

PARTS LIST
AND
INSTRUCTION BOOK

The *Peerless*
MAGNARC

TRADE MARK REG.

HIGH INTENSITY REFLECTOR ARC LAMP

—MFD BY—

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CHICAGO, ILL., U. S. A.

FIRST
EDITION



INDEX

INSTRUCTIONS

	Page
Operating Instruction Plates.....	2 to 6
To Connect Negative Asbestos Covered Wire.....	7
To Connect Positive Asbestos Covered Wire.....	7
To Insert Reflector In Reflector Drum.....	8
To Connect Arc Control Motor.....	8
To Connect Lamphouse Pilot Light.....	8
Floating Carbon Principle Explained.....	9
To Trim Positive Carbon.....	9
To Trim Negative Carbon.....	9
Arc Voltage and Amperage.....	9
Reflector to Aperture Distance.....	10
Focusing Arc Imager On Indicator Card.....	10
To Determine Proper Distance from Reflector to Positive Carbon Crater.....	11
To Adjust Rate of Feed of Positive and Negative Carbon.....	11
To Adjust Negative Carbon Feed.....	11
Lamphouse Ventilation.....	12
Care and Adjustment of Positive Carbon Guide.....	12
Adjustment of Negative Carbon Guide.....	13
To Align Carbons.....	13
To Remove Negative Carbon Assembly.....	14
Adjusting Negative Friction Clutch.....	14
To Remove Entire Positive Sub-base Assembly from Lamphouse	14
To Remove Arc Control Motor and Drive Gear Assembly.....	14
Dowser Operation.....	15
Function of Arc Stabilizing Magnet.....	15
Cleaning Reflector.....	15
Cleaning Lamphouse.....	15
Formation of Carbide Tips on Negative.....	15
Lubrication.....	16
Carbon Holder Sizes.....	16
Carbon Combination Tables.....	16
• • •	
REPAIR PARTS	
Order Information.....	17
Drawings of Parts.....	18 to 27
Parts List.....	28 to 33
Assembled Parts List.....	34 to 36
Lamphouse Adapters.....	36

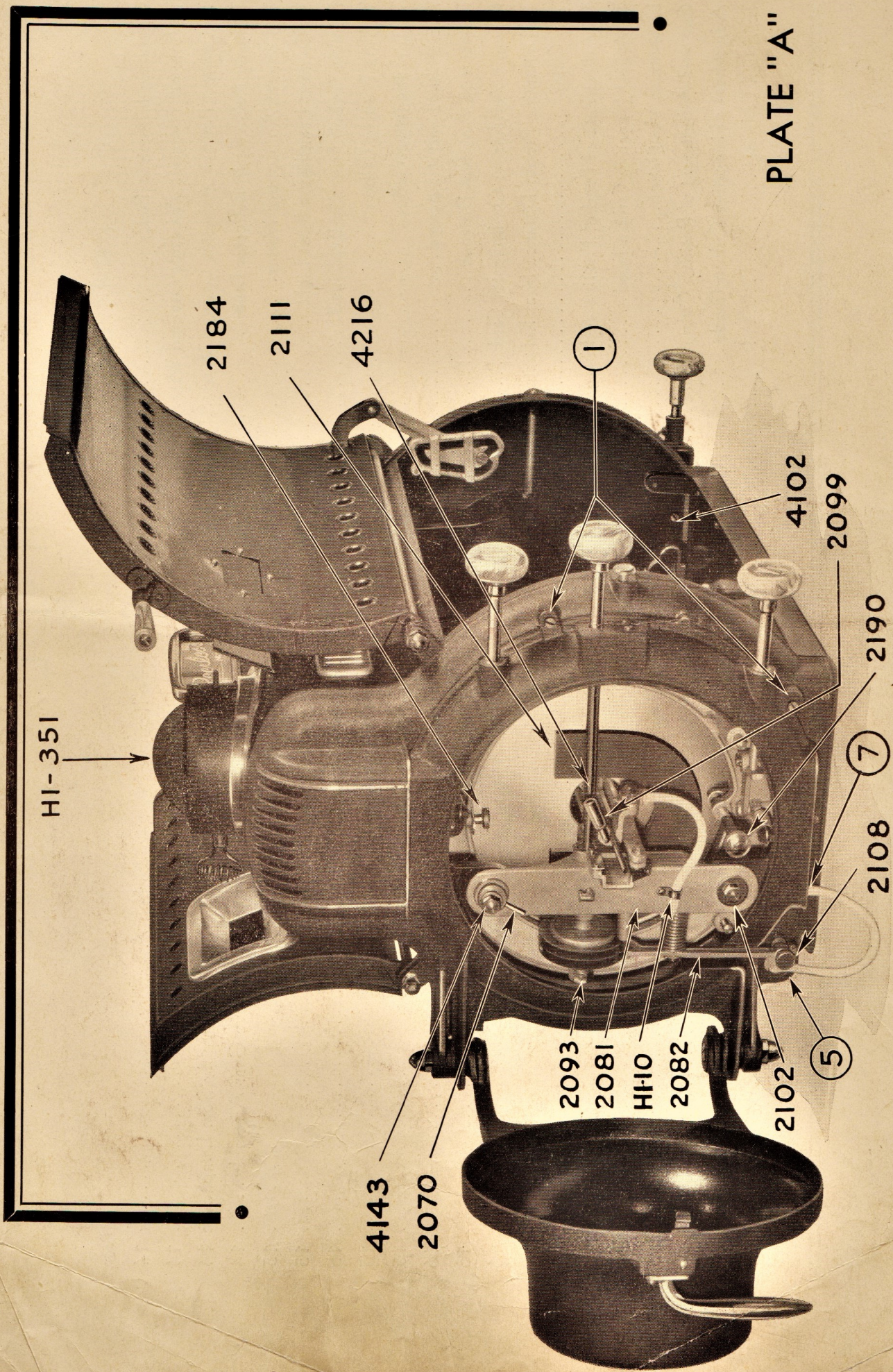


PLATE "A"

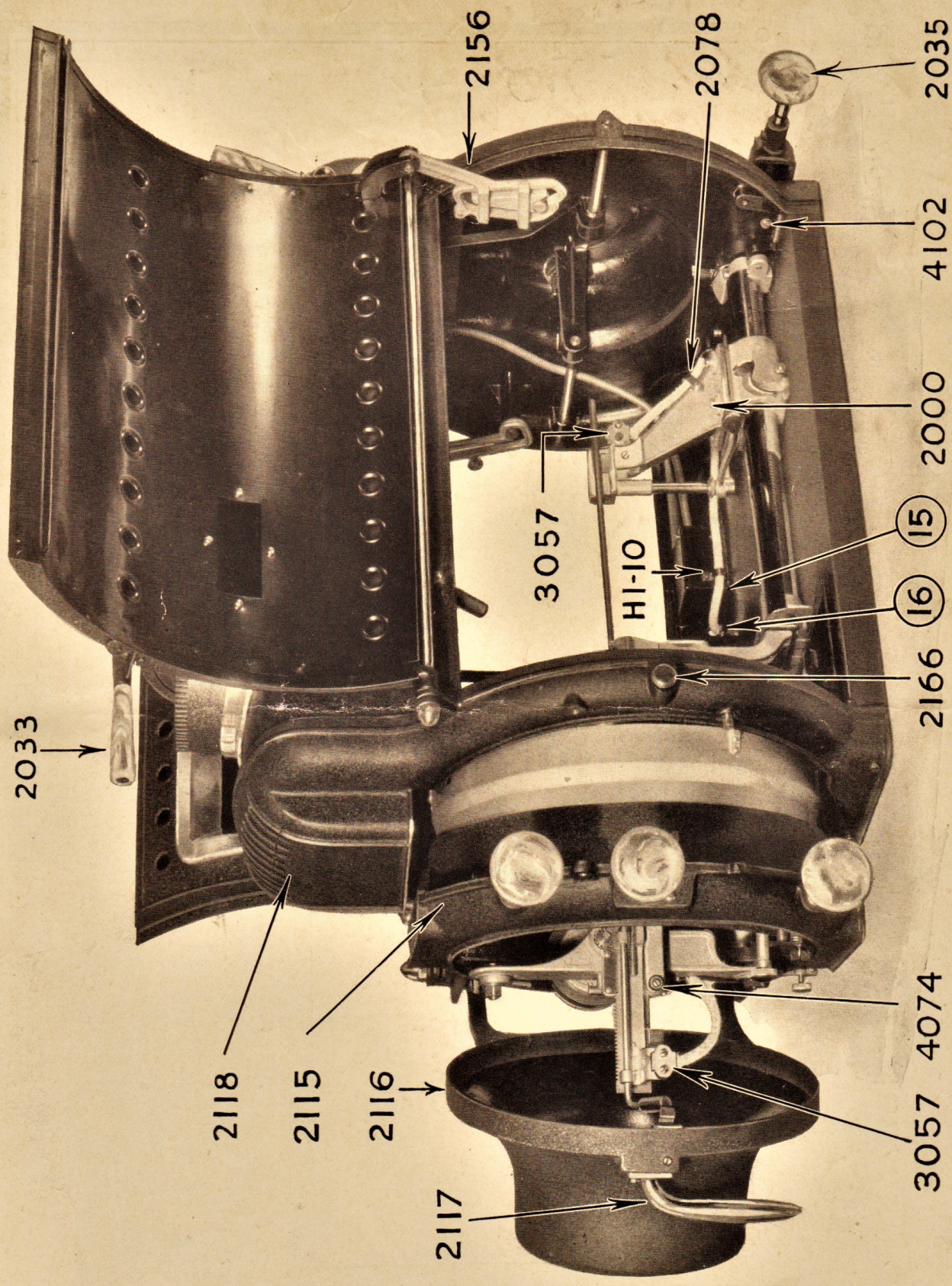
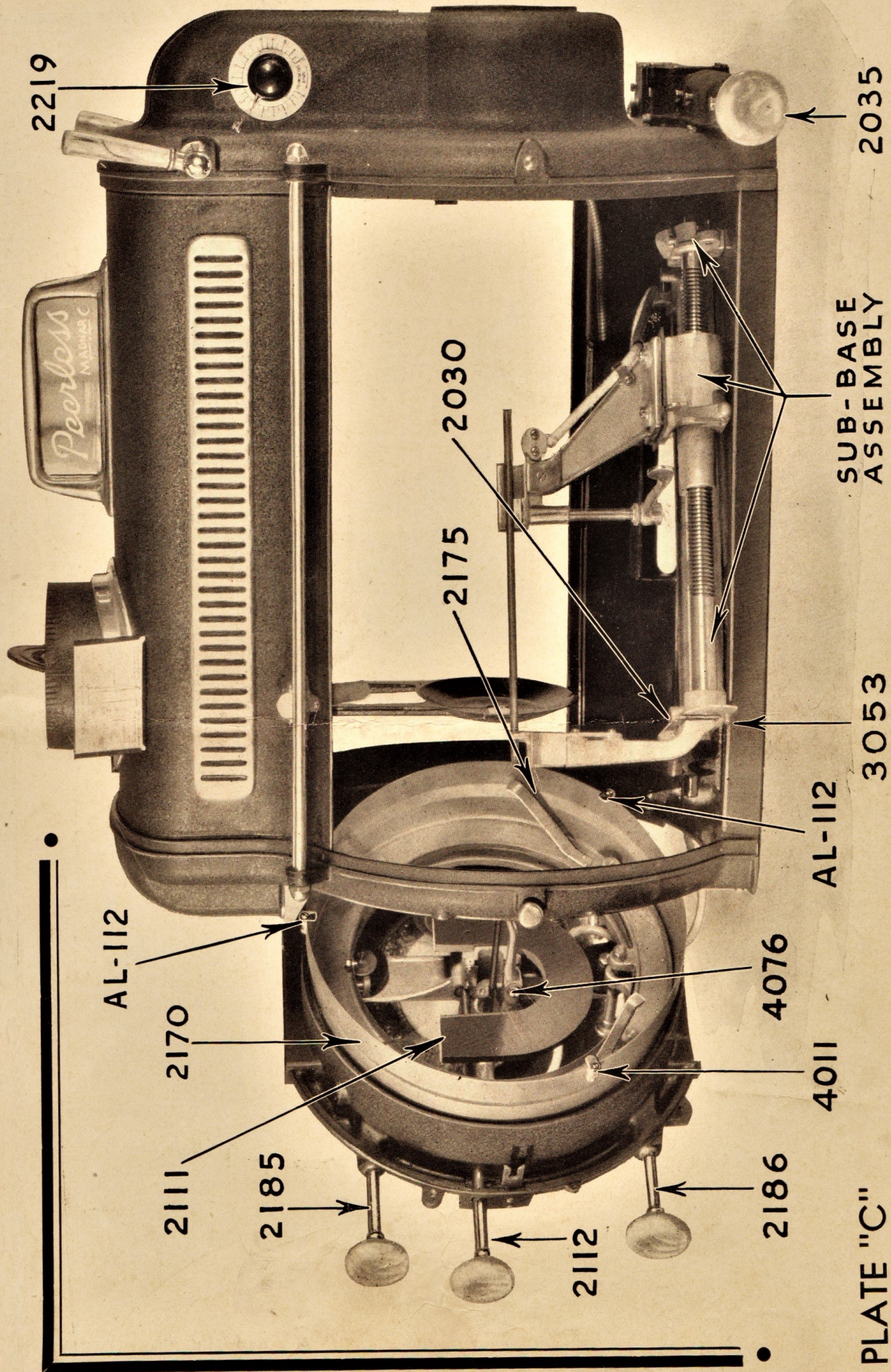


PLATE "B"



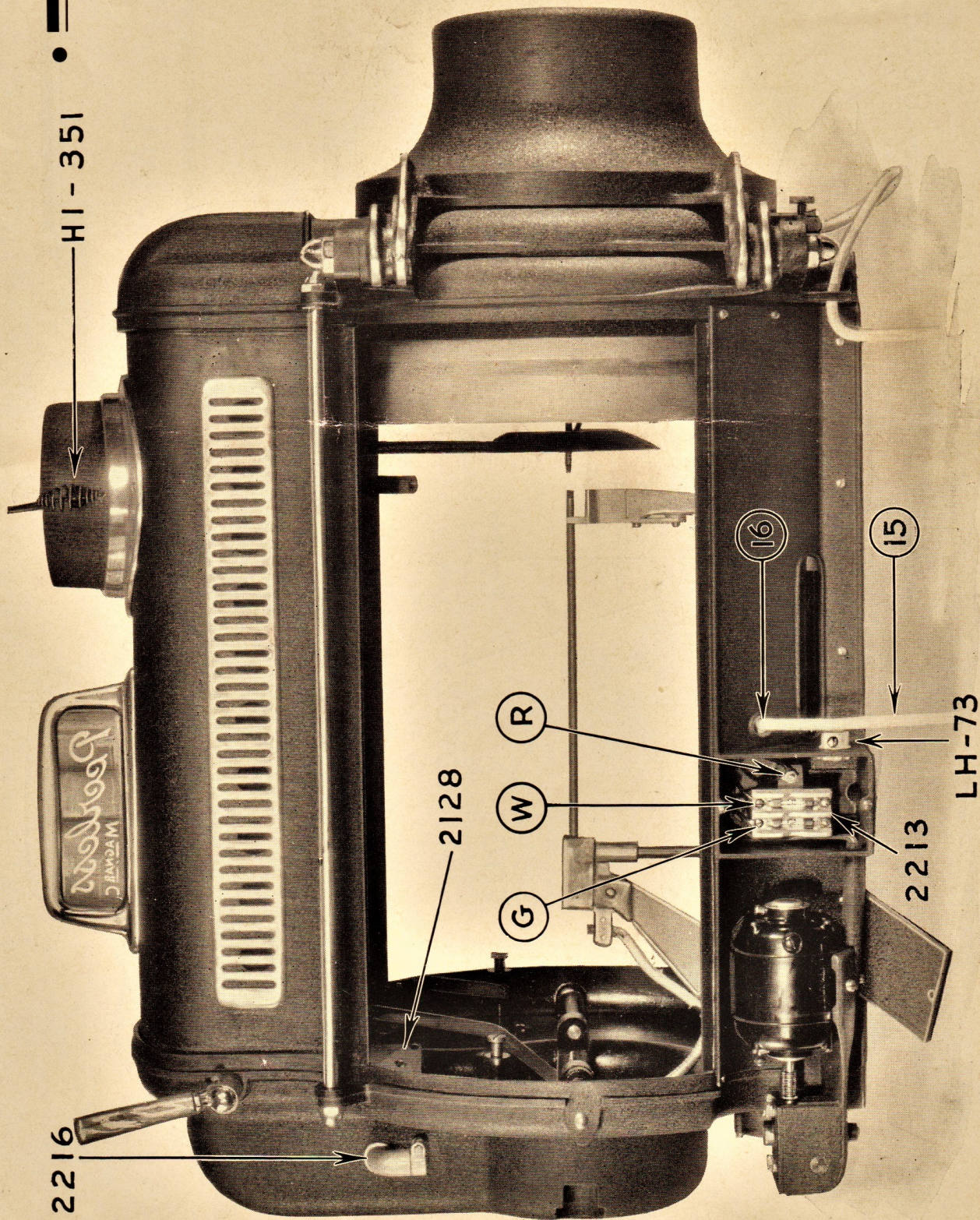


PLATE "D"

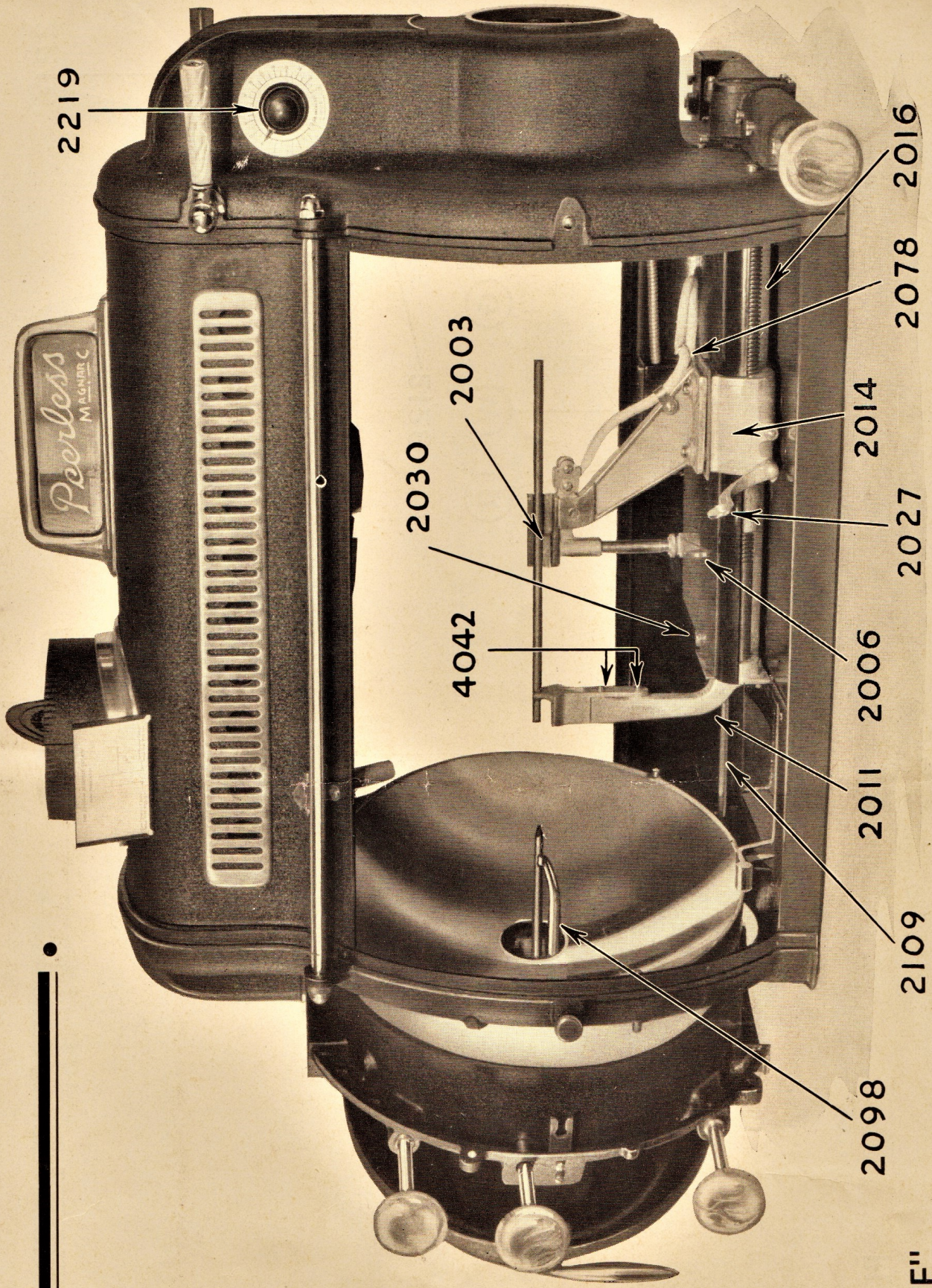


PLATE "E"

CARE AND OPERATING INSTRUCTIONS FOR THE

Peerless **MAGNARC**

HIGH INTENSITY LAMP

OPENING SHIPPING CASES.

Unpack the PEERLESS MAGNARC High Intensity Lamp, first removing the cleats that retain the lamp in the shipping cases and place lamphouse on the projector pedestal, being sure to clamp it firmly to the projector pedestal by means of thumb screws through the pedestal table before opening any of the rear doors of the lamphouse.

When the lamphouse is screwed to the pedestal remove the screws shown as No. 1 in plate "A." These screws, which retain door No. 2115 to the lamphouse rear casting No. 2118, plate "B," may then be discarded as they are only used for shipping purposes. Rear door No. 2116 plate "B" is opened by pulling backward on handle No. 2117. The negative carbon and reflector assemblies are then exposed to view.

TO CONNECT NEGATIVE ASBESTOS COVERED WIRE.

Two six foot lengths of No. 6 EXTRA FLEXIBLE asbestos covered wire are required to wire up this lamp. Attach copper terminals to one end of each asbestos covered lead wire and attach to the dead end of the projector knife switch. Run the negative wire through hole No. 5, plate "A," in casting No. 2118 and then through the round hole in the bottom of casting No. 2115 at the point shown as No. 7, plate "A." Next pass the wire back of and over the top of the coil spring and under clamp No. H1-10, plate "A," and fasten in terminal No. 3057, plate "B." Provide some slack in this wire to permit free movement of the negative carbon holder assembly over its full length of travel. This wiring method is clearly shown in plate "A."

TO CONNECT POSITIVE ASBESTOS COVERED WIRE.

By means of handle No. 2033, plate "B," raise lamphouse door as high as it will go and lower slightly so that latch No. 2156, plate "B," will hold the door in raised position. Pass the positive asbestos covered wire No. 15 through opening No. 16, plate "B," and plate "D," in lamphouse side panel and attach the end of the wire to the positive carbon holder terminal No. 3057 plate "B."

Place the wire along the back edge of positive carbon holder support casting No. 2000, plate "B," to protect the wire from the light rays when the lamp is in operation. Sufficient slack in the wire between terminal clamp No. 3057 and wire clamp No. 2078, plate "B," should be allowed so that the positive carbon holder may be rocked freely up and down. The positive wire should then pass under the second guide clamp No. 2078 shown in plate "E," and should then be passed under wire clamp No. H1-10 plate "B" allowing sufficient slack in the wire between clamps Nos. 2078 and H1-10 to permit free movement of the positive carbon holder assembly over its entire travel.

Negative carbon handle shaft No. 2112 shown in plate "C," should be turned clockwise until the negative carbon holder assembly is in its most rearward position. Reflector door No. 2115 plate "B," may be opened by pushing in on door release button No. 2166 plate "B," and swing the door outward upon its hinges.

—CAUTION—

This door should **not** be opened until the lamphouse is securely fastened to the projector table as its weight may cause the lamphouse to over-balance.

TO INSERT REFLECTOR IN REFLECTOR DRUM.

Next unscrew screw No. 4011 plate "C," and remove the reflector retaining clip. Holding the reflector at a slight angle, pass the hole in the reflector over the negative guide No. 2098, plate "E," and under the two other reflector retaining clips No. AL-112. Then push inward on the reflector until its outer rim is back of the front edge of reflector drum No. 2170 plate "C," and replace screw No. 4011 and its clip. Next push forward on the rear of the reflector to make sure that the outer edge is touching all three retaining clips No. AL-112.

TO CONNECT ARC CONTROL MOTOR.

A length of No. 14 BX or Greenfield should be run from the projector knife switch to BX bushing No. LH-73, plate "D." At the projector switch the arc control wires should be connected to the dead end of the switch—namely to the same terminals to which is connected the asbestos covered wires attached to the positive and negative carbon holders. No attention need be paid to the polarity of the arc control wires. The opposite end of the wires in the BX should be attached to the terminal screws at the bottom of fuse plug No. 2213 plate "D."

TO CONNECT LAMPHOUSE PILOT LIGHT.

First remove the two lower screws, which retain panel No. 2128, plate "D," and drop the panel from under the upper screws that fit in the slots in the panel, thereby permitting access to the terminals at the base of the pilot light socket.

Run a length of BX, from BX bushing No. 2216 plate "D," to a current supply. This may often be found at the projector motor switch or at some convenient light outlet in the projection room. After making this connection, replace panel No. 2128 plate "D" and insert an incandescent lamp.

FLOATING CARBON PRINCIPAL EXPLAINED.

An important and essential feature in the unique construction of the PEERLESS MAGNARC is the method employed to insure continuous and correct alignment of the positive and negative carbons, which consist in providing "Floating" carbon clamps and rigid carbon guides near the arcing end of each carbon.

The function of the carbon guides shown as No. 2098 and No. 2011 plate "E," is to accurately locate the ends of the carbons in respect to each other thus insuring proper crater formation. Since the positive and negative carbon clamps "float" in their respective supports, even badly warped or crooked carbons will burn perfectly in this lamp.

TO TRIM POSITIVE CARBONS.

Throw friction release lever No. 2027 plate "E" clockwise and slide the entire positive carbon carriage No. 2014 plate "E," toward the front of the lamp. Relock carriage by throwing lever No. 2027 toward the rear of the lamphouse. This locks a gear on carriage No. 2014 plate "E," to the threads of the positive acme feed screw No. 2016 plate "E."

Next turn positive carbon clamp lever No. 2006 plate "E," toward the reflector so that positive carbon clamp shoe No. 2003 plate "E," is low enough to permit insertion of the positive carbon. Next place the pointed end of the carbon in the slot in positive carbon guide No. 2011 plate "E," with its pointed arcing end in the same vertical plane as the front edge of positive carbon guide No. 2011 and clamp the carbon by rotating lever No. 2006 plate "E," toward the front of the lamphouse.

TO TRIM NEGATIVE CARBONS.

At the option of the projectionist the negative carbon may be trimmed with door No. 2115 closed, as shown on plate "A," or with it open as shown in plate "E."

To insert the negative carbons, move the negative carbon clamp to its rearmost position and raise negative carbon clamp lever No. 2099 plate "A," and insert the carbon into the side of the carbon clamp, pushing the carbon forward through negative carbon guide No. 2098 plate "E," until the end of the negative carbon projects approximately $1\frac{3}{8}$ " beyond the front end of the carbon guide and clamp in that position.

ARC VOLTAGE AND AMPERAGE.

The PEERLESS MAGNARC is designed to operate at the currents shown on the tables which will be found on Page 16, with a voltage drop across the arc of 31 to 40 volts. As a consequence this lamp may be operated with any

multiple arc type motor generator or on 110 volt direct current service or with a rectifier, providing the current capacity of the rectifiers or motor generator is sufficient for the minimum current rating of the carbons to be used in each lamp.

Low voltage motor generators and rectifiers having voltage outputs of from 31 to 40 volts are available for use with this arc. These lamps may also be operated from higher voltage generators if proper ballast rheostats are inserted in the circuit to reduce the generator output voltage to that required at the arc.

REFLECTOR TO APERTURE DISTANCE.

The operating distance from the rear surface of the reflector when measured through the hole in its center to the projector aperture should be approximately 34". To accomplish this, slide the entire lamphouse forward or back until the reflector-aperture distance is approximately 34" as mentioned above.

To obtain this dimension it may be necessary on certain projectors using rear shutters to remove and discard the small metal light cones mounted on the rear half of the projector shutter housing. It should be understood that it is not imperative that the lamp be operated at this specific 34" dimension and a slight variation of this recommended operating distance will not visibly affect the screen illumination.

When the lamphouse is at the proper distance, securely clamp it to the projector pedestal table. Care should be taken that the optical axis of the PEERLESS MAGNARC is also centered laterally with the projector aperture by means of the adjustments provided on the projector pedestal table.

The arc is then ready to be struck.

FOCUSING ARC IMAGER ON INDICATOR CARD.

Close the projector knife switch and by turning knob No. 2112 plate "C," strike the arc and separate the carbons about $\frac{1}{4}$ ". After crater has formed, push inward on positive carbon knob No. 2035, plate "B," and manually adjust the positive carbon until its crater face is in the same vertical plane as the front edge of carbon guide No. 2011 plate "E." Observe whether the projected image of the carbons are in the approximate center of the card. If not, loosen the mirror swivel screw and adjust mirror. Retighten screw after adjustment to hold mirror at the correct angle. Observe whether the projected image of the positive carbon coincides with the vertical line marked "positive" on the arc feed indicator card. If it does not, the image may be placed on the line by slightly loosening the three upper screws that hold the arc image lens assembly to the lamphouse top and rotate the assembly clockwise or counter-clockwise around its axis, and retighten the three mounting screws. Before making this adjustment, see that the positive carbon crater itself is in the correct position,—namely in the same vertical plane as the front edge of the carbon guide No. 2011 plate "E."

The negative carbon should then be adjusted by hand until the image of its face coincides with the vertical line marked "Negative" on the card.

For satisfactory operation of the arc control it is essential that the image of the ends of the positive and negative carbons be carried exactly on these lines.

TO DETERMINE PROPER DISTANCE FROM REFLECTOR TO POSITIVE CARBON CRATER.

As there may be a slight difference in the focal length of reflectors, a reflector focusing adjustment is provided to permit moving the reflector to or from the arc.

To accomplish this adjustment, center the spot on the aperture by means of reflector adjusting handles Nos. 2185 and 2186 plate "C." Handle No. 2185 moves the spot at the aperture laterally and No. 2186 moves the spot up and down.

With the carbon images in register with their respective lines on the arc image indicator card and without film in the mechanism, open the automatic fire shutter on the projector mechanism and project a blank light on the screen, obtaining by means of handles No. 2185 and No. 2186 plate "C," as clear a field as possible. Next open door No. 2116 plate "B," and loosen knurled screw No. 2184 plate "A." By means of screw No. 2190 plate "A," move the reflector forward or back until maximum illumination is had on the screen and then securely tighten screw No. 2184 and also the lock nut on focusing screw No. 2190 which will clamp the reflector holder in position.

TO ADJUST RATE OF FEED OF POSITIVE AND NEGATIVE CARBON.

Knob No. 2219 plate "C," controls a rheostat which is connected in the field circuit of the arc control motor. The speed of this motor determines the rate of feed of both carbons. Since the arc control motor is connected across (in multiple with) the arc, its speed is determined by the voltage of the arc. It is, therefore, essential that the arc gap shown on the arc feed indicator card be constantly maintained. By means of knob No. 2219 plate "C," and "E", the speed of the motor may be increased or decreased until the image of the positive carbon crater is constantly held in register with its line on the arc feed indicator card.

IMPORTANT

If it is found that the negative carbon is not maintaining its position during the adjustment of the positive feed, it is essential to maintain its correct position by hand.

TO ADJUST NEGATIVE CARBON FEED.

Screw No. 2108 plate "A," regulates the rate of feed of the negative carbon. By screwing in (clockwise) on this screw the stroke of the feed lever No. 2082 plate "A" is increased and a greater length of negative carbon is moved forward

at each stroke and, conversely, by unscrewing the screw the amount of negative carbon fed at each stroke is decreased. Observing the image of the negative carbon on the arc feed indicator card, increase or decrease the rate of negative feed by means of screw No. 2108 plate "A" until the image of the negative carbon maintains its position on the line marked "Negative" on the arc feed indicator card.

LAMPHOUSE VENTILATION.

The PEERLESS MAGNARC operates at relatively low arc voltage and precautions should be taken to guard against air drafts which will disturb the arc. If forced draft is employed in the vent pipes that carry off the arc gases, lamphouse damper No. HI-351 plate "D" and "A" should be closed to that point where no disturbance occurs.

It should be borne in mind, however, that in order to keep the temperature inside the lamphouse as low as possible, this ventilation should not be completely choked. A good general rule to follow is to open the damper as wide as possible without draft disturbance to the arc.

A 6" chimney is provided on the PEERLESS MAGNARC and all additional piping in the booth should be 6" or larger if proper ventilation is to be had. Where forced ventilation is not employed, care should be taken that no down drafts occurs, as they cause equal disturbance to the arc.

Excessive drafts through the port holes in the projection room should be avoided. They should be covered with glass if sufficient draft comes through them and into the lamphouse to disturb the arc.

Certain projector mechanisms are equipped with rear shutters that are fitted with a small fan blade which is mounted on the back of the shutter blade for the purpose of cooling the mechanism and film. Consequently, when the projector is running, an eddy of air current is often created which may disturb the arc, and if this is found to be objectionable, the fan blades should be taken off of the shutter blades.

CARE AND ADJUSTMENT OF POSITIVE CARBON GUIDE.

Carbon guides Nos. 2098 and 2011 plate "E," should be given occasional attention.

Should the positive carbon guide at any time become burned or require replacement, it may be taken out by removing screws No. 4042 plate "E."

Should it become necessary to remove the guide support casting No. 2011 plate "E," care should be taken when replacing same to see that the positive carbon, when in the guide slot, is in lateral alignment with the negative carbon before tightening the screws at its base.

ADJUSTMENT OF NEGATIVE CARBON GUIDE.

The negative carbon guide No. 2098 may be taken out by removing screw No. 4074 plate "B," and screw No. 4076 plate "C."

Care should be taken to see that the end of the negative carbon is supported by the "V" slot at the end of negative guide No. 2098 plate "E," rather than by the rack gear to which the negative carbon clamp is mounted. This may be determined by inserting a short carbon in the carbon holder and upon moving the carbon holder forward make sure that the carbon lifts up slightly upon entering the "V" slot at the end of the carbon guide. If the carbon does not rest in the "V" slot, slightly loosen screws No. 4074 plate "B," and No. 4076 plate "C," and raise the guide until the carbon rests in the "V" groove at the front end of the guide.

This guide should not be raised so high as to remove all vertical play between the "V" groove and negative carbon, as the carbon should float, with the "V" groove its only guidance.

TO ALIGN CARBONS.

The most satisfactory positive crater is a flat crater whose face is at right angles to the center axis of the positive carbon, and the location of the axis of the negative in respect to the positive has a direct influence on this crater formation. It has been found that a perfect positive crater is had when the axis of the negative carbon is $\frac{1}{64}$ " above the positive carbon axis.

To check this alignment, insert a new trim of carbons and observe the vertical alignment from the side of the lamphouse and the lateral alignment by opening the rear lamphouse door and looking through the hole in the center of the reflector. If the positive crater persists to burn with an angular crater face it indicates that the negative carbon axis is not in correct relation to the positive carbon.

To correct this condition an adjustment is provided whereby the entire negative carbon feed assembly may be raised, lowered or moved sideways in relation to the positive carbon.

Lateral adjustment procedure is as follows:

Loosen nut No. 4143 and No. 2102 Plate "A." The lower stud on which nut No. 2102 fits, passes through a large hole in casting No. 2081 plate "A," which permits moving the lower end of casting No. 2081 sidewise.

Vertical adjustment procedure is as follows:

Note that the upper nut No. 4143, when tightened, clamps an eccentric sleeve shown as No. 2070 on plate "A." With nuts Nos. 4143 and 2102 plate "A," slightly loosened, it is possible to rotate this eccentric sleeve, around the nut stud, by its handle. The rotating of this sleeve will move the entire negative assembly up or down and thereby accomplish vertical adjustment of the Negative Carbon.

Both clamping nuts Nos. 4143 and 2102 should be securely retightened after making the above alignment adjustment.

TO REMOVE NEGATIVE CARBON ASSEMBLY.

The entire negative carbon assembly may be removed from the PEERLESS MAGNARC by removing nuts Nos. 4143 and 2102, plate "A" and removing the universal joint taper pin No. 4216 plate "A."

ADJUSTING NEGATIVE FRICTION CLUTCH.

An adjustable friction clutch is provided on the negative carbon feed, the tension of which may be increased or decreased by tightening or loosening nut No. 2093, plate "A." This nut is locked in position by a small set screw. Upon loosening this set screw the nut No. 2093 may be screwed in or out to tighten or loosen the friction clutch until the desired degree of tension is had.

For ease in rapid arc striking, this tension should not be excessive and only sufficient to insure positive feed of the negative carbon.

TO REMOVE ENTIRE POSITIVE SUB-BASE ASSEMBLY FROM LAMPHOUSE.

The entire positive sub-base assembly as shown in plate "C," may be removed from the lamphouse by removing negative push rod No. 2109 plate "E," which is accomplished by first removing the cotter pin that retains it and pulling the push rod out through the rear of the lamphouse after first opening reflector door No. 2115 plate "B."

Next remove screw No. 2030 plate "C" and "E." Disconnect the positive asbestos wire from the positive carbon clamp terminal. The entire burner assembly may then be slid forward, and disengaged from its locating dowel pins in the front of the lamphouse base casting and taken out of the lamphouse.

TO REMOVE ARC CONTROL MOTOR AND DRIVE GEAR ASSEMBLY.

The arc feed motor together with the entire gear housing assembly upon which it is mounted may readily be removed from the PEERLESS MAGNARC by first disconnecting the three colored motor lead wires, R, W, and G., attached to fuse block No. 2213 plate "D." Then remove the positive sub-base assembly as directed above, which makes accessible screws No. 4102 plate "A" and "B."

In reconnecting the motor the red colored wire coming from the motor should be attached to the terminal No. R plate "D," together with one of the wires going to the field rheostat. The white wire from the motor should be attached to terminal No. W, together with the other wire going to field rheostat. The green wire coming from the motor should be attached to terminal No. G, plate "D."

DOWSER OPERATION.

Care should be taken to close the reflector dowsers before striking the arc to prevent particles of carbon that are often discharged from the positive crater, when the arc is first struck, from impinging on the reflector and pitting it.

FUNCTION OF ARC STABILIZING MAGNET.

To insure a perfect crater formation a permanent magnet, shown as No. 2111 on plate "C" and "A" is provided in the PEERLESS MAGNARC. The function of this magnet is to direct the arc flame in a uniform and constantly upward direction and prevent the flame from enveloping the entire crater end of the positive carbon as well as to overcome other magnetic influences upon the arc. This magnet, which is thoroughly, aged will last indefinitely but may be remagnetized if desired upon forwarding same to our factory. It is not necessary to place a keeper across the poles of this magnet.

CLEANING REFLECTOR.

The accessibility of the PEERLESS MAGNARC reflector should be taken advantage of to keep the reflector clean. It is advisable that the face of the reflector be wiped as frequently as carbon ash accumulates thereon and it is a good policy (once every week) to thoroughly clean the surface of the reflector with Bon Ami or a similar cleansing agent which will not scratch the glass. If maximum light efficiency of the lamp is to be maintained, it is essential that the mirror be kept in perfect condition.

CLEANING LAMPHOUSE.

A removable ash tray, located directly under the arc, is provided in the PEERLESS MAGNARC. This tray may be removed by opening reflector door No. 2115 plate "B." When replacing the tray care should be used to see that its top edge is placed underneath pins No. 3053 plate "C," so that it cannot come in contact with the lower part of the positive carbon guide No. 2011 plate "E."

Care should also be taken to prevent accumulation of the metallic drippings from the carbons on any lamp parts on which they may cause a ground.

FORMATION OF CARBIDE TIPS ON NEGATIVE.

Under certain conditions a reddish carbide tip will form on the end of the negative carbon. This carbide tip is a non-conductor and if particularly heavy may cause difficulty in striking the arc.

If no arc occurs, the projector switch should be opened and the end of the carbon dampened which causes rapid disintegration of the carbide tip or with a file remove the formation from the tip of the negative carbon.

When the arc is not lit for intervals of fifteen or twenty minutes, this carbide tip will disintegrate itself due to contact with the air. When a carbide tip has formed on the end of the negative, it may be found that the speed of the arc control motor

increases, this being due to the current no longer emanating from the end of the negative carbon but rather from the sides thereof just back of the carbide tip. This condition results in higher arc voltage and consequently increased motor speed. When such a condition occurs, it is not advisable to readjust the arc control rheostat for this increased voltage but rather to remove the carbide tip when the end of the reel is reached.

LUBRICATION.

A good grade of lubricating oil same as used in the motion picture projector, may be employed to lubricate the PEERLESS MAGNARC. It is recommended that oil be used sparingly as all parts of the PEERLESS MAGNARC are very slow moving and a few drops of oil in each oil cup (once a week) should suffice.

CARBON HOLDER SIZES.

Carbon holders and guides for 7 M/M Positive and 6 M/M Negative Carbons are regularly supplied with the PEERLESS MAGNARC. Carbon holders and guides for other sizes are obtainable and lamps will be equipped with them if specified at the time lamps are purchased.

TABLE OF RECOMMENDED CARBON COMBINATIONS,
ARC VOLTAGES AND AMPERAGES.

Copper Coated "H" Carbons	Current Range	Arc Voltage Range	Carbon Consumption. Inches per Hr
6mm x 10" Positive	32-40	31-40	6.5—13.5
5mm x 9" Negative	32-40	31-40	3.0—4.5
7mm x 12" Positive	42-50	31-40	6.5—13.5
6mm x 9" Negative	42-50	31-40	3.0—4.5
8mm x 12" Positive	56-65	31-40	6.5—13.5
6.5mm x 9" Negative	56-65	31-40	3.0—4.5
7mm x 9" Negative			

--- --- PARTS LIST --- ---

ORDER INFORMATION

ORDERING.

When ordering repair parts please specify the catalogue number of the part wanted and the serial number of the lamp the parts are to be used on.

RETURNING PARTS.

Do not return merchandise to our factory for credit, exchange or replacement without first obtaining our permission.

Merchandise cannot be returned for exchange or credit after thirty days from date of purchase.

Parts that have been altered or mutilated in any manner are not returnable.

All shipments to our factory should have transportation charges prepaid and should be tagged with shipper's name, and order number.

IMPORTANT INFORMATION.

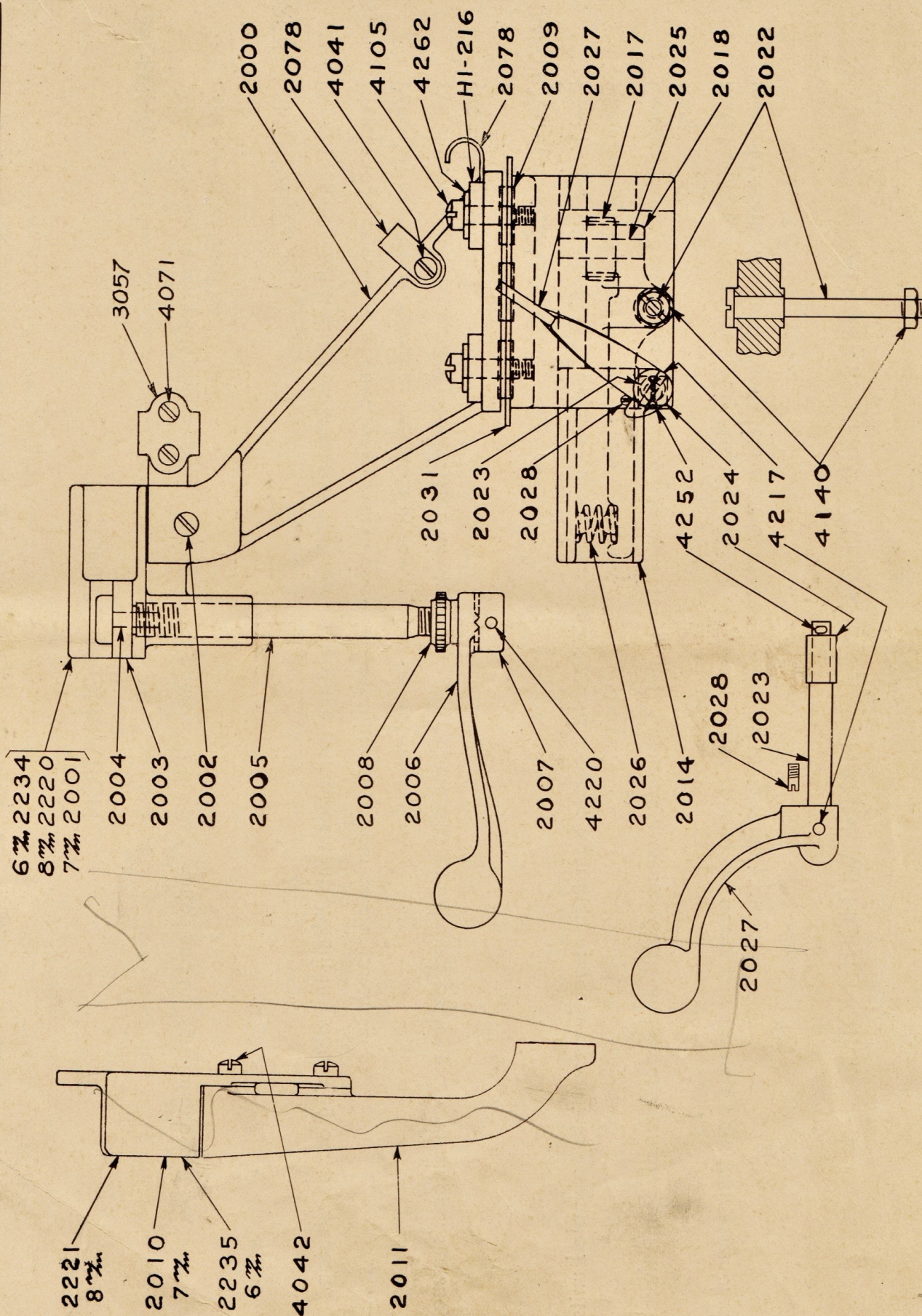
Parts having an asterisk (*) printed before them are **only** sold separate from their respective complete assembled units when equipment is sent to our factory for repairs.

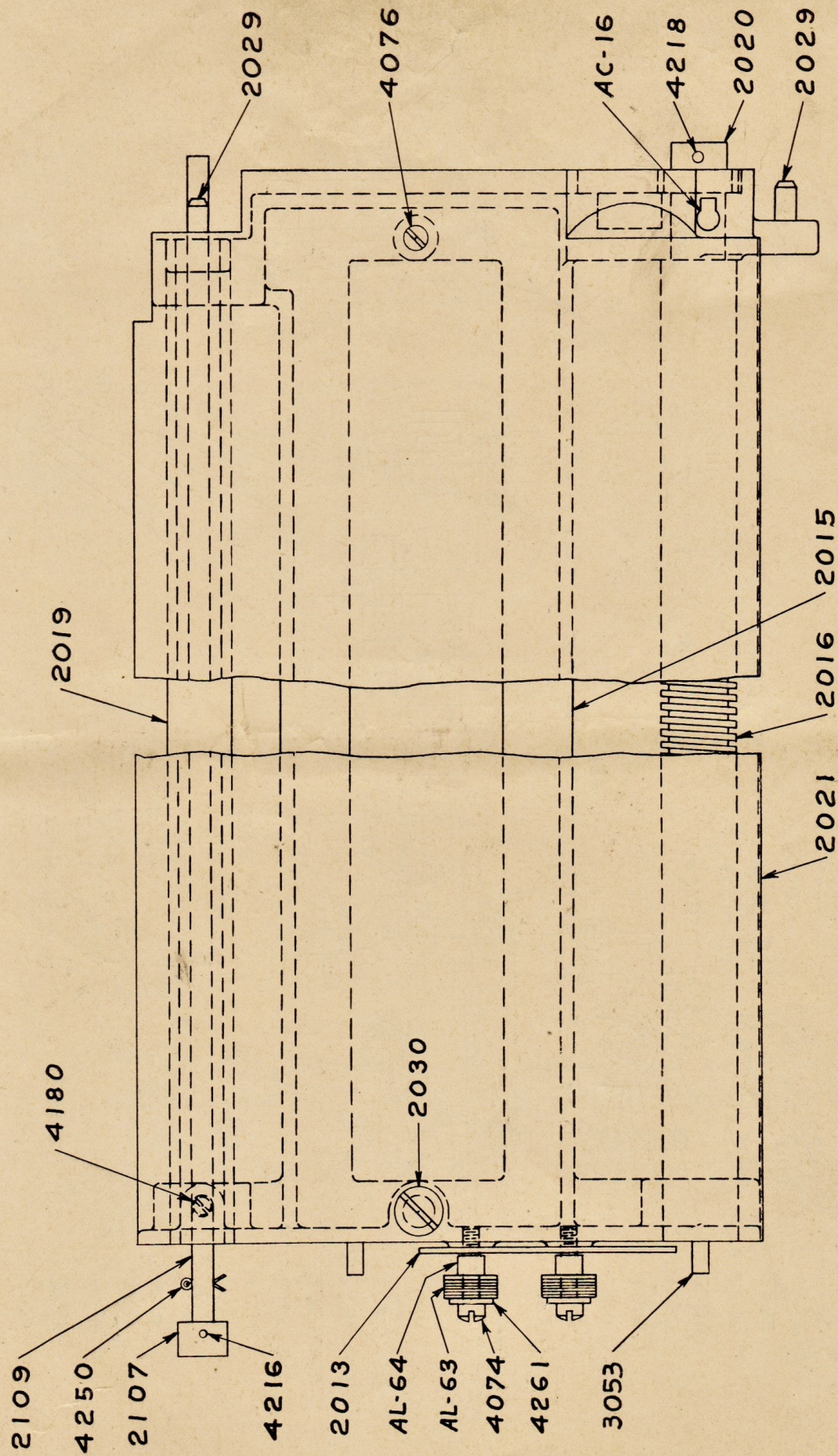
Customers who desire to purchase such parts will refer to the "Complete Assembly List" and order assembled units therefrom.

Parts having the reference "SEE Assembly No. ———" in the price column are **never** sold separate from their assembled units, therefore refer to the complete assembly list and order by the assembly number.

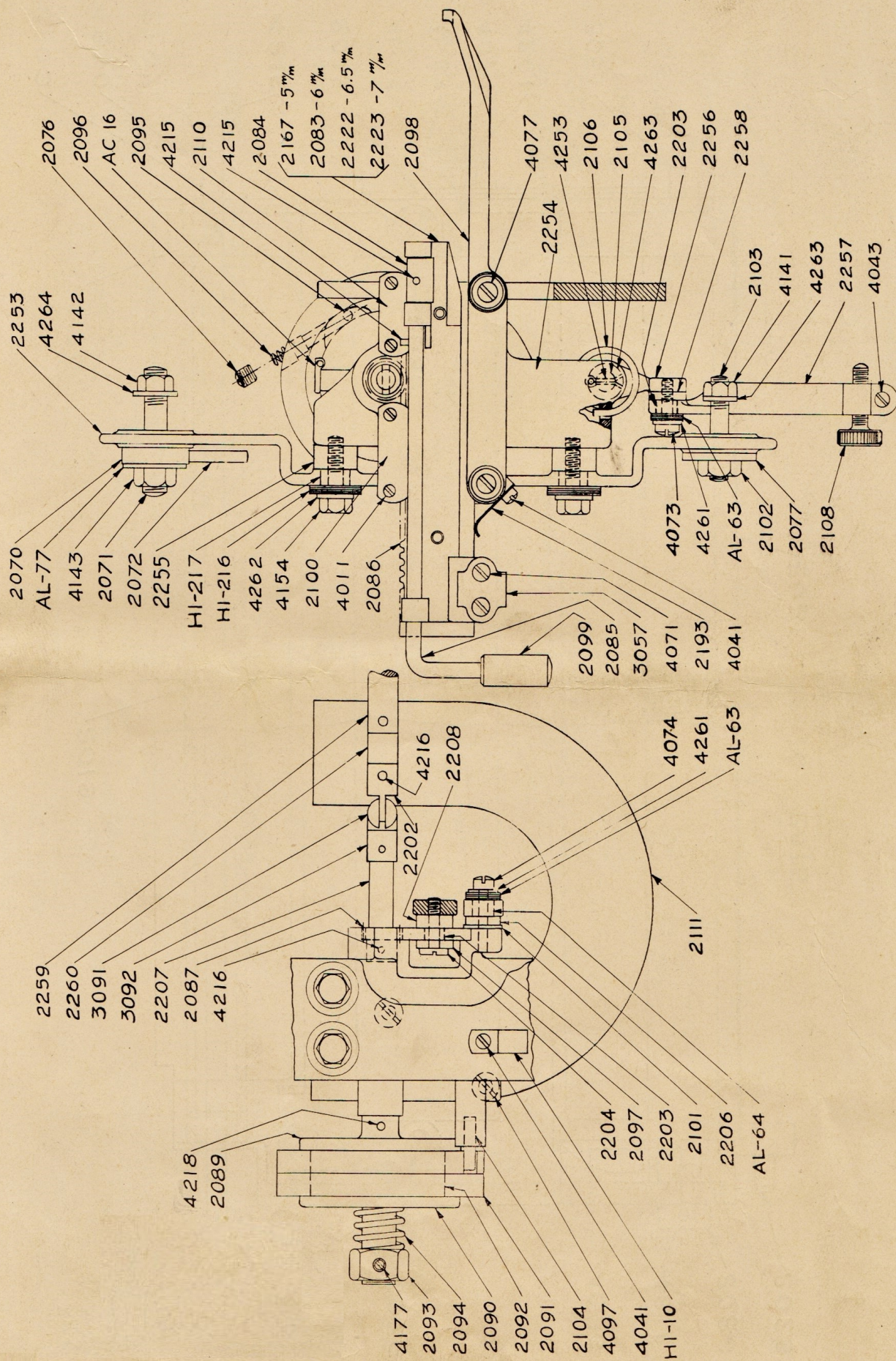
ALL PRICES HEREIN ARE SUBJECT TO CHANGE WITHOUT NOTICE

POSITIVE CARBON GUIDE, CLAMP HEAD AND FEED SADDLE

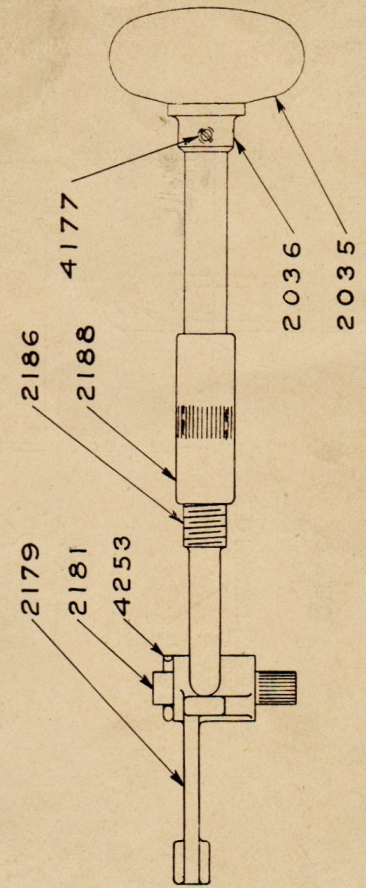
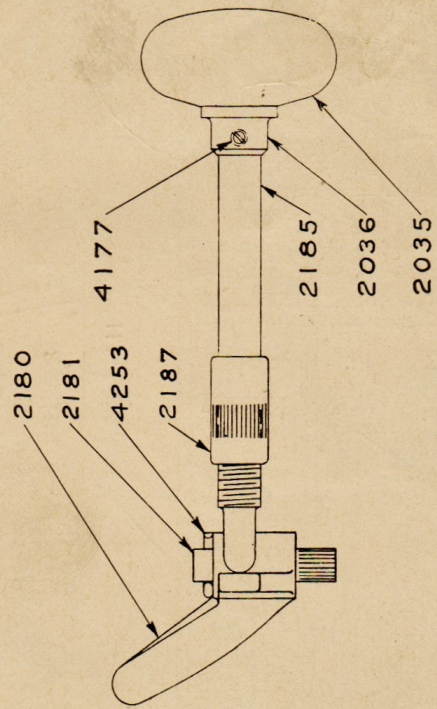
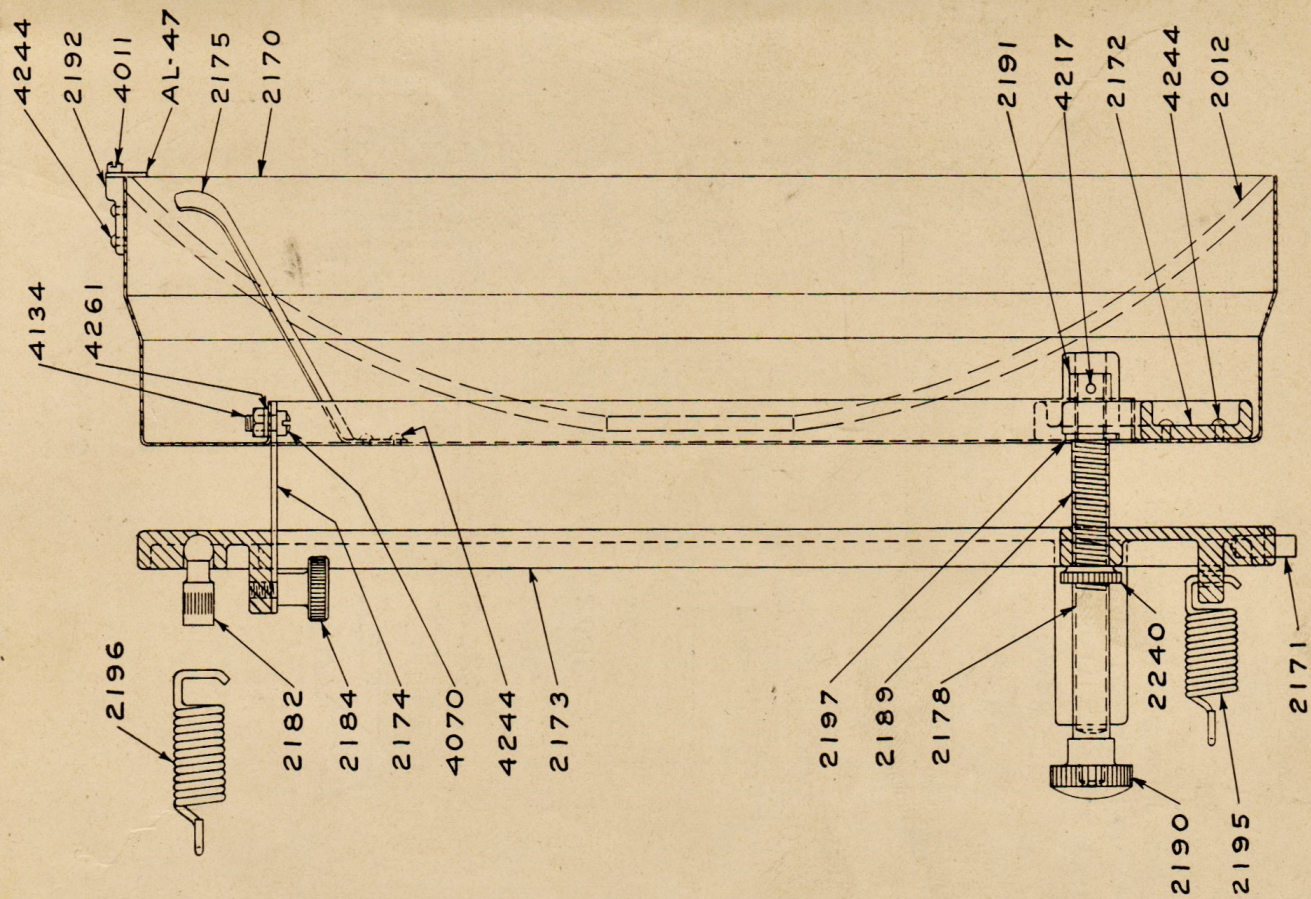


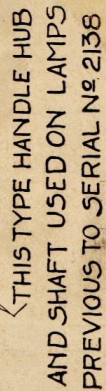


NEGATIVE POST, FEED CLUTCH, CARBON HOLDER AND GUIDE

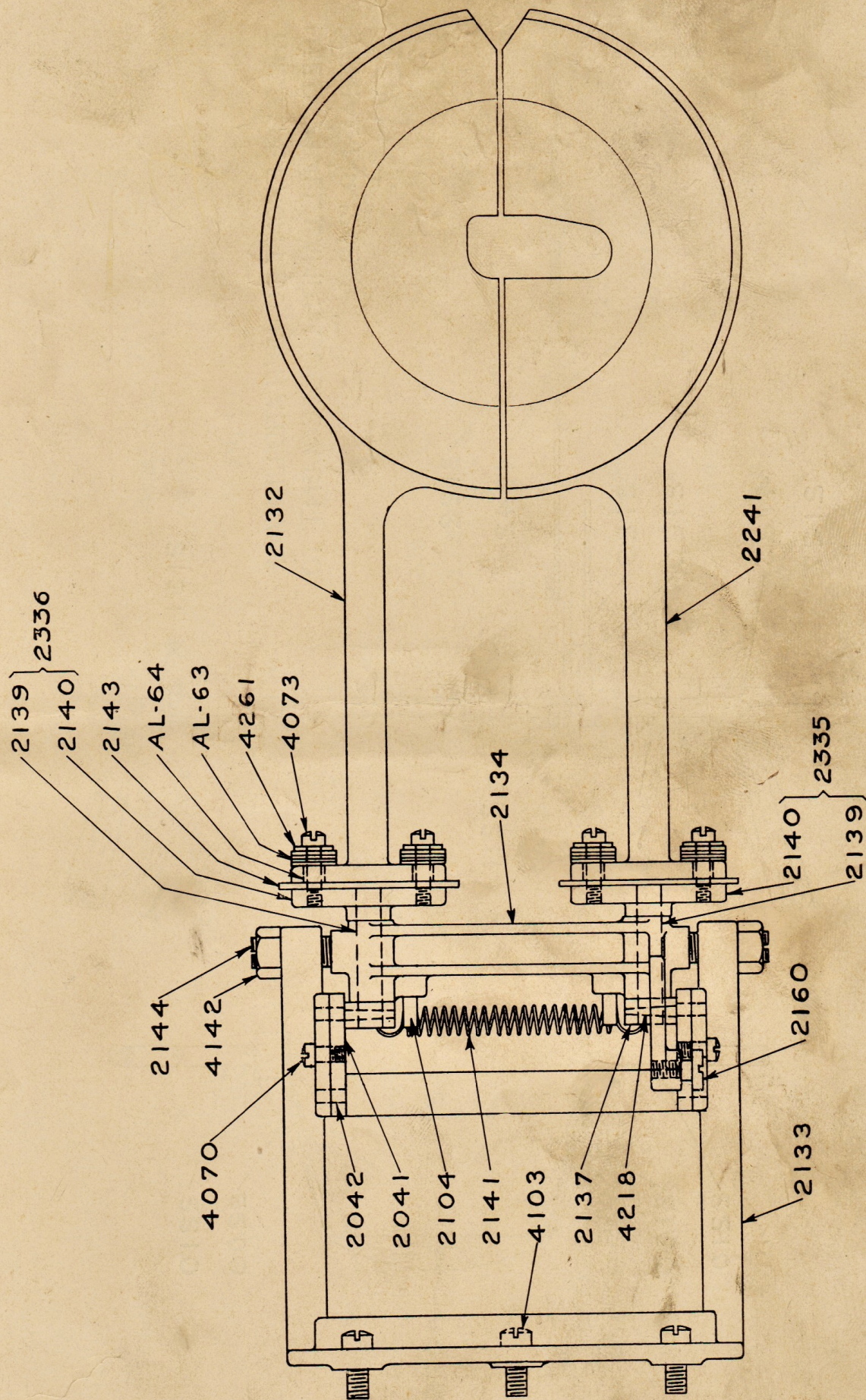


REFLECTOR DRUM, SUPPORT AND HAND ADJUSTMENTS

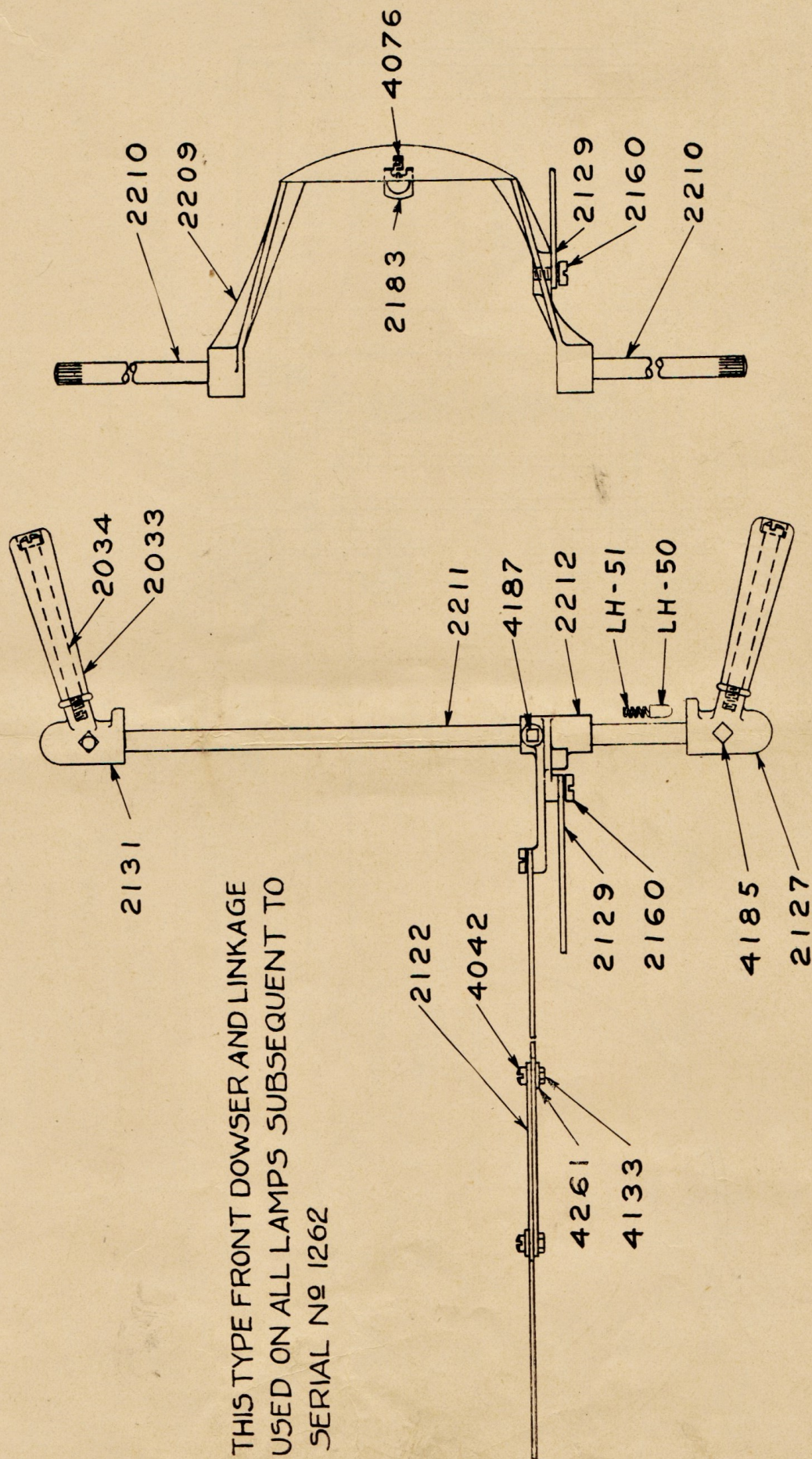


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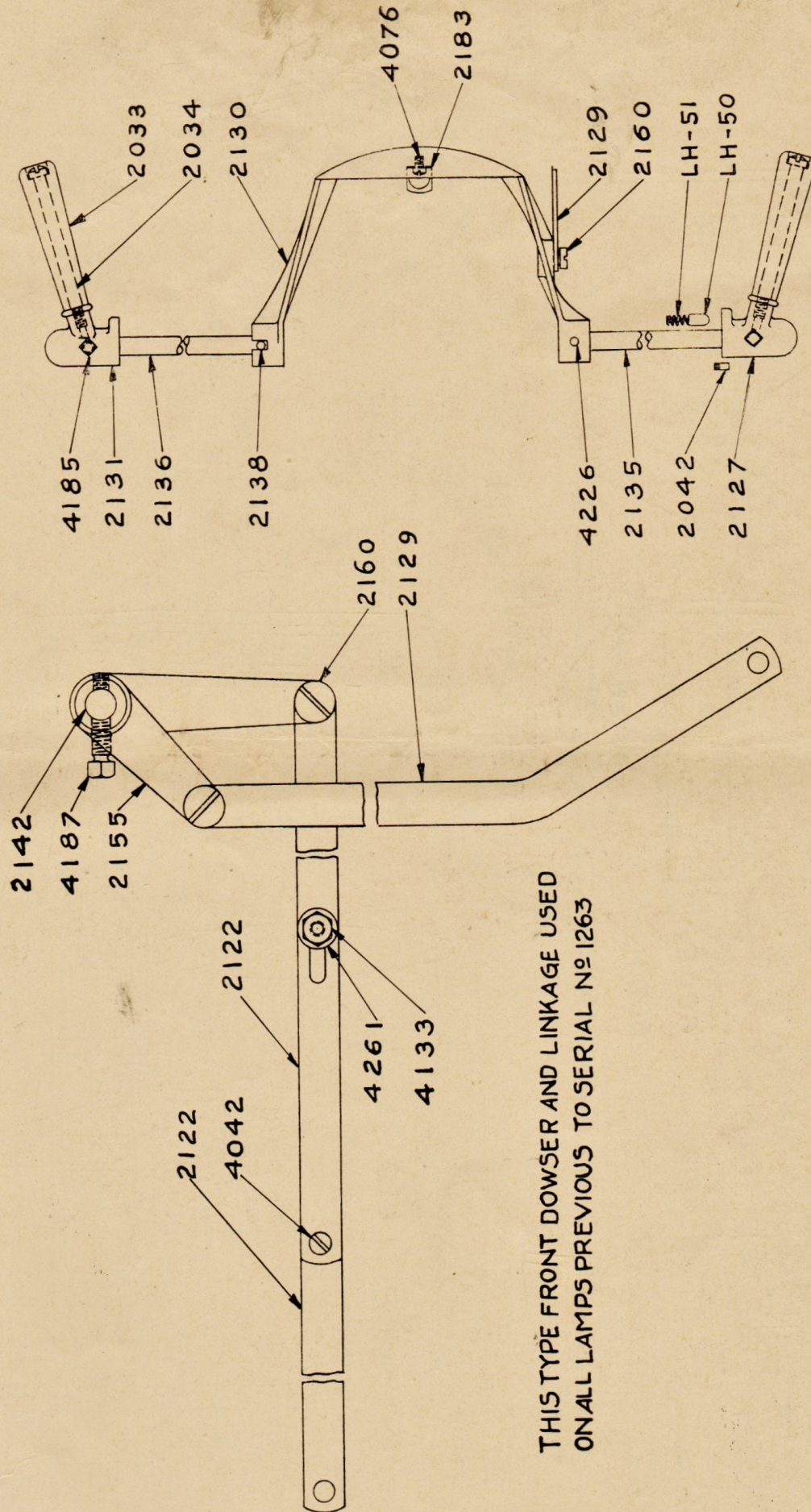
REFLECTOR DOWSER AND SUPPORT



HIGH HANDLE TYPE FRONT DOWSER AND LINKAGE

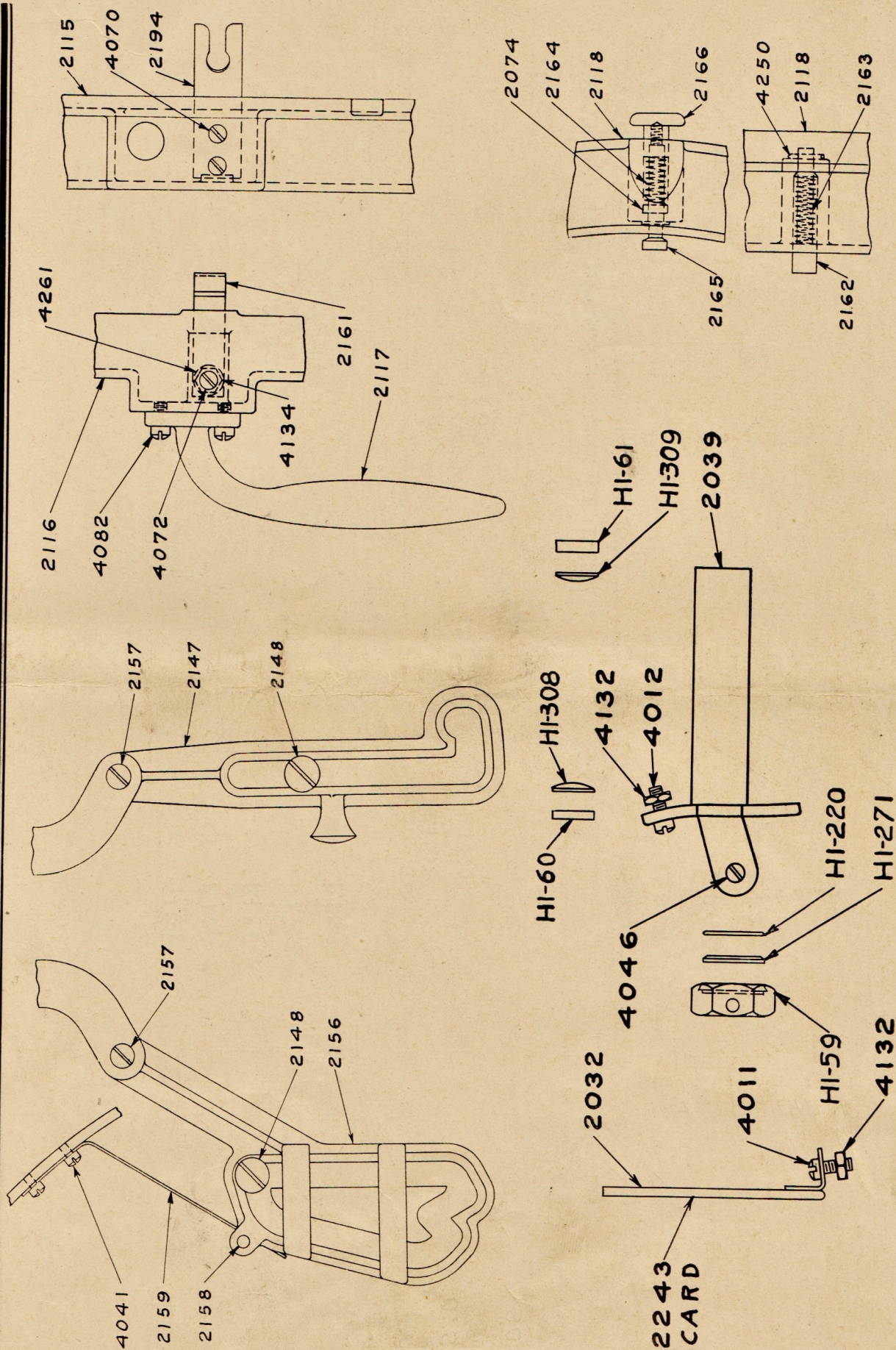


LOW HANDLE TYPE FRONT DOWSER AND LINKAGE



THIS TYPE FRONT DOWSER AND LINKAGE USED
ON ALL LAMPS PREVIOUS TO SERIAL N° 1263

LAMPHOUSE DOOR LATCHES, HANDLES AND ARC FEED INDICATOR



Technical drawing of a mechanical assembly, likely a valve or actuator, showing various components and their labels. The drawing is oriented vertically, with the main body of the assembly at the top and the actuator mechanism at the bottom.

Labels and components shown:

- 2217**: A small circular component at the top left.
- 2218**: A component below 2217.
- 4241**: A component below 2218.
- 2219**: A component below 4241.
- 2128**: A component on the right side.
- 4042**: A component on the right side, below 2128.
- 2075**: A component on the right side, below 4042.
- 2199**: A component on the right side, below 2075.
- 2216**: A component on the right side, below 2199.
- 2215**: A component on the right side, below 2216.
- 4040**: A component on the right side, below 2215.
- 2114**: A component on the left side.
- 2113**: A component on the left side, below 2114.
- 4042**: A component on the left side, below 2113.
- 2075**: A component on the left side, below 4042.
- 2213**: A component on the left side, below 2075.
- 4051**: A component on the left side, below 2213.
- 2214**: A component on the left side, below 4051.
- 4051**: A component on the left side, below 2214.
- 4271**: A component on the left side, below 4051.
- 2125**: A component on the left side, below 4271.
- LH-73**: A component on the left side, below 2125.
- 4076**: A component on the left side, below LH-73.
- 4133**: A component on the left side, below 4076.
- H1-10**: A component on the left side, below 4133.

- When ordering repair parts, it is essential that the customer specify the catalogue number of the parts wanted and the serial number of the **PEERLESS MAGNARC** Lamp that they have been ordered for.
- Strict adherence to this method will overcome unnecessary delay and assure prompt execution of orders.

Peerless MAGNARC PARTS LIST

2000	Positive Post Casting.....
2001	7 M/M Positive carbon clamp head.....
2002	Positive carbon clamp swivel stud.....
2003	Positive carbon clamp shoe...SEE Assembly No. 2369
2004	Positive carbon clamp shoe pin..... SEE Assembly No. 2369
2005	Positive carbon clamping screw.....
2006	Positive carbon clamp lever.....
2007	Positive clamp lever clutch.....
2008	Positive clamp screw lock nut.....
2009	Positive post lava insulator.....
2010	7 M/M Positive carbon guide.....
2011	Positive carbon guide support.....
2012	Reflector.....
2013	Positive guide support insulator.....
2014	Positive saddle casting.....
2015	Positive sub base casting...SEE Assembly No. 2364
2016	Positive feed screw.....
2017	Positive saddle clutch gear...SEE Assembly No. 2376
2018	Positive saddle clutch lever.....
2019	Positive saddle slide tube.....
2020	Positive feed spur gear.....
2021	Positive sub base cover.....
2022	Positive saddle clutch stud.....
2023	Positive saddle clutch handle shaft.....
2024	Positive saddle clutch block.....
2025	Positive saddle clutch gear shaft..... SEE Assembly No. 2376
2026	Positive saddle clutch spring.....
2027	Positive saddle clutch handle.....
2028	Positive saddle clutch handle stop screw.....

2029	Positive sub base dowel pin.....
2030	Positive sub base retainer screw.....
2031	Positive post bakelite insulator.....
2032	Arc image card holder.....
2033	Lamphouse side door handle.....
2034	Lamphouse side door handle screw.....
2035	Adjusting knob.....
2036	Adjusting knob hub.....
2039	Arc imager main body casting.....
2040	Door glass frame.....
2041	Rear dowser cam plate.....
2042	Rear dowser cam plate pin.....
2045	Arc feed main frame casting...SEE Assembly No. 2419
2046	Helical gear box cover.....
2047	Positive spiral gear (driven).....
2048	Positive spiral gear (Driver).....
2049	Positive drive gear shaft.....
2050	Positive clutch push rod.....
2051	Positive female clutch.....
2052	Positive male clutch (left side).....
2053	Positive male clutch (right side).....
2054	Positive hand adjustment shaft (old style).....
2055	Positive motor clutch shaft...SEE Assembly No. 2416
2056	Positive clutch spring collar.....
2057	Negative feed cam.....
2058	Positive clutch spring.....
2059	Positive motor clutch stop pin...SEE Assembly No. 2416
2060	Motor clutch stop screw.....
2061	Positive driven gear shaft.....
2062	Worm gear box cover...SEE Assembly No. 2418
2063	Positive secondary worm gear.....

2064 Positive secondary worm SEE Assembly No. 2415
 2065 Positive primary worm gear SEE Assembly No. 2415
 2066 Positive primary worm
 2067 Positive motor shaft spring
 2068 Positive secondary worm thrust screw
 2069 Positive secondary worm thrust disc
 2070 Negative adjusting eccentric sleeve
 SEE Assembly No. 2402
 2071 Negative post clamping stud (upper)
 2072 Negative eccentric sleeve pin SEE Assembly No. 2402
 2074 Push plunger guide bushing
 2075 Rheostat lead conduit
 2076 Negative feed clutch race screw
 2077 Negative post washer (lower)
 2078 Positive lead wire clip
 2079 Chimney collar
 2080 Negative carbon guide insulator (Old style $\frac{1}{16}$ " Thick bakelite washer)
 2083 6 M/M Negative carbon holder casting
 2084 Negative carbon clamp eccentric
 2085 Negative carbon clamp shaft
 2086 Negative feed rack
 2087 Negative rack pinion
 2088 Negative feed clutch shaft (Old style $6\frac{3}{16}$ " long)
 2089 Negative friction sleeve
 2090 Negative friction disc
 2091 Negative clutch outer race
 2092 Negative clutch inner race
 2093 Negative friction adjusting nut
 2094 Negative drive friction spring
 2095 Negative clutch roller
 2096 Negative clutch roller spring
 2097 Negative carbon holder insulator ($\frac{1}{8}$ " thick lava washer)
 2098 Negative carbon guide
 2099 Negative carbon clamp shaft handle
 2100 Rack retaining gib (rear upper)

2101 Rack retaining gib (lower)
 2102 Negative post stud nut (lower)
 2103 Negative post clamping stud (lower)
 2104 Negative post and feed lever pin
 2105 Negative feed lever stud
 2106 Negative feed lever spring
 2107 Negative push rod collar SEE Assembly No. 2400
 2108 Negative feed adjusting screw
 2109 Negative push rod SEE Assembly No. 2400
 2110 Rack retaining strip (front upper)
 2111 Arc stabilizing magnet
 2113 Fuse box cover
 2114 Lamphouse side panel casting
 2115 Main reflector door casting SEE Assembly No. 2312
 2116 Auxiliary rear door casting
 2117 Auxiliary rear door handle
 2118 Lamphouse rear end casting SEE Assembly No. 2305
 2119 Lamphouse front end casting SEE Assembly No. 2304
 2120 Lamphouse base casting SEE Assembly No. 2303
 2121 Drip pan
 2122 Rear dowser connecting link
 2123 Lamphouse base panel
 2124 Motor lead sheath casting
 2125 Motor field terminal block
 2126 Lamphouse top SEE Assembly No. 2302
 2127 Right dowser handle hub
 2128 Rheostat compartment cover SEE Assembly No. 2426
 2129 Front dowser connecting link
 2130 Front dowser casting (old style)
 2131 Left dowser handle hub
 2132 Reflector dowser (left half)
 2133 Reflector dowser support bracket
 2134 Reflector dowser swinging trunnion
 2135 Front dowser shaft (right)—(old style)
 2136 Front dowser shaft (left)—(old style)
 2137 Reflector dowser cam

2138	Front dowser shaft pin (old style).....	
2139	Reflector dowser cam shaft.....	
	SEE Assembly No. 2335 or No. 2336	
2140	Reflector dowser cam shaft flange.....	
	SEE Assembly No. 2335 or No. 2336	
2141	Reflector dowser cam spring.....	
2142	Front dowser bell crank shaft (old style).....	
2143	Reflector dowser insulator plate.....	
2144	Reflector dowser dog point screw.....	
2145	Right and left door hinge rod.....	
2146	Hinge rod screw.....	
2147	Left door latch.....	
2148	Right and left door latch stud.....	
2149	Rear right door channel casting.....	
2150	Front right door channel casting.....	
2151	Rear left door channel casting.....	
2152	Front left door channel casting.....	
2153	Right door panel.....	SEE Assembly No. 2310 or No. 2311
2154	Left door panel.....	SEE Assembly No. 2307 or No. 2308
2155	Dowser bell crank (old style).....	SEE Assembly No. 2309
2156	Right door latch.....	
2157	Right and left door latch screw.....	
2158	Right door latch pin.....	
2159	Right door latch spring.....	
2160	Dowser link screw.....	
2161	Auxiliary door latch spring.....	
2162	Reflector door opening plunger.....	
2163	Reflector door opening plunger spring.....	
2164	Reflector door push plunger spring.....	
2165	Reflector door push plunger.....	
2166	Reflector door push plunger knob.....	
2167	5 M/M Negative carbon holder casting.....	
2168	Reflector door hinge pin.....	
2169	Reflector door hinge nut.....	
2170	Reflector drum.....	SEE Assembly No. 2329
2171	Reflector support guide stud.....	
2172	Reflector drum bracket.....	SEE Assembly No. 2329
2173	Main reflector drum support.....	SEE Assembly No. 2330
2174	Reflector adjustment link.....	
2175	Reflector pressure spring.....	
2176	Glass name plate.....	
2177	Glass name plate frame.....	SEE Assembly No. 2300
2178	Reflector support slide rod.....	
2179	Lower reflector lever casting.....	
2180	Upper reflector adjustment lever.....	
2181	Reflector adjustment lever pivot stud.....	
2182	Reflector support swivel stud (upper).....	
2183	Front dowser stop spring.....	
2184	Reflector adjustment link screw.....	
2185	Upper reflector adjusting screw rod.....	
2186	Lower reflector adjusting screw rod.....	
2187	Bushing for upper reflector screw rod.....	
2188	Bushing for lower reflector screw rod.....	
2189	Reflector focusing screw.....	SEE Assembly No. 2328
2190	Reflector focusing screw knob.....	SEE Assembly No. 2328
2191	Reflector focusing screw collar.....	
2192	Reflector retaining clip lug.....	
2193	Negative rack tipping spring.....	
2194	Reflector door latch.....	
2195	Reflector adjusting spring (lower).....	
2196	Reflector adjusting spring (upper).....	
2197	Reflector focusing screw washer.....	
2198	Lamphouse top grill casting.....	
2199	"BX" bushing to motor fuse block.....	
2200	Positive hand knob hub (old style long hub).....	
2202	Negative universal yoke, insulator end.....	SEE Assembly No. 2403
2203	Negative rack insulator bushing.....	
2204	Negative rack screw.....	

2205 Arc control dowel pin.....
 2206 Negative carbon guide insulator ($\frac{3}{16}$ " thick lava washer).
 2207 Negative feed clutch shaft (new style $6\frac{3}{16}$ " long).
 2208 Negative insulator washer ($\frac{1}{4}$ " thick lava washer).
 2209 Front dowser casting.....
 2210 Front dowser shaft.....
 2211 Dowser bell crank shaft.....
 2212 Dowser bell crank.....
 2213 Motor fuse block.....
 2214 Motor fuse.....
 2215 Pilot lamp socket.....
 2216 Pilot lamp conduit elbow.....
 2217 Motor speed control rheostat.....
 2218 Rheostat dial plate.....
 2219 Rheostat knob.....
 2220 8 M/M Positive carbon clamp head.....
 2221 8 M/M Positive carbon guide.....
 2222 6.5 M/M Negative carbon holder casting.....
 2223 7 M/M Negative carbon holder casting.....
 2224 Motor armature fan.....
 2225 Motor end bell, front.....
 ***2226 Motor housing field ring.....
 2227 Motor end bell, rear.....
 2228 Motor end bell retainer screw.....
 ***2229 Motor armature bearing.....
 2230 Motor brush.....
 2231 Motor brush spring.....
 2232 Motor brush holder.....
 2233 Motor brush holder cap.....
 2234 6 M/M Positive carbon clamp head casting.....
 2235 6 M/M Positive carbon guide.....
 2237 Motiograph and Western Electric adapter casting.....
 2238 Motiograph and Western Electric adapter rail.....

***Obtainable only when installed at factory.

2239 Powers 6-B and 6-E adapter rail.....
 2240 Reflector focusing screw lock nut.....
 2241 Right half of reflector dowser.....
 2242 Lead wires to motor rheostat.....
 SEE Assembly No. 2430
 2243 Indicator card.....
 2244 Motor field coil.....
 SEE Assembly No. 2423
 2245 Motor rheostat retainer nut.....
 2246 Motor commutator inspection plug (large).
 2247 Glass frame rivet.....
 2248 Caution plate.....
 2249 Commutator inspection plug (small).
 2250 Spaghetti tubing for motor circuit wires.....
 2252 Positive hand knob shaft (short hub type).
 2253 Negative rack bracket support.....
 SEE Assembly No. 2405
 2254 Negative rack bracket.....
 SEE Assembly No. 2406
 2255 Negative rack bracket insulator.....
 2256 Negative feed lever (upper).
 SEE Assembly No. 2399
 2257 Negative feed lever (lower).
 2258 Negative feed lever insulator.....
 2259 Negative hand feed shaft.....
 2260 Negative hand feed shaft insulator.....

"AC" PREFIX PARTS

AC-16 Oil cup.....
 AC-23 Washer for rheostat nut.....

"AL" PREFIX PARTS

AL-47 Reflector retainer clip.....
 AL-63 Mica insulator washer.....
 AL-64 Lava insulator bushing.....
 AL-77 Washer.....

"HI" PREFIX PARTS

HI-10	Lead wire clamp
HI-14	Leather thrust washer
HI-59	Mirror holder
HI-60	Outer lens retainer ring
HI-61	Inner lens retainer ring
HI-216	Mica insulator washer
HI-217	Mica insulator washer
HI-220	Mirror retainer spring
HI-246	Female clutch retainer screw
HI-271	Mirror
HI-308	Outer lens
HI-309	Inner lens
HI-372	Rheostat lead wire terminal
HI-383	Thrust washer on secondary shaft
HI-384	Thrust ball race on female
HI-385	Thrust washer on upper shaft
HI-386	Thrust ball race on upper shaft
HI-387	Thrust washer on upper shaft

"LH" PREFIX PARTS

LH-18	Door glass
LH-50	Dowser handle plunger
LH-51	Dowser handle plunger spring
LH-73	Conduit connector and nut

THREE THOUSAND SERIES PARTS

3053	Ash pan stop pin
3057	Main lead terminal clamp
3091	Universal ball
3092	Universal joint yoke

SEE Assembly No. 2403

SEE Assembly No. 2403

FOUR THOUSAND SERIES PARTS

4010	Machine screw
4011	Machine screw
4012	Machine screw
4014	Machine screw
4040	Machine screw
4041	Machine screw
4042	Machine screw
4043	Machine screw
4046	Machine screw
4051	Machine screw
4053	Machine screw
4070	Machine screw
4071	Machine screw
4072	Machine screw
4073	Machine screw
4074	Machine screw
4076	Machine screw
4077	Machine screw
4082	Machine screw
4083	Machine screw
4090	Machine screw
4097	Machine screw
4102	Machine screw

4103 Machine screw.....
 4105 Machine screw.....
 4117 Machine screw.....
 4132 Hexagon nut.....
 4133 Hexagon nut.....
 4134 Hexagon nut.....
 4135 Hexagon nut.....
 4140 Hexagon nut.....
 4141 Hexagon nut.....
 4142 Hexagon nut.....
 4143 Hexagon nut.....
 4153 Hexagon head cap screw.....
 4154 Hexagon head cap screw.....
 4167 Fillister head cap screw.....
 4177 Headless set screw.....
 4180 Headless set screw.....
 4183 Headless set screw.....
 4185 Square head set screw.....
 4187 Square head set screw.....
 4215 Taper pin.....
 4216 Taper pin.....
 4217 Taper pin.....

4218 Taper pin.....
 4220 Taper pin.....
 4221 Taper pin.....
 4223 Taper pin.....
 4226 Taper pin.....
 4227 Taper pin.....
 4234 Straight steel pin.....
 4240 Rivet.....
 4241 Rivet.....
 4244 Rivet.....
 4247 Rivet.....
 4250 Cotter pin.....
 4252 Cotter pin.....
 4253 Cotter pin.....
 4260 Washer.....
 4261 Washer.....
 4262 Washer.....
 4263 Washer.....
 4264 Washer.....
 4271 Lock washer.....
 4300 $\frac{1}{8}$ " Steel ball.....
 4301 $\frac{3}{16}$ " Steel ball.....

UNIT ASSEMBLY LIST

LAMPHOUSE ASSEMBLIES

- 2300 Complete glass name plate frame with screws.....
- 2301 Complete glass name plate frame with glass plate and screws.....
- 2302 Lamphouse top with chimney and damper.....
- 2303 Lamphouse base casting with sheet metal panel assembled.....
- 2304 Lamphouse front casting with motor rheostat dial plate.....
- 2305 Lamphouse back casting with complete door latch and opening plunger assembled.....
- 2306 Lamphouse side panel casting with fuse block, fuses, field terminal, wire clamp, and BX connector assembled but less fuse box cover.....
- 2307 Left side lamphouse door less glass frame and handle..
- 2308 Left side lamphouse door complete with glass frame, glass and handle.....
- 2309 Right door latch and pin.....
- 2310 Right side lamphouse door less glass frame and handle.....
- 2311 Right side lamphouse door complete with glass frame, glass and handle.....
- 2312 Complete reflector door with pivot studs, rod bushings, latch plate and reflector drum support stud.....
- 2313 Complete auxiliary rear door with spring catch, handle, name plate rivets, but less name plate.....

ARC IMAGER ASSEMBLIES

- HI-1077 Mirror holder with mirror complete.....
- 2320 Arc image projector complete less card holder.....
- 2321 Arc image projector complete with card holder.....
- 2322 Card holder, register card and mounting screws.....

REFLECTOR DRUM AND CARRIAGE ASSEMBLIES

- 2325 Hand adjustment knob with hub and set screw.....
- 2326 Upper reflector adjustment rod with knob and knob hub.....
- 2327 Lower reflector adjustment rod with knob and knob hub.....
- 2328 Reflector focusing screw and knurled head assembled..
- 2329 Complete reflector drum with springs, reflector clip, support bracket, support rods, and locking link assembled.....
- 2330 Main reflector support casting with lower guide stud...
- 2331 Complete reflector drum, main support casting locking link, and focusing screw assembled.....

FRONT AND REAR DOWSER ASSEMBLIES

- 2335 Right reflector dowser cam shaft and flange assembled..
- 2336 Left reflector dowser cam shaft and flange assembled..
- 2337 Reflector dowser support bracket with retainer screws, cam plate, dowel pins, pivot screws and lock nuts assembled.....
- 2338 Right dowser handle complete with screw, handle hub and set screw.....
- 2339 Left dowser handle complete with screw, handle hub and set screw.....
- 2340 Reflector dowser swinging trunnion with cams, cam shafts, stop pins, flanges, linkage screw and spring assembled.....
- 2341 Reflector dowser swinging trunnion with cams, cam shafts, flanges, spring, insulation and dowser disc castings assembled.....
- 2342 Complete swinging trunnion with dowser discs and main support bracket assembled.....

POSITIVE SUB BASE AND CARBON GUIDE ASSEMBLIES

- 2360 6 M/M Positive carbon guide with support
- 2361 7 M/M Positive carbon guide with support
- 2362 8 M/M Positive carbon guide with support
- 2363 Acme feed screw with pinion and pin
- 2364 Sub base casting with oil cup, dowel pins, ash pan pins
and set screw for tube
- 2365 Complete sub base with cover, acme screw, pinion, tube
and pins but less carbon guide, insulation and saddle
assembly
- 2366 Complete positive sub base assembly with 6 M/M car-
bon clamp, post, saddle, 6 M/M carbon guide,
support and insulation
- 2367 Complete positive sub base assembly with 7 M/M car-
bon clamp, post, saddle, 7 M/M carbon guide,
support and insulation
- 2368 Complete positive sub base assembly with 8 M/M car-
bon clamp, post, saddle, 8 M/M carbon guide,
support and insulation

POSITIVE CARBON CLAMP AND SADDLE ASSEMBLIES

- 2369 Positive carbon clamp shoe and pin
- 2370 6 M/M Positive carbon clamp complete with shoe,
clamp screw, lock nut, lever, button and wire clamp .
- 2371 7 M/M Positive carbon clamp complete with shoe,
clamp screw, lock nut, lever, button and wire clamp .
- 2372 8 M/M Positive carbon clamp complete with shoe,
clamp screw, lock nut, lever, button and wire clamp .
- 2373 6 M/M Positive carbon clamp complete with post cast-
ing pivot screw, wire clamp and screw
- 2374 7 M/M Positive carbon clamp complete with post cast-
ing pivot screw, wire clamp and screw

- 2375 8 M/M Positive carbon clamp complete with post cast-
ing pivot screw, wire clamp and screw
- 2376 Positive saddle clutch pinion with shaft assembled
- 2377 Positive saddle complete with clutch
- 2378 6 M/M Complete positive carbon clamp with post,
insulation, saddle and clutch assembled
- 2379 7 M/M Complete positive carbon clamp with post,
insulation, saddle and clutch assembled
- 2380 8 M/M Complete positive carbon clamp with post,
insulation, saddle and clutch assembled

NEGATIVE POST, FEED CLUTCH AND CARBON HOLDER ASSEMBLIES

- 2390 Complete 5 M/M negative carbon clamp casting with
eccentric, lever, wire clamp and handle assembled . .
- 2391 Complete 6 M/M negative carbon clamp casting with
eccentric, lever, wire clamp and handle assembled . .
- 2392 Complete 6.5 M/M negative carbon clamp casting with
eccentric, lever, wire clamp and handle assembled . .
- 2393 Complete 7 M/M negative carbon clamp casting with
eccentric, lever, wire clamp and handle assembled . .
- 2394 Complete 5 M/M negative carbon clamp with insulators,
screws and feed rack assembled
- 2395 Complete 6 M/M negative carbon clamp with insulators,
screws and feed rack assembled
- 2396 Complete 6.5 M/M negative carbon clamp with insula-
tors, screws and feed rack assembled
- 2397 Complete 7 M/M negative carbon clamp with insulators,
screws and feed rack assembled
- 2398 Complete clutch feed lever with insulation, pin and
adjusting screw
- 2399 Negative feed lever, upper with clutch pin

- 2400 Complete negative push rod with button and cotter pin
 2401 Complete negative feed clutch with clutch sleeve friction disc spring and nut assembled.....
 2402 Negative adjusting eccentric sleeve and lever.....
 2403 Complete universal joint for negative hand shaft with taper pins.....
 2404 Hand feed knob with hub, set screw, universal joint, shaft and insulator.....
 2405 Negative rack support casting with caution plate and wire clamp assembled.....
 2406 Negative rack casting with pin, oil cup, lever stud, and cotter pin.....
 2407 Complete negative rack support with rack casting, pin, feed lever stud, oil cup, and cotter pin assembled..
 2408 Complete negative post assembly with 5 M/M carbon holder, feed rack, carbon guide, insulation, feed clutch, clutch lever and adjusting screw assembled but less magnet and universal joint.....
 2409 Complete negative post assembly with 6 M/M carbon holder, feed rack, carbon guide, insulation, feed clutch, clutch lever and adjusting screw assembled but less magnet and universal joint.....
 2410 Complete negative post assembly with 6.5 M/M carbon holder, feed rack, carbon guide, insulation feed clutch, clutch lever and adjusting screw assembled but less magnet and universal joint.....
 2411 Complete negative post assembly with 7 M/M carbon holder, feed rack, carbon guide, insulation, feed clutch, clutch lever and adjusting screw assembled but less magnet and universal joint.....

ARC FEED, MOTOR, MOTOR RHEOSTAT AND COMPARTMENT COVER ASSEMBLIES

- 2415 Secondary worm with primary worm gear assembled...
 2416 Secondary worm gear shaft with slot stop pin assembled
 2417 Hand feed knob, with hub and taper pin (old style with long hub).....
 2418 Worm gear compartment cover with oil cups and dowel pins.....
 2419 Arc feed main frame casting with dowel pins and oil cups
 2420 Motor front end bell casting, bearing and oil cup assembled.....
 2421 Motor rear end bell casting with bearing, oil cup, and brush holders assembled.....
 2422 Motor armature complete.....
 2423 Complete set of motor field coils with leads.....
 2424 Arc feed motor complete with flexible coupling.....
 2425 Arc feed complete with motor, gears, clutches, shafts, hand knob and pins assembled but less motor wire conduit casting.....
 2426 Rheostat compartment cover with conduit elbow and screw.....
 2427 Rheostat compartment cover complete with pilot socket, conduit, conduit elbow, elbow screw and mounting screws.....
 2428 Motor speed control rheostat with knob complete...
 2429 Motor rheostat knob and set screw.....
 2430 Motor rheostat lead with tubing and terminal.....

PEERLESS MAGNARC ADAPTERS

- 2440 Complete Western Electric and Motio. De Luxe adapter with screws.....
 2441 Complete power 6-B, E, adapter with screws.....

EUROPEAN CONCESSIONAIRE

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