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COIN COLLECTORS
50 AND 150 TYPES
INSTALLATION

1. GENERAL

1.01 This section covers the installation of 50 and 150 type coin collectors.

2. SUPPLIES

2.01 The principal supplies needed in connection with the installation of 50 and 150 type coin collectors are listed below. The list does not include minor items such as ground clamps, wire fasteners, tape, etc., which are needed in connection with practically all station installation work. The principal apparatus items required are listed in the section in Division C50 covering description and operation.

Anchors:

5/16" x 2-1/4" Hammer Drive Anchors. Used to attach No. 144C backboards to unfinished masonary walls.

5/16" x 2-3/4" Hammer Drive Anchors. Used to attach No. 144C backboards to finished masonry walls.

1/4" Machine Screw Anchors. Used to attach Nos. 144A or B backboards to masonry walls.

Blocks:

No. 12E Connecting Block.

No. 30B Connecting Block.

No. 30C Connecting Block.

No. 30D Connecting Block.

Bolts:	**3/16" x 1-1/4"—24 Carriage Bolt.** Used with No. 144A backboards. Order 3/16"—24 hexagon nuts separately.
	1/4" x 1-3/4"—20 Step Bolt. Used to mount backboards on walls of contractor shanties, etc. 1/4"—20 hexagon nuts for use with these bolts must be ordered separately.
	1/4" x 8"—20 Step Bolt. Threaded 4". Used to mount backboards on plaster block walls, in oil filling stations, etc. 1/4"—20 hexagon nuts for use with these bolts must be ordered separately.
	1/4" x 4" R. H. Toggle Bolt. Used to mount 144 type backboards on hollow tile walls.
Brace:	**Iron Corner Brace.** For securing shelves, counters, etc.
Nuts:	**1/4"—20 Steel Hexagon Nut.** Used with 1/4" —20 step bolts.
	P-165486 Hexagon Nut. Used with P-201135 R. H. slotless machine screws.
	3/16"—24 Steel Hexagon Nut. Used with 3/16" carriage bolts.
Screws:	**No. 14 F. H. 1-1/4" Bright Wood Screw.**
	No. 14 F. H. 1-3/4" Bright Wood Screw.
	No. 14 F. H. 2-1/2" Bright Wood Screw.
	No. 14 F. H. 3" Bright Wood Screw.
	No. 14 3-1/2" F. H. Bright Wood Screw.
	1/4" x 1-1/2"—20 F. H. Bright Machine Screw.
	1/4" x 2"—20 F. H. Bright Machine Screw.
	1/4" x 3"—20 F. H. Bright Machine Screw.
	P-201135 R. H. Slotless Machine Screw.
Washer:	**P-165490 Lock Washer.**

3. LOCATION

3.01 **General:** The selection of a satisfactory location for a coin collector is an important matter. The location for a public station should always be specified on the service order. If at semi-public stations the service order specifies a location, use that location unless it conflicts with the general rules given in the following paragraphs. If the service order does not specify a location, consult the public telephone agent or the subscriber and agree upon a location that conforms

with the following general rules. Consult your supervisor and obtain instructions before proceeding if a satisfactory location can not be found.

3.02 **Accessibility:** The coin collector should be easily accessible. If possible it should be located where it will be visible from the entrance to the store or other place of business in which it is installed.

3.03 In order that the receiver will always be accessible to the user, coin collectors shall not be placed with the upper right-hand mounting screw less than 13 inches from a wall or other object on the same side as the receiver (except for corner mounting in booths). See Fig. 1.

3.04 **Lighting:** Coin collectors must be located where there is always sufficient light (daylight or artificial light) for dialing, for inserting coins properly and for reading the instruction cards.

3.05 **Hazards:** The location selected for a coin collector shall be such that users, installers and repairmen will not be subject to injury or inconvenience and where the coin collector will not be subject to damage. Avoid locations near trap doors or stairs leading to lower floors and locations near moving or movable objects such as doors, piled merchandise, moving machinery, oily or dirty objects, etc. Do not locate a coin collector in a narrow passageway or similar place through which objects are carried or trucked.

3.06 Avoid locations where a person while using the coin collector can come in contact with or have access to lighting fixtures or appliances, radiators, pipes, etc.

3.07 Coin collectors shall not be located where customers by dropping the receiver or due to other reasons can easily damage glass show cases or other similar property.

3.08 **Noise and Vibration:** Coin collectors should not ordinarily be located where noise and vibration are likely to interfere with telephone conversations. Anti-sidetone equipment should be used, whenever it is necessary to install a coin collector at a noisy location.

3.09 **Security of Mounting:** In selecting a location for a coin collector consider carefully the security of the mounting arrangements that can be provided as the necessity for mounting coin collectors in such a way that they can not be removed by unauthorized parties can not be too strongly emphasized. Avoid any location where the fasteners for the backboard or coin collector can not be placed in a solid backing as shown in Figs. 4 to 17. Round columns and other loca-

tions where the coin collector can easily be pried off are especially undesirable. If possible, avoid horizontal surfaces when vertical surfaces for mounting are available.

3.10 **Finely Finished Surfaces:** If coin collectors must be located on finely finished surfaces such as marble counters or walls, consent in writing to drill such surfaces must be obtained from the Public Telephone Agent, subscriber or owner of the building. If the surface to be drilled would be expensive to repair in case the coin collector is later removed by unauthorized parties consult your supervisor and obtain instructions before proceeding with the installation.

4. MOUNTING

4.01 **General:** Coin collectors must be securely mounted to prevent unauthorized removal. It is, therefore, extremely important to follow the methods given in the following paragraphs and to use the full number and the type of fasteners specified. Always make sure that the coin collector is mounted plumb and that each fastener is secure.

4.02 Wood backboards shall be used in all cases except in metal or wooden booths which have been designed to permit mounting without a backboard and in cases where the coin collector can be mounted on a smooth vertical wooden surface with the edges of the coin collector in contact with the mounting surface all the way around.

4.03 **Height:** The proper height for mounting coin collectors is shown in Fig. 1.

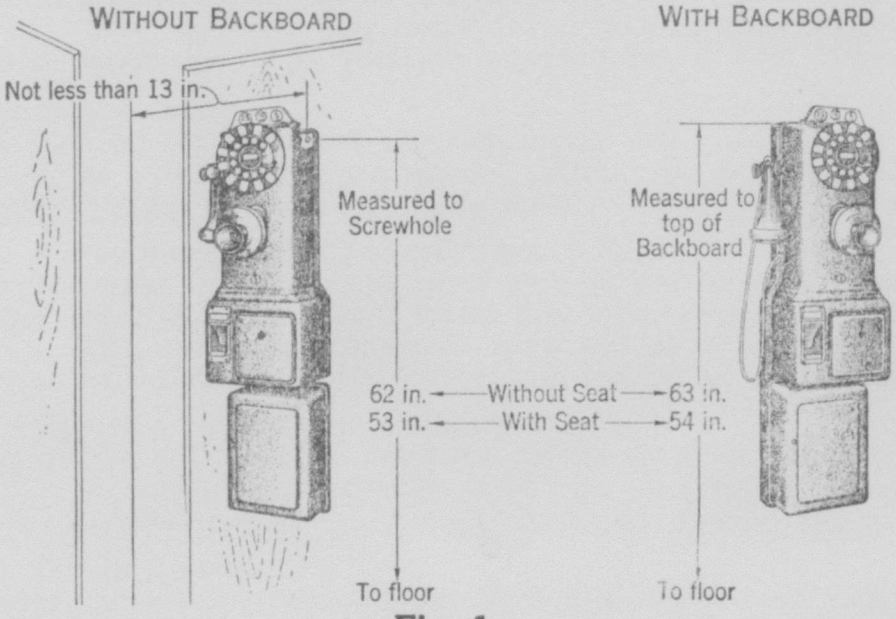


Fig. 1.

Backboards

4.04 **139A backboards** shall be used for mounting coin collectors on horizontal surfaces. If the support upon which the backboard is to be mounted can be readily tilted or moved securely fasten the support with iron corner braces, screws or other suitable means after obtaining permission from the owner or other responsible person.

4.05 Fasten the backboard to its support with four screws inserted through the four corner holes in the base of the backboard. On hard wood use No. 14 1-1/4" F. H. bright wood screws, on soft wood use No. 14 1-3/4" F. H. bright wood screws and on marble or other masonry use 1/4" x 1-1/2"—20 F. H. bright machine screws in 1/4" machine screw anchors or approved equivalents.

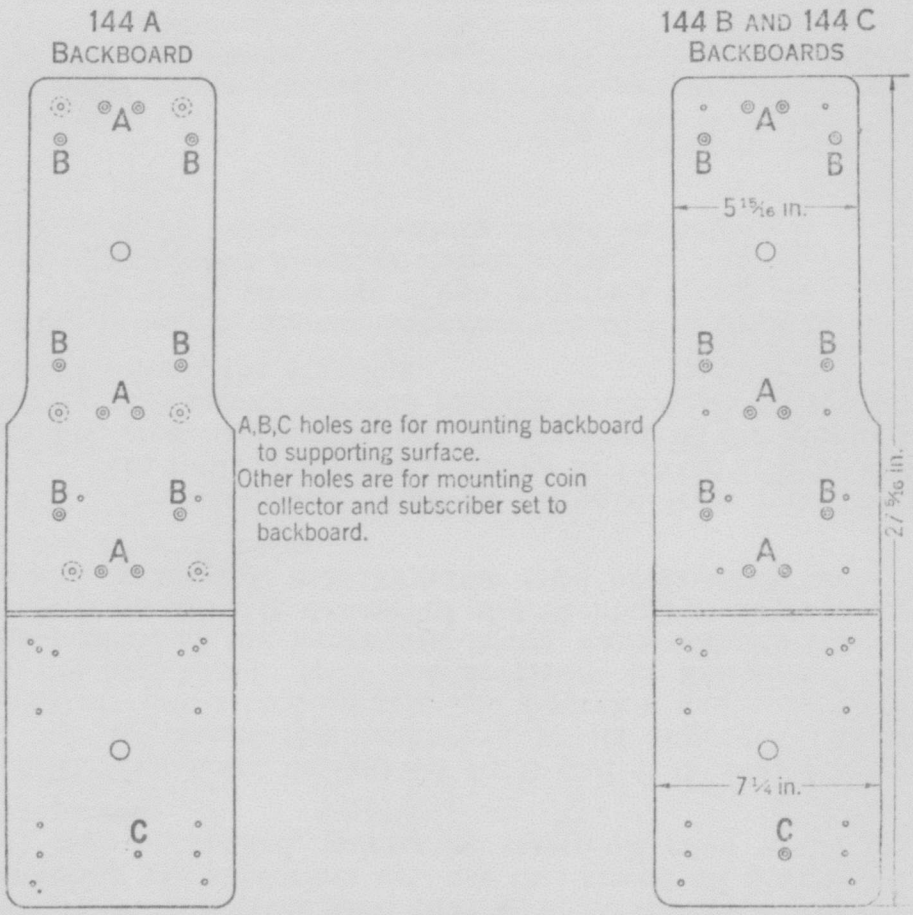


Fig. 2.

4.06 **144 type backboards** shall be used where required for mounting coin collectors on vertical surfaces. If the lower part of the backboard must be removed for any reason, saw it off along the saw cut. If a backboard is needed for mounting the subscriber set, use this sawed off portion of the 144 type backboard, unless the sawed-off edge would be too conspicuous.

4.07 The holes designated A, B and C in Fig. 2 are used to mount the backboard to its support. The other holes are for attaching the coin collector and subscriber set to the backboard. It is not necessary to use hole C unless the bottom of the backboard is not flush with its supporting surface or there is danger of the backboard warping. If the C hole is needed, use the same type of fastener as is used in the A or B holes.

4.08 The backboard must be fastened to a solid support. On walls containing studding or furring 7/8" or thicker the 144 type backboard shall be fastened to the studding or furring with screws inserted through holes A. Point the screws inward toward the studding.

4.09 Find the approximate location of the studding or furring by sounding. Then definitely locate its edges by drilling small test holes as shown in Fig. 3. Similar test holes may be drilled near the bottom of the backboard if required.

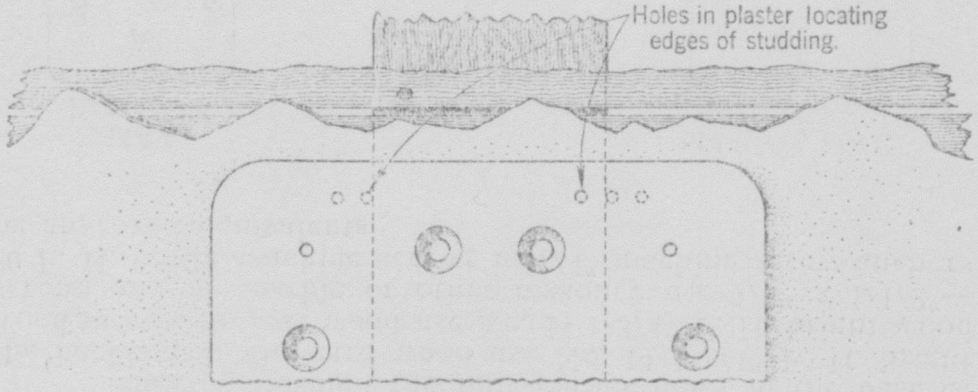


Fig. 3.

4.10 When on metal sheathed walls the location of the studding or furring is not evident from sounding or from nails fastening the sheathing or the base-board it may be necessary to loosen a section of molding and bore test holes through the sheathing underneath in order to locate the stud-

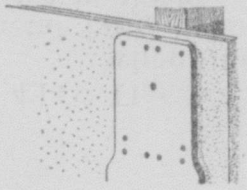
ding or furring. In these cases a fish wire may be inserted through a test hole and used as a measuring device to locate the studding or furring.

4.11 Always replace moldings loosened for making the above tests and always make sure that no sharp edges or loose nails are left to injure anyone cleaning or coming in contact with the repaired surface.

4.12 After having located the studding or furring, center the backboard over the studding or furring, making sure that the upper right-hand mounting screw hole for the coin collector is at the proper height as shown in Fig. 1. Then using the backboard as a template, mark the location of holes A on the mounting surface. If a 144A backboard is to be used, see 4.21 before mounting.

4.13 Drill starting holes for the screws and mount the backboard making sure that a screw is placed in each hole and that each screw or other fastener is secure. The proper type and size of fasteners to be used are listed in connection with Figs. 4 to 6.

WOOD OR METAL LATH ON STUDDING



Fasten backboard to studding or furring with No. 14 3" F. H. bright wood screws through holes A.

METAL SHEATH ON 3/8 IN. SOLID WOOD OVER LATH AND PLASTER ON 7/8 IN. FURRING

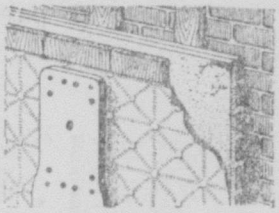
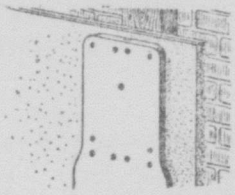
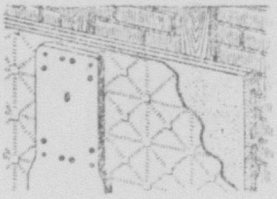


Fig. 4.

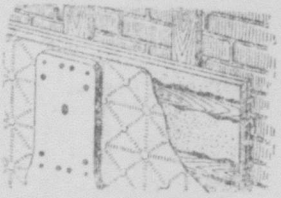
WOOD OR METAL LATH ON FURRING



METAL SHEATH OVER LATH AND PLASTER ON 7/8 IN. FURRING



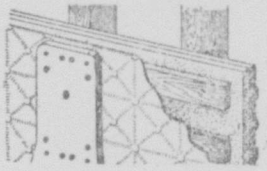
METAL SHEATH ON 7/8 IN FURRING OVER LATH WITH PLASTER BETWEEN



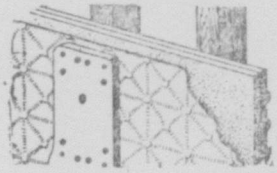
Fasten backboard to furring with No. 14 2-1/2" F. H. bright wood screws through holes A.

Fig. 5.

METAL SHEATH ON 3/8 IN. FURRING OVER LATH AND PLASTER

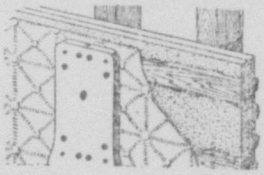


METAL SHEATH ON LATH AND PLASTER



Fasten backboard to studding with No. 14 3-1/2" F. H. bright wood screws through holes A.

METAL SHEATH ON 7/8 IN. FURRING OVER LATH WITH PLASTER BETWEEN



METAL SHEATH ON 3/8 IN. SOLID WOOD OVER LATH AND PLASTER

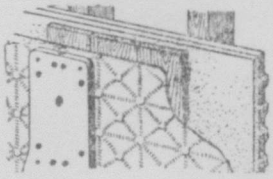
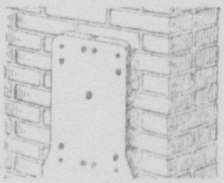


Fig. 6.

4.14 The B holes in the 144 type backboard shall be used when the backboard is to be mounted on masonry, metal lath, hollow tile, plaster blocks, wood surface 7/8" or more in thickness and in all other cases where the use of the B holes will result in a more secure mounting than holes A. This, of course, does not include cases where the wall construction is of the type illustrated in the preceding Figs. 4 to 6.

4.15 The following Figs. 7 to 17 and associated instructions show the principal types of wall construction on which 144 type backboards are mounted with fasteners through the B holes. Follow the instructions given with the figures making sure that a fastener is placed in each of the B holes and that each is secure. If a 144A backboard is to be used, see 4.21 before mounting.

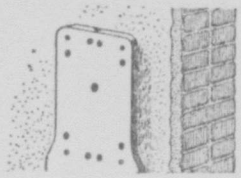
MASONRY NOT PLASTERED



For No. 144C backboard use 5/16" x 2-1/4" hammer drive anchors through holes B. Drill bricks with 5/16" masonry drill. For No. 144A or B backboard use 1/4" x 2"—20 F. H. bright machine screw in 1/4" machine screw anchors. Drill bricks with 1/2" masonry drill. Place machine screw anchors flush with face of masonry.

Fig. 7.

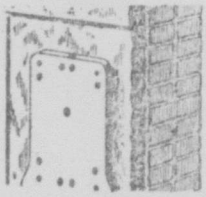
MASONRY PLASTERED



For the No. 144C backboard use 5/16" x 2-3/4" hammer drive anchors through holes B. Use 3/8" twist drill through plaster, then drill bricks with 5/16" masonry drill. For No. 144A or B backboard use 1/4" x 3"—20 F. H. bright machine screw in 1/4" machine screw anchors. Use 5/8" twist drill through plaster, then drill bricks with 1/2" masonry drill. Place machine screw anchors flush with face of brick.

Fig. 8.

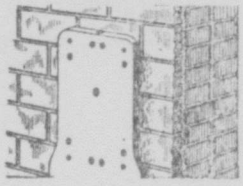
MARBLE



For No. 144C backboard use 5/16" x 2-1/4" hammer drive anchors through holes B. Use 3/8" twist drill through marble, then drill bricks with 5/16" masonry drill. For No. 144A or B backboard use 1/4" x 2"—20 F. H. bright machine screws in 1/4" machine screw anchors through holes B. Use 5/8" twist drill through marble. Drill bricks with 1/2" masonry drill. Place machine screw anchors flush with face of marble.

Fig. 9.

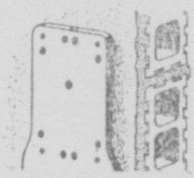
GLAZED TILE ON BRICK



For No. 144C backboard use 5/16" x 2-3/4" hammer drive anchors through holes B. Use 3/8" twist drill through tile then drill bricks with 5/16" masonry drill. For No. 144A or B backboard use 1/4" x 3"—20 F. H. bright machine screws in 1/4" machine screw anchors. Use 5/8" twist drill through tile. Drill bricks with 1/2" masonry drill. Place machine screw anchors flush with face of brick.

Fig. 10.

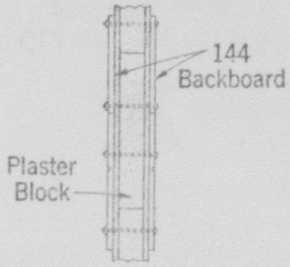
HOLLOW TILE



Use 1/4" x 4" R. H. toggle bolts through holes B. Use 3/4" twist drill through plaster. Drill hollow tile with 1/2" masonry drill and then ream hole in tile to 3/4".

Fig. 11.

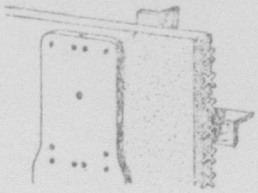
PLASTER BLOCK



Place a backboard on each side of the wall and fasten with 1/4" x 8" step bolt through holes B and C. Place nuts on side where coin collector is mounted. Cut off excess length of bolt. Use 1/4" twist drill for making holes through wall. Use this same mounting arrangement for cinder block, inferior concrete block and other types of wall construction where weakness of the wall is evident.

Fig. 12.

METAL LATH ON METAL FRAMEWORK



Use 1/4" x 4" R. H. toggle bolts in holes B. Use 3/8" twist drill for drilling holes through tile, then enlarge holes by using 3/4" twist drill.

GLAZED TILE ON METAL LATH

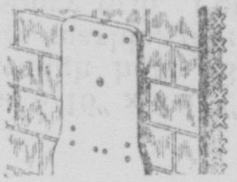
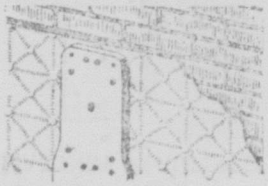


Fig. 13.

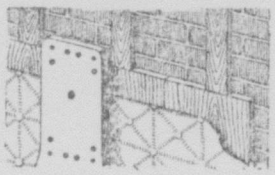
METAL SHEATH ON BRICK



For 144C backboard use 5/16" x 2-1/4" hammer drive anchors through holes B. For 144A or B backboard use 1/4" x 2"—20 F. H. bright machine screws in 1/4" machine screw anchors. Place machine screw anchors flush with face of brick.

Fig. 14.

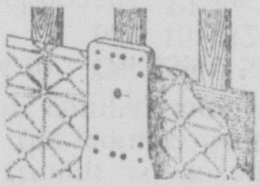
METAL SHEATH ON ⅜ IN. SOLID WOOD OVER BRICK



For 144C backboard use 5/16" x 2-3/4" hammer drive anchors through holes B. Use 3/8" twist drill through sheath and wood then drill masonry with 5/16" masonry drill. For 144A or B backboards use 1/4" x 2-1/2"—20 F. H. bright machine screws in 1/4" machine screw anchors. Drill metal sheath and wood with 5/8" or 3/4" twist drill and then drill masonry with 1/2" masonry drill. Place machine screw anchors flush with face of brick.

Fig. 15.

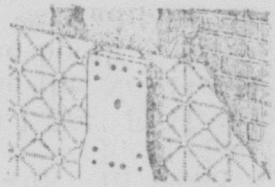
METAL SHEATH ON ⅜ IN. SOLID WOOD



Use No. 14 1-3/4" F. H. bright wood screws through holes B. Be sure that screws do not enter space between boards. In some walls backing is only shoulder high. In such cases place the backboard so that the upper holes A are centered over furring as shown and at the top place screws through holes A instead of holes B.

Fig. 16.

METAL SHEATH ON ⅜ IN. FURRING OVER BRICK WITH PLASTER BETWEEN



For 144C backboard use 5/16" x 2-3/4" hammer drive anchors through holes B. For 144A or B backboard use 1/4" x 3" —20 F. H. bright machine screws in 1/4" machine screw anchors. Place machine screw anchors flush with face of brick.

Fig. 17.

4.16 **No. 153A-3 or No. 153A-13 backboards** are used for mounting coin collectors in the corner of telephone booths as covered in the section entitled Telephone Booths—1, 2, 5, and 6 Types—Installation.

Coin Collectors

4.17 When a coin collector is to be mounted without a backboard locate the upper right-hand mounting hole by measuring as shown in Fig. 1 and drill a starting hole for the screw. Hold the coin collector in place on the wall and fasten it with a screw in the starting hole. Make sure the coin collector is in a true vertical position and then drill starting holes and place the remaining screws that are required.

4.18 In wood booths and in hard wood use No. 14 1-1/4" F. H. bright wood screws and in soft wood use No. 14 1-3/4" F. H. bright wood screws. In open type metal booths use the No. 14—20 x 3/4" F. H. machine screws furnished with the booth.

Caution: In contractor shanties, oil filling stations, etc., never mount a coin collector without a backboard. Never mount a coin collector on a window or door facing either with or without a backboard.

4.19 If the coin compartment of the coin collector is open at the time of installation place four screws in the mounting holes in the coin compartment and two in the upper mounting holes of the coin collector back. If the coin compartment is closed place four screws in the mounting holes in the coin collector back. The four screws required in the coin compartment will be added later by the collector.

4.20 **On 139A backboards** mount the coin collector with the No. 10—32 x 3/4" machine screws furnished with the backboard. Place four screws in the back of the coin collector and place one in the bottom of the coin compartment if it is open. If the coin compartment is closed the screw will be added later by the collector.

4.21 **If a 144A backboard** is used place six 3/16" x 1-1/4" carriage bolts or approved equivalent in the six counter bored holes as shown in Fig. 18 and tighten the nuts securely before the backboard is mounted. Mount the backboard and then fasten the coin collector to the backboard using nuts on as many of the bolts as are accessible. If the coin compartment is open place two No. 14 1-1/4" F. H. bright wood screws in the two upper mounting holes. If the coin compartment is closed the fasteners required therein will be added later by the collector.

4.22 **If No. 144B or C backboards** are used fasten the coin collector to the backboard with No. 14 1-1/4" F. H. bright wood screws. If the coin compartment is open place four screws in the coin compartment and two in the top holes of the coin collector back. If the coin compartment is closed use four screws in the coin collector back. The four screws needed in the coin compartment will in this case be added later by the collector.

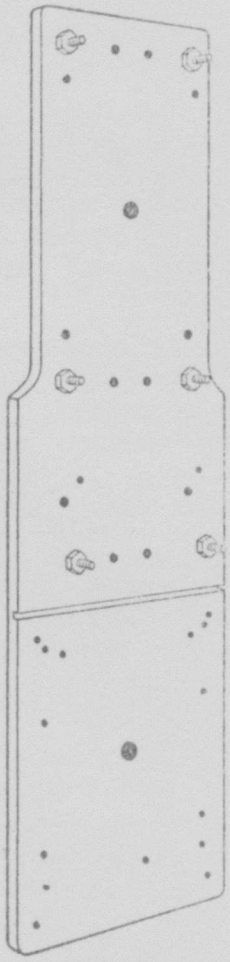


Fig. 18.

4.23 **On 153 type backboards** fasten coin collectors with the 1/4" x 3/4"—20 machine screws furnished with the backboards. If the coin compartment is open place four screws in the coin compartment and two in the top holes in the coin collector back. If the coin compartment is closed place four screws in the coin collector back. The four screws needed in the coin compartment will be added later by the collector. The card holder can be mounted on the backboard with the screws furnished for this purpose.

Subscriber Set

4.24 The subscriber set associated with a 50 or 150 type coin collector shall be mounted as covered in the section entitled "Subscriber Sets—Types for Indoor Locations—Installations."

5. WIRING

5.01 **Select wire** and place it in accordance with the sections in Division C20 and in addition follow the instructions given in the following paragraphs.

5.02 **Conceal the wiring** near the coin collector. Where this is not practicable, consider using an approved molding to cover the wiring. If molding is not considered necessary, tape the wiring with friction tape.

5.03 **A separate signaling ground wire** must be provided between each coin collector and the connecting block, protector or cable terminal. From connecting block or protector to ground one station ground wire is satisfactory for six or less signaling grounds from coin collectors. One cable pair is also adequate for 6 or less signaling grounds from coin collectors. If there are more than 6 coin collectors use a No. 14 ground wire between connecting block, protectors or cable terminal and grounding point or use additional cable pairs if cable pairs are being used for this purpose.

5.04 **Tag the signaling ground wire** at the coin collector giving the location of the ground connection unless a common grounding point such as a ground strip in a terminal box is used.

5.05 **Locate connecting blocks,** protectors or other terminating apparatus where it will not be accessible to a person using the coin collector. In the case of contractor shanty installations, oil filling station installations, and in other similar cases it may be necessary to locate the protector outside. See the instructions for station and P.B.X. protector installation.

5.06 **Cable** is generally used between telephone booths and the terminal point of the outside, house, or underground line conductors whenever the installation consists of six or more booths in one group or if there are four or five booths in one group and such consideration as appearance, inadequate conduit or extensive or difficult fishing in walls or partitions makes the use of cable desirable.

5.07 Where cable is used, terminate the cable on a suitable connecting block installed near the booths or on top of the ceiling of closed type booths as shown in Fig. 19. Use a building cable terminal to house the connecting block in all cases where it is readily accessible to persons using the coin collectors.

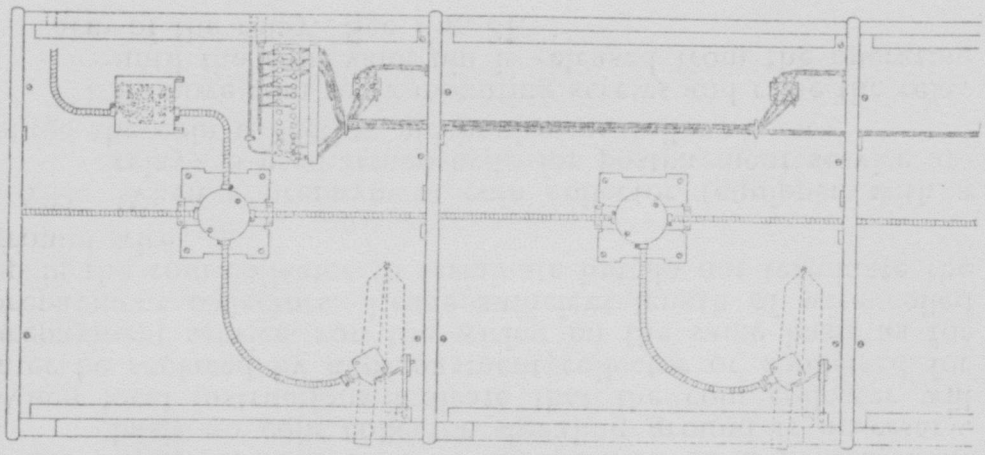


Fig. 19.

5.08 One station ground wire is adequate for 6 coin collectors. In cases where there are more than 6 coin collectors in a group, run a No. 14 ground wire from the connecting block to a ground clamp properly located unless it is impracticable to run a separate ground wire or the terminal or cross-connecting box to which the cable is run is provided with or is near a ground connection. Under such conditions use a cable pair for signaling ground from the connecting block on top of or near the first booth to terminal or cross-connecting box. One such cable pair will be adequate for signaling ground for each group of 6 or less booths.

5.09 In determining the size of cable to use be sure to consider the possibility of growth. The following table lists the size of cable and connecting blocks that are generally used and the number of coin collectors that each will accommodate assuming that one spare pair is retained for maintenance reasons.

Using Separate Ground Wire	Using Cable Pair for Ground	Cable No. Pairs	Connecting Block No.
Up to 5	Up to 4	6	30-B (11 pairs)
6 to 10	5 to 8	11	30-C (16 pairs)
11 to 15	9 to 12	16	30-D (21 pairs)

5.10 When a booth is furnished equipped with a connecting block and the wiring for the coin collector and subscriber set, it is necessary to wire only from the connecting block on the top of the ceiling of the booth to the cable ter-

minal, protector or other terminating point for the line wires and signaling ground connections. (See Fig. 19.)

5.11 In the case of additions to existing booth installations it may be necessary to install a 12 type connecting block on top of the ceiling of the entrance booth as shown in Fig. 20.

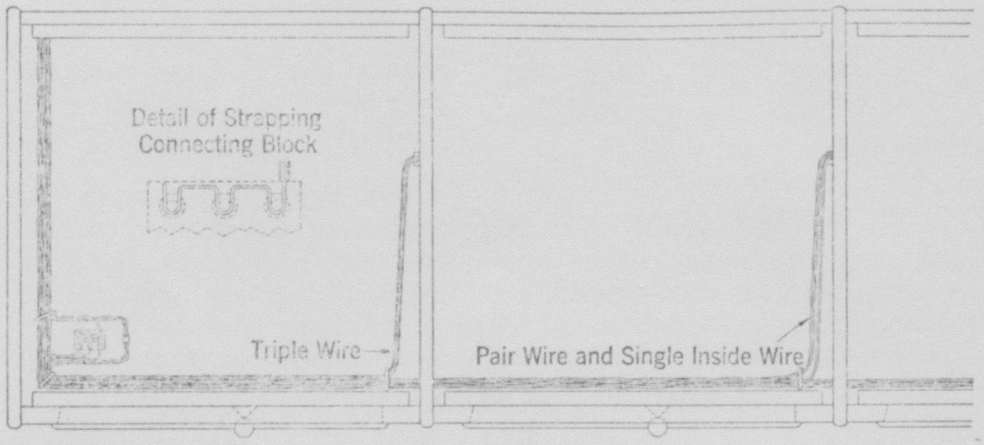


Fig. 20.

5.12 When terminating wires at the coin collector always run the tip and ring conductors into the subscriber set and the signaling ground wire into the coin collector. Run three conductors from subscriber sets to 50 type coin collectors and four conductors from subscriber sets to 150 type coin collectors. See other sections in Division C50 for connections.

6. POSTPAYMENT INSTALLATIONS

6.01 When a coin collector is operated on a postpayment basis no coin collector signaling ground is necessary. When local instructions indicate that the coin collector will later be replaced by a prepayment collector or converted for prepayment service, run the wiring on the same basis as for prepayment collectors. Leave sufficient length of wire coiled up in the coin collector to terminate but do not terminate the ground wire.

6.02 When a prepayment coin collector (equipped with a relay) is used temporarily for postpayment service arrange the coin collecting mechanism as follows:

(1) Remove coin relay mounting screws and raise the relay until the coin vane pin is released from the operating arm of the relay. See Fig. 21.

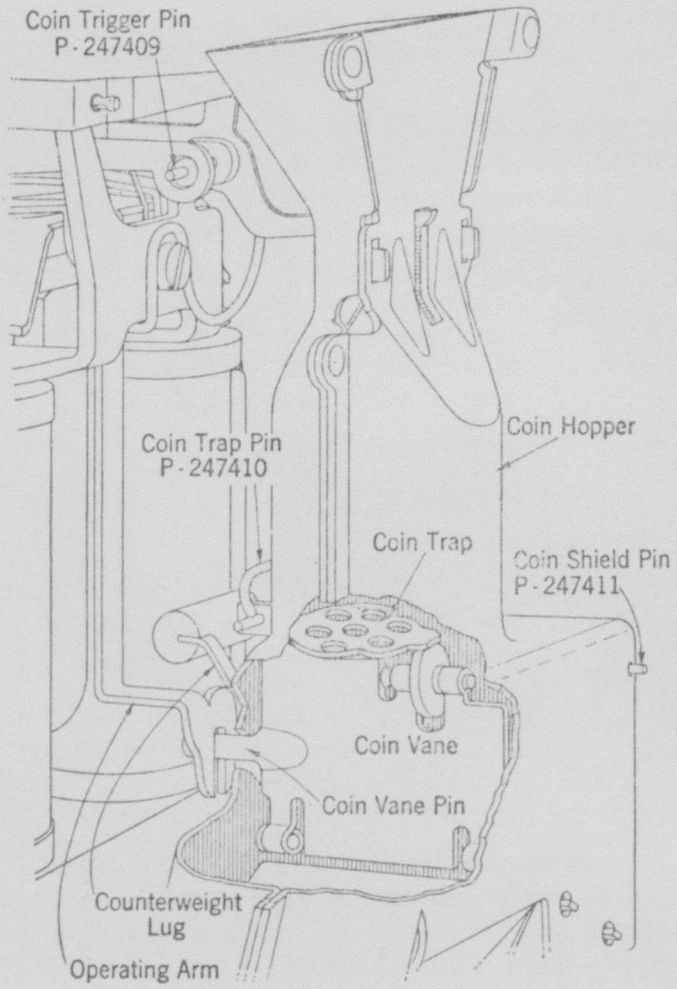


Fig. 21.

(2) Facing the coin collector place the coin vane pin to the left of the operating arm of the relay so that all coins deposited will fall into the coin receptacle.

(3) Replace the coin relay mounting screws so as to hold the relay in place.

(4) Disconnect the black wire from the right-hand terminal of the coin relay and connect it under the screw on the ground contact spring assembly along with the blue wire already connected under the screw.

(5) Terminate the signaling ground wire the same as for a prepayment installation.

7. NO. 1B CARD HOLDER

7.01 To install a 1B card holder on coin collectors operating on a dial basis proceed as follows:

(1) Remove upper housing.

(2) Remove the code number plate. If the plate is fastened with machine screws and nuts save these. If the number plate is fastened with rivets file off the heads and drive them out. Be careful not to damage the upper housing and make sure that none of the rivets lodges in the coin chute.

(3) If the number plate is fastened with rivets ream out the holes in the number plate and the upper housing with a No. 31 drill.

(4) Place the base of the card holder in the space formerly occupied by the code number plate.

(5) Place the code number plate on the base of the card holder and fasten both to the upper housing with the machine screws and nuts previously used to fasten the code number plate or with new P-201135 R.H. slotless machine screws, P-165486 hexagon nuts and P-165490 lock washer. Place the washers under the screw heads and the nuts inside of the upper housing. See Fig. 22.

(6) Place upper housing on the coin collector.

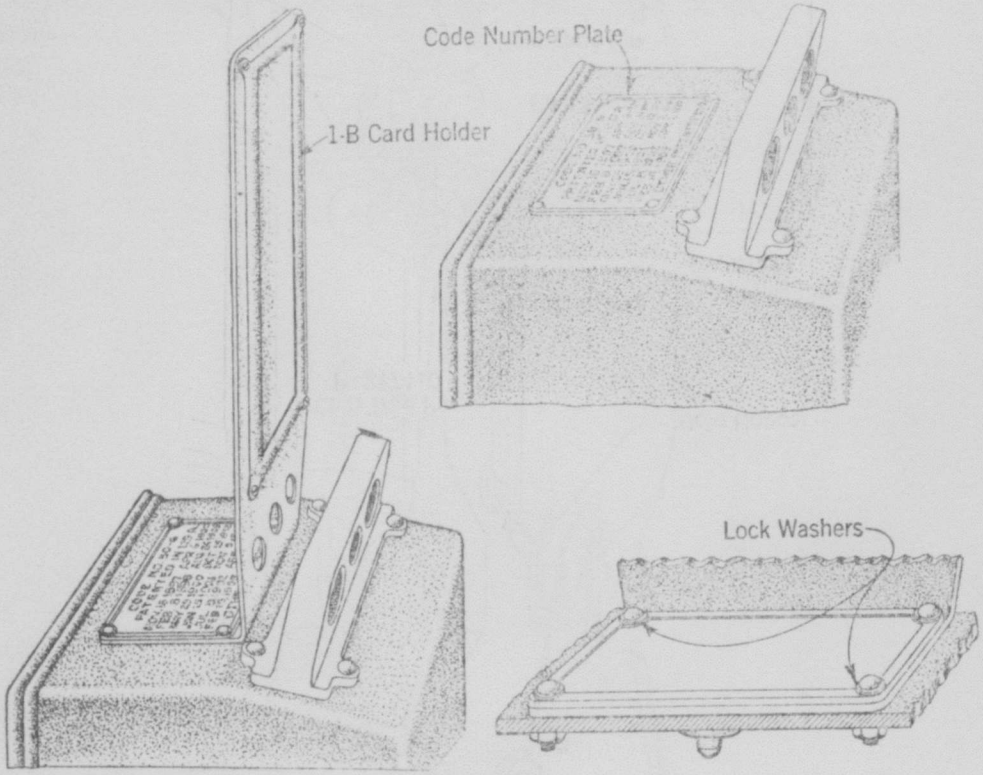


Fig. 22.

8. TESTS

8.01 Make operation tests in accordance with the sections in Division C60.

9. NO. 126A NUMBER PLATE

9.01 If the coin collector is not ready for service when the installation work is completed place a No. 126A number plate on the coin gauge to prevent customers from depositing coins.