

The
MOTIOGRAPH
DE LUXE



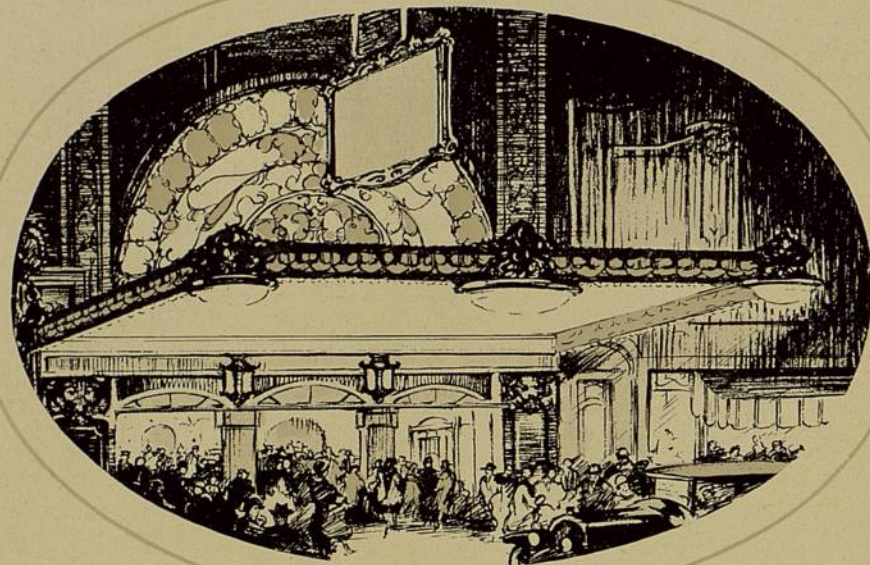
The Projector Predominant

Foreword

☞ In presenting the many features of our product, as well as its performance under the most exacting projection requirements, we cannot overlook mentioning that the Enterprise Optical Manufacturing Company is the oldest successful manufacturer of Projection Apparatus in the United States, having entered the field in the year of 1897, over a quarter of a century ago.

☞ Quality of our product, precision in its manufacture, service to the purchaser, the high standard of business integrity—all these have made for the Motiograph an enviable reputation.

☞ We have devoted all of our *Experience, Knowledge, Facilities, and Resources* to make the MOTIOGRAPH DELUXE the Leader it is in the Projector Field today.



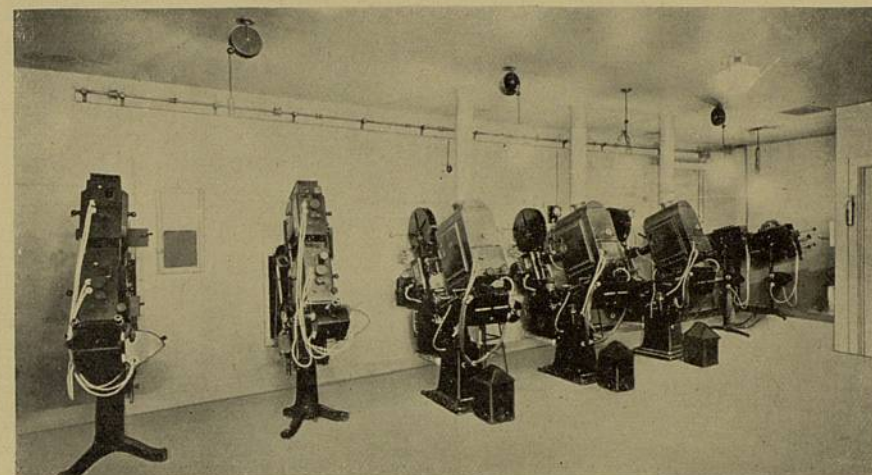
AMERICA'S FINEST THEATRES *use the Motiograph DeLuxe*

TO INSURE the financial success of the modern, present day Motion Picture Theatre, its attendant beauty cannot be "skin deep;" the entire scheme of things connected with it must be of the same quality standard as the auditorium, stage, foyer and entrance lobby appointments, for of what value are all these beauties, if the main link in this chain and the representative investment is not in accord with the entire situation.

The projector is the main supporting element of the Motion Picture Theatre and no matter how gorgeous or beautiful the theatre may be, it cannot continue as a success if the projection and presentation of the picture are not of the highest standard.

The Motiograph DeLuxe is being installed and already has been installed in a great number of the finest theatres in the world. Its quality, accessibility, dependability and perfect projection have gained for it the enviable position of

The Projector Predominant



The Projection Room of the Wisconsin Theatre

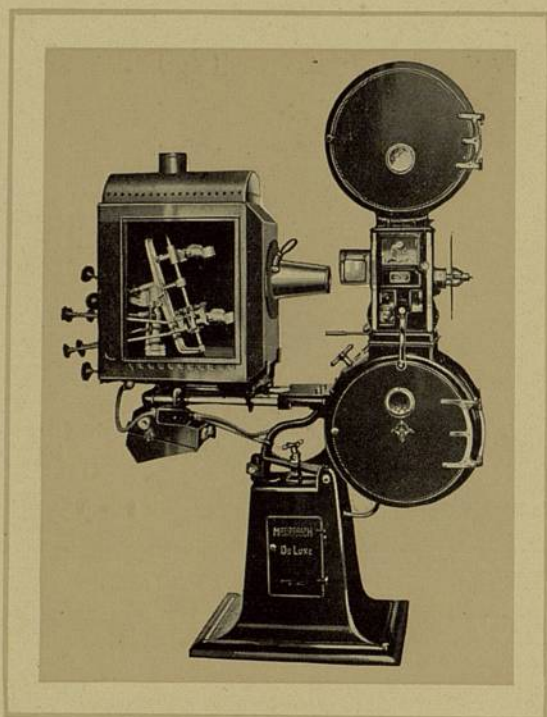
The Motiograph DeLuxe Projector is today the only equipment in the field that was built from the ground up, to meet the exacting requirements of heavy work, quiet operation and perfect screen results, made necessary through the advent of the present day DeLuxe Theatre.

It is not a re-designed, improved or changed model of a type equipment that has been on the market for a decade or more. The Motiograph DeLuxe and Motiograph Special are entirely new, both in design and basic mechanical principles.

Ordinary logic tells us that with an investment of hundreds of thousands of dollars, the present day cost of building theatres, the projector installation should and must be the best. To meet this demand for a "super" equipment where the best is desired, the Motiograph DeLuxe is offered; for the smaller house consideration of the Motiograph Special is advised.

Built only of the very best material, in combination with extreme accuracy and silent and harmonious operation, the Motiograph DeLuxe is the ideal projector for DeLuxe installations.

We illustrate above a projection room Motiograph equipped which is an example that might well be followed in any of the nation's leading theatres.



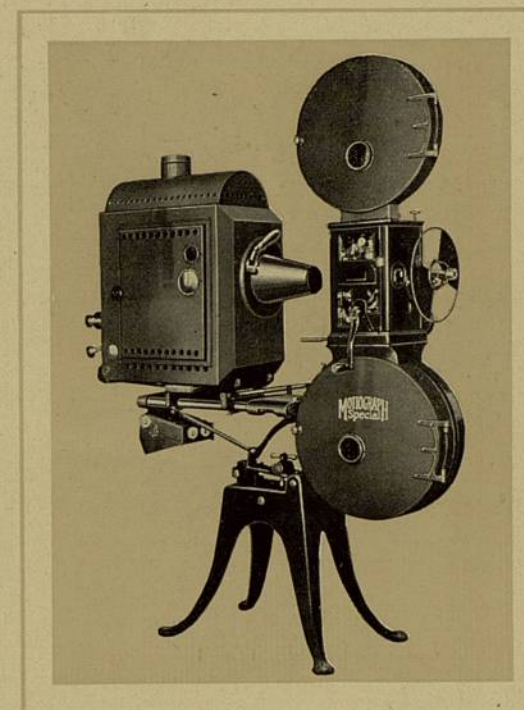
The 1002F Motiograph De Luxe

The 1002F Motiograph DeLuxe Projector is the greatest projector value offered to the purchaser of today. It has incorporated in its design the various special features described on other pages of this booklet.

The DeLuxe Mechanism, though fully enclosed, has a spacious interior for ease of threading and handling. It is "unit" built, permitting installation of all important parts as a *whole* and not as *separate* items. We refer particularly to such units as the complete Geneva Movement Casing (see page 11), Speed Control Gripping Discs, Shutter Shaft Assembly, Film Track Support, Film Tension Plate, etc.

The Speed Control is a beltless, adjustable direct drive, eliminating scores of trouble-giving parts. A Title Brake permits speed variation without changing the set speed of the speed control proper. Shutter is adjustable while in operation; two and three wing shutters may be interchanged without resetting.

Magazines are of three thousand foot capacity and have inspection windows. The pedestal is massive and rigid, adjustable to any pitch or angle.



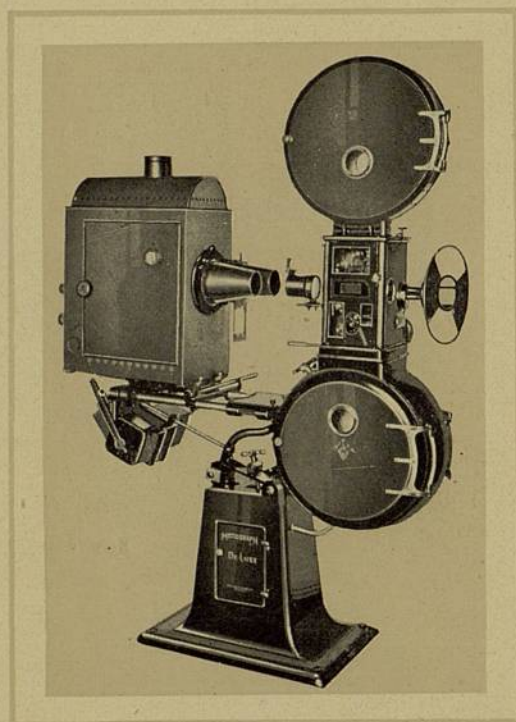
The Motiograph Special

Embodying the same basic principles as our 1002F DeLuxe equipment, though moderately priced, we can recommend this machine for installation under conditions where the best projection possible is a requirement.

The big factor in reducing the cost of the Motiograph Special has been in the omission of our extremely high finish, as used on our 1002F DeLuxe machines and other minor points that can be determined by comparisons of specifications as given on pages 22 and 23 of this book.

All types of lamphouses and lamps of our manufacture are suitable for use on this equipment and are furnished at their respective additional prices as well as such requirements as arc striker, three thousand foot capacity upper magazine, reel end alarm, mechanism pilot light and reducer, lamphouse pilot light, loopsetters, speed indicators, stereopticon attachment, etc., etc.

The Motiograph Special is offered to those of the trade who are interested in the *best* moderately priced projector.



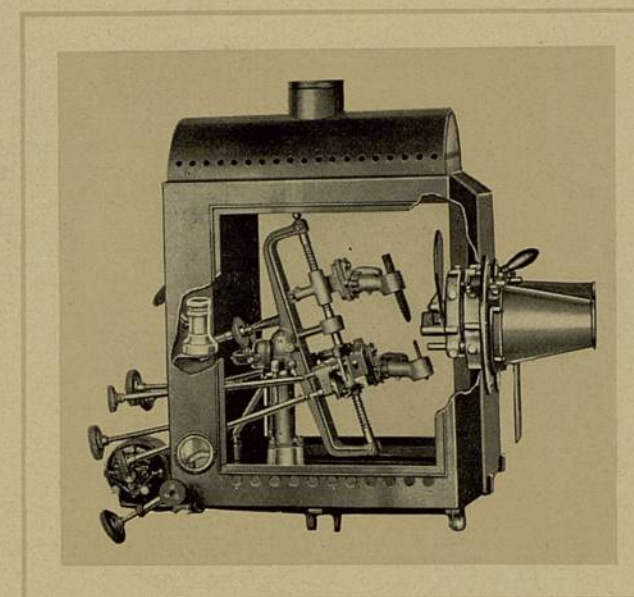
The Complete DeLuxe Incandescent Equipment

Illustrated here, is the 1002F Motiograph DeLuxe Incandescent complete with all accessories. It will be noted that the position of lamp-house is practically the same as when using carbon arc, allowing convenient working space between it and the projector mechanism.

Clearly shown also, is the DeLuxe Mechanism Relay Lens Mount with focusing dowser thereon, and supported under the lamphouse carriage is the lamp regulator with its controlling lever easily reached on the working or right side of the projector proper.

Registering lamp meter is attached to the rear of housing in a position where it can be read at all times.

This equipment is a complete Incandescent Projector and does not utilize Mazda attachments or adapters of any kind made by manufacturers other than ourselves. Performance has proven our DeLuxe Incandescent equipment the peer of all Mazda Projectors. Suitable for use in all theatres where projection conditions are within its scope, and especially for schools, churches and industrial organizations.



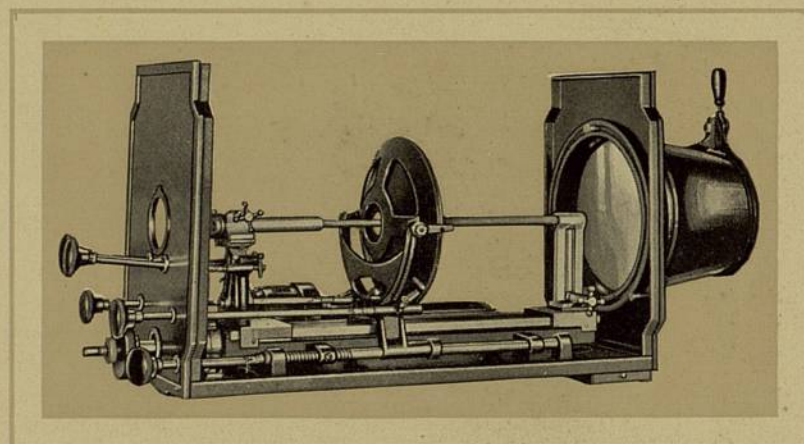
The DeLuxe Arc Lamp and Housing

The DeLuxe Lamphouse is extremely large and well ventilated, and has a door on each side with ruby peep windows and arc reflectors. Our new condenser mount and dowser is fully detailed on page 18 of this booklet and constitutes a regular part of this lamphouse. The housing top is removable for cleaning and has the vent arranged for four inch piping.

Our DeLuxe Arc Lamp is built extremely heavy, will take 12" carbons in both upper and lower holders, and will handle any amperage without binding. The Arc Striker is an exclusive feature and patented. A slight turn of the hand wheel strikes the arc and maintains a set arc gap when lighting lamp.

The DeLuxe Arc Feed is of the mechanical continuous feed type and adjustable; fluctuation of voltage in no way affects its operation. Being a constant feed, intermittent disturbance of the arc has been overcome.

Adjustments can be made by hand at any time without releasing clutch screws.



The Motiograph Reflector Lamp

Perfectly balanced and built extremely heavy with all adjustments working under a positive tension, the DeLuxe Lamp maintains its feature of rigidity under all working conditions. This in combination with perfectly machined parts and its long cast bed makes it operate very smoothly.

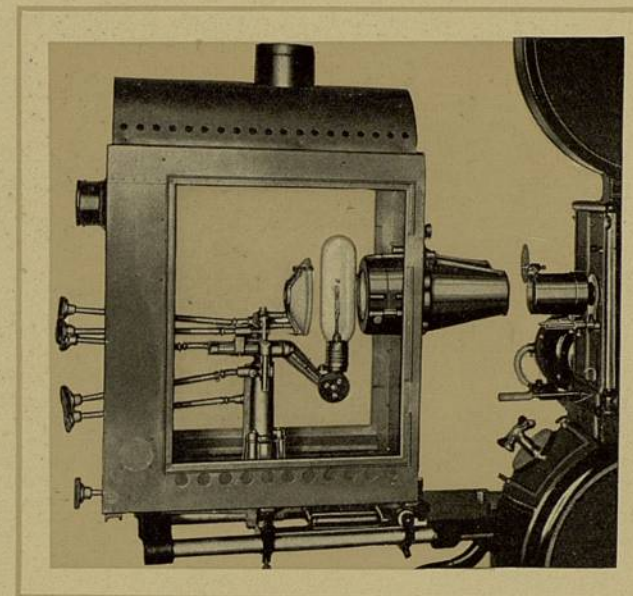
Every adjustment is made from the exterior of the lamphouse. Both sides of the housing can be opened, one being the regular working door, the left side for inspections and adjustments.

It uses a specially ground reflector and condenser with an additional negative lens mounted directly behind the slide carrier for projecting stereopticon slides. On account of the design of the stereopticon attachment, which can be attached to all lamphouses, it is not necessary to install a separate stereopticon for such purposes.

Designed to take a very long trim of carbons, it will burn for many hours before it becomes necessary to give it further attention.

The arc control is electrical and so sensitive it operates on the fluctuation of a fraction of a volt. It is mounted on the left side of the lamphouse base with fuses and switch readily accessible.

This type lamp and housing is adaptable to all model Motiograph DeLuxe and Special equipments.



The DeLuxe Incandescent Lamphouse

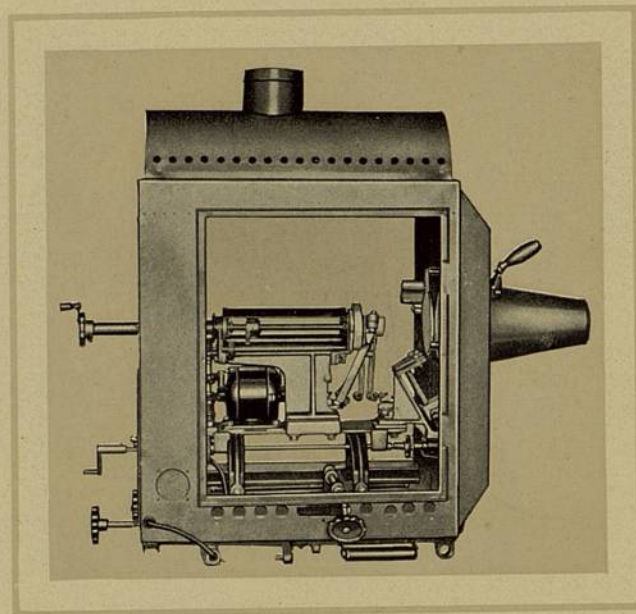
Adaptable to all models of 1002F or Motiograph Special Projectors. It embodies optical principles which cannot be obtained in any other incandescent lamphouse.

All adjustments are controlled from the outside of lamphouse, just as in the arc lamp. The condensing lenses are of the Aspheric Type in special "cell" type mounts.

The mechanism relay lens has mounted on its carriage a focusing shutter which makes the operation of lining up lamp filament, reflector and image very simple, resulting in the maintenance of peak efficiency for light volume.

Our DeLuxe Optical System uses the relay lens originally introduced by us, relaying and concentrating the light "spot" to aperture size. Its use reduces the light beam angle and overcomes the usual "splash" of light on mechanism door. The result is an almost unbelievable increase in light as well as the perfect distribution of it over the entire picture field.

When used with our Incandescent Stereopticon Attachment, stereopticon slides may be projected as perfectly as with the carbon arc.

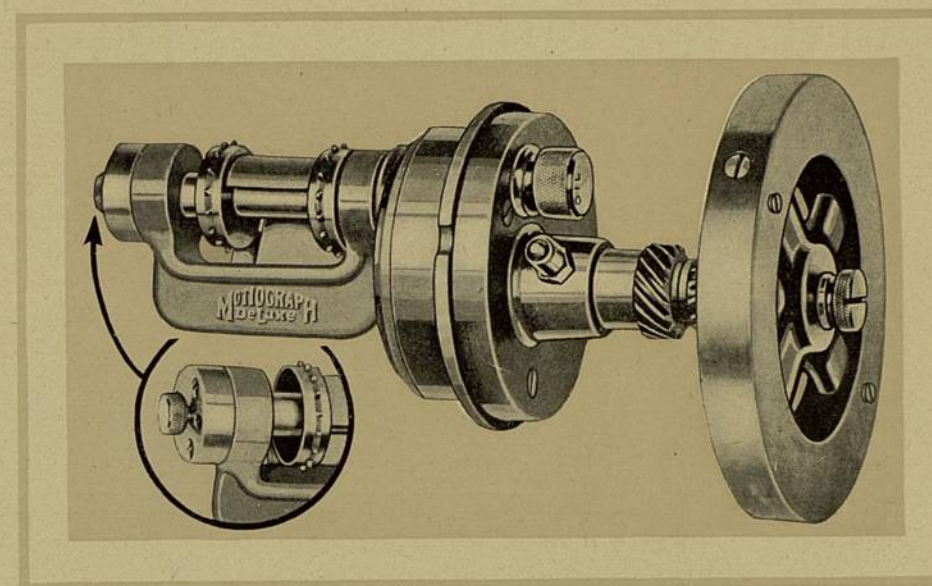


The DeLuxe High Intensity Lamp

This type arc lamp is furnished, when ordered, for all Motiograph Equipments, and is mounted in the regular Motiograph DeLuxe Lamphouse with the new "cell" type condenser mount and heavy cast inside dowser. The light cone is permanently fastened to the lamphouse front as we do not recommend the use of a stereopticon attachment with this arc lamp. A sliding door in the rear allows convenient means for making adjustments.

The arc lamp itself has many improvements, having renewable positive contacts of a new type; also negative fixture has been changed and is now furnished with all clamps suitable for use on any size carbons.

All operating and important adjustments are made from the right hand side of the lamp, while all screw adjustments are controlled and operated from the outside of the lamphouse, just as a regular carbon arc lamp. This refers to the movement of lamp—backward and forward, up and down, and sideways. This feature is very desirable as it makes possible the maintenance of a perfectly illuminated picture field at all times, regardless of carbon burning variations.



The DeLuxe Double Bearing Movement

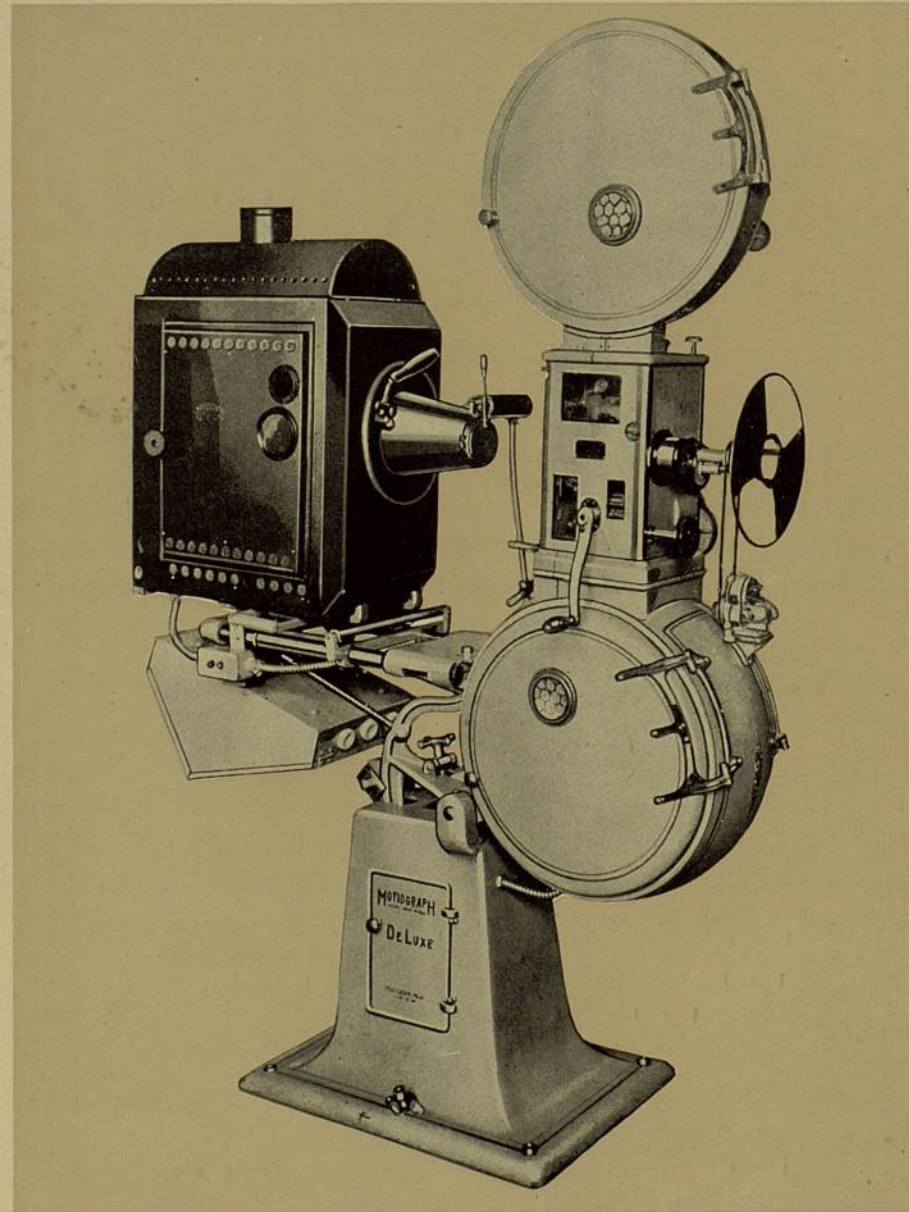
The Double Bearing Arm gives absolute support to sprocket and extension end of shaft. The outer bushing is non-eccentric and made with oil retaining well for constant lubrication of this bearing.

End play adjustment of star shaft can be made while projector is in operation with a *ball bearing* adjusting plug running through center of outer bearing.

The method of setting eccentric bushing makes possible a micrometer adjustment; the knurled screw in end of cam shaft provides means for end play adjustment and serves the purpose of a safety stop for the balance wheel. Two locking screws for the balance wheel run through its entire diameter with auxiliary locking screws for each in its outer flange.

A self-closing oil cup is provided for the cam shaft and a large diameter screw plug located on the balance wheel side of casing for the injection of grease.

THE MOTIOGRAPH DE LUXE IS THE OUTSTANDING PROJECTOR



THE "Super" Motiograph DeLuxe is shown herewith, a masterpiece of ingenuity, embodying every conceivable attachment and convenience. It is especially designed for "stunt" work and for the theatre demanding the utmost in projection equipment.

This projector is furnished in the standard black, special Motiograph blue or grey enamel, gold striped with fully polished nicked trimmings.

As extras, the following items are attachable:

Automatic Change-over Device with Pedestal Foot-switch, assuring an imperceptible change from one machine to the other on multiple reel subjects.

Film Footage Meter for cuing music and cutting picture.

Speed Indicator for synchronizing music and picture and determining projector speed for a given film footage, for desired projection time.

Motor Throw-out Clutch which permits stopping of projector without turning off mechanism driving motor or changing set speed of speed control.

Upper and Lower Sprocket Loop Setters.

Title Brake as described on page 14.

Reel End Alarm for Upper Magazine.

DeLuxe Type High Intensity Lamp and Lamphouse with "cell" type condenser mounts and inside dowser.

Double Step 200 Ampere Arc Lamp Switch and Box.

Mechanism Pilot Lamp with Reducer and Automatic Switch.

Lamphouse Pilot Lamp.

New Double Bearing Intermittent Movement.

Adjustable Take-up Tension Control.

Ball Bearing Take-up Device.

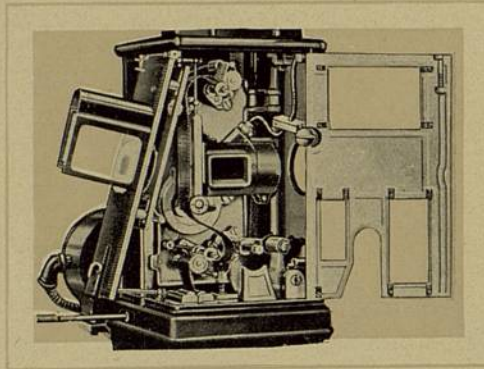
3000-ft. Capacity Magazines.

Interchangeable Shutter Collar.

Shutter Setting Device.

and various other features described elsewhere in this book.

The DeLuxe Mechanism

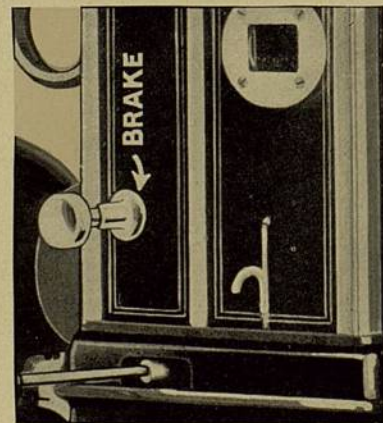


This is entirely enclosed. Case sides, where necessary, are provided with observation windows which are readily removed by depressing spring catches. Right side door is hinged as is the threading or film gate, the latter operated by a large finger hook.

Tension slide carrying film shoes can be instantly removed for inspection or cleaning, this also applying to the complete Intermittent or Geneva Movement Casing.

The Title Brake

An exclusive feature on the Motiograph, furnished as a part of the DeLuxe Equipment, and as an *extra* on the Motiograph Special. Its braking effect on the projector speed is positive and instantaneous, giving complete control for slowing-up on short titles and speed variation to synchronize picture and music without changing the setting of the speed control proper. The uses it can be put to are almost unlimited.

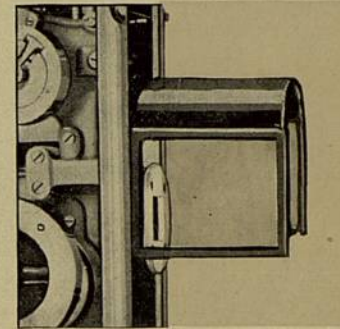


It will be noted that the interior of the mechanism is exceptionally large and roomy, which makes for quick and easy threading and accessibility for complete exposure of all parts when necessary.

A framing pilot lamp is provided in the DeLuxe Mechanism, with automatic switch operating with the opening and closing of the right side door. The projection lens focusing knob is placed on the operating side of the mechanism, as is the shutter setting control knob where it can be reached for adjustment while the projector is in operation.

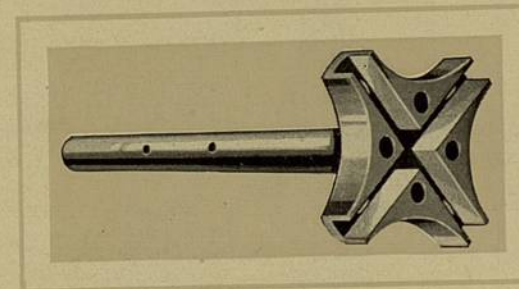
As stated before, we feel confident that when the finer points concerning projectors are taken into consideration, the Motiograph DeLuxe will not be found wanting in any respect.

The Mechanism Light Shield



No efficient attachment has been overlooked. The DeLuxe Light Shield completely covers the light spot on the mechanism and protects the projectionist's eyes from the sharp reflected rays.

Operating side is hinged and may be swung up for inspection of film when threading mechanism in frame.

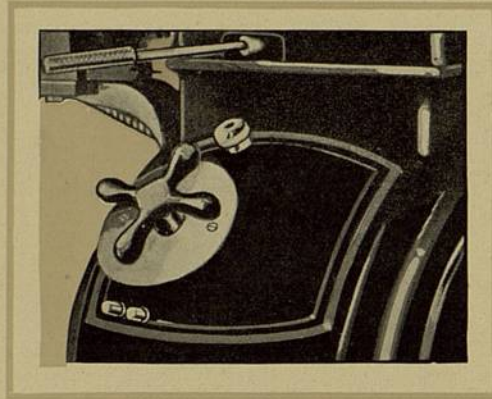


The Intermittent Star Wheel

No other standard projector star is designed as the Motiograph DeLuxe. It is a "web" type, giving reinforcement to the points of the star; it is made of the highest grade tool steel and is hardened.

With grinders of special design the inner surfaces of the star slots, its concave faces and entire sprocket shaft are ground to size.

Being manufactured with a high degree of accuracy, its service or life, when properly lubricated and handled, is almost indefinite.



The Projector Controls

Located in proximity to each other are all of the controlling handles of the equipment.

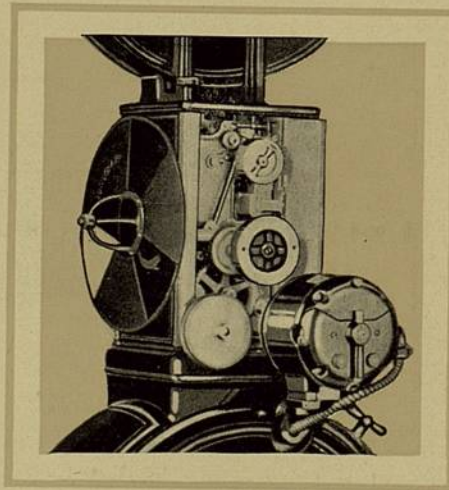
From the illustration, their relationship may be seen constituting a veritable instrument board.

The framing handle, motor switch, title brake, take-up tension and speed control handles can be reached very easily. This condition tends, in a great measure, to make the Motiograph the easiest controlled projector on the market.

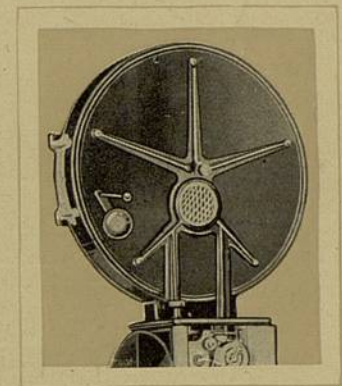
The Speed Control

A big factor which a prospective purchaser of a projector should not overlook is the beltless motor drive and speed control. Besides eliminating the annoyances of breaking, stretching and slipping belts and the excess friction on the shafts and bearings, as a result of the belt pull, this new connection is extremely simple. The metal and fibre speed control discs, which have proven so successful in use with the Motiograph during the past few years, have been still further improved. The metal disc is attached directly to the electric motor shaft while the shaft for the double disc is connected to the main driving wheel of the mechanism, with only one geared unit between them for speed reduction. There are no beveled gears, and as the motor is placed by the side of the mechanism, all complicated connections have been eliminated.

It is very positive in action and absolutely maintains constantly the speed at which it is set.



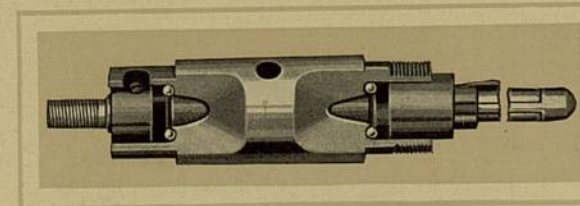
The Reel End Alarm



Located on the left hand side of the Motiograph DeLuxe Upper Magazine. Has an inner arm that is adjustable to all diameter reel hubs and used for the timing of the signal for the approaching end of reel.

This alarm is furnished as regular equipment on the Motiograph DeLuxe and as an *extra* on the Motiograph Special.

It is a convenience which should be appreciated by the man in charge, and is a big factor in the change-over of projectors during continuous projection.



The Ball Bearing Take-Up

The take-up reel shaft in both the DeLuxe and Special Motiograph equipments revolves in two special ball bearing races, making possible the successful handling of 3000 feet of film without undue strain or friction.

The race cones are made adjustable on the shaft to take up any play or wear that might develop. This assembly is also made as a separate unit held to its supporting member by a large check nut reached from the film side of the lower magazine.

Accessibility is again accentuated in the design of this unit.

The Arc Striker



This is furnished only with the DeLuxe Arc Lamp and is an *extra* for the Motiograph Special. A slight turn of the proper hand wheel brings the lower carbon in contact with the upper carbon, thereby striking or lighting the arc without manipulation of the regular carbon feed knob. This method maintains the same arc gap as when lamp was turned off, assuring quick settling and also overcomes the necessity of centering the aperture spot, as the

upper carbon crater is not moved out of the optical center.

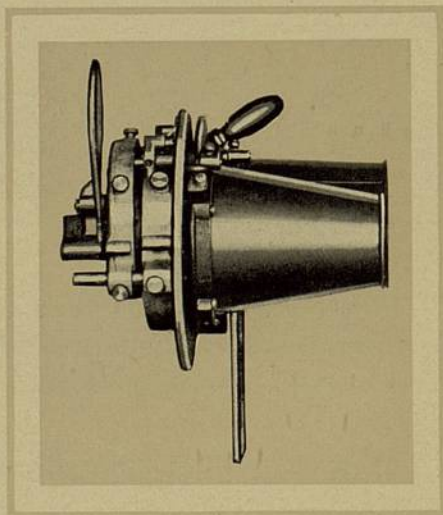
Especially convenient with the use of "Series" converters as separation can be timed for building up of generator.

The "Cell" Condenser Mount

Our new condenser mount is of the "cell" type and is so designed as to take all of the different condensing systems now on the market. In addition we have adopted a heavy inside dowser, operated from a convenient handle on the lamphouse front.

As is well known, the use of an inside dowser offers the best protection possible against the "pitting" of the rear condensers when striking the arc.

Condenser "cells" have large lens retaining rings that tend to reduce breakage to a minimum; also they constitute part of the regular Motiograph DeLuxe and Special equipments.

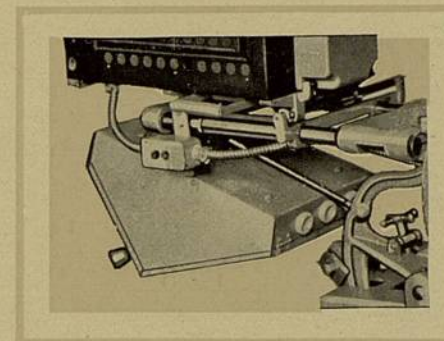


The Double Step Switch

The DeLuxe Double-Step Switch and Box is only furnished as an extra on both types of Motiograph equipments, and is designed primarily for use on high amperage installations and our High Intensity Lamp equipments.

The switch is of 200 ampere capacity with an extra pair of grips for switch blades that, when properly wired to rheostat taps, will on the first step permit the striking of arc to be made on a lower amperage than that regularly used for projection, which is obtained by closing the switch entirely.

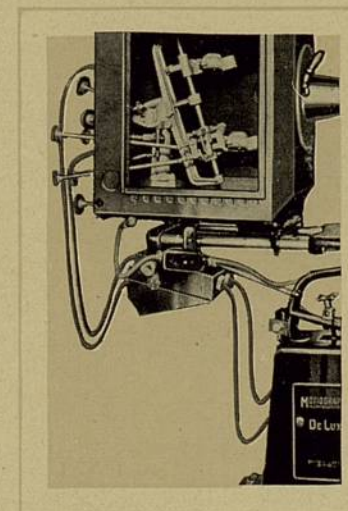
This overcomes cracking or broken positive craters and allows warming-up of carbons on lower amperage.



Wiring

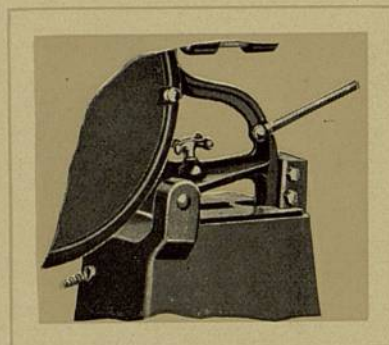
The DeLuxe Floor Base being hollow, will permit all wires for the projector being brought up through its center; suitable bushings are provided for outlet leads to be run to the machine knife switch, while flexible conduit for the motor, arc feed, lamphouse, pilot lamp, etc., is lead out from the front.

Note the cast base door which allows ample room to complete connections, or for the purpose of wiring inspection.



A finished installation, when these points are taken advantage of, is exceedingly neat, for all main supply wires are entirely concealed.

Tilting

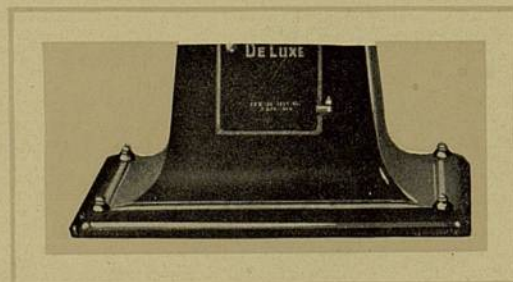


A projector at the time of its installation oftentimes brings to light certain serious obstacles that are hard to overcome unless all points have been taken into consideration by the designers.

With the Motiograph DeLuxe, the main floor base always remains flat on the floor regardless of the angle at which the machine proper is tilted. A convenient hand wheel adjustment has been provided to control the machine angle with lock or limit nuts attached.

This makes possible the tilting of the equipment to any predetermined angle without screen trial and the return to its regular projection position, as is oftentimes necessary in the special "Stunt" work now being used in the larger DeLuxe Type Theatres.

The Floor Base



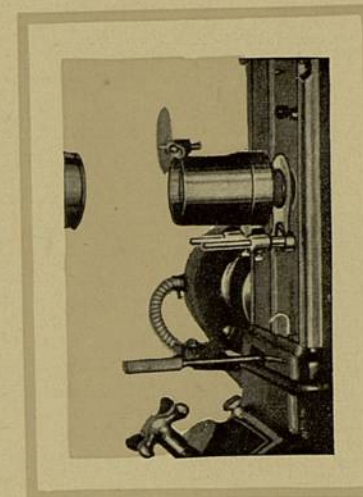
An appreciated feature of the Motiograph DeLuxe Floor Base is the four leveling plugs, one located in each corner of the base. By proper adjustment of these plugs, the projected field may be lined laterally with the screen and also permit solid contact with the floor, regardless of how uneven it may be, assuring a rigid installation.

The Incandescent Relay Lens

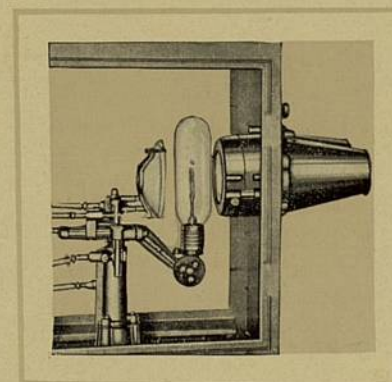
This mount and lens is adaptable to all model 1002F DeLuxe and Motiograph Special Projectors, and is for use with the DeLuxe Incandescent Lamphouse. This mount and lens is our own development and has made possible a tremendous increase in illumination over any other optical system now in use.

Its purpose is to reduce the light angle issuing from the condensing lenses and relay the collected light upon the aperture plate in a small concentrated area, doing away with the usual "splash" of light ordinarily obtained.

A focusing dowser is mounted on the end of the light tube providing a quick and positive means for lining up the reflector bulb and entire optical system.



The Incandescent Condenser Mount



Our Incandescent Lamphouse is provided with special condenser mounts which take the new four-inch diameter rear, and five and one-quarter-inch front aspheric condensers. Each lens is held in a separate "cell," which is instantly removable for cleaning purposes, while provisions are made to hold each cell securely in place when in operation.

In the DeLuxe Incandescent Lamphouse the light dowser is in front of the condensers with suitable handle for convenient operation from the right hand side of the equipment.

The general design has resulted in a lens mount guaranteed to give continued service under all conditions and reduces breakage to a minimum.

Motiograph DeLuxe Specifications

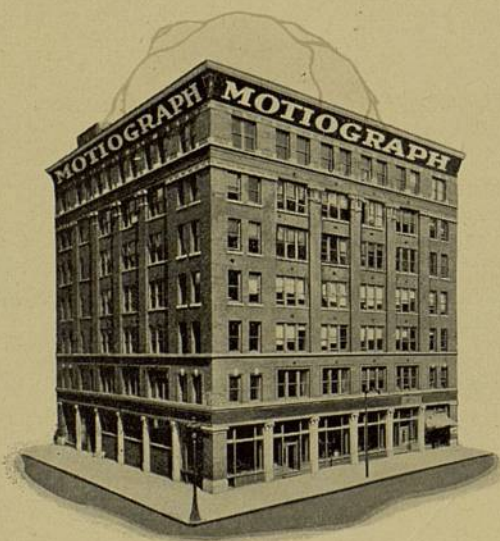
1. *Mechanism* Fully enclosed; glass sides.
Spot shield; framing pilot lamp.
Hardened sprockets; bar steel tension shoes.
Shutter setting device.
2. *Frame* Close grain grey iron.
3. *Gears* Silent fabric; drop forgings.
Hardened steel pinions.
4. *Bushings* High speed journal bronze.
Hardened steel; interchangeable.
5. *Shutter* Hard sheet aluminum; two or three wing.
Interchangeable without resetting.
6. *Geneva Movement* Burnished hardened steel; operates in lubricant.
New type Double Bearing (See Page 11).
7. *Speed Control* Direct drive; variable speed.
Standard speed range.
8. *Motor* 1/8 hp. constant speed.
9. *Lamphouse* Polished sheet steel; two doors.
Well ventilated with removable top.
Size—22" x 28" x 12".
Pilot lamp socket and arc reflector.
10. *Condenser Mount* New "cell" type; adjustable.
Inside dowsers.
11. *Arc Lamp* Extra heavy grey iron, nickel finish.
Arc striker and all adjustments on lower arm.
1" capacity holders; takes extra long trim.
12. *Upper Magazine* 3000 ft. capacity; wired glass windows.
Reel shaft retard and reel end alarm.
13. *Lower Magazine* 22" diameter; grey iron.
Door on each side.
Carries speed control and instrument board.
14. *Take Up* Ball bearing; tension adjustable while in operation.
15. *Floor Base* Size—19" x 28"; grey iron.
Leveling adjustment.
16. *Finish* Standard black enamel striped in gold.
17. *Weight* Packed—685 lbs.

Motiograph Special Specifications

1. *Mechanism* Fully enclosed; glass in right side door.
Steel sprockets; bar steel tension shoes.
Shutter setting device.
2. *Frame* Close grain grey iron.
3. *Gears* High grade bronze; steel pinions.
4. *Bushings* Journal bronze; interchangeable.
5. *Shutter* Hard sheet aluminum; two or three wing.
6. *Geneva Movement* Burnished hardened steel; operates in lubricant.
Standard type Single Bearing.
7. *Speed Control* Direct drive; variable speed.
Standard speed range.
8. *Motor* 1/8 hp. constant speed.
9. *Lamphouse* Polished sheet steel; two doors.
Well ventilated with removable top.
Size—22" x 28" x 12".
Pilot lamp socket and arc reflector.
10. *Condenser Mount* New "cell" type; adjustable.
Inside dowsers.
11. *Arc Lamp* Extra heavy; grey iron nickel finish.
All carbon adjustments on lower arm.
1" capacity holders; takes long trim.
12. *Upper Magazine* 2000 ft. capacity; wired glass windows in door.
Upper shaft with retard device.
13. *Lower Magazine* 22" diameter; heavy sheet steel.
Wired glass window in door.
Carries speed control and motor switch.
14. *Take Up* Ball bearing; tension adjustable while in operation.
15. *Floor Base* Size 19" x 28"; grey iron.
Curved legs.
16. *Finish* Black baked enamel.
17. *Weight* Packed—550 lbs.



Motiograph Service Nation Wide



☞ Representation and Service Points on the Motiograph Projectors cover the entire country.

☞ Within handy distance to you is located a Motiograph distributor, ready and willing to offer his broad experience on questions of a technical nature and render you whole hearted service at all times.

☞ The QUALITY OF THE EQUIPMENT and the ABILITY TO RENDER SERVICE are, in a measure, the really big points that should be considered in deciding upon projection equipment.

