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VINTEN
Automatic Processing Plant
FOR
Cinematograph Film.



Specification of a four-unit, 100 ft. tank capacity
Automatic Film Processing Plant, which on a
four minute bath gives an output of
240,000 ft. in 40 hours.

THE VINTEN PLANT:—

Is perfectly quiet in running. Never damages the emulsion.

Gives clean, dry, processed film.

Has an emergency hand drive, so that if the motor fails or a fuse blows, the film in the developing tank can be fed into the fixing tank.

Has a range of three to eight minutes developing time.

Costs about half other makes. Can be adapted for negative.

Requires only one skilled and two semi-skilled operators to run up to six units.

Does not require special buildings.

Can be adapted for any width of film.

Has all its machinery up out of the way of the operators, but the film is always in an accessible position.

Handles a high percentage of the film processed in London, most of the firms engaged in this work having Vinten plant. Our first plant was installed in Wardour Street in 1914.

GENERAL DESCRIPTION.

Before attempting to describe technically our Automatic Film Processing Plant, may we first remind the intending purchaser that a personally conducted inspection of one of our London installations can be arranged at his request.

We manufacture two sizes of machine, the small machine having a developing tank capacity of 100 ft. of film, the large a capacity of 150 ft. The price of the small machine is £345 - 0 - 0, and of the large £400 - 0 - 0. The output of the small machine per hour based on a 4-minute development time is 1,500 ft., and of the large under the same conditions 2,250 ft. The large machine requires a little more floor space than the small one. It will therefore be seen that the larger machine is the more economical to purchase if space is no consideration.

These machines are complete with:—

All tanks.

Drives and sprockets.

Bobbins.

Emergency hand drive.

Air suction and nozzles for removing surplus water and hypo.

Spray washing.

Erection and installation free within 12 miles of Cricklewood.

Finishing in white cellulose enamel.

The purchaser has only to arrange one water supply off the mains and one D.P. power switch to which we wire up our controllers.

This latter point is important. The customer does not have to supply any special foundations, air trunking, underground ducts or specially built concrete gulleys.

One skilled and two semi-skilled men can run six of our machines and in 40 hours produce 350,000 ft. on the small machine and 540,000 ft. on the large, of perfectly processed, clean, dry, positive print.

As it is important that the operator should have access to any portion of the film during its run on the machine our machines are designed so that only the tanks, and at most, four steel uprights are the only parts that stand on the floor, and these are so spaced as to leave ample room for attention to any portion of the film. All the mechanism is above head level.

Cleaned and conditioned air only is admitted into the Drying Room, and the special plant for preparing this air can be quoted for when we know the output of film required and the building in which the plant will work.

Parts needing lubrication are so constructed and guarded that oil cannot get on the film or in the solutions.

The plant is designed so that the machines require rooms only 9 ft. high or even less, and need not be all on one storey. If the inspection and Despatch offices are on an upper floor, the Drying Room can be placed above the Developing and Washing room, the film thus travelling to the upper floor automatically. A hardening tank can be arranged between the fixing and first washing if required, inclusive in the usual plant prices, provided we are notified at the time of ordering.

Photograph No. 1 shows the developing tanks, 1000 ft. capacity take-offs and nickel and ebonite sprocket shafts running in ball bearings with enclosed gear box driven by the vertical chain.

This sprocket shaft and bracket complete, slide vertically on the two steel columns, the whole being counterbalanced. It is easily moved by hand and clamped at any desired height even while in motion and loaded with film. The slide can be raised so that the diabolos hanging in the loops of film can be brought up out of the tank.

The machines as shown are not threaded with film. The film is passed under the weighted roller of the first sprocket with the emulsion outwards, (the emulsion remains outwards for the complete run right up to the 1000 ft. take-up in the Drying room) then down into the tank and then up to the next sprockets, a weighted celluloid diablo hanging in the loop of the film in the tank.

The developed film at the last loop then passes over a single sprocket shown on the left of photograph No. 2. Adjacent to this sprocket is a cock-controlled jet of water directed on to the film to remove the developing solution.

The film is held down by a diablo in the square tank under this sprocket, this tank being fed by the jet cock mentioned. The film then passes up to the sprocket on the framing, across to the run of sprockets on the right and is looped down into the fixing tank shown on the right of photograph No. 2.

Also note the suction nozzle high up on the right-hand side. This operates on the last up-strand of film and removes the surplus hypo into a cask for reclaiming the silver; it also serves to prevent contamination of the first washing section.

The washing section shown in photograph No. 3 is the second wash, there being a similar first wash on the right of the room.

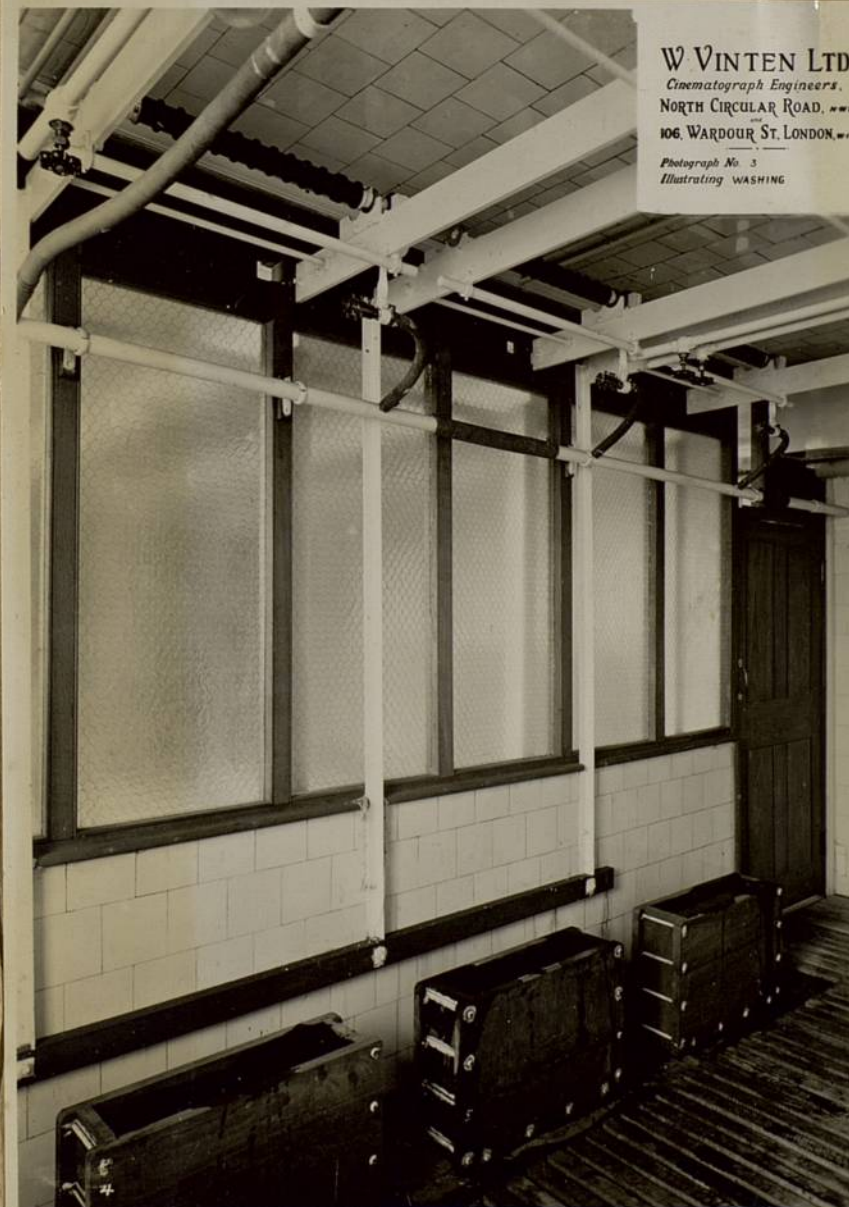
The washing is done by means of a very small hole in the tube shown high up under the sprocket shaft, with its control cock on the left.

These holes give a very fine jet of water on the up-strand of film; the water runs down the film into the tanks where the diabolos that hang in the loops of film are submerged. Thus the film is always being washed with clean water.

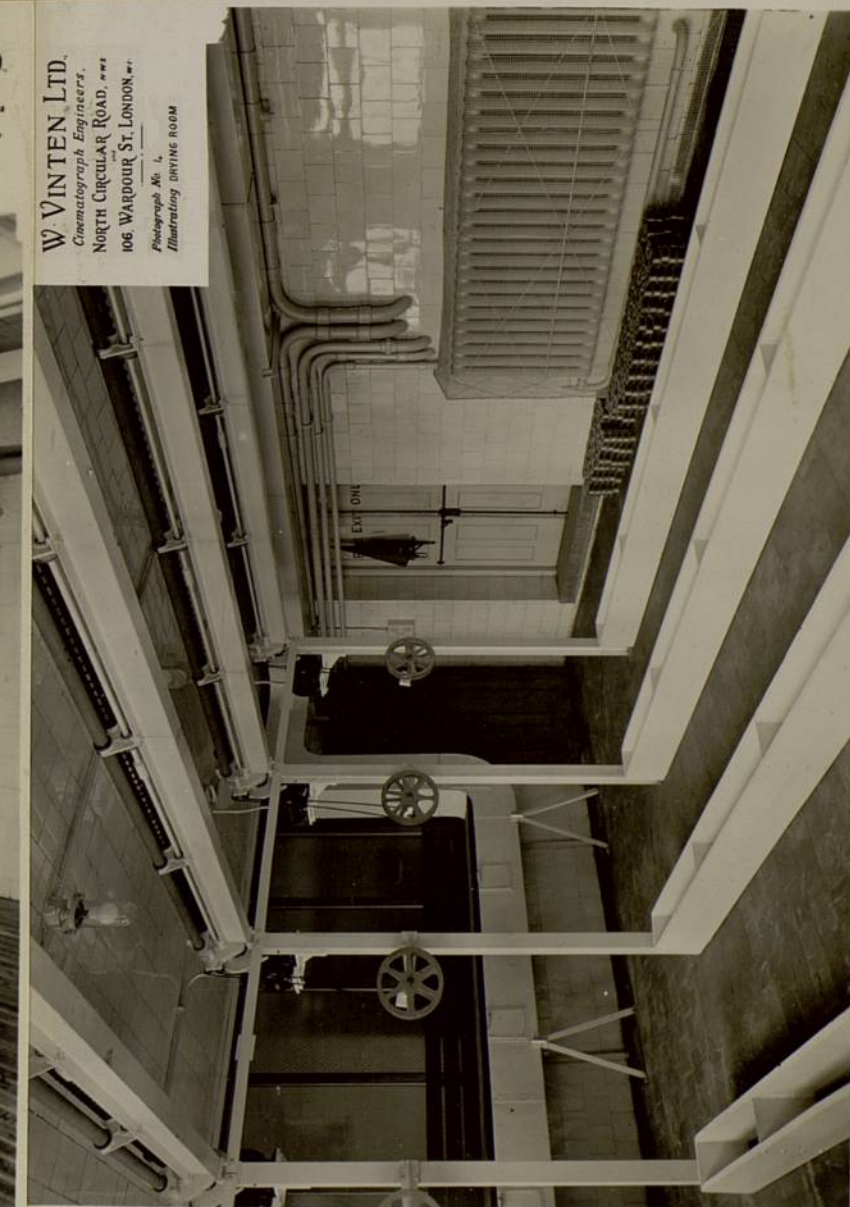
Another suction nozzle is fitted at the last up-strand of film which collects all surplus water from the film before it enters the drying room.

In the drying room (photograph No. 4) there are 72 loops. The diabolos are shown stacked on the floor. These diabolos hang in the film loops in the racks along the floor, these racks keeping the diabolos from swaying.

The $\frac{1}{2}$ H.P. motors can be seen on the bracket at the end of each machine. This motor drives the whole of the machine by a lay shaft to which all shafts are geared. The speed controller for this motor is in the developing room under the charge of the operator. The range of developing time from this controller is from three to eight minutes.



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NORTH CIRCULAR ROAD, W. 1
106, WARDOUR ST. LONDON, W. 1
Photograph No. 3
Illustrating WASHING



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106, WARDOUR ST. LONDON, W. 1
Photograph No. 4
Illustrating DRYING ROOM

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Note the air trunking with trap outlets (shown closed). Air cleaned by dimette bags and warmed by heaters (electric or gas — gas as per photograph No. 6) is pumped through this trunking at about 3" water gauge pressure, causing all external dirt and dust that might otherwise pass into the room when doors are opened to be driven back.

Photograph No. 5 shows the exhaustor plant. This concerns the removal of surplus liquids from the film after its first three processes and the collection of hypo for reclaiming the silver.

The whole of the bearings throughout are of ball bearing type and totally enclosed. All gearing is also enclosed, keeping fingers safe from possible damage and lubricant from getting into the solution or on to the film.

All sprocket and roller shafts can be lifted out for cleaning with their bearings intact without any tools. Spare shafts may be inserted without unthreading the machine.

The machine does not require any special concrete ducts or excavating of floors. Rooms 9 ft. in height are sufficient and the total length of three rooms need not exceed 36 ft., and rooms 15 ft. wide will take four units and allow for light trap passages.

Photograph No. 6 shows the gas type of heater. Its advantages are clean and easy control, with no maintenance, over a wide range of temperatures. It is, of course, so built that the gas fumes do not mix with the air to be warmed, but pass away through a flue.

Throughout the plant, all parts subject to corrosion are constructed of nickel and ebonite, while the developing diabolos are made of celluloid and the whole machine is celluloid enamelled.

Particular care has been taken to build the machine so that the emulsion does not come into contact with any metal during the whole of the run, except once at the beginning and once at the end. The first weighted roller at the developing and another at the last sprocket on the take-up in the drying room, are the only two points at which the emulsion touches the machine; at both these points it is dry, consequently it cannot receive any damage.

Two sizes of machine are made, the larger giving 50% more output than the smaller.

The prices for the complete machines are:—

Small machines £345 - 0 - 0 each.

Large machines £400 - 0 - 0 each.

The prices include:—

Driving motor and speed controller, which is for D.C. supply up to 250 volts (for higher voltage than this or for A.C. supply, a motor generator must be installed at additional cost).

All diabolos and six spare ones in brass and celluloid.

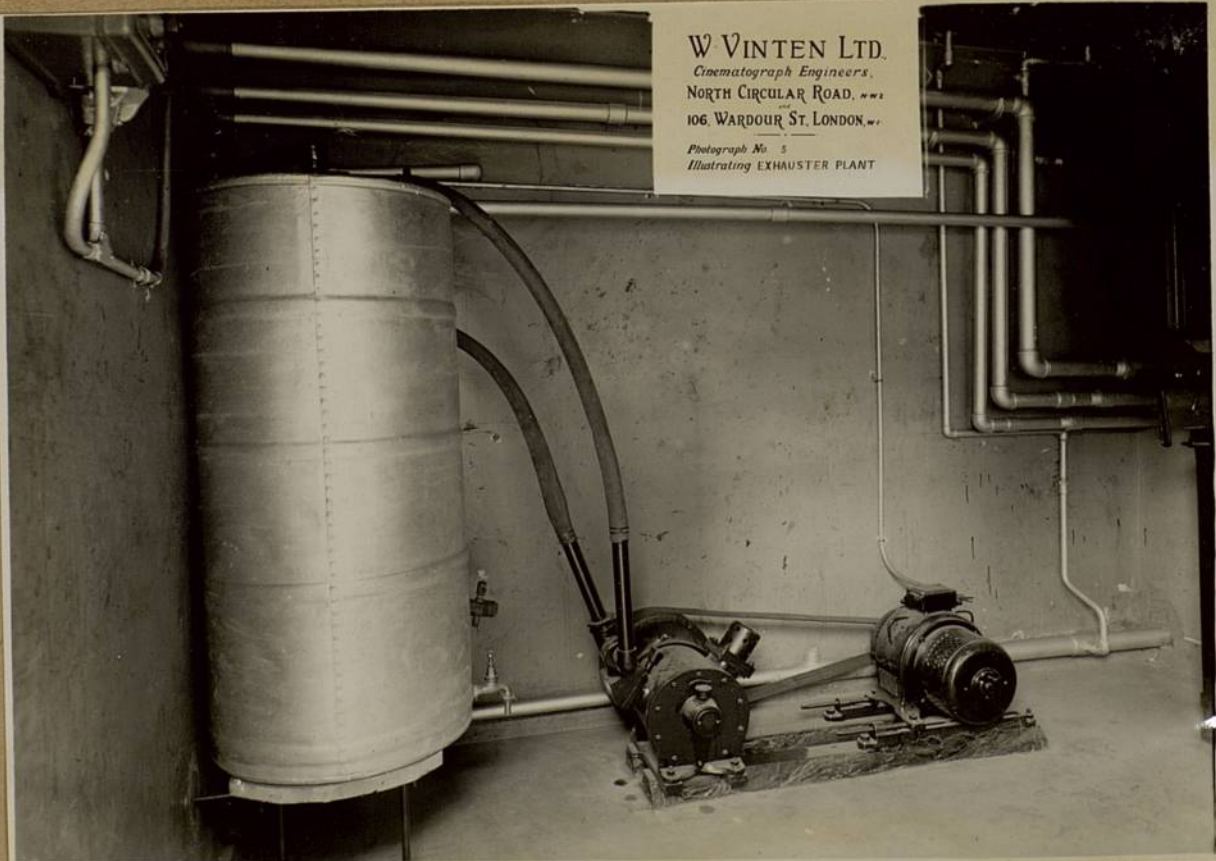
Suction plant for removing surplus water and collecting the hypo from the film before washing.

Five teak tanks to each machine. (Slate tanks, if preferred, can be supplied at an extra cost of £20 - 0 - 0 per machine).

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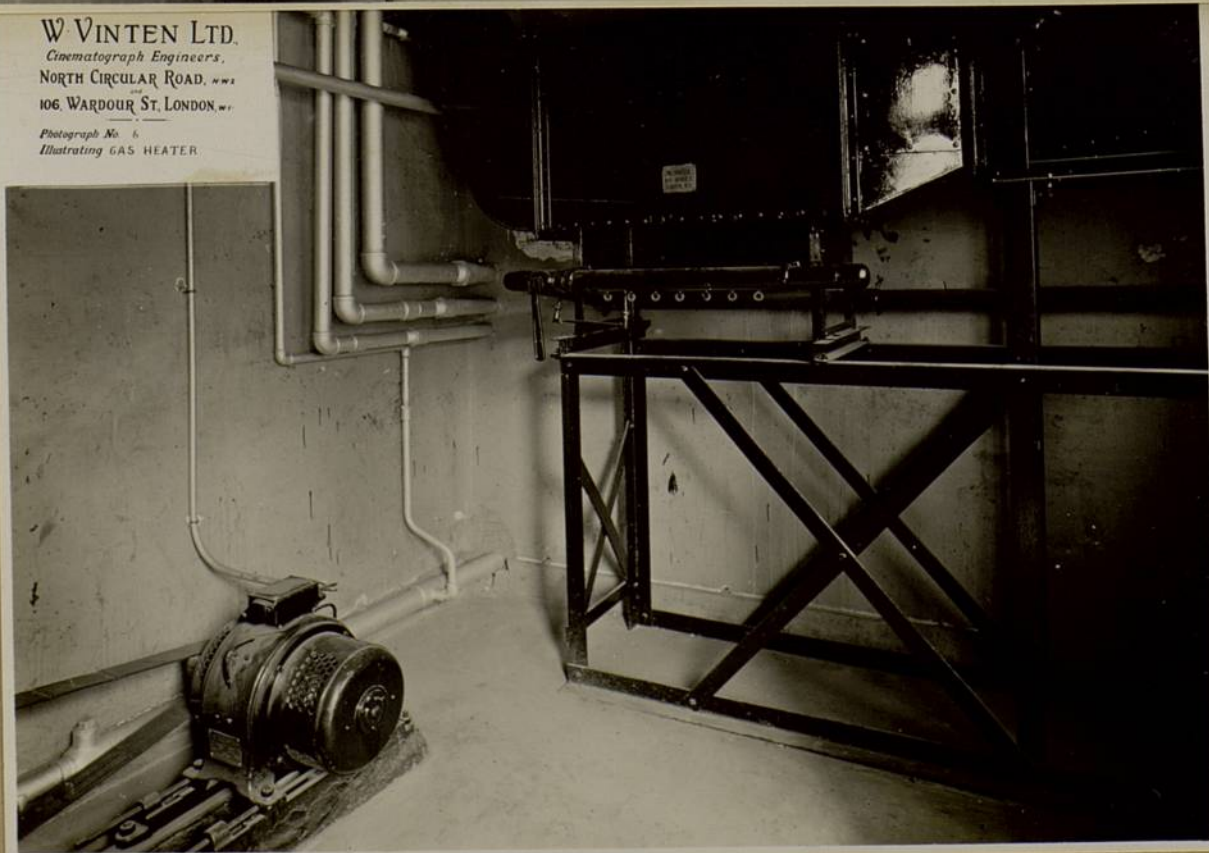
Photograph No. 5
Illustrating EXHAUSTER PLANT



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106, WARDOUR ST. LONDON, W.1.

Photograph No. 6
Illustrating GAS HEATER



These prices do not include:—

Any red, white, or green lighting.

The air conditioning plant, for which we can quote when informed how many machines are to be installed.

Chemical mixing equipment for which we can also quote when informed of the output of film required.

We recommend that spare sprocket shafts, one developing, one fixing, one drying, one first and second washing, making five in all be obtained. These, if included in the order for the plant, can be supplied at £40 - 0 - 0 for the five.

Terms:— 50% with order, 25% on erection, balance one month after.

Erection:— Carried out by our mechanics free within 12 miles of Cricklewood, with an extra charge for further distance.

Carriage:— Free within 12 miles of Cricklewood, with extra charge for further distance.

Foreign Orders:—

Free to London docks. Packing, Freight, Insurance and duty (if any) into country of importation payable by customer. Second class fares and £10 - 0 - 0 per week charges for mechanic who installs, together with the services of customer's labourer to assist mechanic, payable by customer.

AUTOMATIC PROCESSING OF NEGATIVE.

Four refinements only need be added to form the best modern method of developing negative. The first is a variable gear control with a three-speed gear box giving a range of development time from three to thirty minutes. Also the drying section is arranged so that the film on slow development can be reeled and taken off half way. Cabinet drying can be supplied if preferred. Another addition is a soak tank which comes before the developing tank to prevent air bubbles. Finally, the air conditioning plant takes up the same space but is more critical for negative than for positive.

In a great many cases our positive plant is being used for negative development without any of the above additions except for the variable gear control; much depends on the skill of the operator. It will therefore be understood that the price of negative plant is only slightly higher than that for positive plant, and is mainly dependent on the customer's requirements. We therefore do not quote a set price for negative plant but shall be pleased to give free quotations on receipt of enquiries.

FOREIGN ENQUIRIES (REFRIGERATION).

In tropical countries where the humidity is high and the question of drying by raising the temperature becomes impossible and refrigeration has to be employed, this can be quoted for and layouts arranged on receipt of particulars of output, plans of the building and details of local conditions. Alternatively, customers can install their own refrigeration plant; details of requirements will be supplied by us gratis.

MAINTENANCE.

Repairs and renewals on our plants are practically nil over a long period of years. We reprint herewith letters from two of our London customers:—

'With reference to your recent visit. We are pleased to learn that the available space here will permit the installation of a further two of your large size Autos, and will write you again later regarding these and Printing Machines.

We feel that a special word should be said regarding the Autos you installed last August. These have been running incessantly day and night, since their installation, and it has not been possible to give them much attention, yet they have given and are still giving complete satisfaction.

In all our experience with such devices we have not found any to equal the Vinten Auto either for ease of running or control. They produce results of a very high standard indeed, and the quality of our printing is now consistent and vastly superior to that of the past.

Yours faithfully"

"Dear Mr. Vinten,

Herewith I beg to enclose official order for Four new Automatic Units.

I should like to take this opportunity of expressing our complete satisfaction with the six units you have already installed. These have now been running over twelve months and the installation has been fully justified in every way, the work has been consistently good and costs have been greatly reduced

Yours faithfully"

SOME OF OUR STANDARD PRODUCTS:—

Automatic Processing Plant, including Silver Reclaiming facilities and Air Conditioning.

Twin Rotary Printing Machines for picture and sound track with Automatic Light Control to each.

Negative Grading Machine for above.

Liquid Waxing Machine for sound film.

Cameras, Camera trucks and Blimps.

Silent Tripods — Gyroscopic, etc.

Joining and Inspection Tables.

Rewinders — Synchronising, etc.

Sound reproduction apparatus.

16 mm apparatus.

Film Cleaning Machine.

Microphone Boom.

Title Machines.

Interlock Motors.

Footage Measuring Machines.

NORTH CIRCULAR ROAD,
CRICKLEWOOD, N.W.2.

Phone:—Gladstone 4881.

Telegrams:—"Vinten,
Gladstone 4881, London."

W. VINTEN, LTD.

Cables:—
"Vintacinni, London."

106 WARDOUR STREET,
LONDON, W.1.

Phone:—Gerrard 4792.

Telegrams:—"Vinten,
Gerrard 4792, London."

