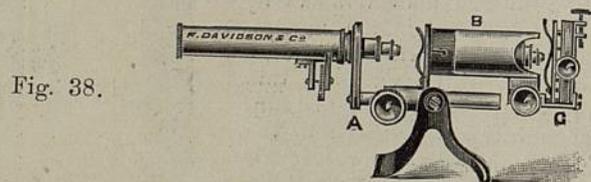


Fig. 38.

No. 775.

The idea of this instrument was suggested by the governing principle of the microscope, which is that of providing the microscope with a perfect image *in air* of a distant object, the air image being magnified by the microscope. In the super-microscope we provide an "air image" of a *near* or microscopic object which is magnified by the original microscope. In other words we employ the power of one microscope on another. The mechanism will be readily understood from the illustrations. Practically unlimited power is here available. It is not claimed that the opposition between high magnification and resolution is overcome but we do claim that the *power* is there whenever it can be employed and that it is remarkably easy to use such power (see page 22).

The "Primary" "D" Fig. 37 consists of a tube provided with "stops," and an eye piece "C"; an inner tube "E" also "stopped" and a micro-objective "F." The fitting "H" is a tube to fit over the "Primary," carrying a mechanical stage actuated by rack and pinion for vertical and lateral movement. The thumb screw "G" is the coarse focussing adjustment. When the "Primary" is inserted into the under rim of the "Secondary" as in Fig. 38, the coarse adjustment of the latter forms the *fine* adjustment of the super-microscope and the fine adjustment of the secondary forms an *ultra fine* adjustment.

TABLE OF MAGNIFICATION WITH THE
SUPER - MICROSCOPE

FOR PHOTO-MICROGRAPHY WITHOUT THE EYE-PIECE
IN THE SECONDARY MICROSCOPE.

Objective in Primary	Objective in Secondary	The two Objectives are equal to	Magnification in Diameters.
2/3"	1"	1/7.5"	80
1/2"	1"	1/ "	110
1/2"	2/3"	1/15"	155
1/4"	1"	1/20"	250
1/4"	2/3"	1/30"	360
1/3"	1/2"	1/40"	400
1/6"	1"	1/30"	325
1/6"	2/3"	1/45"	470
1/6"	1/2"	1/60"	625
1/6"	1/4"	1/120"	1375
1/8"	1"	1/40"	480
1/8"	2/3"	1/60"	655
1/8"	1/2"	1/80"	810
1/8"	1/4"	1/160"	1840
1/8"	1/6"	1/240"	2550
1/10"	1"	1/50"	590
1/10"	2/3"	1/75"	780
1/10"	1/2"	1/100"	1120
1/10"	1/4"	1/200"	2500
1/10"	1/6"	1/300"	3000
1/12"	1"	1/60"	810
1/12"	2/3"	1/90"	1125
1/12"	1/2"	1/120"	1590
1/12"	1/4"	1/240"	3250
1/12"	1/6"	1/360"	4000
1/12"	1/8"	1/480"	5000

The measurements of magnification for photography were obtained with the micrometer as projected on the screen of a 1/4 PLATE CAMERA, fully extended, at 12" distance from the front of the objective in the secondary microscope.

Add 50 % magnification for 1/2 plate camera and 65 % for 1/4 plate camera on account of the greater distances between the screen and the objective.

It will be noted that the same magnification can be obtained with different objective combinations. That which is best for any special subject can only be determined by actual trial.

FOR VISUAL MAGNIFICATIONS WITH THE SUPER-MICROSCOPE THE ABOVE SHOULD BE MULTIPLIED BY THE POWER PROVIDED IN THE EYE-PIECE WHICH IS USED.

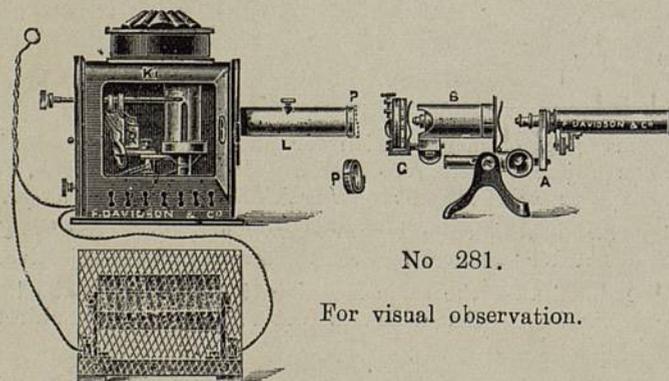
From the foregoing it will be seen how the super-microscope provides one with the means of using unheard of magnifying power. It is made to fit the standard "Abbé Rim," or under rim, fitting. At present one cannot use for practical purposes a higher power objective than $\frac{1}{12}$ th on account of the difficulty of focussing. With the super-microscope it does not matter what power is used. It is just as easy to use say $\frac{1}{60}$, made up of $\frac{1}{8}$ in the primary and $\frac{1}{2}$ " in the secondary, as it is to use the $\frac{1}{8}$ alone. It is impossible to say at this early date what our microscopists may do now that we have provided a simple mechanism for using high power. It is possible that the world of research is enriched with another weapon. We ourselves have proved that

FOR OBJECTS REQUIRING DEPTH OF FOCUS

the super-microscope is remarkable both for visual observations and photo-micrography. In this direction it certainly marks a distinct advance on the ordinary microscope. By the usual high power optical system a big N.A. is used which leads to good definition in a thin plane only and "out of focus" is reached rapidly. By the super-microscope the "air" image is magnified by another system which can only magnify what is there and depth of focus is there if the aperture of the objective in the "primary" microscope be small. For determining relationship of structures (easily resolved) to each other it is most useful, as the eye, seeing varying planes in focus, gets a good mental impression of relationship, while individual fine portions can be examined for ultimate detail in the usual way of a big N.A. and nothing but the part considered in focus.

The super-microscope lends itself easily to the study of the structure of diatoms &c.

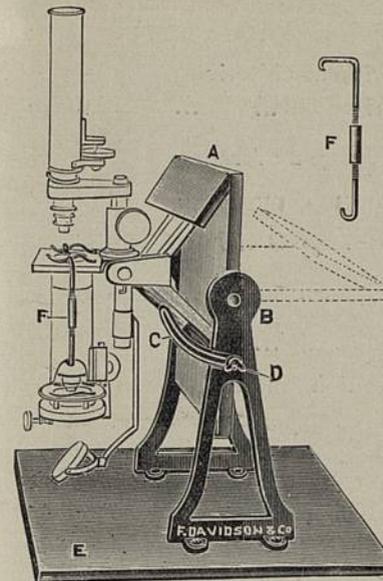
THE "DAVON" ARC LIGHT AND CONDENSER SYSTEM 500 C.P.).



No 281.

For visual observation.

Fig. 39.



TILTING TABLE

Fig. 40. No. 285.

FOR THE SUPER-MICROSCOPE.

For use with reflected light.

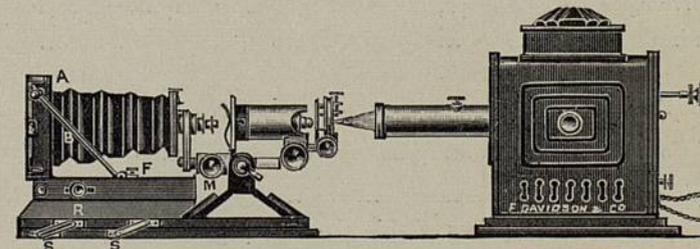
If the arc light is employed two reflectors are required, one to be placed on the condenser tube L Fig 39 to reflect the light downwards and the other on the super-microscope as illustrated.

The arc light itself can only be used alone in the horizontal position.

The table can be adjusted at any angle.

PHOTO-MICROGRAPHY.

In this branch of work it is impossible to over-estimate the value of the invention. That which has hitherto only been possible to the expert with perhaps a life long experience and very elaborate and expensive apparatus is now possible to the amateur at much less expense. All the photo-micrographs which we illustrate and many others we possess have been taken by one who had never previously taken a photo-micrograph of any kind. In the hands of an expert even better results are possible. Depth of focus is again the most striking feature. No long extension camera is used and the exposures are generally much less than are necessary with the existing method. As a matter of fact by adopting the micro-telescope and super-microscope method the same camera of just ordinary extension can be used for a photo-micrograph $\times 5000$ or a tele-photo 5 miles or more away, or at any intermediate distance. The eye-piece of the microscope never used, the tube is removed and the camera takes its place.



No. 777.—Fig. 41.

The Super Microscope and Camera arranged with the "Davon" Arc Light and Condenser System for Photo-Micrography.

"Extremely good resolution and covering power." *British Journal of Photography.* November 11th, 1914.

By means of the "Micro-Telescope" any photograph may be viewed stereoscopically at a distance of 12 feet and using the long focus attachment and $1\frac{1}{2}$ " objective the whole field of a $\frac{1}{4}$ plate will be in view under a magnification of 30 diameters, or, using the short focus attachment any special detail can be examined 12"-15" away with a magnification from 70-200. The best possible light should be used on the photograph.

PRICE LIST.

No. 770	The "Primary" Microscope Fig 37 (without objectives) with mechanical stage to fit standard "Abbé" rim	...	...	6	10	0
No. 775.	Ditto with No. O 595 Microscope Fig. 38, page 20 forming in combination the Super-Microscope	...	...	10	0	0
No. 776.	Ditto with No. O 596 Microscope in place of No. O 595	...	...	12	15	0
No. 281.	The "Davon" Arc Light and Condenser System	...	...	8	10	0
No. 285.	Tilting Table Fig. 40	...	...	1	5	0
	1 Plain and 1 Double Reflector for use with arc light and tilting table	...	...	1	12	6
	Double Reflector for use with any other source of light	...	...	0	17	6
No. 777.	Fig. 41 Outfit for visual observations and photo-micrography, comprising Super-Microscope No. 775, Super-Camera No. O 710, 1 double Dark Slide, Arc Light No. 281 (without objectives)	...	...	23	10	0
	An Oak Case is supplied for super-microscope and camera (see page 13).					
No. 778.	As No. 777, but including the following best Objectives: 1", $\frac{2}{3}$ ", $\frac{1}{2}$ ", $\frac{1}{4}$ ", $\frac{1}{6}$ ". This set provides additional powers equivalent to $\frac{1}{7.5}$ ", $\frac{1}{10}$ ", $\frac{1}{15}$ ", $\frac{1}{20}$ ", $\frac{1}{30}$ ", $\frac{1}{45}$ ", $\frac{1}{60}$ " and $\frac{1}{120}$"	...	...	33	5	0
No. 777A.	Same as No. 777 but including Nos. O 494 and O 494A Micro-Telescope Attachments and Astro Reflector	...	...	29	15	0
No. 778A.	Same as No. 778 but including Nos O 494 and 494A Micro-Telescope Attachments and Astro. Reflector	...	...	39	10	0
	If No. O 494A attachment is not wanted deduct £2 10 0.					
No. O 591.	Set of Microscope Accessories; reflector, condenser on stand, live cage, stage forceps, tweezers, revolving diaphragm and live tank	...	...	2	0	0
	If the camera is not desired deduct £5.					
	For extra cost of $\frac{1}{2}$ plate camera and slides see page 12.					
	Waterproof Canvas Cover with strap handle to $\frac{1}{4}$ plate outfits	...	...	1	10	0
	Ditto to $\frac{1}{2}$ plate outfits	...	...	0	15	0
	For prices of objectives see page 11.					

The Outfit 778A (with the set of accessories) provides the complete apparatus for ordinary microscopy, microscopy 12-15" beyond the stage of the microscope, low power microscopic observations 6 feet away, telescopic views from 3 feet to the planets, astronomical observations, high angle views, a range of photographs from 12" to as many miles, super power microscopic observations and photo-micrography up to 14,000 diameters. The addition of a $\frac{1}{12}$ th oil immersion objective would increase the power up to 4000 diameters for photo-micrography, and to 20,000 or more for observation. The difference is accounted for by the fact that for photography the eye piece of the microscope is never used.

A FEW ABRIDGED PRESS NOTICES.

"Whatever can be seen by means of the micro-telescope can be photographed with the help of the same instrument whether 12' or three miles away. There is scarcely a department of life where the micro-telescope might not be used with advantage."—*The Field*.

"The "Davon" Micro-Telescope is arousing the greatest interest in scientific circles. It promises to supersede all field glasses. It possesses wonderful powers of magnification. On manœuvres it lay bare the smallest objects over a large area."—*United Service Gazette*.

"The result of this invention is an extremely sharp inverted image in the plane of the microscope stage which is corrected by the microscopic element of the combination. With a 1" micro objective four of Jupiter's moons were seen."—*Selborne Magazine*.

"At a distance of $\frac{1}{4}$ mile I was able to identify plants growing on a wall while the same instrument magnified pollen grains with splendid definition."—*The Garden*.

"The micro-telescope gave a very pretty view of the flowers in my garden 60 feet away from the point of observation. I could plainly make out the essential organs of some, the so called 'honey guides' and the venation of foliage. On a view 8 or 9 miles away it eclipsed entirely my prism binoculars. A local M.B.A.A., says it revealed Jupiter's moons. It will do what the maker claims for it."—*The English Mechanic*.

"At a distance of a few feet a spider magnified to the size of a large cat can be seen spinning its web, the spinnerette being magnified to the size of a teacup. A correspondent writes he was watching ants at work at a distance of 6 feet; they looked to be 6 inches long and as if they were carrying great lumps of wood over rocks. The upstanding character of lichen, moss or fungus and all in focus is quite a revelation. The geography of the moon, Jupiter's moons, Saturn's rings, etc., are absolutely definable under ordinary telescopic conditions. We have seen the things we write about."—*Science Siftings*.

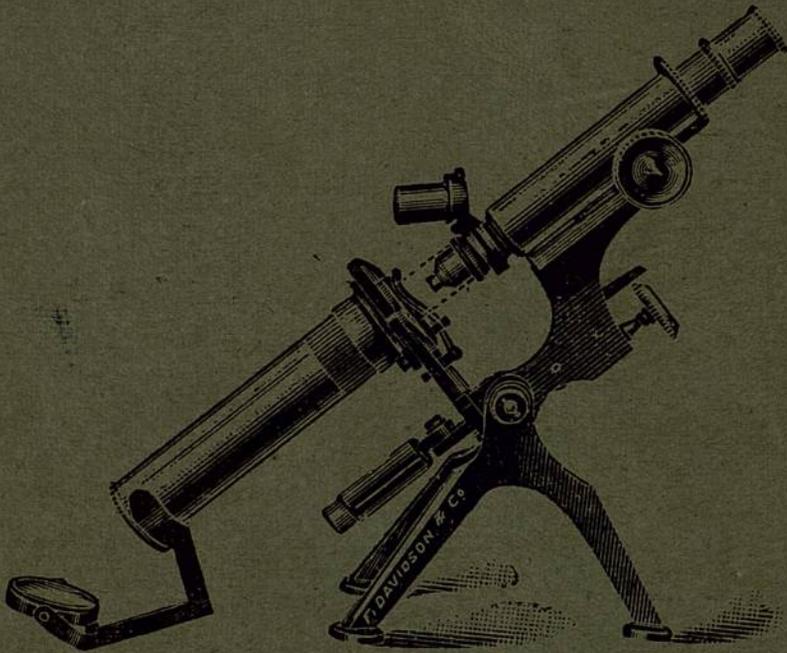
"The more one tests this wonderful invention the more one appreciates the great range and power contained within its small compass."—*Country Life*.

"I have seen at a distance of 10 feet a wasp on a wooden fence clearing the rough surface with its mandibles and observed it at its toilet. It looked a gigantic size and was seen in beautiful relief. The instrument is arousing widespread interest."—*Shooting Times*.

"The compactness of the instrument is a very great point in its favor for though of high power as a telescope it is only 15" long. For outdoor microscopic work of insects, plants, etc., it opens up many interesting fields of work, while for the ordinary purpose of indoor microscopy and photo-micrography it provides at a moderate cost facilities for which moderate work are none the less efficient by the inclusion of other properties of the outfit. It will appeal surely to many photographic circles."—*The British Journal of Photography*.

"We commend this clever invention, which has come to stay. There is no doubt it will do all that is claimed for it and much besides. Space prevents us from illustrating the wide range of photographic applications but we have seen prints of diatoms taken with a magnification of 60 diameters, flowers taken 4 feet away, telephoto views of other photographs taken 8 yards off, a direct photograph taken 100 yards away, Tonbridge Church Tower at half a mile and a river scene at $3\frac{1}{4}$ miles. Such work as this, which has only been possible after much experiment, sufficiently indicates what can be done. We would add that the prints we have mentioned all show a depth of focus and definition which cannot be denied."—*The Optician and Photographic Trade Journal*.

The "Davon" Patent
Micro-Telescope.



"It is one of the most fascinating pieces of apparatus that anyone, whether photographer or not, could possibly desire. It is small and portable and there seems no end to its possibilities. As a super microscope, the instrument will have peculiar attractions for the scientific mind as the magnification possible appears to be practically limitless. The depth of focus is extremely great. The most minute structures can be examined with all planes in focus. Any amateur can undertake high power photo-micrography with a certainty of success."

The Amateur Photographer & Photographic News.

F. DAVIDSON & CO.,

29, GREAT PORTLAND STREET, LONDON, W.,

AND AT CAIRO.