

*Hawthorne Works*  
*Western Electric Company,*  
INCORPORATED

BELL SYSTEM  
EDUCATIONAL CONFERENCE  
MECHANICAL ENGINEERS  
CHICAGO, ILLINOIS, JUNE 22-27, 1929



DISCARDED BY  
GORDON M. BAY LIBRARY

# *Hawthorne Works*

*Western Electric Company.*  
INCORPORATED

BELL SYSTEM  
EDUCATIONAL CONFERENCE  
MECHANICAL ENGINEERS  
CHICAGO, ILLINOIS, JUNE 22-27, 1925



## TABLE OF CONTENTS

### GENERAL VIEWS OF BUILDINGS AND GROUNDS

	PAGE
AIRPLANE VIEW OF HAWTHORNE WORKS	1
TELEPHONE APPARATUS BUILDINGS FROM THE NORTH-WEST	2
CLOSING TIME AT ONE OF THE MAIN ENTRANCES	3
TELEPHONE APPARATUS BUILDINGS FROM THE SOUTHEAST	4
GROUNDS FROM THE WEST, SHOWING TELEPHONE APPARATUS BUILDINGS	5
GROUNDS FROM THE SOUTHWEST	6
GROUNDS WITH HOSPITAL AT RIGHT	7
THE WATER TOWER	8
TELEPHONE APPARATUS BUILDINGS AND GAS PLANT FROM THE BELT RAILWAY	9
NORTH WALL OF POWER PLANT	10
POWER HOUSE AND COAL HANDLING EQUIPMENT	11
ELECTRIC POWER GENERATING ROOM	12

### OFFICES AND LABORATORIES

TYPICAL OFFICE VIEW	13
ENGINEERING AND DRAFTING SCHOOL	14
MECHANICAL LABORATORY	15
CHEMICAL LABORATORY	16
RUBBER LABORATORY	17
MAGNETIC MATERIAL LABORATORY	18
SWITCHBOARD LAMP LABORATORY	19

### SHOP DEPARTMENTS (TELEPHONE APPARATUS)

IRON FOUNDRY	20
PUNCH PRESS DEPARTMENT	21
DOUBLE ACTION BLANKING AND DRAWING PRESS FOR SUBSCRIBER SET HOUSINGS	22
MAGAZINE DIAL-FED PUNCH PRESS	23
WELDING MACHINE—RECEIVER MAGNET AND CUP ASSEMBLY—SHOWING FIXTURES IN POSITION	24
CONTACT POINT WELDING MACHINE	25
MULTIPLE BANK TERMINAL STRIP PUNCH AND DIE	26
MILLING MACHINE DEPARTMENT	27
MULTIPLE SPINDLE DRILL PRESSES	28
DRILLING JACK STRIP ON 24-SPINDLE DRILL PRESS	29
AUTOMATIC SCREW MACHINE DEPARTMENT	30
AUTOMATIC SCREW MACHINE SHOWING MAGAZINE FEED FOR PLUG BODIES	31
AUTOMATIC BARREL SANDBLASTING EQUIPMENT	32
POLISHING AND BUFFING DEPARTMENT	33
SUBSCRIBER SET ASSEMBLY DEPARTMENT	34
RELAY ASSEMBLY DEPARTMENT	35
RELAY MOUNTING AND ADJUSTING DEPARTMENT	36
PROGRESSIVE ASSEMBLY OF TRANSMITTER BRIDGE	37
TERMINAL PLATE ASSEMBLY FOR DESK STANDS	38
SEMI-AUTOMATIC RELAY SPOOL HEAD ASSEMBLY MACHINE	39
COIL WINDING DEPARTMENT	40
MACHINE SWITCHING CABLE FORMING DEPARTMENT	41
FACTORY CABLING DEPARTMENT	42
MANUAL SWITCHBOARD WIRING DEPARTMENT	43

### SHOP DEPARTMENTS (TELEPHONE APPARATUS) CONT'D.

PUNCH AND DIE SECTION OF TOOL MAKING DEPARTMENT	44
PRINTING DEPARTMENT—ROTARY PRESSES	45
CERAMIC MANUFACTURING DEPARTMENT	46
SWITCHBOARD LAMP LEAD-IN AND MOUNT WIRE WELDING MACHINE	47
LACQUER AND PAINT MANUFACTURING DEPARTMENT	48

### SHOP DEPARTMENTS (CABLE, RUBBER AND INSULATING)

LEAD-COVERED CABLE WIRE INSULATING DEPARTMENT	49
"DIFFERENTIAL TYPE" PAPER INSULATOR HEAD	50
LEAD-COVERED CABLE WIRE TWISTING MACHINES	51
LEAD-COVERED CABLE STRANDING MACHINE	52
LEAD-COVERED CABLE PROCESS INSPECTION	53
LEAD PRESS DEPARTMENT	54
LONG STROKE LEAD SHEATHING PRESS	55
DIE SINKING MACHINE	56
SUBMARINE TELEPHONE CABLE ARMORING MACHINE	57
CABLE STORAGE YARD	58
RUBBER MOLDING AND VULCANIZING DEPARTMENT	59
RUBBER DUST MOLDING DEPARTMENT	60
MAGNET WIRE INSULATING DEPARTMENT	61
SWITCHBOARD CABLE BRAIDING MACHINES	62
CORD FINISHING DEPARTMENT	63
DISTRIBUTING FRAME WIRE TWISTING AND COILING MACHINE	64
PACKING DEPARTMENT	65
PACKING DEPARTMENT—SHOWING NAILING MACHINE AND CONVEYOR SYSTEM	66
PACKING DEPARTMENT—LOADING OF CARS FROM CONVEYOR SYSTEM	67

### ROD AND WIRE MILL

ROD AND WIRE MILL BUILDING FROM THE SOUTHWEST	68
ROD MILL BILLET HEATING FURNACE	69
ROUGHING MILL	70
GENERAL VIEW OF ROD MILL	71
WIRE MILL—HEAVY WIRE DRAWING MACHINES	72
WIRE MILL—INTERMEDIATE AND FINE WIRE DRAWING MACHINES	73

### MISCELLANEOUS

LUMBER STORAGE YARD	74
ELECTRIC LOCOMOTIVE AND TRACTOR FOR LUMBER YARD	75
PACKING BOX MANUFACTURING DEPARTMENT	76
PACKING BOX MANUFACTURING DEPARTMENT	77
WORKS RESTAURANT	78
MEMORIAL ATHLETIC FIELD	79
TRACK AND FIELD EVENTS—GIRLS PLAYGROUND BALL GAME	80
EMPLOYEES LISTENING TO ADDRESS BY PRESIDENT C. G. DuBOIS OVER THE FIRST PERMANENTLY INSTALLED INDUSTRIAL PUBLIC ADDRESS SYSTEM	81





AIRPLANE VIEW OF HAWTHORNE WORKS





TELEPHONE APPARATUS BUILDINGS FROM THE NORTHWEST





CLOSING TIME AT ONE OF THE MAIN ENTRANCES





TELEPHONE APPARATUS BUILDINGS FROM THE SOUTHEAST





GROUNDS FROM THE WEST, SHOWING TELEPHONE APPARATUS BUILDINGS





GROUNDS FROM THE SOUTHWEST





GROUNDS WITH HOSPITAL AT RIGHT





THE WATER TOWER





TELEPHONE APPARATUS BUILDINGS AND GAS PLANT FROM THE BELT RAILWAY





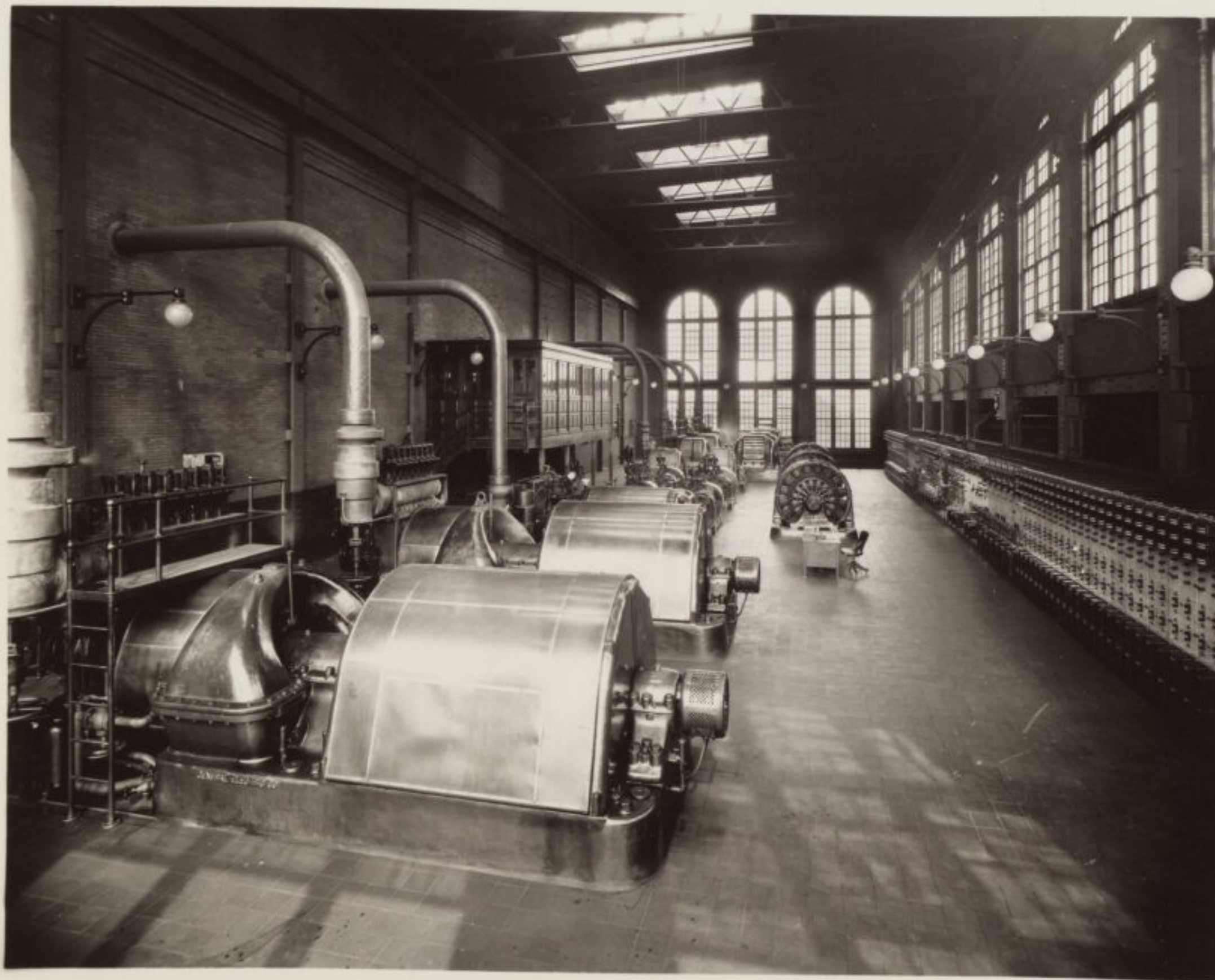
NORTH WALL OF POWER PLANT





POWER HOUSE AND COAL HANDLING EQUIPMENT





ELECTRIC POWER GENERATING ROOM





TYPICAL OFFICE VIEW





ENGINEERING AND DRAFTING SCHOOL





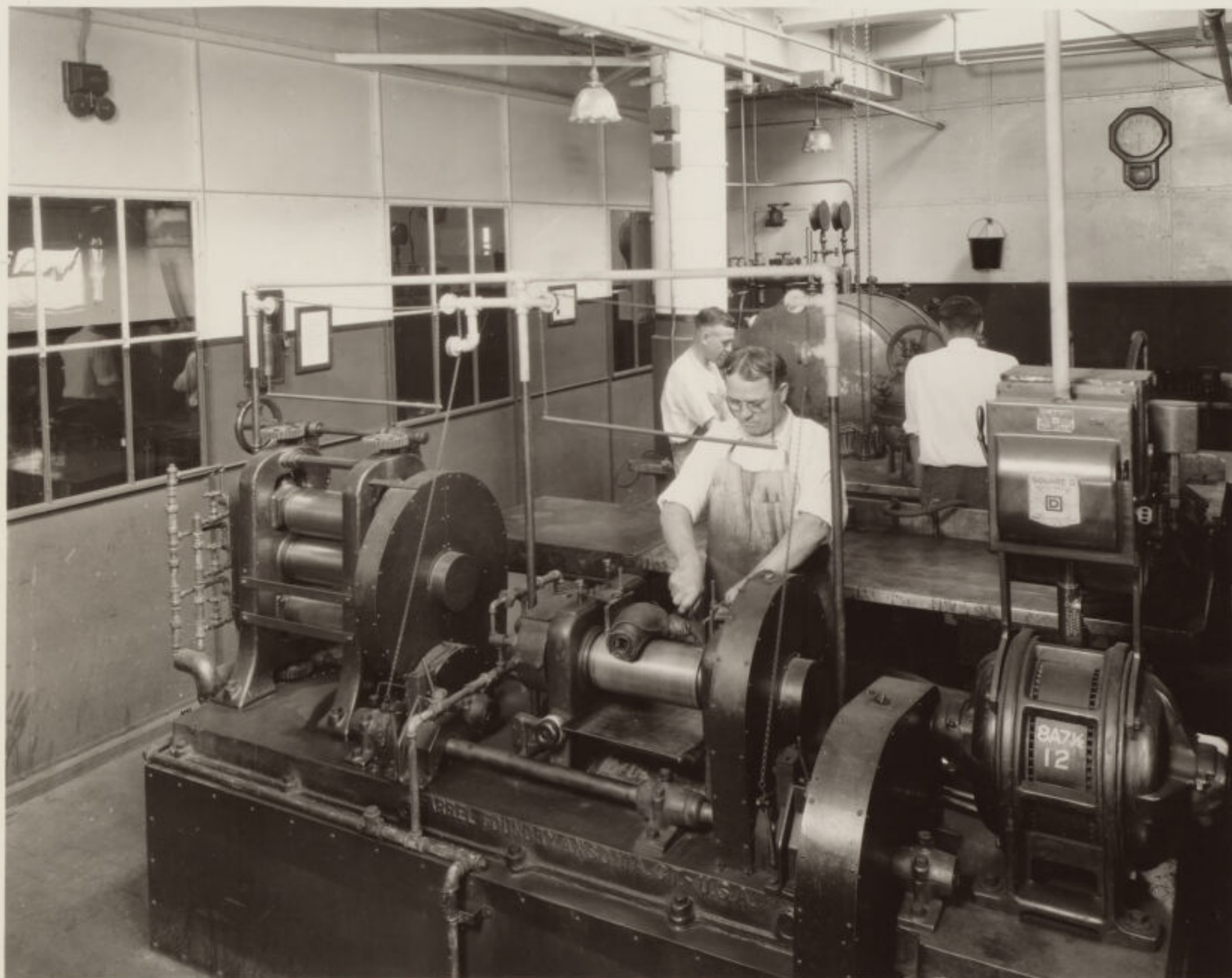
MECHANICAL LABORATORY





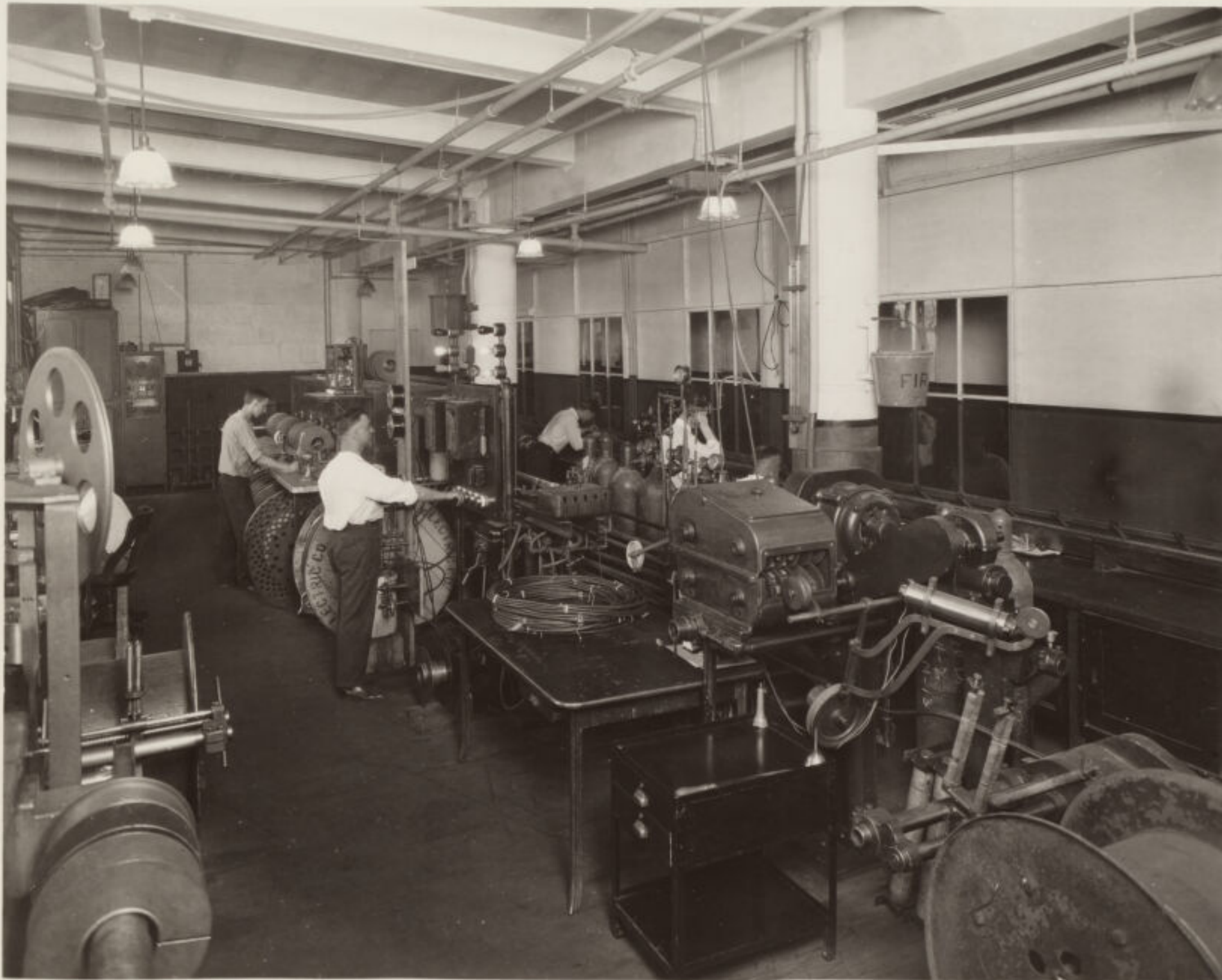
CHEMICAL LABORATORY





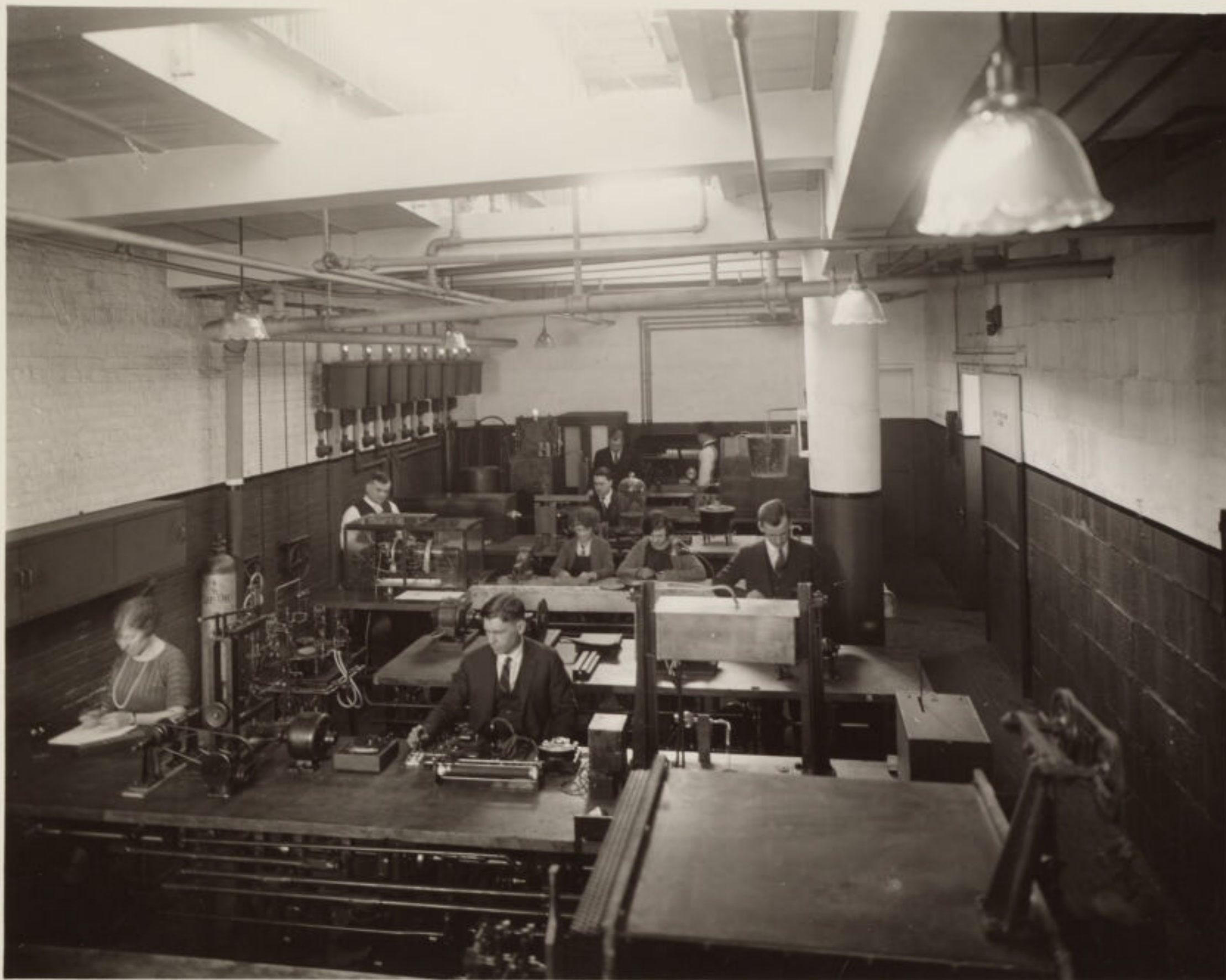
RUBBER LABORATORY





MAGNETIC MATERIAL LABORATORY





SWITCHBOARD LAMP LABORATORY





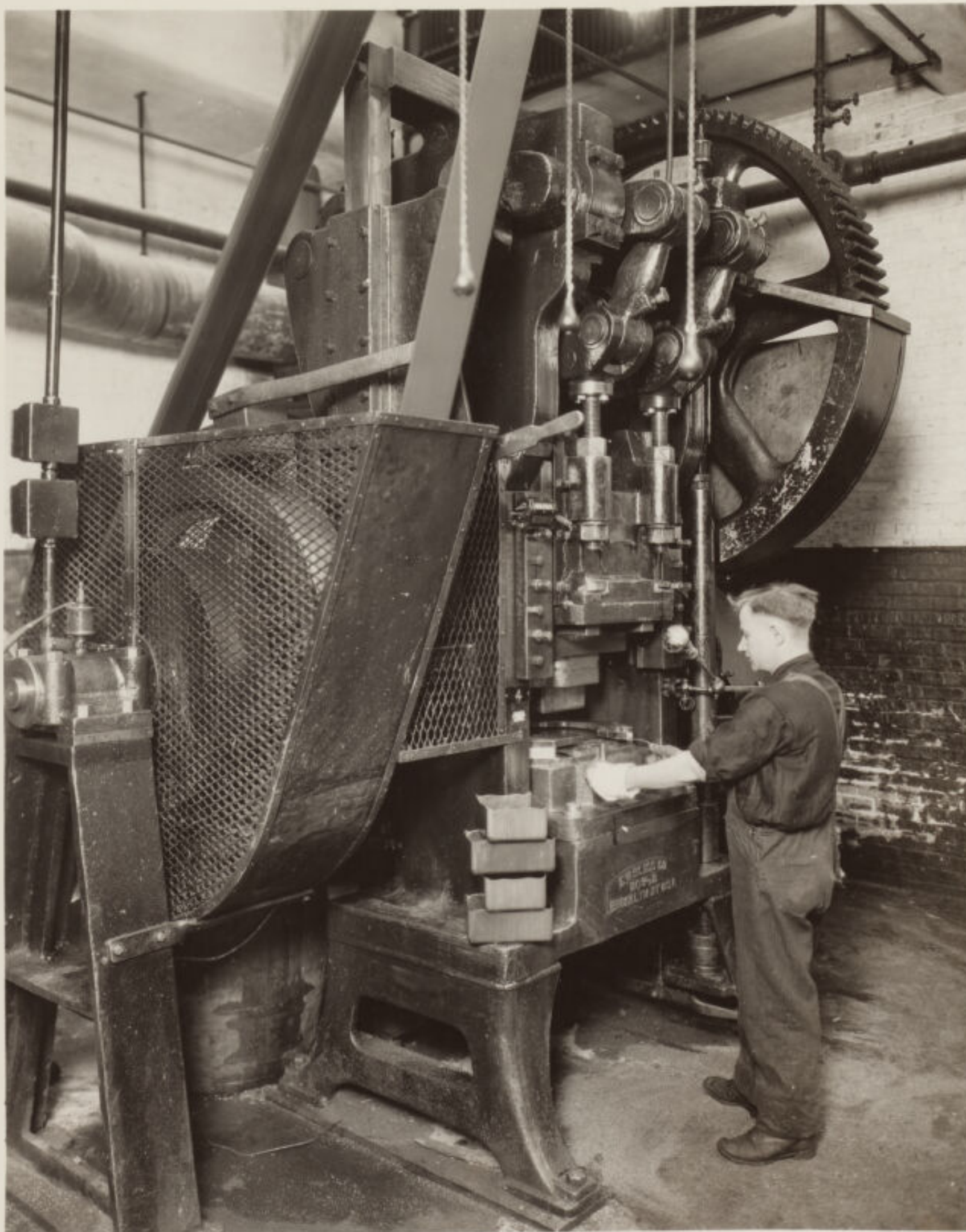
IRON FOUNDRY





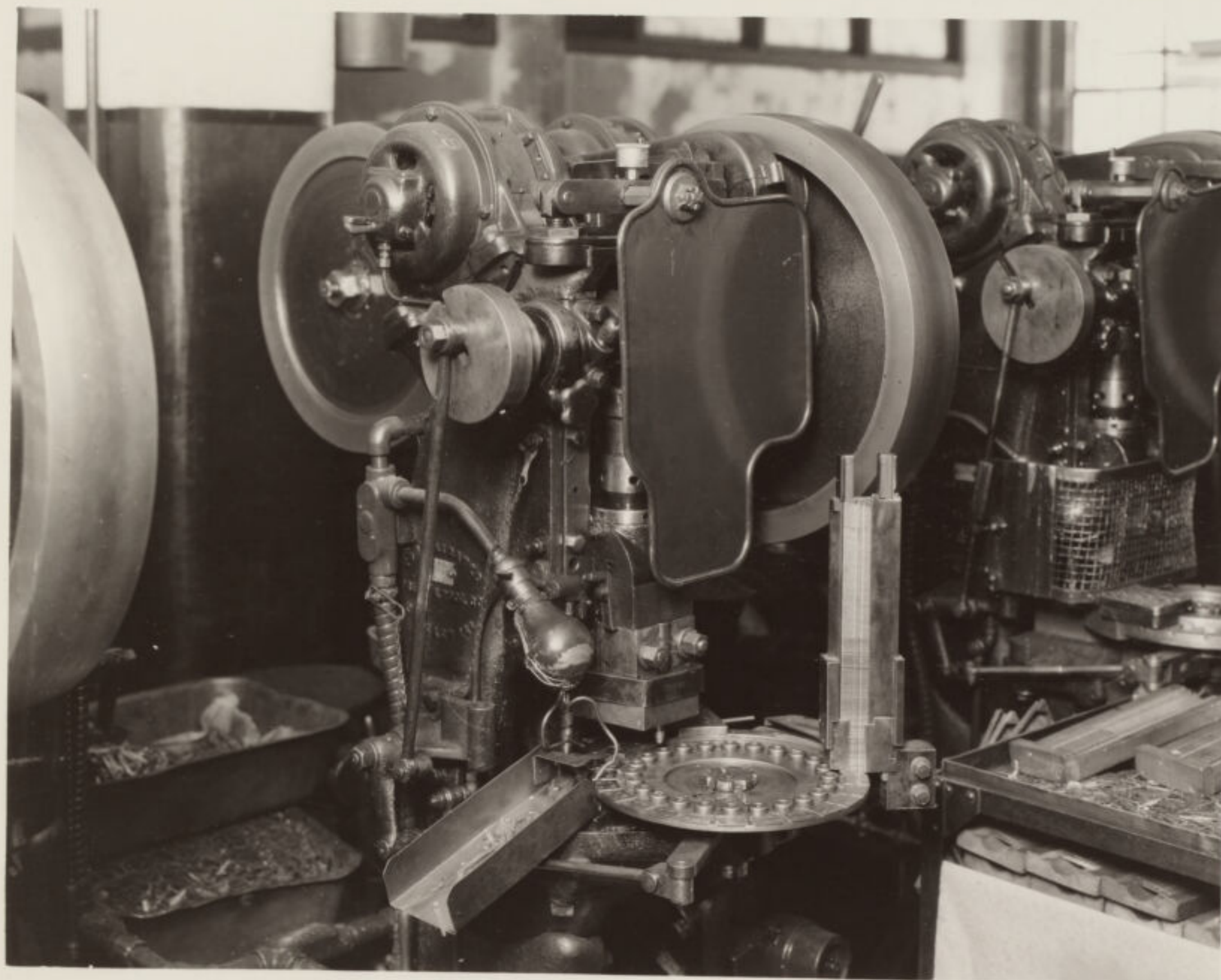
PUNCH PRESS DEPARTMENT





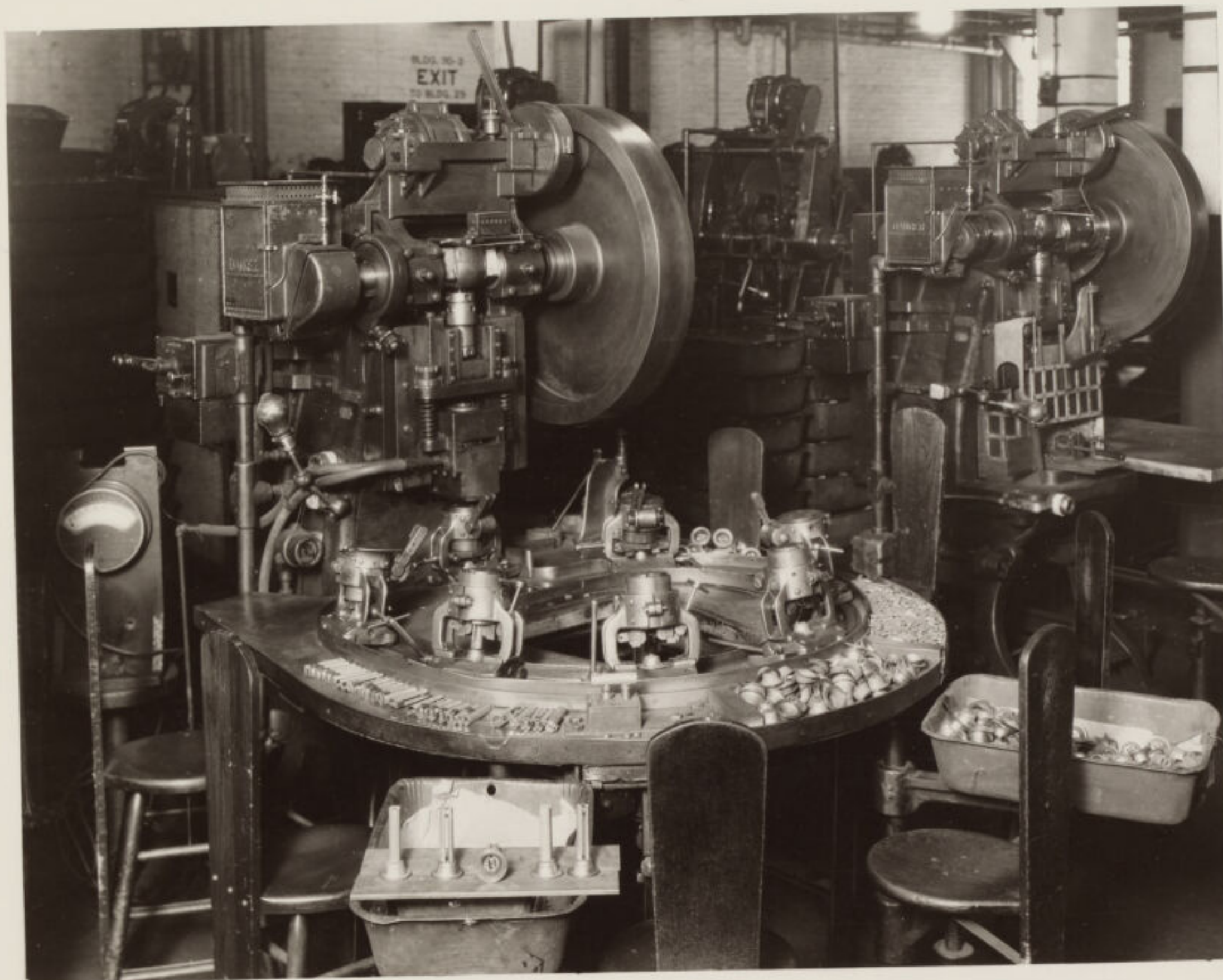
DOUBLE ACTION BLANKING AND DRAWING PRESS FOR SUBSCRIBER SET HOUSINGS





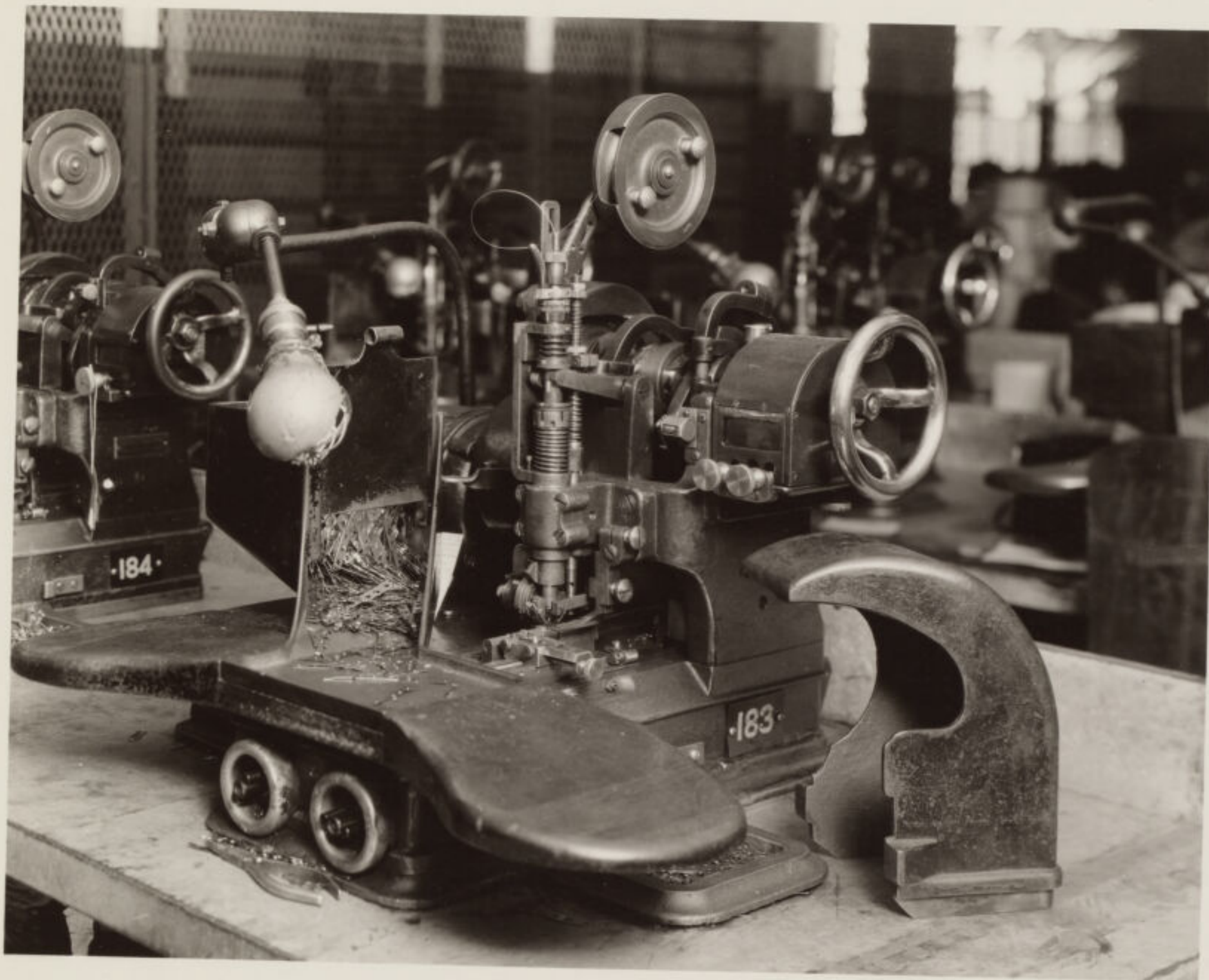
MAGAZINE DIAL FED PUNCH PRESS





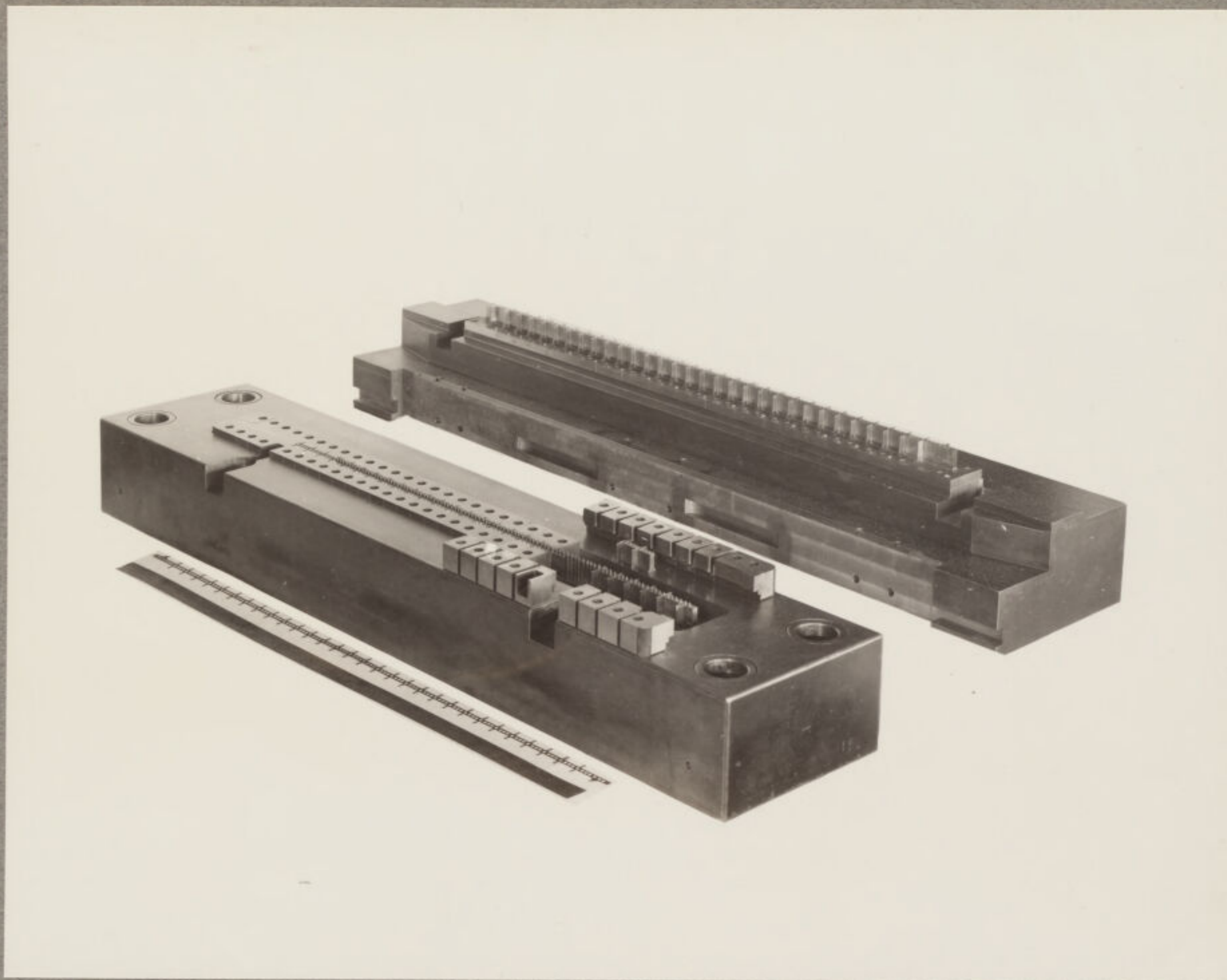
WELDING MACHINE-RECEIVER MAGNET AND CUP ASSEMBLY-SHOWING FIXTURES IN POSITION





CONTACT POINT WELDING MACHINE





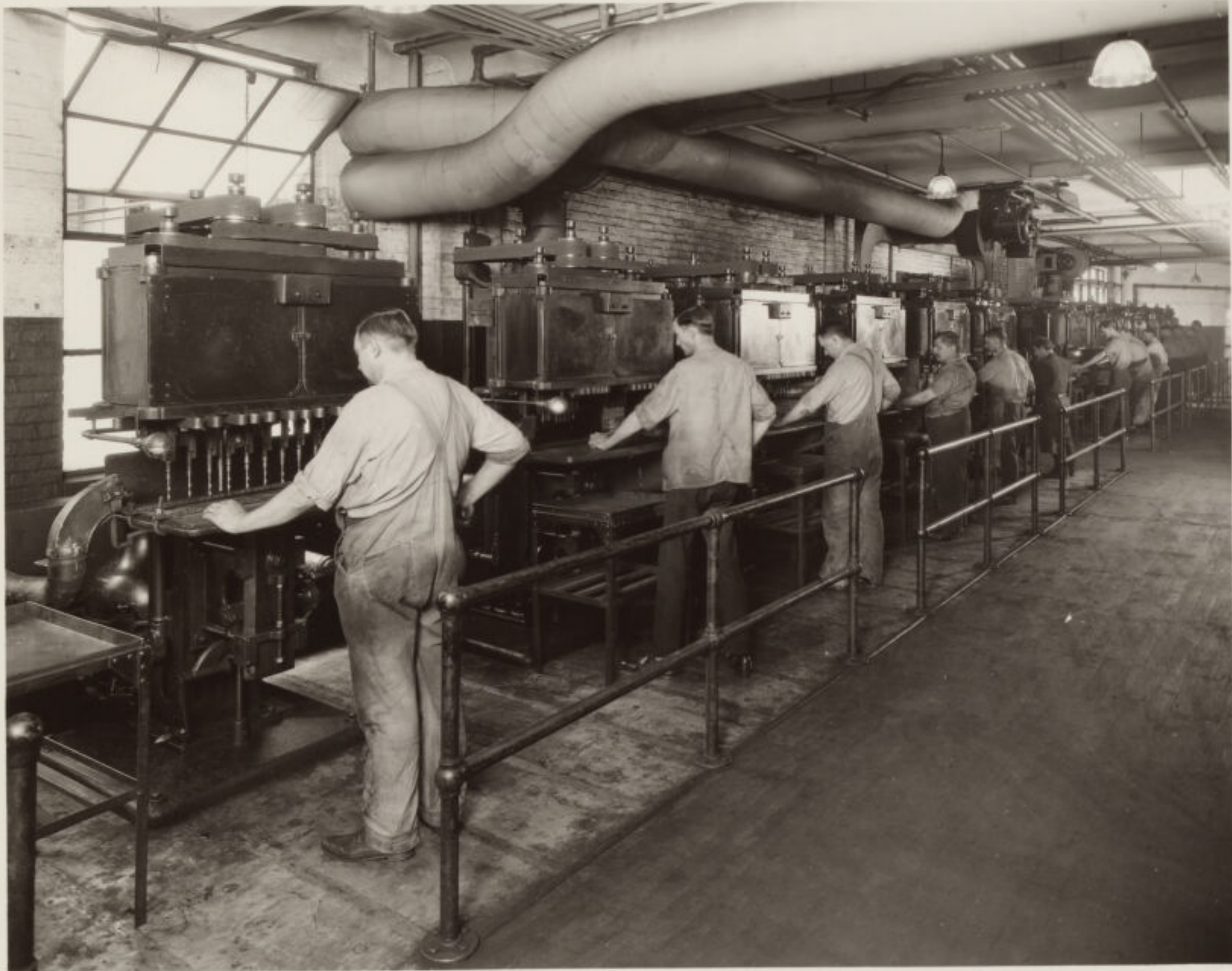
MULTIPLE BANK TERMINAL STRIP PUNCH AND DIE





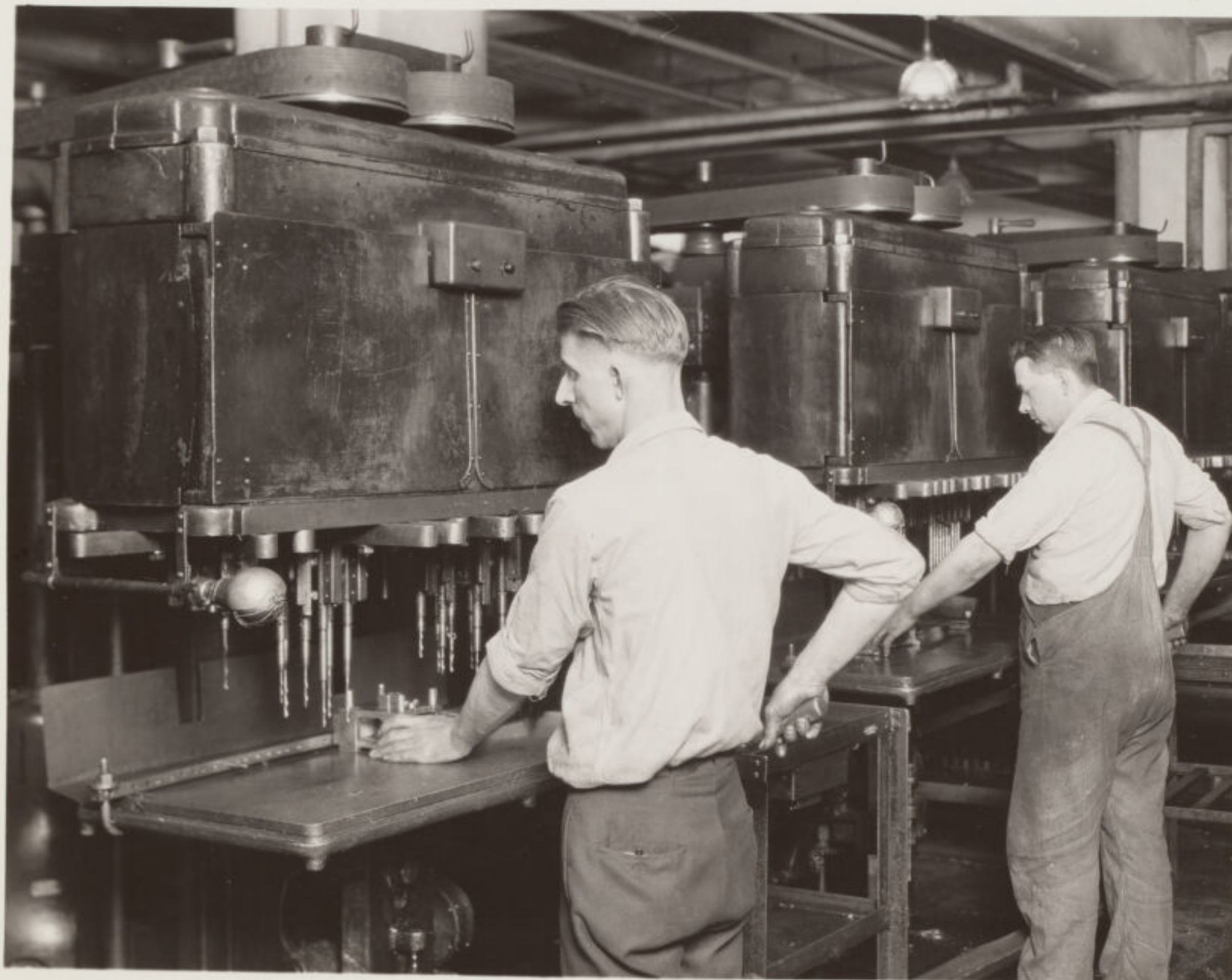
MILLING MACHINE DEPARTMENT





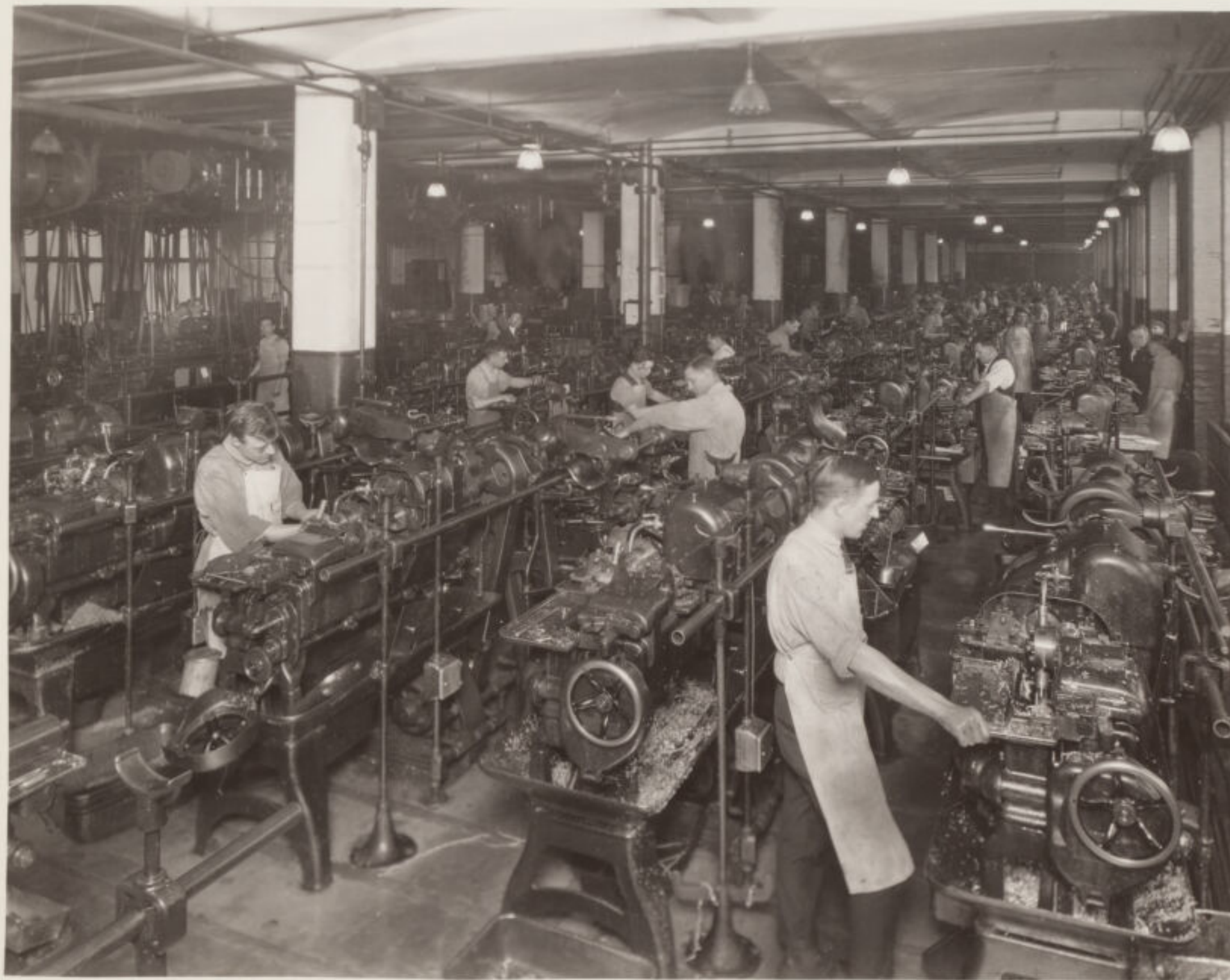
MULTIPLE SPINDLE DRILL PRESSES





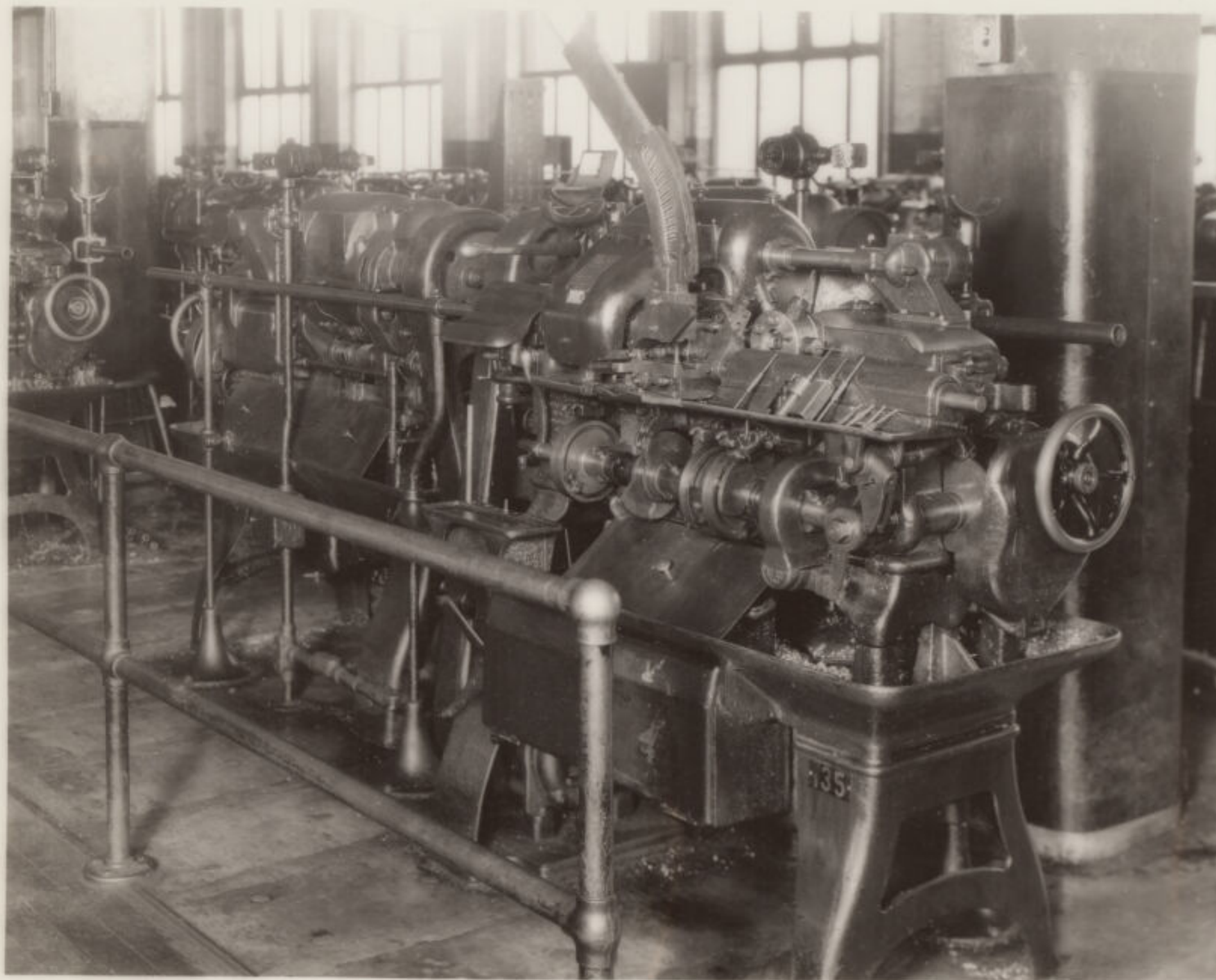
DRILLING JACK STRIP ON 24-SPINDLE DRILL PRESS





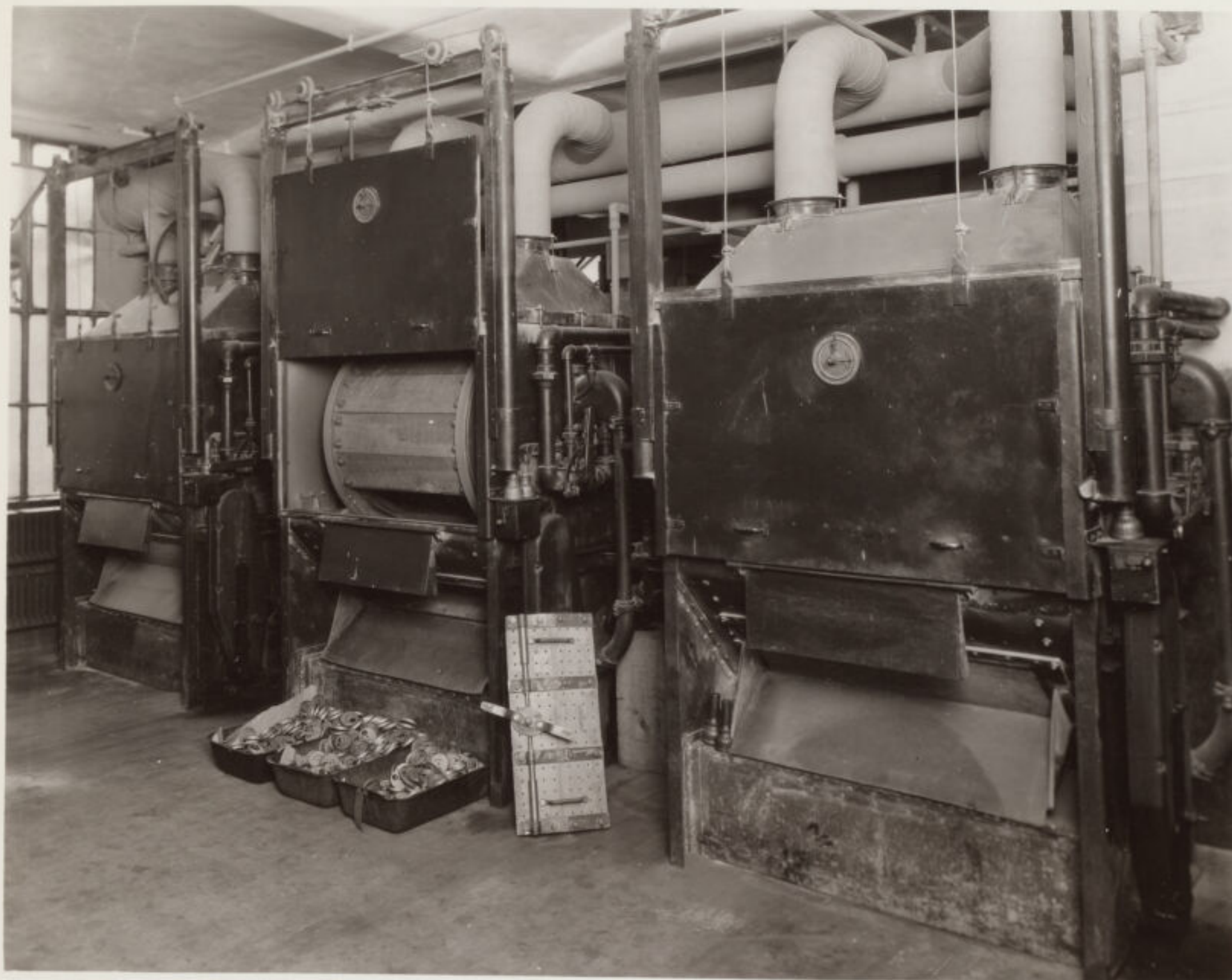
AUTOMATIC SCREW MACHINE DEPARTMENT





AUTOMATIC SCREW MACHINE SHOWING MAGAZINE FEED FOR PLUG BODIES





AUTOMATIC BARREL SANDBLASTING EQUIPMENT





POLISHING AND BUFFING DEPARTMENT





SUBSCRIBER SET ASSEMBLY DEPARTMENT





RELAY ASSEMBLY DEPARTMENT





RELAY MOUNTING AND ADJUSTING DEPARTMENT





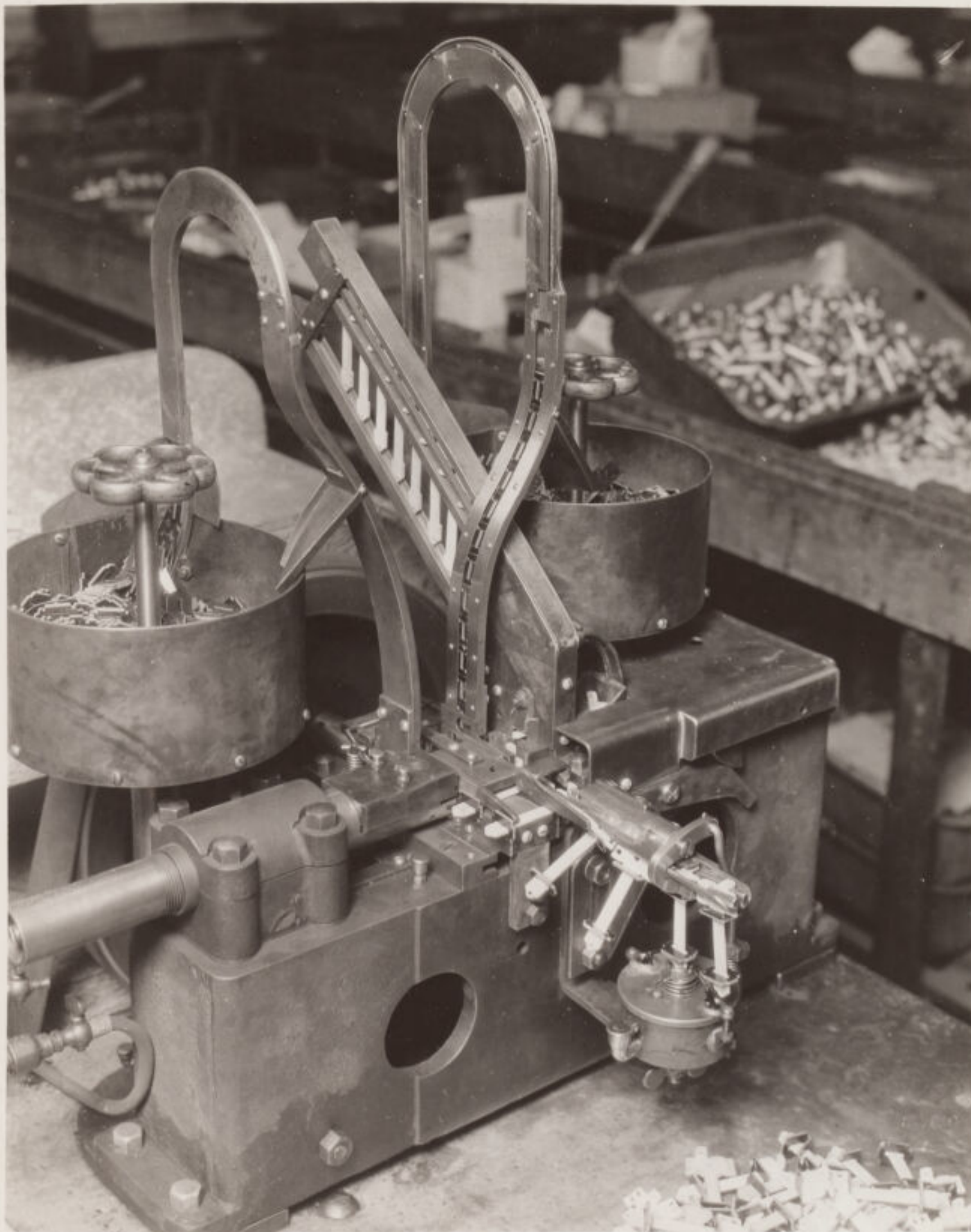
PROGRESSIVE ASSEMBLY OF TRANSMITTER BRIDGE





TERMINAL PLATE ASSEMBLY FOR DESK STANDS





SEMI-AUTOMATIC RELAY SPOOL HEAD ASSEMBLY MACHINE ,





COIL WINDING DEPARTMENT





MACHINE SWITCHING CABLE FORMING DEPARTMENT





FACTORY CABLING DEPARTMENT





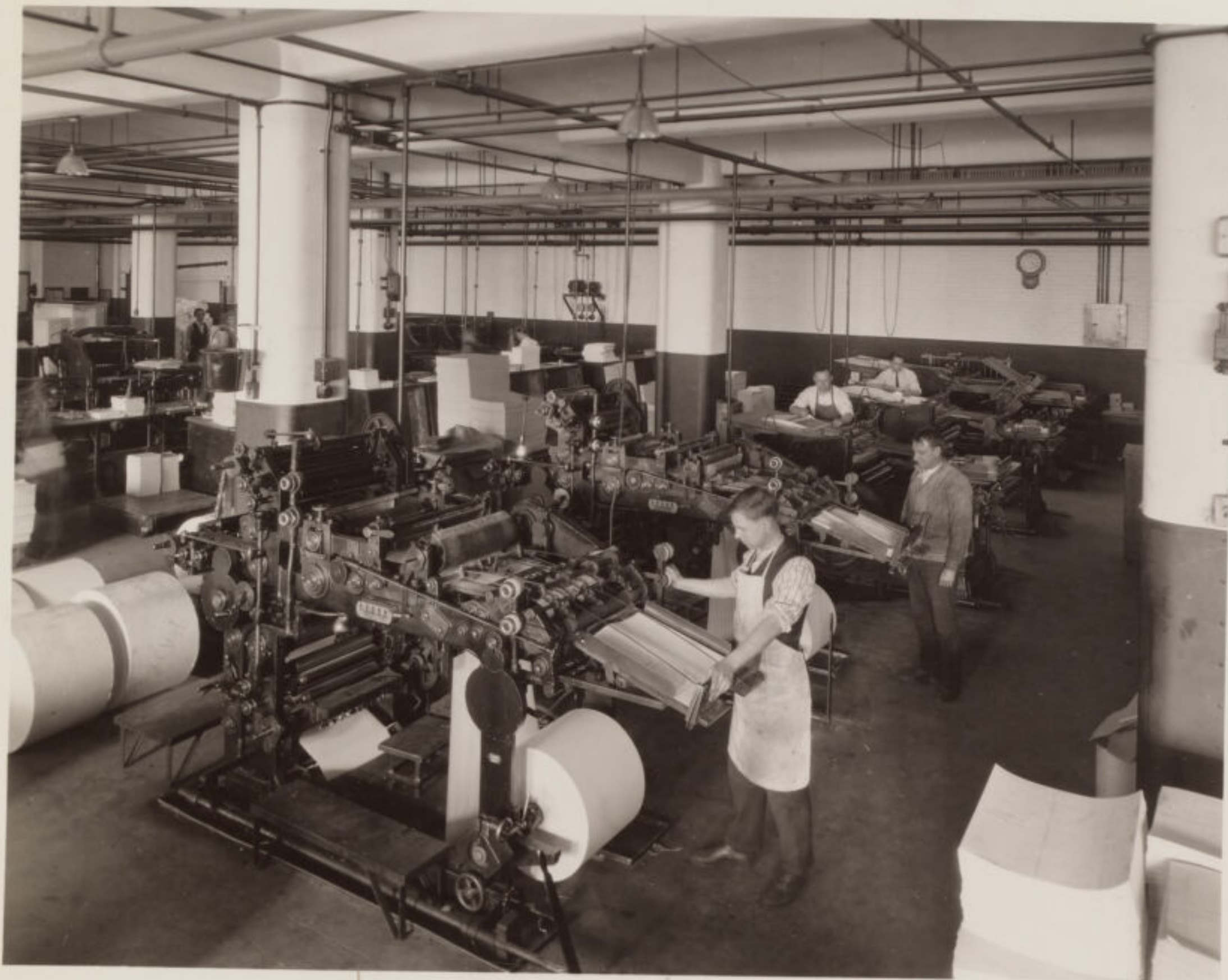
MANUAL SWITCHBOARD WIRING DEPARTMENT





PUNCH AND DIE SECTION OF TOOL MAKING DEPARTMENT





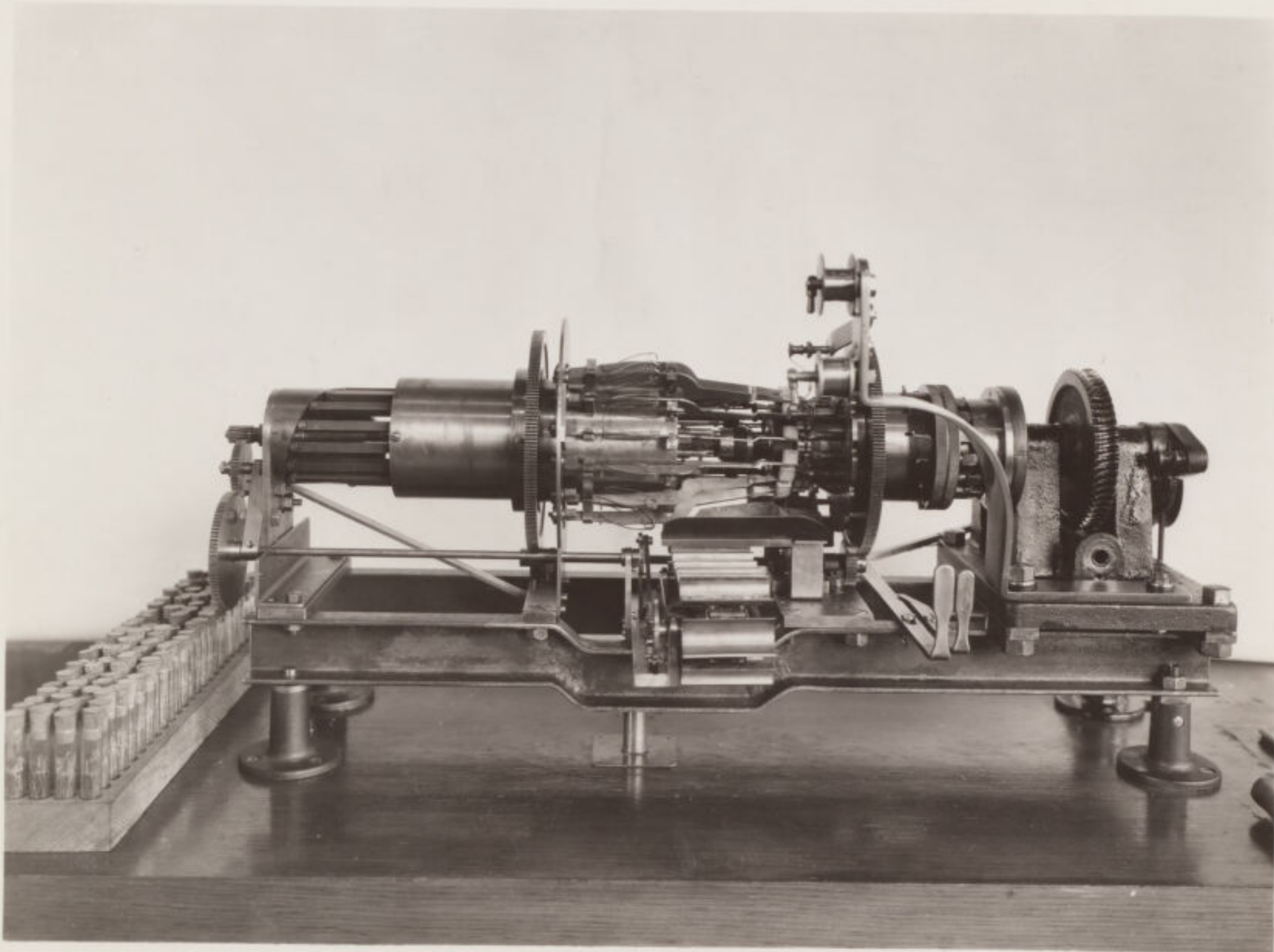
PRINTING DEPARTMENT-ROTARY PRESSES





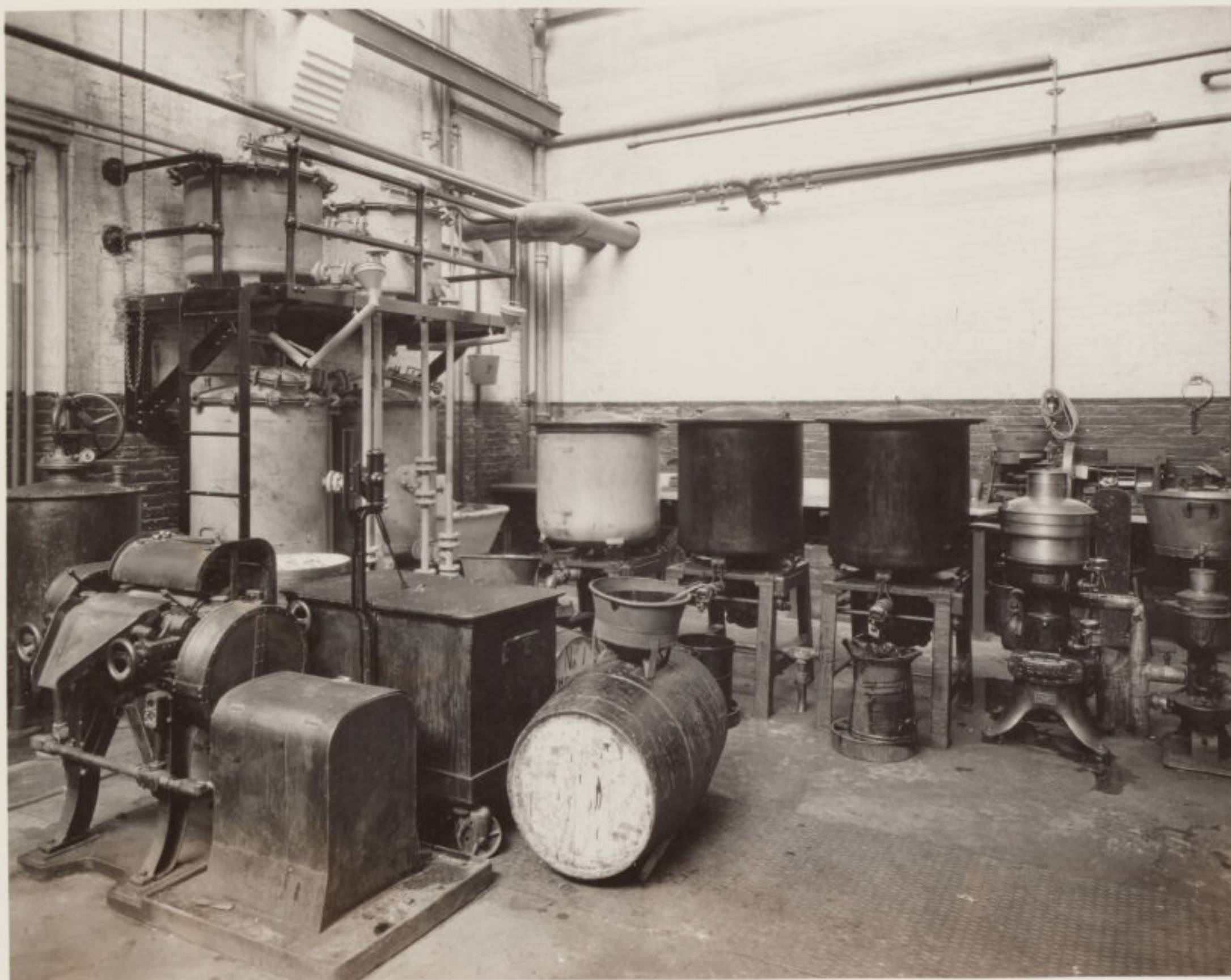
CERAMIC MANUFACTURING DEPARTMENT





SWITCHBOARD LAMP LEAD-IN AND MOUNT WIRE WELDING MACHINE





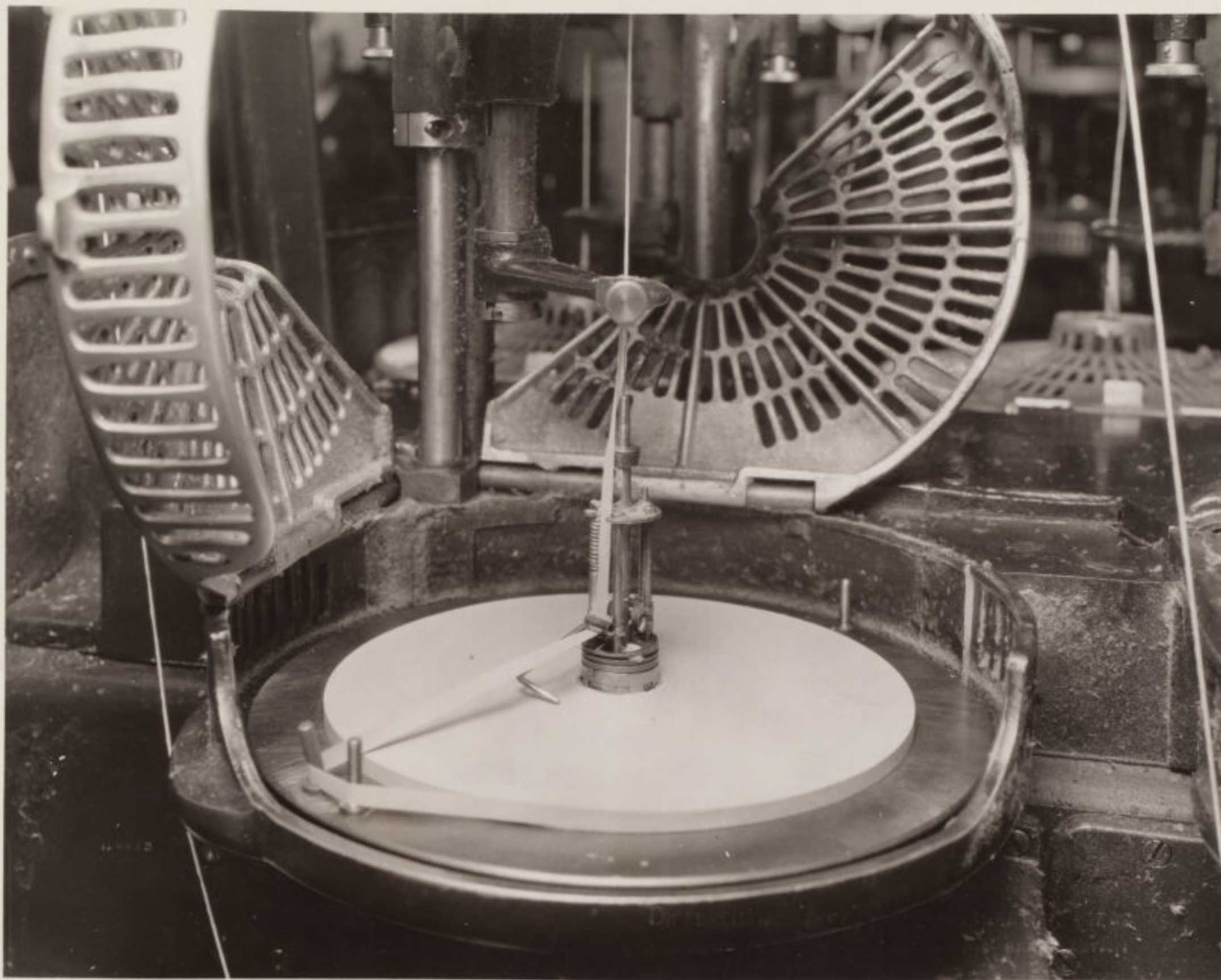
LACQUER AND PAINT MANUFACTURING DEPARTMENT





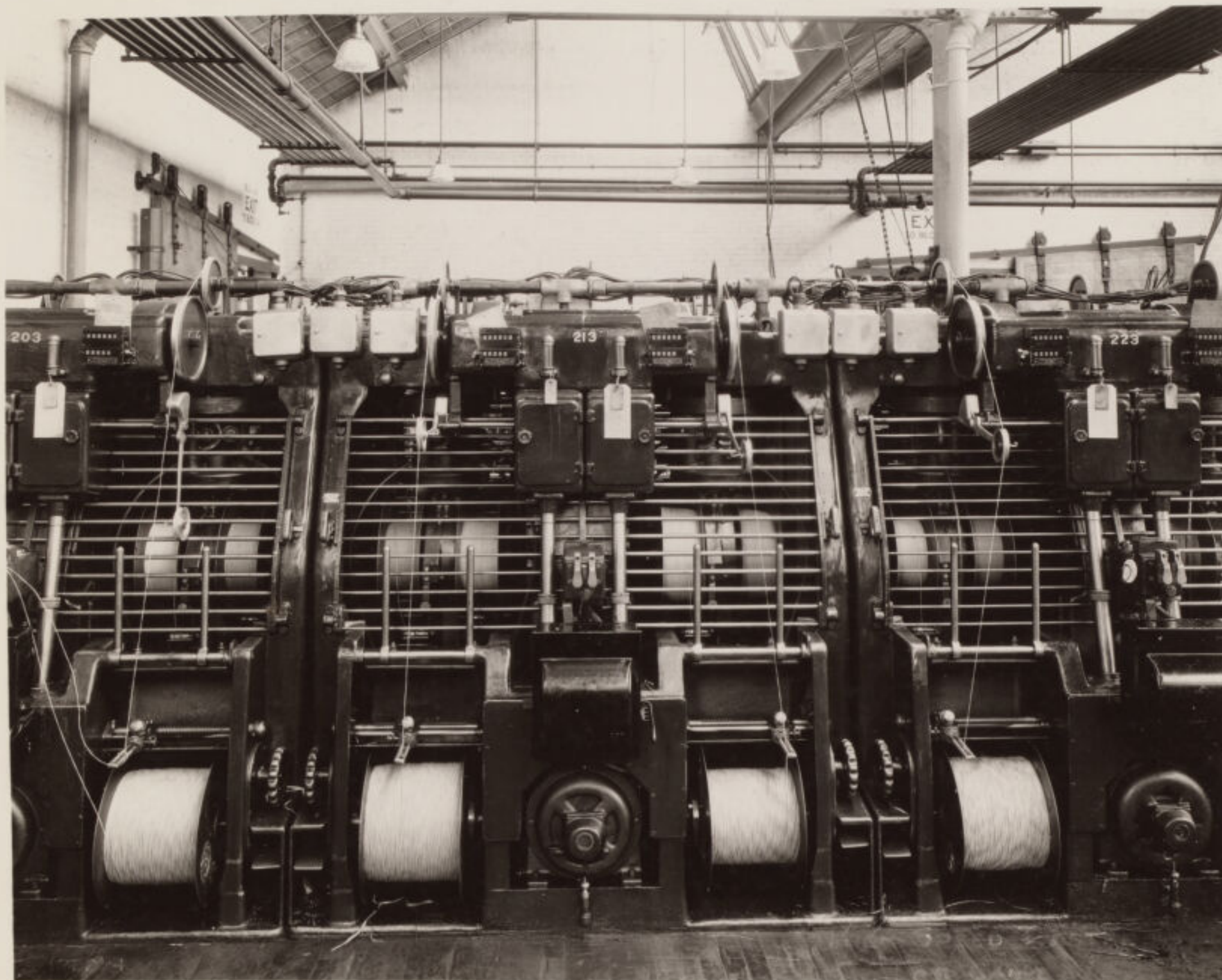
LEAD COVERED CABLE WIRE INSULATING DEPARTMENT





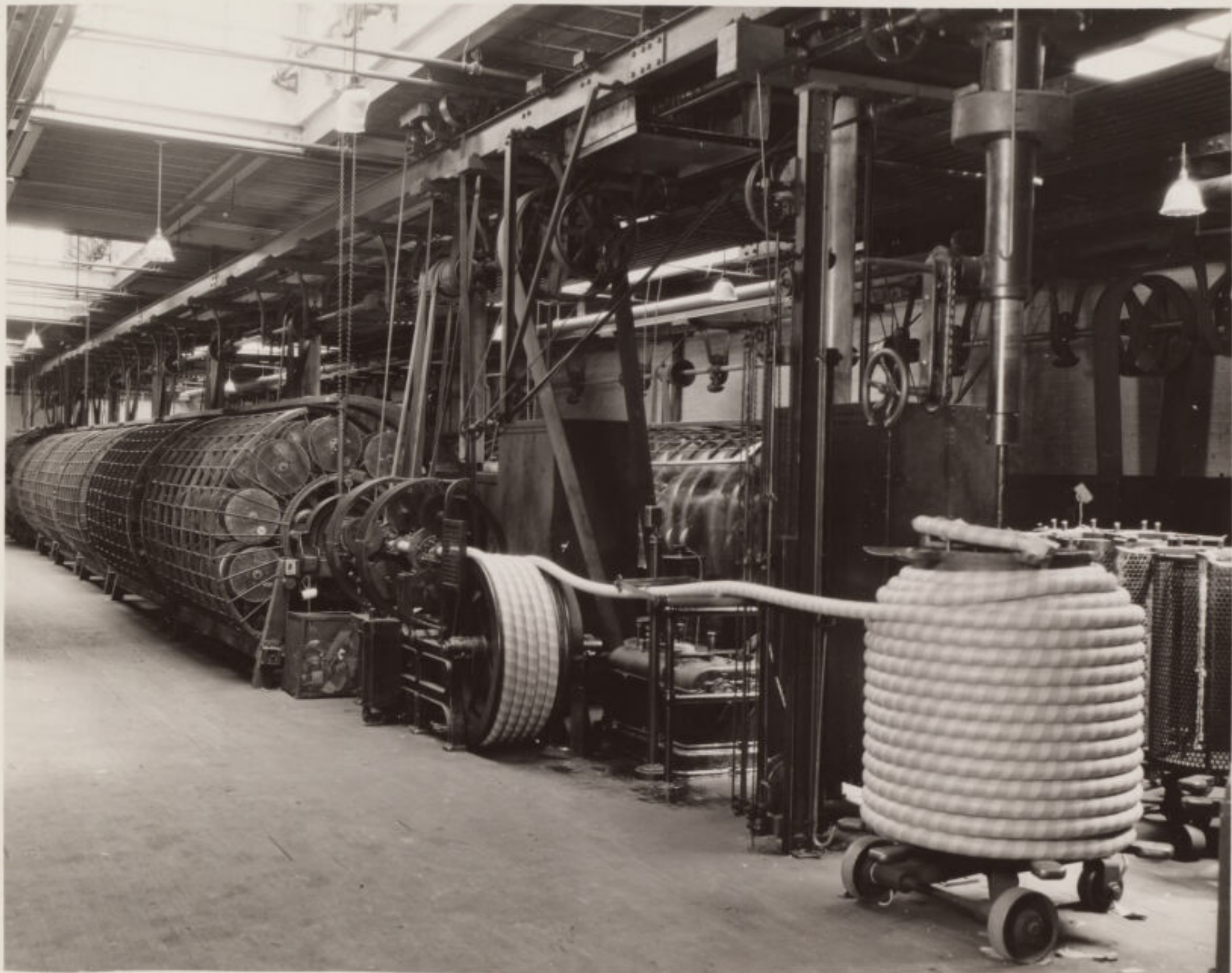
"DIFFERENTIAL TYPE" PAPER INSULATOR HEAD





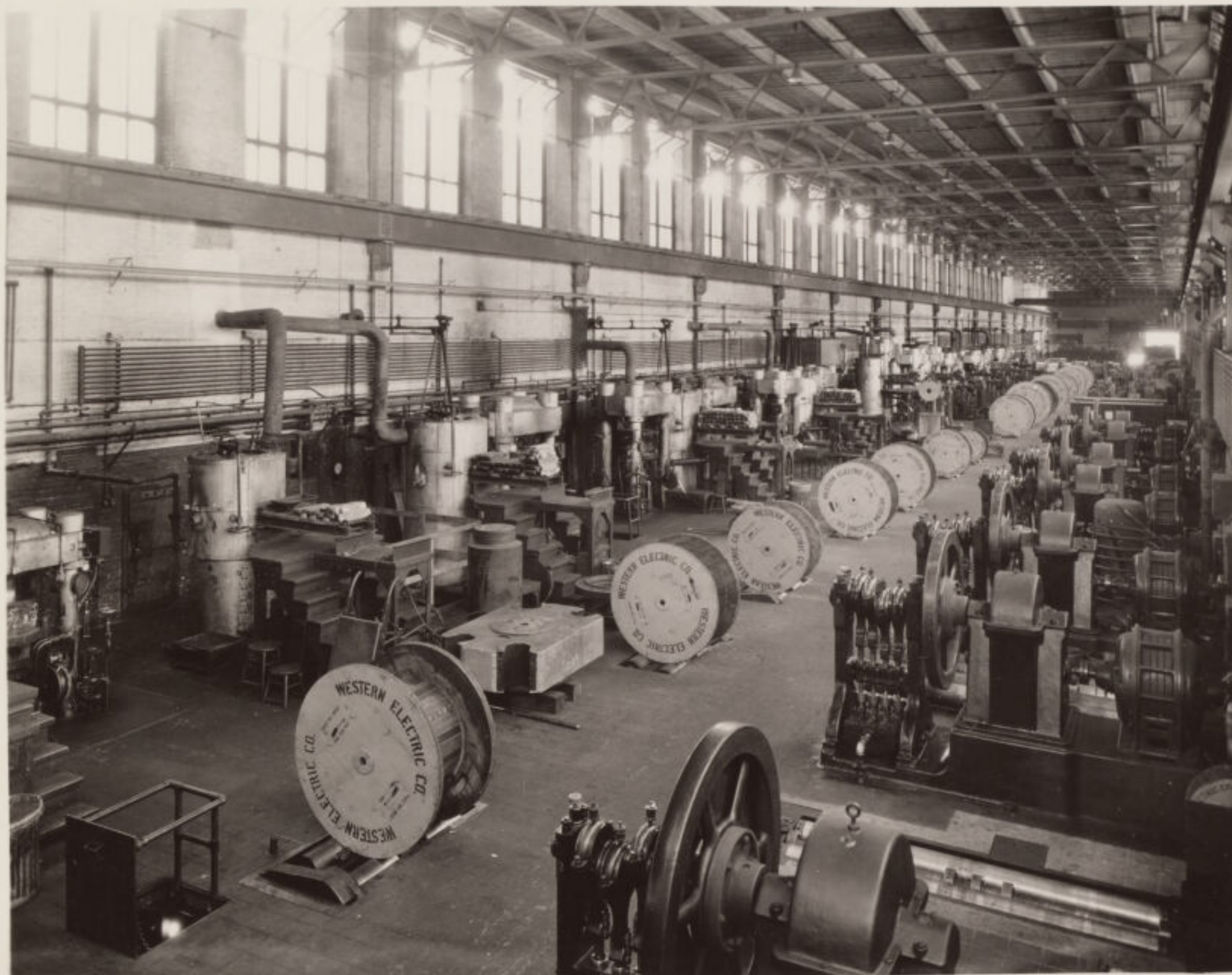
LEAD COVERED CABLE WIRE TWISTING MACHINES





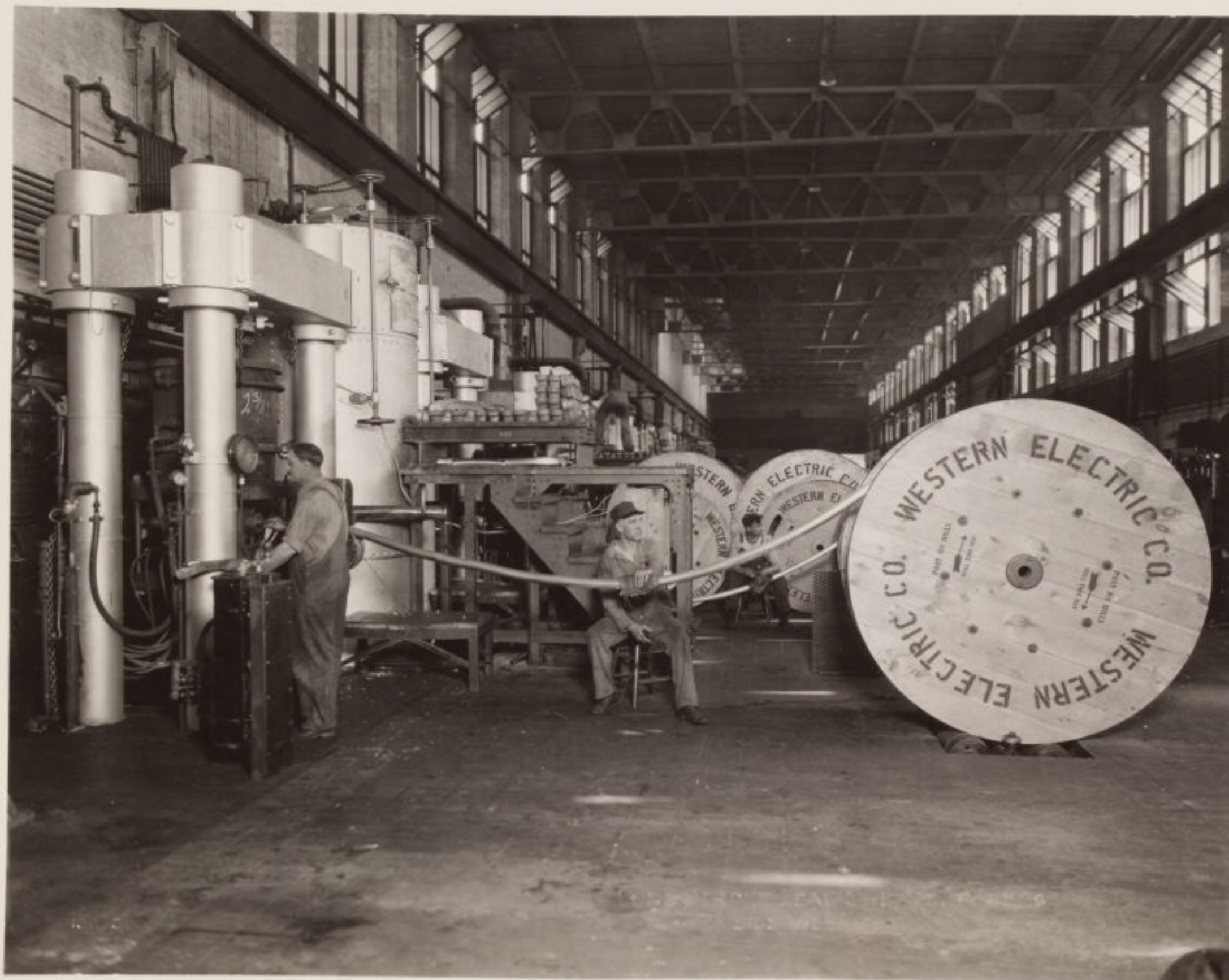
LEAD COVERED CABLE STRANDING MACHINE





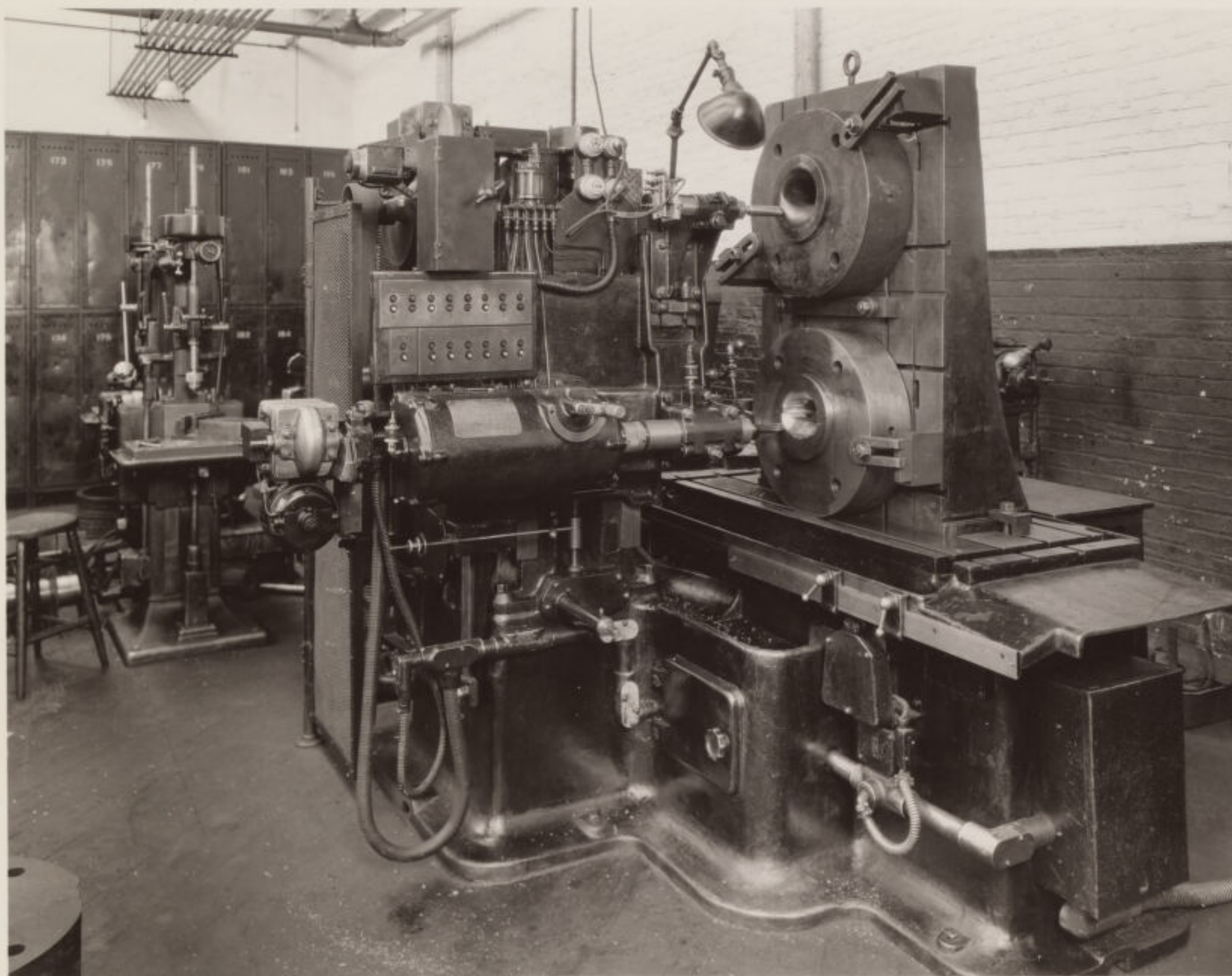
LEAD PRESS DEPARTMENT





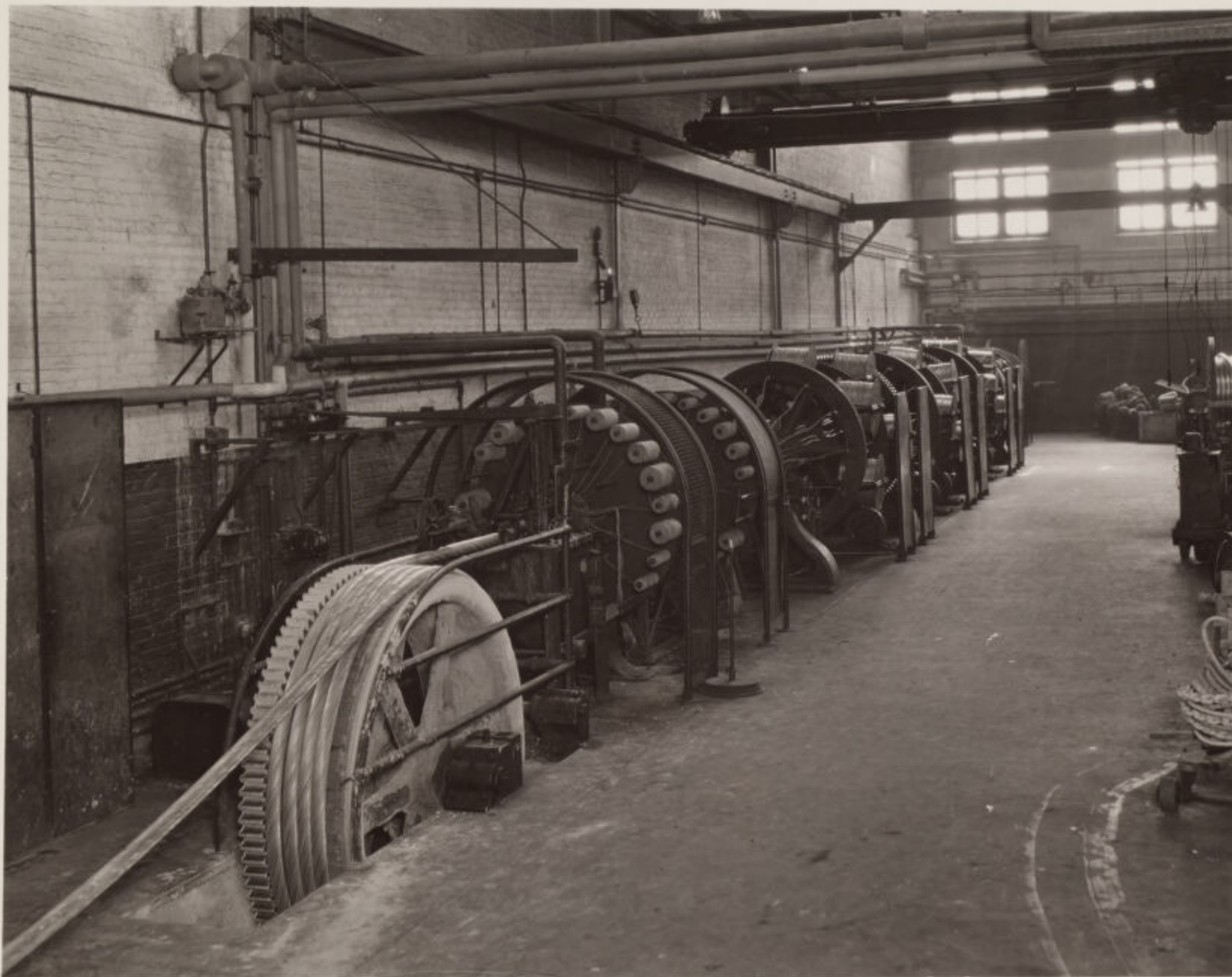
LONG STROKE LEAD SHEATHING PRESS





DIE SINKING MACHINE





SUBMARINE TELEPHONE CABLE ARMORING MACHINE





CABLE STORAGE YARD





RUBBER MOULDING AND VULCANIZING DEPARTMENT





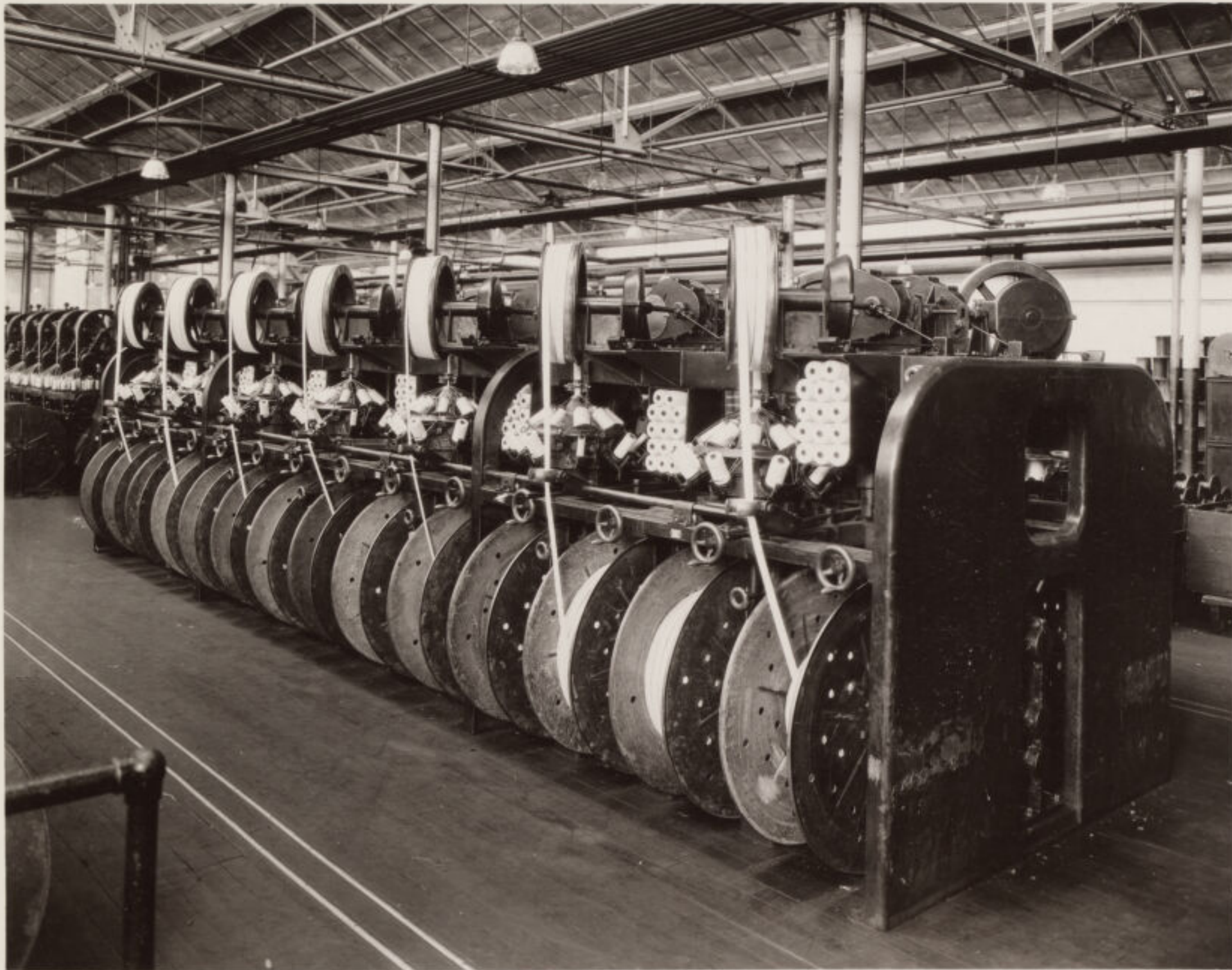
RUBBER DUST MOLDING DEPARTMENT





MAGNET WIRE INSULATING DEPARTMENT





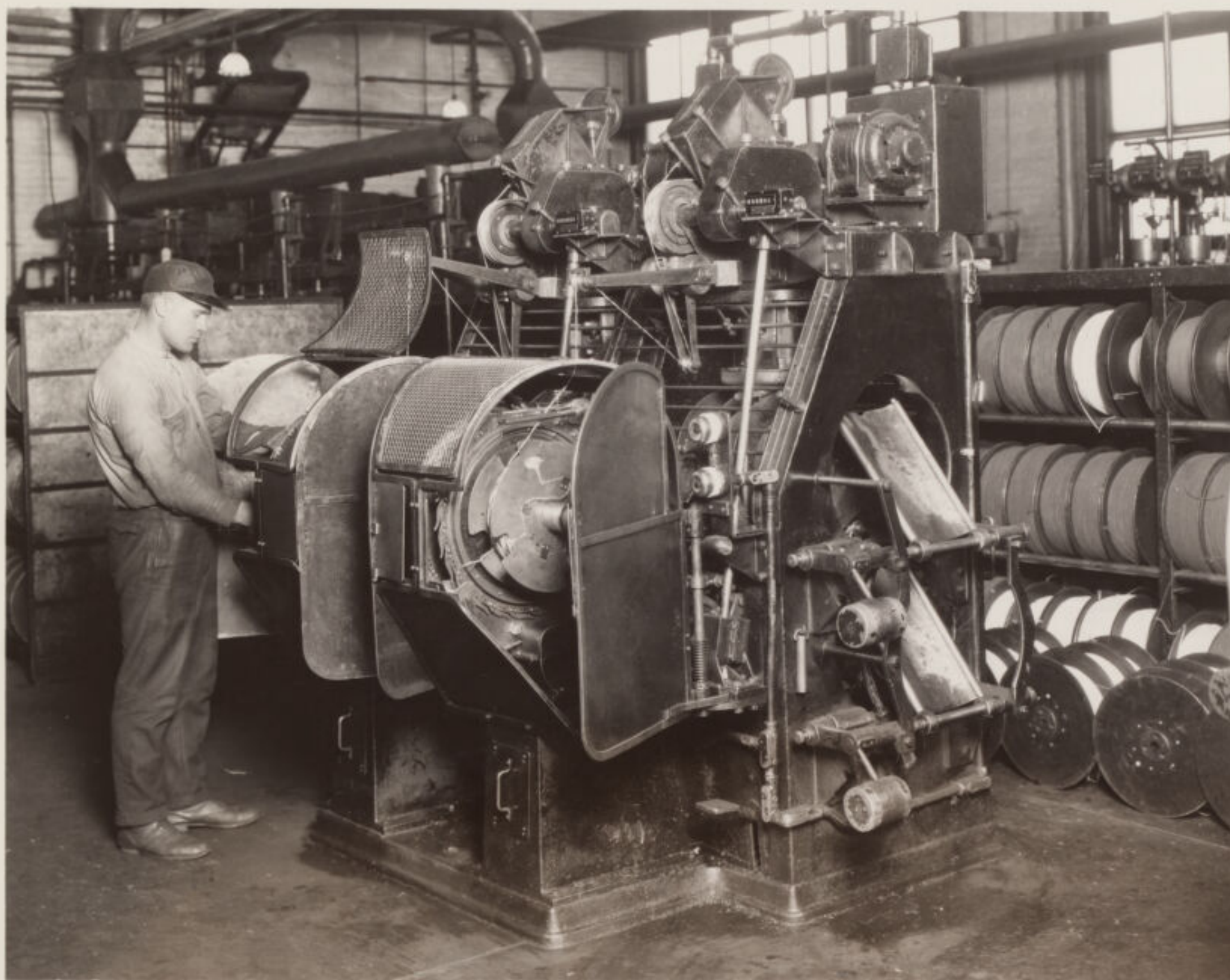
SWITCHBOARD CABLE BRAIDING MACHINES





CORD FINISHING DEPARTMENT





DISTRIBUTING FRAME WIRE TWISTING AND COILING MACHINE





PACKING DEPARTMENT





PACKING DEPARTMENT—SHOWING NAILING MACHINE AND CONVEYOR SYSTEM





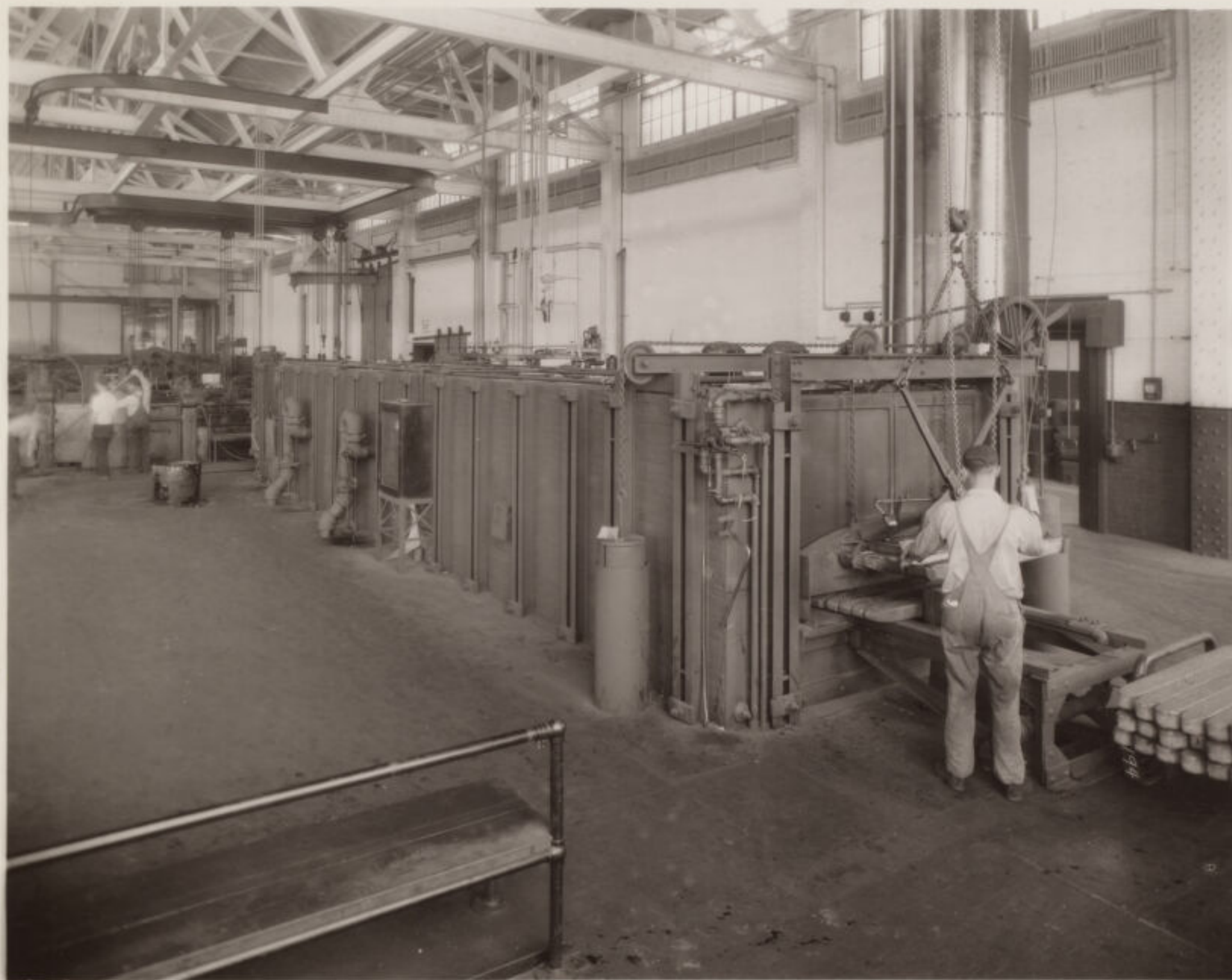
PACKING DEPARTMENT-LOADING CARS FROM CONVEYOR SYSTEM





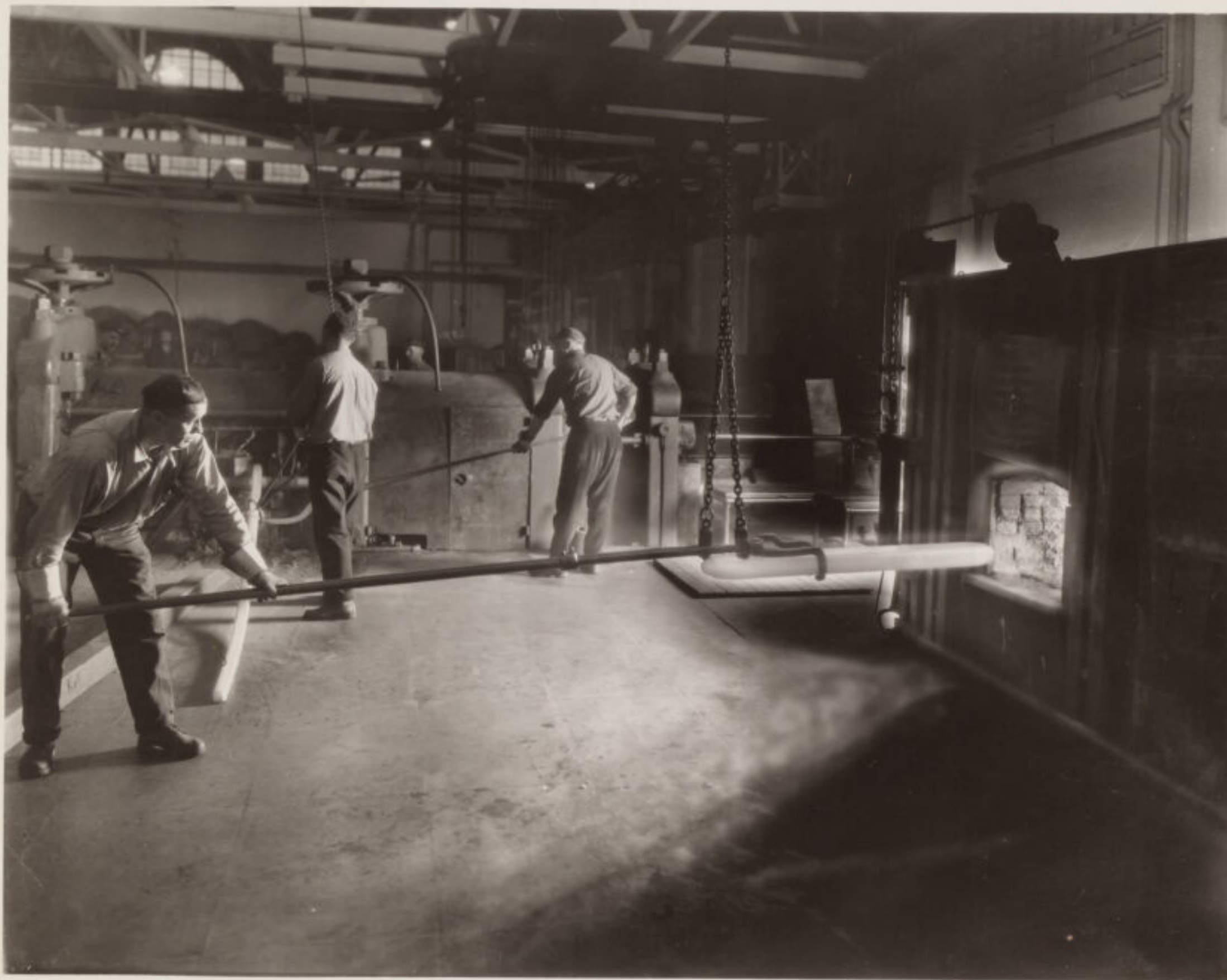
ROD AND WIRE MILL BUILDING FROM THE SOUTHWEST





ROD MILL BILLET HEATING FURNACE





ROUGHING MILL





GENERAL VIEW OF ROD MILL





WIRE MILL-HEAVY WIRE DRAWING MACHINES





WIRE MILL—INTERMEDIATE AND FINE WIRE DRAWING MACHINES





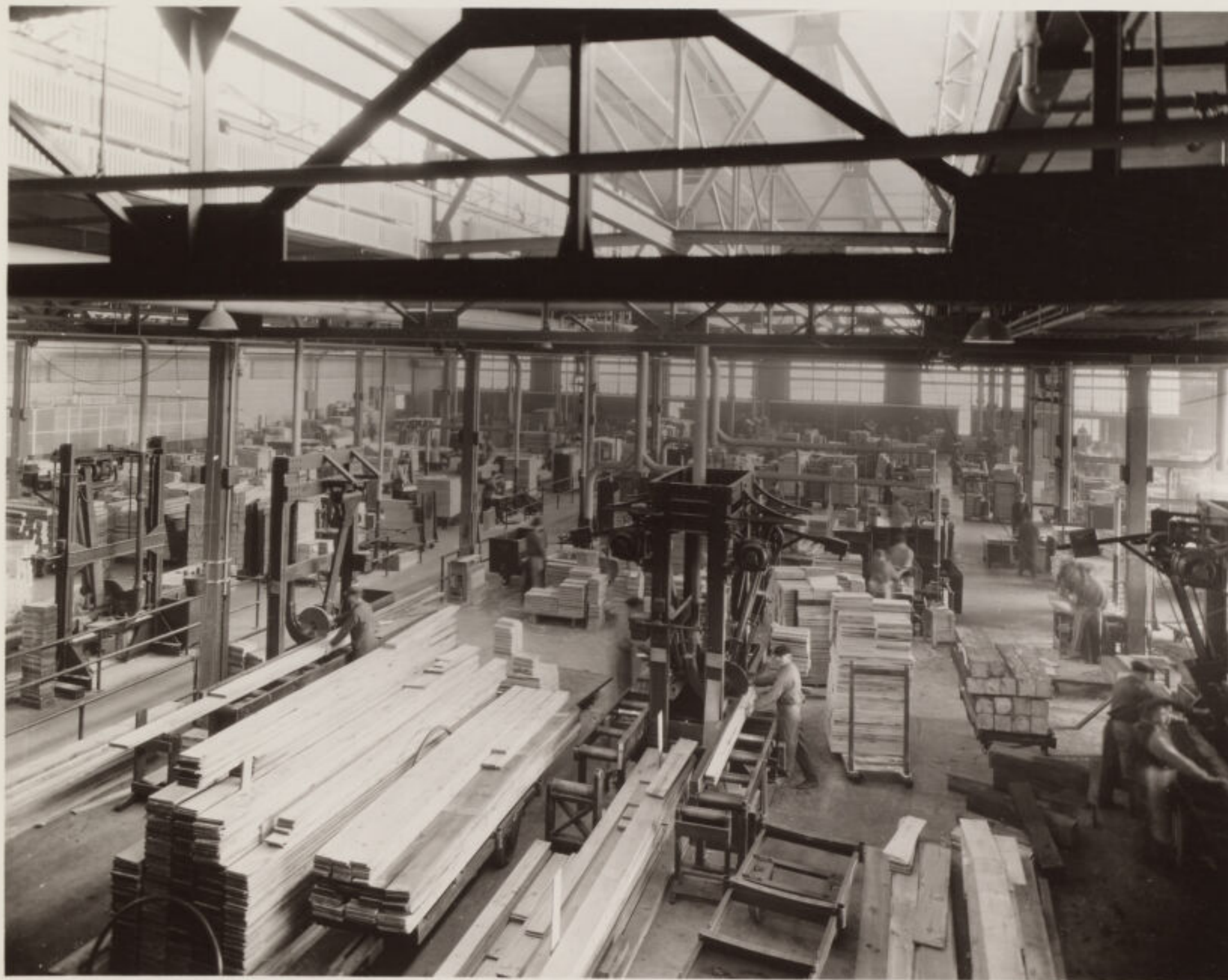
LUMBER STORAGE YARD





ELECTRIC LOCOMOTIVE AND TRACTOR FOR LUMBER YARD





PACKING BOX MANUFACTURING DEPARTMENT





PACKING BOX MANUFACTURING DEPARTMENT





WORKS RESTAURANT





MEMORIAL ATHLETIC FIELD





TRACK AND FIELD EVENTS



GIRLS PLAYGROUND BALL GAME





TRACK AND FIELD EVENTS



GIRLS PLAYGROUND BALL GAME





EMPLOYEES LISTENING TO ADDRESS BY PRESIDENT C. G. DUBOIS OVER THE FIRST  
PERMANENTLY INSTALLED INDUSTRIAL PUBLIC ADDRESS SYSTEM



