Aug. 7, 1951 G. R. D. PETTINGELL 2,563,268

CEILING DUCT SYSTEM

Filed Aug. 26, 1946 3 Sheets-Sheet 1

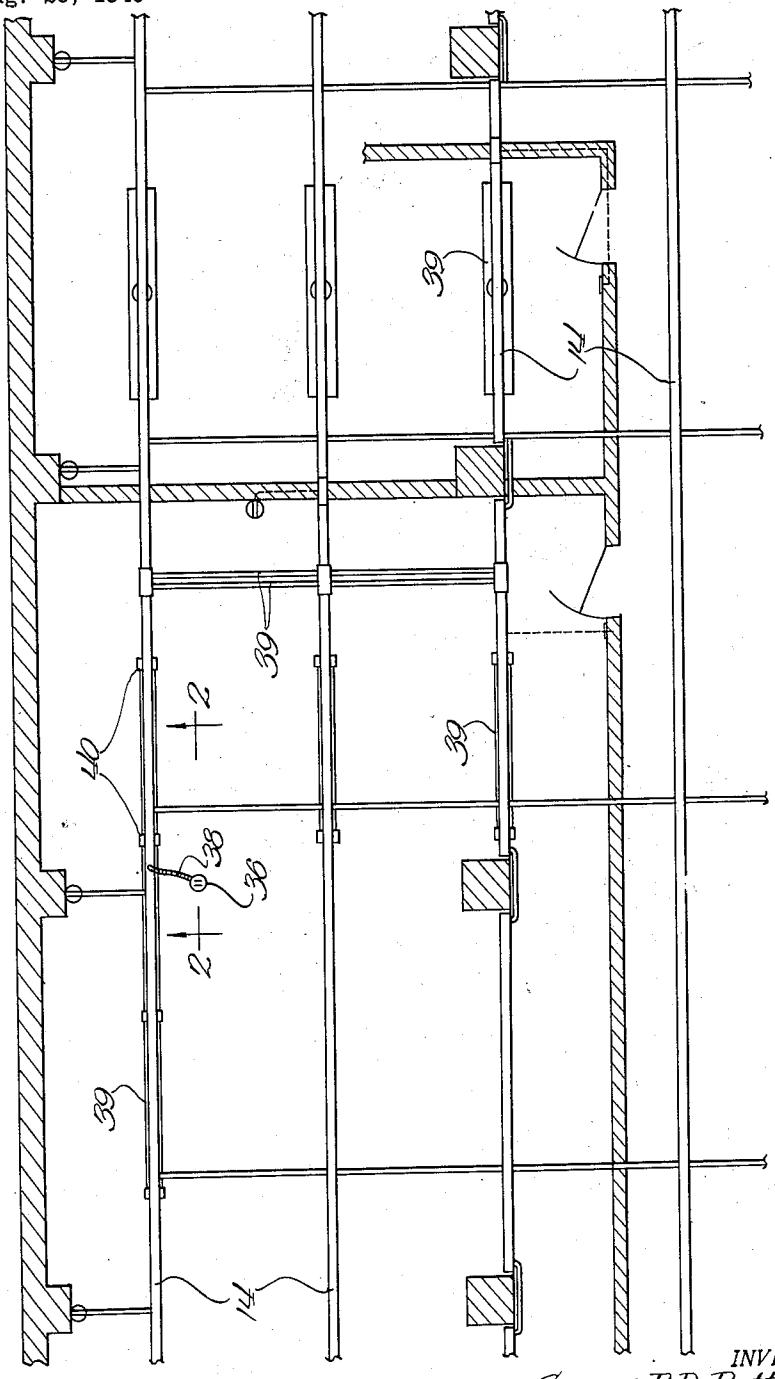


Fig. 1

INVENTOR.
George R. D. Pettingell
BY
ATTORNEY

Aug. 7, 1951 G. R. D. PETTINGELL 2,563,268

CEILING DUCT SYSTEM

Filed Aug. 26, 1946 3 Sheets-Sheet 2

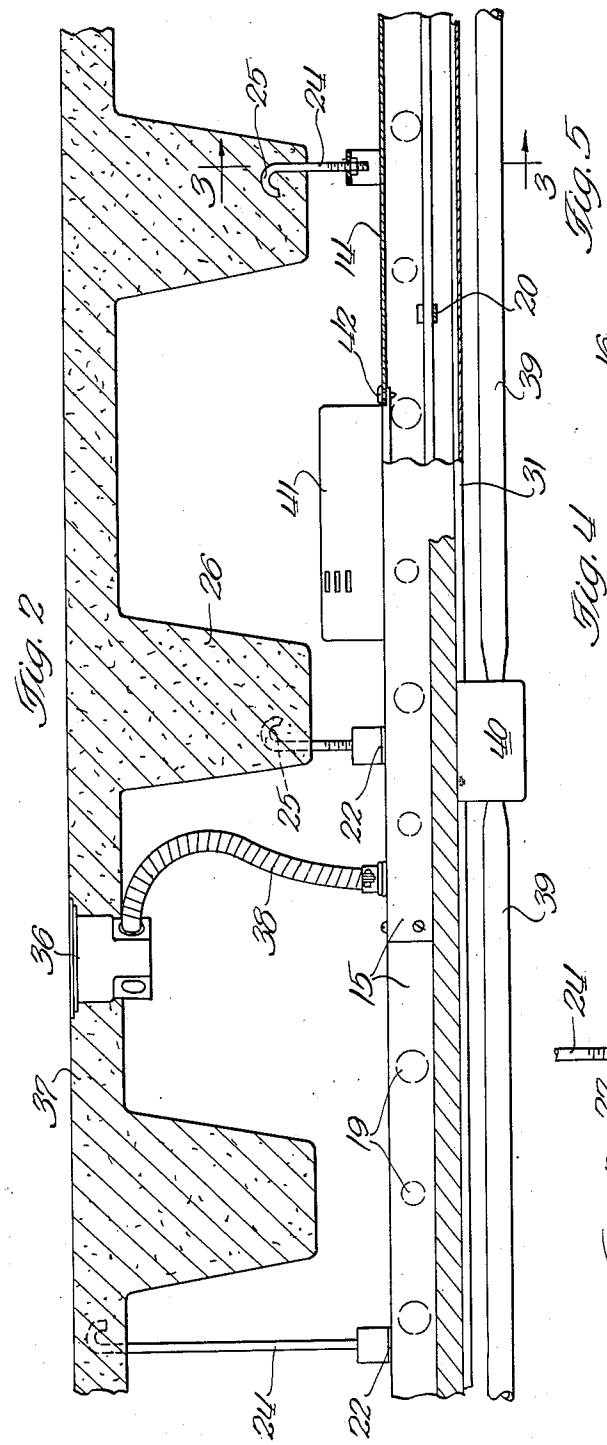


Fig. 2

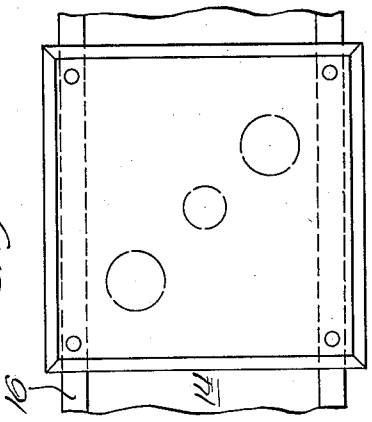


Fig. 5

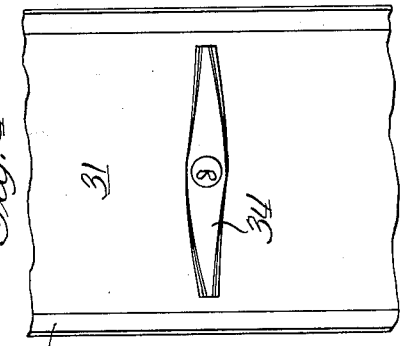


Fig. 4

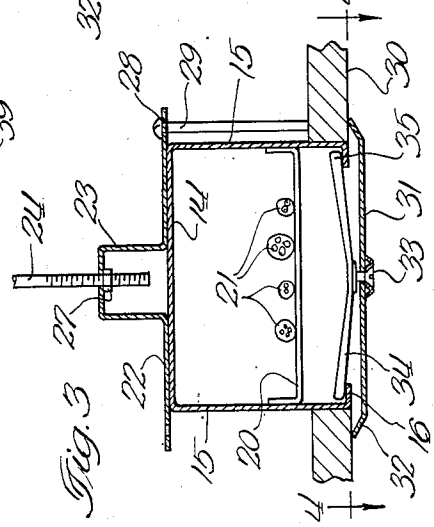


Fig. 3

INVENTOR.
George R.D. Pettingell
BY
E. B. Richenbeuel.
ATTORNEY

Aug. 7, 1951 G. R. D. PETTINGELL 2,563,268

CEILING DUCT SYSTEM

Filed Aug. 26, 1946 3 Sheets-Sheet 3

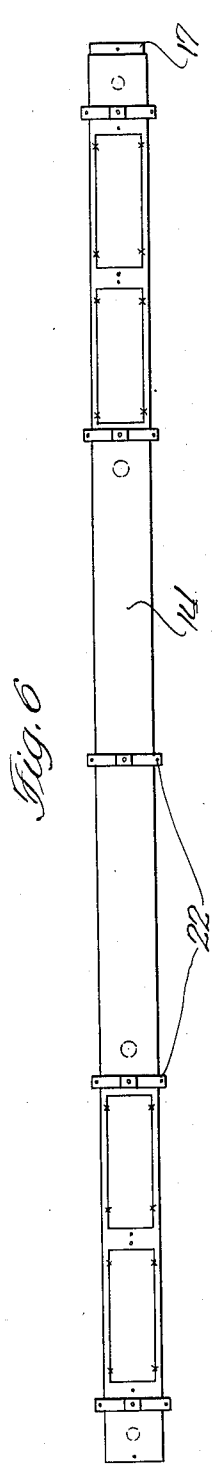


Fig. 6

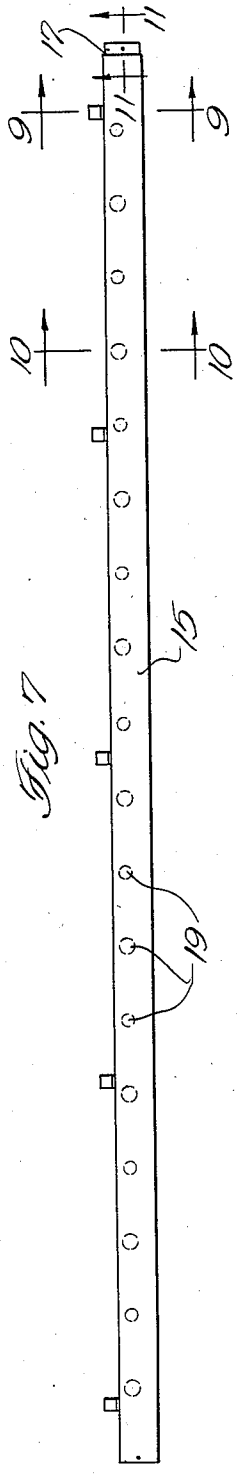


Fig. 7

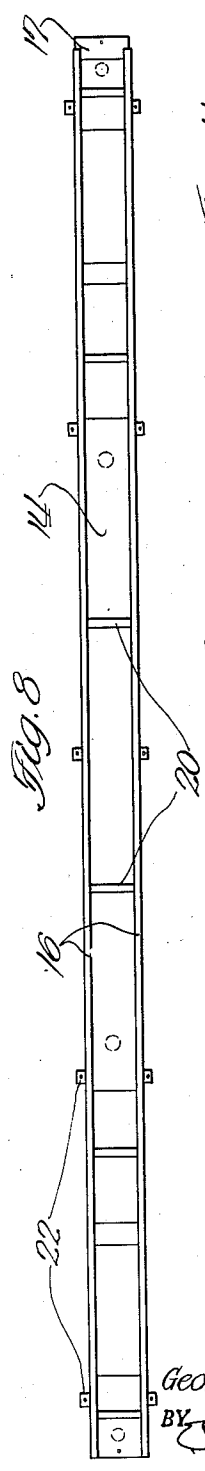


Fig. 8

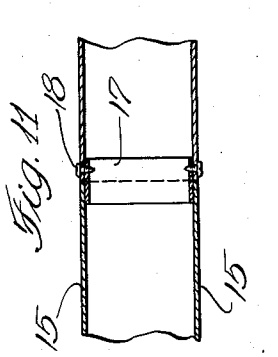


Fig. 11

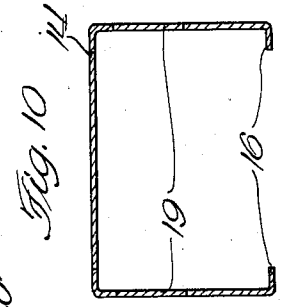


Fig. 10

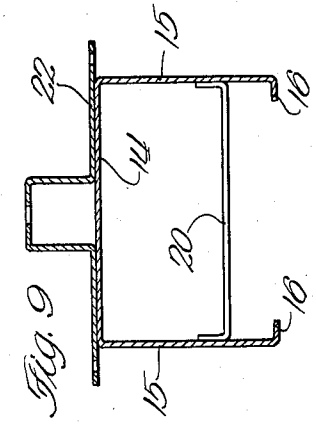


Fig. 9

INVENTOR.
George R.D. Pettingell
BY
ATTORNEY

Patented Aug. 7, 1951 2,563,268

UNITED STATES PATENT OFFICE

2,563,268

CEILING DUCT SYSTEM

George R. D. Pettingell, Portland, Oreg.

Application August 26, 1946, Serial No. 692,968

2 Claims. (Cl. 248—343)

1

This invention relates generally to electrical installations and particularly to an improved form of ceiling duct system.

The main object of this invention is to provide a form of ceiling duct which can be incorporated in a building during the course of construction in a manner to provide convenient access thereto to facilitate placing of outlets at any number of desired points.

The second object is to provide a ceiling duct system which can be readily suspended from reenforced concrete structures.

The third object is to provide a ceiling duct system which is readily accessible along the length thereof, and which is securely covered to protect the various leads passing therethrough.

The fourth object is to provide a system which includes not only ducts but their installation application which if spaced in continuous ceiling rows with 8 foot separation, provides spacings that are very well adapted for lighting distribution in ordinary ceiling heights ranging up to 12 feet.

The fifth object is to provide a system in which, if spaced at 8 foot intervals, either "cold cathode" or "thin line" fixture in conventional 8 foot lengths may be installed parallel with the ducts or at right angles thereto, and the socket assemblies therefor will always attach to a duct for support, as well as for circuit feeding.

The sixth object is to provide a system which includes cross-over conduits connecting between the rows for the purpose of providing means for feeding as well as for switching controls.

The seventh object is to provide a system in which permanent branch circuit wiring may extend over finished ceiling areas in a more or less uniform pattern which will permit remodelling work such as moving partitions from time to time with a minimum of rewiring to accommodate such construction changes.

The eighth object is to provide a ceiling duct system which can be installed in furred ceilings and changes made to the partitions will not affect the flexibility for fixture locations on the ceiling, plus the fact that switches, receptacles or wiring extensions are made in the new construction from points where ducts cross, or by fishing flexible conduits from the ducts to where new partitions are installed.

The ninth object is to provide a system in which are used a blanking cover plate for crossing partitions, in which are conduit knockouts for the extension of wiring runs, and in which such plates will provide means for extending to

2

plug receptacles, switches or other wiring extensions.

I accomplish these and other objects in a manner set forth in the following specification as illustrated in the accompanying drawings, in which:

Fig. 1 is a fragmentary view showing a representative form of installation.

Fig. 2 is a section taken along the line 2—2 in Fig. 1.

Fig. 3 is a section taken along the line 3—3 in Fig. 2.

Fig. 4 is a fragmentary plan taken along the line 4—4 in Fig. 3.

Fig. 5 is a fragmentary plan of an outlet.

Fig. 6 is a plan of a single run of a conduit.

Fig. 7 is a side elevation.

Fig. 8 is a bottom view of Fig. 7.

Fig. 9 is a section taken along the line 9—9 in Fig. 7.

Fig. 10 is a section taken along the line 10—10 in Fig. 7.

Fig. 11 is a horizontal section taken along the line 11—11 in Fig. 7.

Similar numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawings there is shown a representative form of ceiling duct consisting of a channel shaped structure having a closed side 14, provided with two flanged sides 15, having the inturned edges 16, formed thereon.

These channel shaped members are the basis of the ceiling duct and may be joined by means of splices 17, as shown in Fig. 11, with the aid of metal cutting screws 18, or any other convenient manner. The sides 15, are provided with the usual punchouts 19. Between the sides 15, are secured the horizontal supports 20, upon which can rest the various leads 21, which are to be carried by the ceiling duct.

Secured to the top side 14, is a strap 22, having an upturned portion 23, through which extends a hanger bolt 24, whose end 25, is embedded in the concrete structure.

The nut 27, on the bolt 24, is readily accessible for adjustment, obviously, the hanger bolts 24, are installed when the concrete is poured. The straps 22, are provided with holes 28, for the reception of bolts or screws 29, used in certain types of installations.

It will be noted that the inturned edges 16, are flush with the plaster line 30, and the opening of the ceiling duct is covered by a plate 31 whose bevelled edges 32, bear against the surface 30, which may be of plaster or lath or any other

surface within which the ceiling duct system is to be placed. The plate **31**, is held in position by means of screws **33**, which pass through the plate **31**, into the clamping bar **34**, whose ends **35**, can rest upon the edges **16**.

It can be seen from the foregoing that a floor outlet **36**, in the floor **37**, may be supplied with current from one of the leads **21**, through wires contained within the flexible conduit **38**, passing through the top side **14**, of the ceiling duct, and secured thereto in the conventional manner. In Fig. 2, there is also illustrated the use of fluorescent tubes **39**, held between the supports **40**, and supplied with current by the transformer, **41** or capacitor not shown, which is secured to the closed side **14** by means of the screws **42**.

It can be seen from the foregoing that although the construction is very simple, it lends itself to a wide range of use and makes it possible to perform the necessary wiring of a building with a minimum amount of labor and expense and with a wide range of use to which this can be applied.

I claim:

1. A ceiling duct system consisting of a channel shaped box having punchouts formed therein, the open side of said box having inturned edges, a cover for said open side extending beyond the edges thereof, a clamping bar attached to said cover adapted to have its ends extend above said inturned edges and to be supported thereby, a strap extending transversely across the top of said channel, hanger bolts forming a part of a supporting structure having threaded ends pointed toward said ceiling duct through which strap said end passes and a nut on the under side of said strap for securing said ceiling duct to said bolt.

2. A ceiling duct system consisting of an elongated channel shaped box having inturned open sides, a conduit support mounted between said open sides parallel with the closed side thereof, a plurality of transverse straps attached to the closed side of said ceiling duct having an upwardly bent mid-section, each of said straps having hanger bolts passing therethrough, a closure for the underside of said ceiling duct having a bar on the top side thereof adapted to rest upon the inturned edges of said sides and to be secured to said closure.

GEORGE R. D. PETTINGELL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
261,915	Ewing et al.	Aug. 1, 1882
758,714	Krantz	Mar. 1, 1904
800,052	Ayres	Sept. 19, 1905
1,277,550	Connell	Sept. 3, 1918
1,417,056	Hall	May 23, 1922
1,540,893	Merrill	June 9, 1925
1,844,639	Crumpton	Feb. 9, 1932
2,034,265	McLaughlin, Jr.	Mar. 17, 1936
2,137,536	McConnell	Nov. 22, 1938
2,305,015	Langer	Dec. 15, 1942
2,330,935	Tuck	Oct. 5, 1943
2,376,715	Naysmith	May 22, 1945

FOREIGN PATENTS

Number	Country	Date
546,954	Great Britain	1942