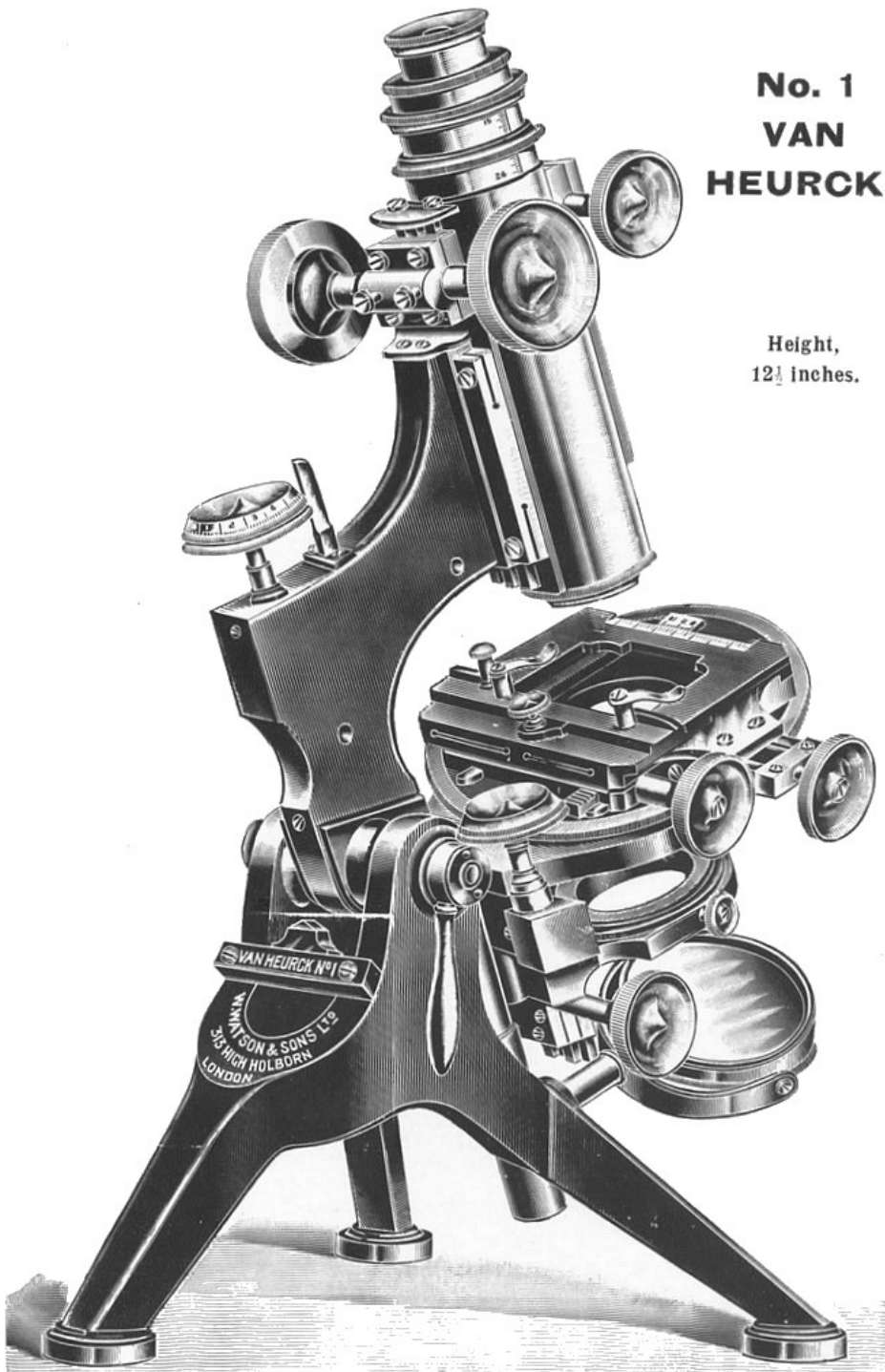


**No. 1
VAN
HEURCK.**

Height,
12 $\frac{1}{2}$ inches.



The Fine Adjustment to Substage and divisions to movements of Stage are Extras.

W. WATSON & SONS, LTD.



313, HIGH HOLBORN, W.C.

THE VAN HEURCK MICROSCOPE.

For Research and General Purposes.

Three Models—No. 1 and Circuit Stage. Range of horizontal Mechanical Stage movement increased to $1\frac{1}{2}$ in.

Grand Model.—Reconstructed generally. Range of horizontal Mechanical Stage movement increased to 2 inches.

The Van Heurck is the most completely-fitted model which we make, and represents all that is most modern in microscope design and manufacture.

The aim in its construction has been to present, in the most efficient form possible, mechanical movements of complete and comprehensive description, in a design of maximum rigidity, and to maintain every feature in the most up-to-date manner, and we can assert unhesitatingly that the complete control which is afforded in working enables the finest results to be secured with a rapidity and comfort which is unique. It has brought the most gratifying testimony from many of the leading microscopists of the day, and this, coupled with the fact that the Van Heurck is now used by many of the foremost workers in every branch of research, is a sufficient guarantee of the perfection attained.

This Microscope was first made by us to the specification and order of the late Dr. Henri Van Heurck, the celebrated Microscopist, of the Botanical Gardens, Antwerp, for conducting the researches for which he gained such distinction, and for his high-power Photographic work.

Photo-Micrography, especially with high powers of large aperture, demands a working excellence and accuracy of the highest grade in every part—it is, in fact, the severest test to which a microscope can be put. In the construction of this Instrument the usual causes of failure have been eliminated. It will at once be recognised that the precision which is requisite for high-power photography and which is provided in this Instrument, is of immense value to the ordinary visual worker, for it enables him to secure the fullest and most effective means of conducting his researches. Especially does this apply to Laboratory work, in which reliance has to be placed on the results obtained; and to those who are doing original and accurate work, this microscope will be found to embody every convenience for rendering such work more easy and exact.

The Van Heurck is, in fact, the last word in modern microscope construction.

W. WATSON & SONS, LTD.



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VAN HEURCK MICROSCOPE—Continued.

The Van Heurck series includes three models—The No. 1, The Circuit Stage and the Grand Model. The general construction of these instruments merits special consideration.

The Coarse Adjustment

is effected by Watson's diagonal rack and pinion, and has sufficient range for a 4-inch objective. The pressure of the pinion on the rack is adjusted by the two screws shown in the accompanying figure 380. N is a block of anti-friction metal which supports the pinion shaft on each side, and it is on this supporting block that two adjusting screws act, one of which, M, is shown in figure. The most sensitive relation of pinion to rack can be established and maintained at all times. These adjusting screws are shown in position on the fitting plate in figure 381.

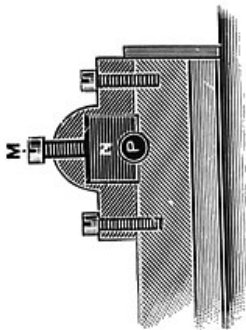


Fig. 380. Sectional View of adjustable fittings of rack and pinion.

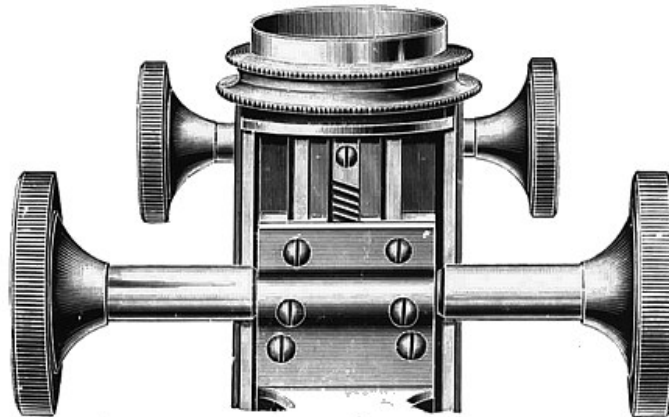


Fig. 381. View of fitting plate of coarse adjustment.

The Fine Adjustment

is our standard lever form, but, being made with a very long lever, the motion imparted is very slow and precise.

The milled head is divided to hundredths, and one revolution moves the body, up or down, the thirteenth of a millimetre. The adjustment is sensitive to the hundredth of a turn of the milled head, which would give the one thirteen hundredth of a millimetre, or the $1/33300$ th of an inch of motion.

The Body

is provided with two Draw-tubes, one actuated by Rackwork and the other sliding inside it, as figured above. The advantage of having these is, that the body can be made very short, or extremely long. Thus sufficient latitude can be obtained to use Objectives corrected for either English or Continental tube lengths, and to adjust them for thickness of cover glass by variation of tube length.

The lower end of the draw-tube has the universal screw for low-power Photographic Objectives, the Apertometer, etc., and the nosepiece is removable by unscrewing. The usual size of Eyepiece-fitting is the Royal Microscopical Society's gauge, 1.27 in. diameter, but any smaller size can be employed, and larger sizes can be had specially to order.

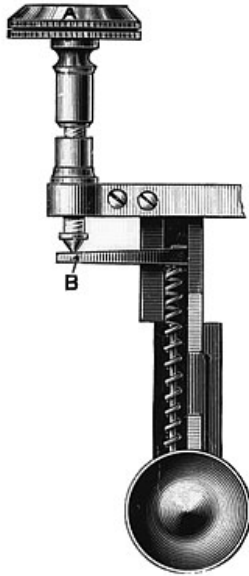
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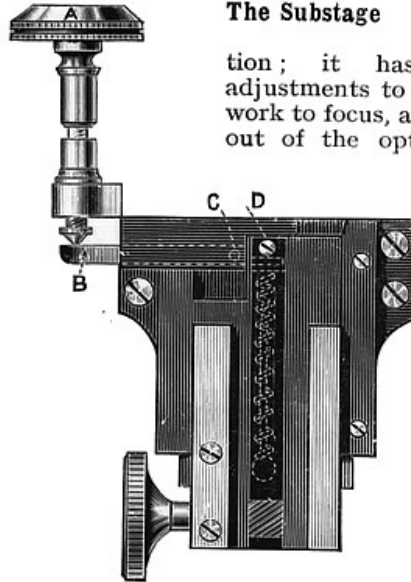
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VAN HEURCK MICROSCOPE—Continued.**The Stage**

varies in each of the three stands of the Van Heurck series. Particulars are given in the specifications of the respective models. Concentric rotation is afforded, there is a large rectangular central aperture, and the plates are as thin as can be combined with rigidity. Above all a large clear surface is afforded for the free movement of Specimens with the fingers, and a sliding bar is provided to support the object when desired. Any special arrangement for holding Specimens, other than the usual sliding bar and springs, can be supplied to order, if required.



Side View.



Front View.

Fig. 382.
Fine Adjustment as fitted to the Substage of the Van Heurck Microscope, working from upper surface of stage. The Substage itself is removed to show the construction.

The Substage

is of specially substantial construction; it has rectangular screw adjustments to centre, very fine rackwork to focus, and is arranged to swing out of the optical axis, as in the "Royal" Microscope, page 71.

A Fine Adjustment is included with the Grand Model Instrument, and is supplied at an additional cost (see Extras) to the other models. It may be either of two patterns: (1) to work from above the Stage surface by the method shown in figure 382 and in position on the Instruments on page 79, or (2) by means of a vertical lever worked by a milled

head, mounted parallel with and just above the rackwork milled head of the Substage, as shown (F) on the Circuit Stage Instrument on page 81.

A Fine Adjustment is of great utility and enables slight alterations to be made to the focus of the Condenser without imparting vibration to the whole fabric, thereby affording great accuracy.

A Special Feature.

The maximum stability is imparted by a unique system. Instead of the various parts being merely screwed together, they are fitted one into the other, thus rendering the structure as solid as though it were one piece of metal. As will be seen from the accompanying figure, the Bracket CC carrying the stage, instead of being screwed to the front of the limb, as is customary, is made in one solid casting, taking the substage beneath on the plate D, and going right into the joint at the top of the pillar. The limb A is fitted into the Stage Bracket D, held firmly by screws, and the joint bolt B goes through the whole—Limb and Stage Bracket—making the Limb, Stage, and Substage as if they were one piece. We venture to say that the strength and freedom from spring obtained by this means is unique in microscope construction, and altogether superior to microscopes which depend on screws only for the joining together of their parts.

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VAN HEURCK MICROSCOPE—Continued.

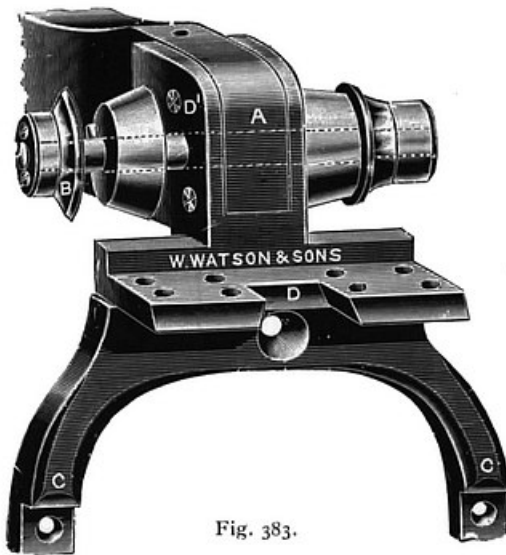


Fig. 383.

View of the method of fitting the Stage and Limb
in the Van Heurck Microscope.
A—Limb CC and D—Stage Bracket

The Foot.

The original Foot for this Instrument was of the Continental form, but the Tripod has met with so much favour and is so strongly recommended by most of the leading Microscopists, that it has entirely superseded it. At the points of contact with the table the foot is provided with cork pads, to further reduce vibration, while preventing the Instrument from slipping and the table from being scratched. The tripod foot has recently been slightly re-modelled for the three Instruments, so that the milled head controlling the substage rackwork may stand out beyond the foot when the instrument is vertical.

The stand is perfectly steady in any position, and the joint has a steel clamping bar, to fix it at any desired angle.

All the fittings are of the universal (R.M.S.) size.

Extra Fittings and Accessories for the No. 1, and Circuit Stage VAN HEURCK MICROSCOPES.

THE STAGE

Code Word.	No.		Prices £ s. d.
Misap	B 3335	Centering screws to Stage, and clamp screws to fix Stage when centred	8 10 0
Misbe	B 3336	Rackwork rotation to Stage, with means of throwing pinion in and out of gear	5 10 0
Misca	B 3337	* Divisions to circumference of Stage to degrees, reading by verniers to five minutes	3 3 0
Misch	B 3338	* Divisions to movements of Stage, reading by verniers to $\frac{1}{10}$ th of a millimetre	3 5 0
Misci	B 3339	* Plate to fit in dovetailed grooves to cover surface of Stage, for rough work	2 10 0
Misda	B 3340	* Screw to clamp rotation of Stage	10 0

This last-named is not required when rackwork rotation is taken.

* These items can be conveniently fitted to the Microscope at a small extra cost after manufacture.

THE SUBSTAGE

			£ s. d.
Miser	B 3341	Rackwork rotation to Substage	4 15 0
Misla	B 3342	Substage mounted on bar, sliding in extra dovetailed fittings, so that the Substage may be set in any desired position, irrespective of the rackwork, which operates independently, thus allowing the use of every variety of Substage apparatus. With clamp screw	4 15 0

FINE ADJUSTMENT TO SUBSTAGE.

Misog	B 3342	(1) With milled head to work above the surface of the Stage as shown on page 76, and on the Microscope, page 79	5 0 0
Mist	B 3344	(2) To work in same manner, but with the controlling milled head placed as shown at " F " on the Circuit Stage Microscope, illustrated on page 81	3 15 0

For complete list of objectives, eyepieces, condensers, etc., see page 45 onwards.

Complete outfits suitable for high-class work and including the Circuit Stage Microscope are detailed on pages 83 and 87.

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