

THE  
**TYLER**  
"INDOMITABLE"  
PROJECTOR.





## Choosing a Projector.

Many a promising enterprise has been ruined by a short-sighted policy. And many a picture show which might have made a great success has failed because the essential point in equipment has not received the consideration it deserves. The theatre-going public have now become educated to such a degree that inferior projection is an offence which they punish by leaving the offending theatre severely alone. If we lay stress on the importance of procuring absolutely the best projector it is because our experience conclusively proves the wisdom of a generous policy in this connection.

### PROJECTOR POINTS.

The intending purchaser should always bear in mind that any projector worthy the name will always give satisfactory results as long as it is new. But the real value of the apparatus rests upon its capacity to work steadily and without flicker under the strain of daily continuous use. As many an exhibitor has found to his cost, use and use alone will reveal the weaknesses of any machine. Many a disappointed purchaser anxious to make the best of his bargain has found himself run into perpetual expense for the repair and upkeep of a projector not scientifically designed for its work and not built by specialists.

### THE INDOMITABLE SCORES.

The most cursory inspection of the Indomitable Projector reveals at once an intimate knowledge of the conditions under which the apparatus will work, and a generous design which comprehends every possibility. The massive construction throughout, the scientific choice of metals, the skilful adaptation of parts are

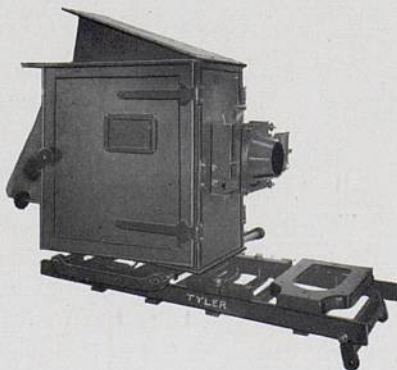
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features which any experienced eye will immediately detect. In building the Indomitable the makers have been inspired solely by the desire to produce the best possible apparatus for the work it has to do. What enables the Indomitable to score, what makes the most experienced user enthusiastic about it, is that every detail seen or unseen has received the closest thought, and is distinguished by its quality; a quality that characterises the entire apparatus. The success which has attended the introduction of the Indomitable justifies in every way the courageous policy adopted by its makers; and the continuous satisfaction which the projector gives is the surest evidence of its fitness for its work. The whole apparatus is British made, the entire machine being manufactured in one English factory. It is supplied in two types, either with fixed lamp house for projecting motion pictures only, or with throw over lamp house for showing both stereopticon and motion pictures.

## THE LAMP HOUSE.

This is constructed of the finest quality Russian iron, fixed to a steel frame; the two doors are made to open the full size of the sides, so that the arc lamp can be readily trimmed, adjusted or re-carboned. The doors are quite unique in their construction, being built of two entirely separate thicknesses with an air space between, the inner sheet, together with the whole of the interior of the lamp house, being lined with asbestos. In addition to minimising the radiation of heat, this asbestos lining prevents the possibility of shock through current



Side Front View of Lamp House.

leakage. The House has ample ventilation. The Sight Glasses are of large size and new design. The top is arranged so as to throw all heat out to the rear, thus lessening any danger from the film coming in contact with an overheated lamp house. An asbestos sheet curtain is fitted to the rear to prevent the rays of light from the arc proving detrimental to the sight of the operator, and at the same time giving free access and the easiest manipulation.

## THE CONDENSER.

The special Water White Condenser is constructed of glasses fitted in a new mount, which being placed outside lamp-house, ensures perfect ventilation, and reduces breakages to a remarkable extent. The Condenser is of 4½ in. diameter and of the Meniscus Back Lens and Bi-Convex front combination, whilst the whole is fitted in a cradle mount of novel design, and is readily detachable by simply lifting off and on to a bracket specially fitted to receive it, a great advantage in case of unexpected breakages.



Condenser mounted and fitted with Stirrup Holder as used on Tyler's 'Indomitable' Projector.

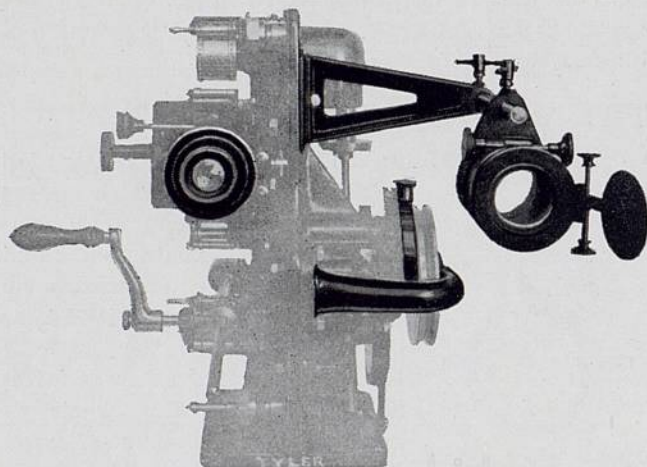
## THE LIGHT SHIELD.

Very frequently stray light emerges from the edges of the Condenser, and passing through the projection aperture, is a source of annoyance to both operator and audience. This stray light also is apt to heat the gate and cause trouble with the film. The Indomitable is fitted with a special shield placed upon the front of the lamp which intercepts any stray light, and entirely removes the objections above mentioned. The front also carries a cone with clamping screws, etc., which will accommodate any desired pattern of slide carrier.



## THE PROJECTOR.

It is impossible to convey in one illustration any adequate idea of the massive construction of the Indomitable. The illustration showing the projector head will help the reader to realise the essential features



'Indomitable' Projector Head.

of the design. In this illustration the cine lens, the massive arm carrying the shoulder bearing, the oil bath in which the Maltese Cross works, and the bracket for the optical lens are thrown up in black.

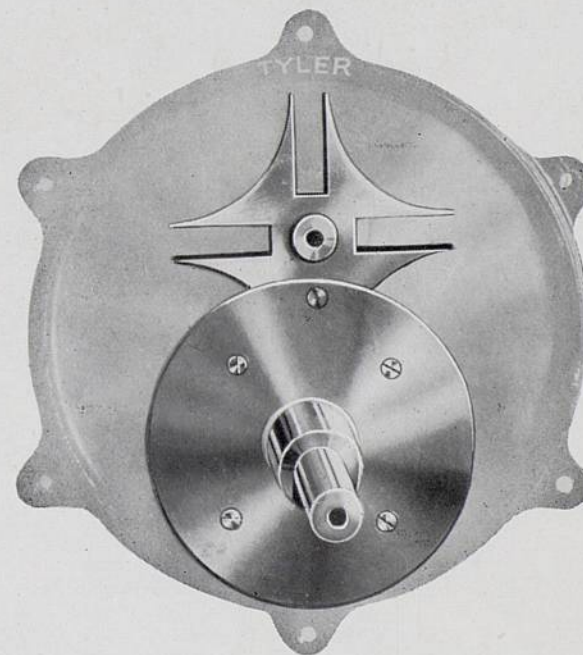
## GEARS.

The large driving gears are cut in phosphor bronze, and they engage with small pinions cut out of specially hard steel. This combination has been proved conclusively to be the most satisfactory, insuring even wear and sweet movement as long as the mechanism lasts. The shaft and pinion are all cut from one solid steel bar, and being worked in the hardened state, the utmost precision is obtained, resulting in an accuracy of movement not hitherto possible. Being designed

to give the greatest possible surface wear on the gears is equalised and smooth quiet running ensured.

## THE MALTESE CROSS.

This is the vital point in projector mechanism. Upon the accuracy and smooth working of this depends the regular travel of the film through the gate. No other projector has such a massive Maltese Cross as the Tyler Indomitable. The Cross itself is made of the very finest specially selected hardened steel. It works on a cam



Tyler's 'Indomitable' Maltese Cross.

face of phosphor bronze, and is actuated by a striking pin fitted with a hard steel roller. Friction and noise are reduced to a minimum, and as the whole movement is enclosed in an oil bath, it is kept free from dust and cool in working. The movement is easily got at for inspection purposes.



## THE GATE.

The gate is that part thrown up in black on the left-hand upper portion of the projector head. The film passes through the gate on its journey from the top to the bottom spool box. The notable feature about the gate on the Indomitable is that, being at the

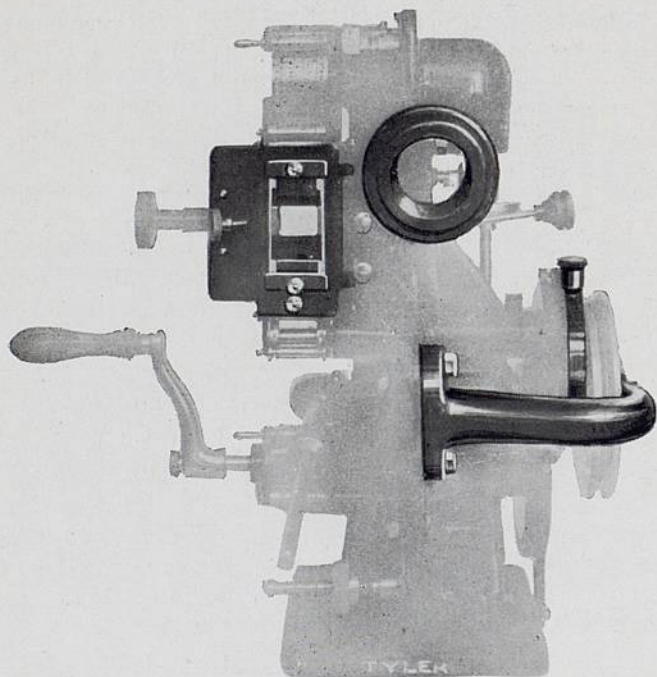


Illustration showing the Gate.

front, it opens away from source of light and heat. In nearly all projectors, the gate opens at the back, and becomes very much heated by the light impinging upon it. This innovation made in the Indomitable gives it an enormous advantage over other machines and renders it possible to carry on the whole operation of threading and adjusting film in gate in the shortest possible time,

and under safest possible conditions. Furthermore, the gate and film are alike kept cool, thus ensuring the sweetest movement.

Another advantage of this gate is that the emulsion side of **the picture nearest the light has a solid** foundation, and **therefore the distance between it and** back combination of cinematograph lens is always constant, and no variation in the thickness of film stock affects the focus of picture, all such variations being taken up by the skate springs nearest to the lens. Other projectors using the old-fashioned back opening gates, with the variable tension springs nearest the condenser, can never achieve the accurate and constant focus obtained by Tyler's Indomitable.

## MASKING.

Another distinctive feature about the gate is that the masking of the picture entails no strain on the film. The knob seen on the left operates the masking device and enables any adjustment up to two pictures to be made by the movable shield behind the gate which is not in contact with any part of the film. This is an enormous advantage as compared with those methods by which the film itself is subjected to sudden and severe tensions which place undue strain on the film and frequently cause serious damage.

## GATE TENSION.

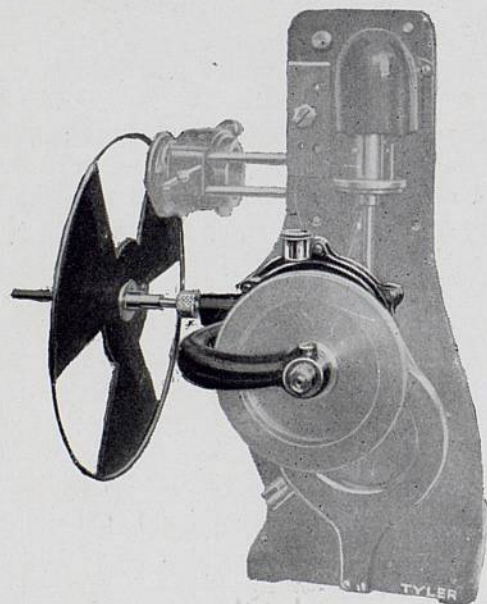
Obviously smooth running of the film will depend to a great extent on the sensitiveness of the grip or tension on the film whilst passing through the gate. In the Indomitable the long skates over which the film travels can be easily adjusted to a nicety and exactly the desired amount of tension obtained without trouble. The skates themselves are unwearable and made of highly burnished steel, and are extremely sensitive in their action. The tension is governed by the simple operation of turning a milled nut. The back steel mask



plate is a special stamping secured and adjusted to main gate casting, so that in the event of ultimate wear or accidental scratching replacement can be effected immediately and at trifling cost. Another advantage of the special design of this gate is that short focus lenses, as short as 1in., can be used.

## THE SHUTTER.

The shutter of the Tyler "Indomitable" is of the front, or before the lens principle, as is shown in the accompanying illustration. It is of the three-bladed type, having one masking and two balancing blades.



Tyler's 'Indomitable' Shutter.

A unique and valuable feature of this shutter is that it can be set with the greatest accuracy without, as in most machines, taking the machine apart. The boss on the shutter is provided with three small screws which can be loosened to allow of the shutter being set and

when tightened hold it firmly in position. Further, by unscrewing a milled nut, seen in illustration, the entire front shaft and shutter can be withdrawn, thus leaving the front of the machine perfectly clear for cleaning, etc.

## THE LENS SUPPORT.

In the illustration opposite also will be seen the double rod which forms the support for the cine lens. The advantage of this construction is that the vibration of lens mount is practically eliminated. Further, the lens can be instantly thrown out of gear, as it is hinged to the saddle sliding upon the two rods. The saddle can be instantly and firmly clamped in any position. The jacket for receiving the lenses is of large diameter and fitted with an inner jacket to allow of small diameter lenses being used if required, a distinct advantage.

## COVERED GEARING.

Tyler's Indomitable is the only machine in which the gearing is all encased; the extra expense thus involved is, however, more than justified by the lengthened life of the projector, and the prevention of accidental damage or stoppage of the machine. It is unquestionably one of the features which recommend it to discerning purchasers.

## CASTINGS AND BEARINGS.

The main casting in the Indomitable is remarkable for its massive proportions and the accuracy with which the parts are machined and fitted. The weight ensures stability and the accuracy in working makes the renewal of any part a very simple matter. The notable features of the bearings are their very great length, which secures a remarkable steadiness of running; and the fact that they are composed of special phosphor bronze bushes inserted in the main castings with hardened steel collars working on the exterior surfaces. The two bearings



carrying the top and bottom sprocket shafts are of unusual length, and are carried right to the face of the sprockets, which are turned hollow and run over the bearings. The first motion or handle shaft, and the second motion or pulley wheel shafts are alike supported by a bearing at the exterior axis. This arrangement obviates undue wear or any tendency to whipping in the shafts, and greatly prolongs the life of these parts. The pulley or balancing wheel is of massive construction, and both for weight and size it is undoubtedly far larger and heavier than that fitted to any other projector. The advantage of this is obvious to any one, as it ensures steadiness of running and the even meshing of all gears, even when the machine is worked by the hand of an inexperienced operator. Although the balancing wheel is so massive, its exterior bearing prevents the possibility of any undue wear of the bushing of the second motion shaft.

## THE SHAFTS.

Considerations of economy frequently prompt manufacturers to use soft steel for shafts, and these are kept small in diameter. In Tyler's Indomitable all shafts are made of special hard steel of  $\frac{1}{2}$  in. diameter, and thus withstand wear and last much longer than the shafts adopted in cheaper machines.

## AUTOMATIC LIGHT CUT-OFF.

In the Indomitable this is of an improved and simplified pattern, operated by a simple form of friction clutch. Turning the handle causes this cut-off to rise automatically, but the moment the driving motion ceases, the cut-off drops and thus effectually shields the film from the rays of light proceeding from the lamp-house. The perfect action of this cut-off deserves special mention, and is a peculiarly valuable feature, as with it it is impossible to get the film bubbled or burned by being exposed for any length of time to the hot rays of light.

## SPOOL BOXES.

The Tyler Indomitable spool boxes are again an advance upon anything yet introduced. They are 14 in. in diameter and 3 in. in width, allowing of a spool 13  $\frac{1}{2}$  in. diameter being used, this enabling a very long subject to be placed on two spools, instead of three as has hitherto been the case. It will readily be seen what a distinct advantage this offers over other makes on the market. These boxes are stamped out of sheet steel, not Russian iron, as usually adopted, and are lined with asbestos. They are extremely heavy and substantial, the film guides are very long and are composed of gun metal, being fitted with an inside and outside set of steel rollers, well recessed, and the slides are recessed so that only the merest edge of the film is engaged in its passage out of or into the spool box, and therefore film box troubles are eliminated if the Tyler Indomitable is installed.

## RE-WIND GEAR OR TAKE-UP.

The method adopted in the Tyler Indomitable is a combination of bevelled gears operated by a detachable shaft from the main mechanism. Allowance is made for the slip or release of the film as it re-winds, and the tension can be adjusted to a nicety according to the load. This device will re-wind 1,500 ft. of film as easily as 500. These gears are also cased in.

## THE STAND.

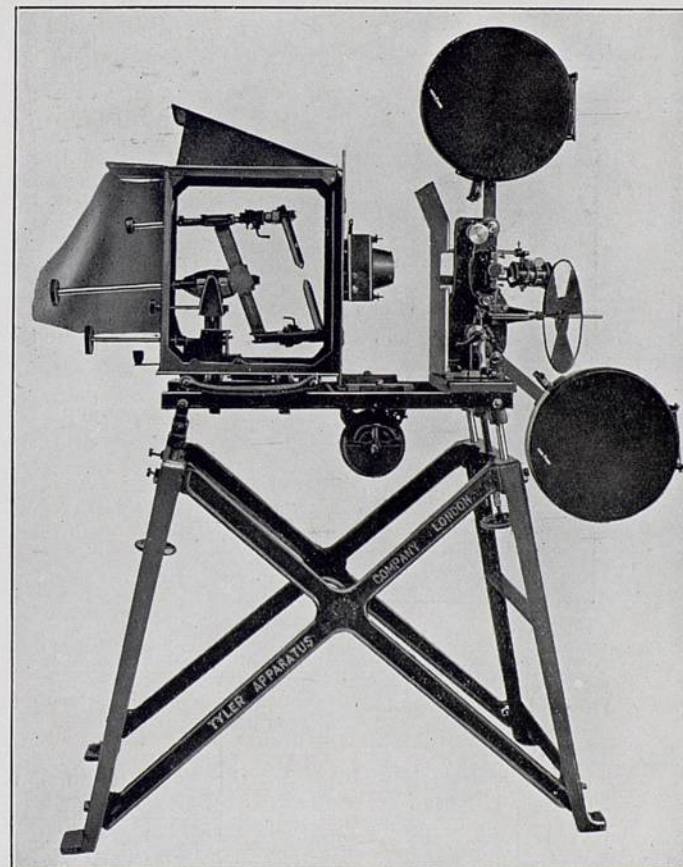
Rock-steadiness is the greatest factor in producing perfect pictures on the screen, and to obtain these, the stand on which the apparatus works must be firm, of suitable design, and able to withstand and resist the inevitable vibration of the motion of the machinery. The Tyler Indomitable stand is the heaviest yet produced and is rigidly and intelligently constructed, as the frontispiece illustration shows. It is of novel design, and allows for a great variation in height and tilt



so as to make it adaptable for almost any existing theatre. By loosening the set screws on the top front of the main casting (and the six bed screws) the whole projector can be easily lowered or elevated to any desired position by the heavy elevating gear fixed to both front and rear of the stand. The correct position once obtained can be set without any fear of shifting by immediately tightening all the screws and nuts previously loosened. The stand weighs  $1\frac{3}{4}$  cwts., and is extremely rigid, there are four bolt holes to allow of securing it to the floor, although it is hardly necessary to adopt even this precaution with this model, so firm does it stand when placed in position for showing. This illustration shows also the bed for lamp house, the bed for projector, and the bed for motor attachment. All three fittings can be placed at any desired position on the main bed support, a point worth noting, as hitherto very little adjustment indeed has been possible.

## GENERAL REMARKS.

The most casual inspection of the Tyler Indomitable projector reveals a boldness in design, a thoroughness of workmanship and a perfection of finish which stamps the apparatus at once as something greatly in advance of anything yet produced. It is indeed a triumph of British workmanship; a projector which we can recommend with the greatest pleasure and confidence; a projector which continues to give satisfaction under the severest strain. The designers of the machine and the mechanics engaged in this construction have had a unique experience in building projectors, consequently every practical interest has been provided for and every contingency. All the material used is of the best and specially tested, much of it specially made for the purpose. It is a projector which gives continual and lasting satisfaction to its users and justifies our motto that "THE RECOLLECTION OF QUALITY REMAINS LONG AFTER THE PRICE IS FORGOTTEN."



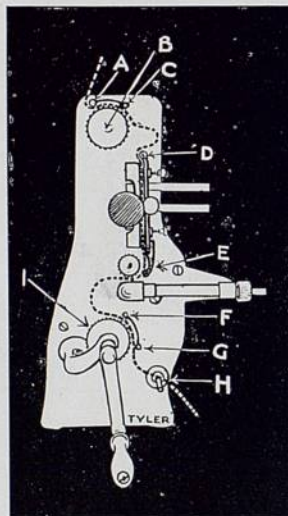
## TYLER'S BRITISH INDOMITABLE.

Shewing the Projector mounted on  
the Special Stand recommended.



## Working Instructions.

**Threading the Film**—Place the loaded Spool on to the Top Spool Box Spindle leaving a tag about 2 feet for carriage through the Projector. Open the guide fixed to the mouth of the spool box, as clearly shown in the frontispiece illustration, and place the film between



the set of back rollers, taking great care to see that the film is correctly bedded in the channel of guide, and quite free before closing the mouth of same. Put the film down under the guide roll A over the top sprocket B, taking great care to see that same is properly bedded on to the teeth of the sprocket before lowering the presser roll marked C into position. Next place the film carefully into the gate, leaving a medium-sized loop at top and placing film carefully over movement sprocket E, again leaving a loop before bedding film on to bottom sprocket pass film under presser roll F, taking care to see same is carefully placed into position on teeth of sprocket wheel, before lowering the presser roll. Continue film under guide roll G, and from thence to the bottom rewind. The film should never under any circumstances be placed under catch roll H.

**Lubrication**—Has ever been a source of trouble with the projector, and either too much oil is applied to the detriment of the films or too little to the detriment of the machine. The Tyler "Indomitable" is fitted with large oil cups to all main bearings with proper journals for correct lubrication. The cups are fitted with wads of a special spongy material which filters all oil before entering the bearings, and precludes the liability of any foreign substance entering the working parts. A nickel cap is fitted to each, and Tyler's Cine Oil only should be used, as it is a specially prepared lubricant for the purpose; each cup should be filled twice in a day's running, once at the commencement of the run, and again when halfway through.

**Important Notice**—It is to the advantage of every user of Tyler's "Indomitable" Projector never to interfere with the movement under any circumstances, as the Maltese Cross is ground mechanically true, and its displacement will mean re-grinding and setting.

## PRICES of the TYLER "INDOMITABLE" Cinematograph Projectors.

**No. 1 Outfit**—as described in foregoing pages, consisting of—

Lamp House  
Condenser  
Brass Slide Carrier  
Mechanism complete with Pair 14-inch Safety Boxes  
Optical Arm and Lens complete  
Special "Darlot" Cine Lens complete  
Special "Indomitable" Iron Stand with Motor Cradle  
Two 13-inch Spools  
One Tin Cine Oil, 1 Tin Cine Grease  
Pair Spanners and 1 Screwdriver

£60 0 0

**No. 2 Outfit**—as described in foregoing pages, and as detailed above, but without Optical Arm and Optical Lens ...

£57 10 0

**NOTE.**—If Motor Cradle is not required, the sum of 10/- will be allowed.

If Cine Tube Lens is not required, the sum of 30/- will be allowed.

If Lantern Tube Lens is not required, the sum of 10/- will be allowed.

### Useful Measurements and Dimensions.

Total Height to top of Spool Boxes	...	...	5ft. 9in.
When frame is at its lowest	...	...	6ft. 4½in.
When fully raised	...	...	

From floor line to lens centre	...	...	3ft. 9½in.
When at lowest position	...	...	4ft. 4½in.
When fully raised	...	...	

Floor space occupied by iron stand	...	...	21in.
Width	...	...	3ft. 11in.
Length	...	...	

Measurement from operating side to opposite side with Lantern in position for showing Stereopticon Pictures ... 21in.

Extreme clearance length required from back of stand to front of Bottom Spool Box ... 4ft. 5in.

Distance between Optical and Cine Lens, centre to centre, 9in.



# SUGGESTED OUTFIT

for Equipping an  
Up-to-date Operating Chamber  
in the best possible manner.



	£	s.	d.
2 Tyler's "Indomitable" Projectors, as Outfit No. 1			
page ... ..	120	0	0
2 "Perfection" Arc Lamps at £6 each. 100 amps.	12	0	0
2 Pairs "Capstan" Terminal Blocks at 10/- pair ...	1	0	0
2 Pairs Asbestos Covered Flexible Copper Leads at 10/- 100 amps. ... ..	1	0	0
6 extra Spools, 13 $\frac{1}{4}$ -inch diameter at 4/- each ...	1	4	0
1 "Vertical" Rewinder ... ..	1	16	0
2 Mechanical Trays at £1 ... ..	2	0	0
1 Strong Galvanized Spool Case for 4 Spools of large diameter ... ..	0	12	0
1 Set of 4 Aperture Automatic Safety Iron Shutters for covering openings in Operating Chamber to meet the requirements of the Cinemato- graph Act ... ..	4	0	0
2 Motors and Starters for either D.C. or A.C. from 60 to 200 Volts, at £5 ... ..	10	0	0
	<b>£153</b>	<b>12</b>	<b>0</b>



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