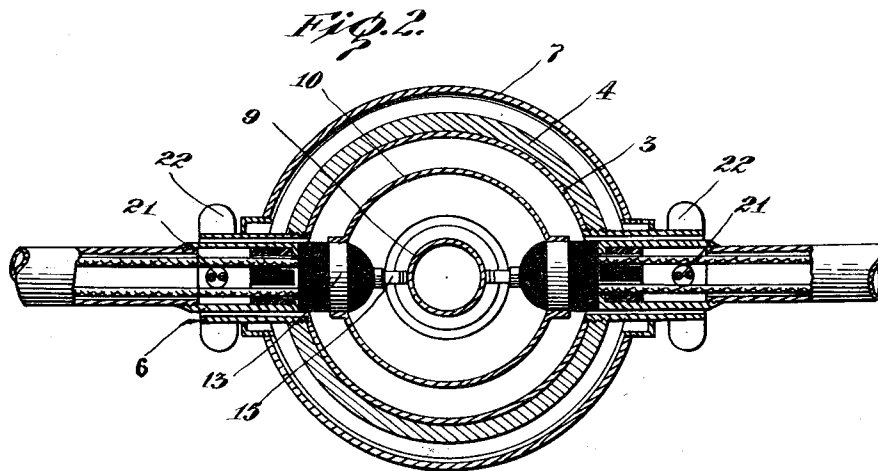
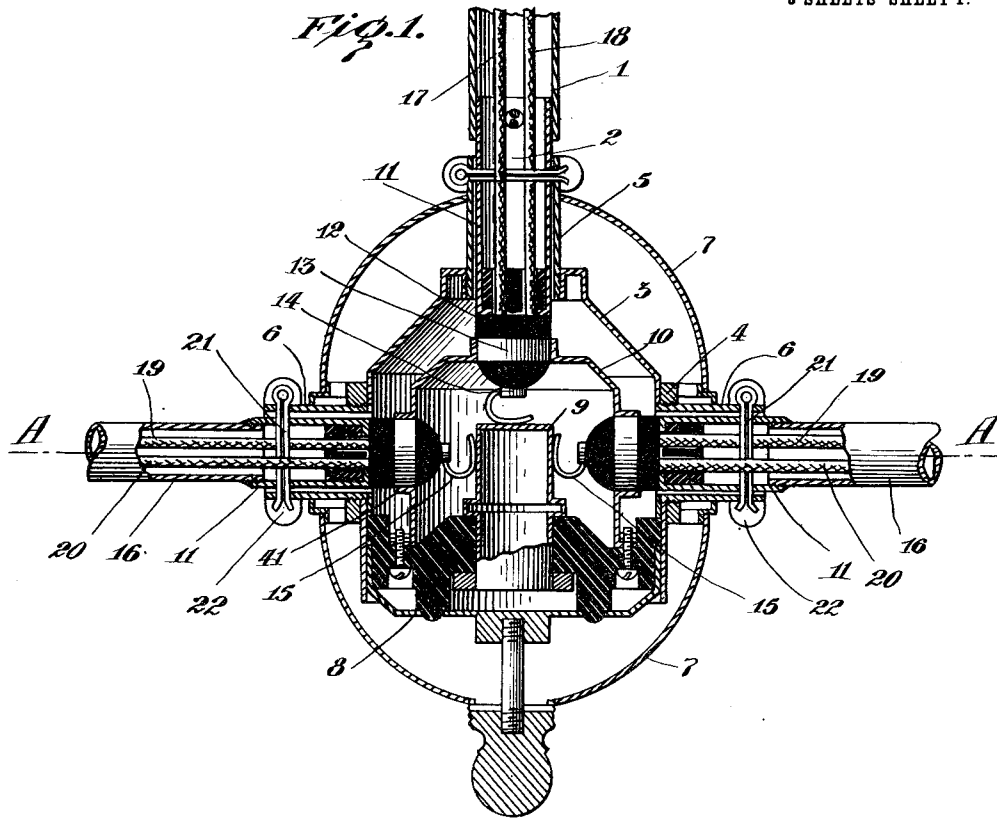


S. TROOD.
ELECTRIC CHANDELIER.
APPLICATION FILED MAR. 30, 1912.

1,062,619.

Patented May 27, 1913.

3 SHEETS—SHEET 1.



Witnesses:
C. S. Ashley
J. J. Donohue

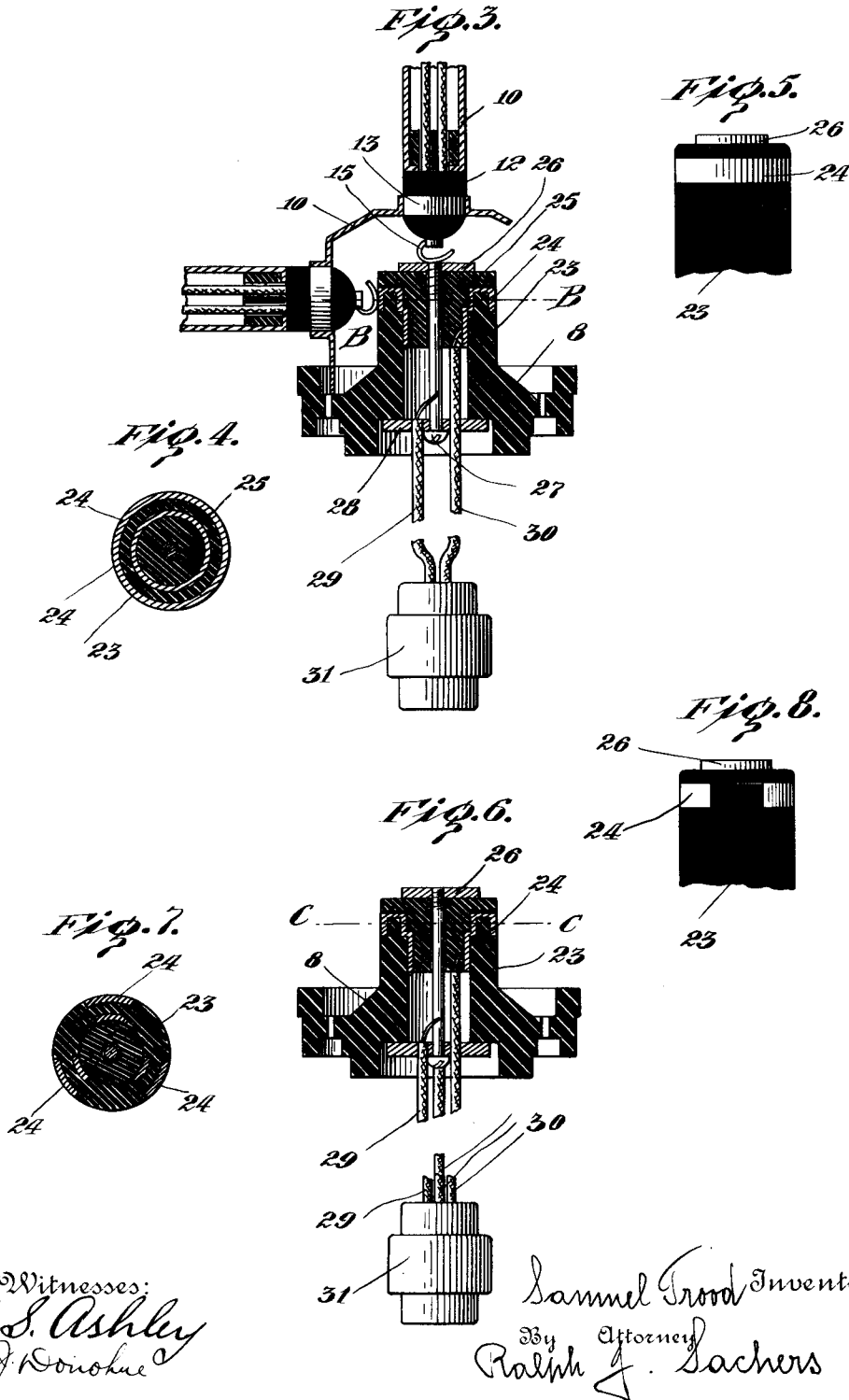
Samuel Trood Inventor
By Attorney
Frank J. Sachers

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3 SHEETS—SHEET 2.



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Samuel Trood Inventor
By Attorney
Ralph J. Sachers

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3 SHEETS—SHEET 3.

Fig. 9.

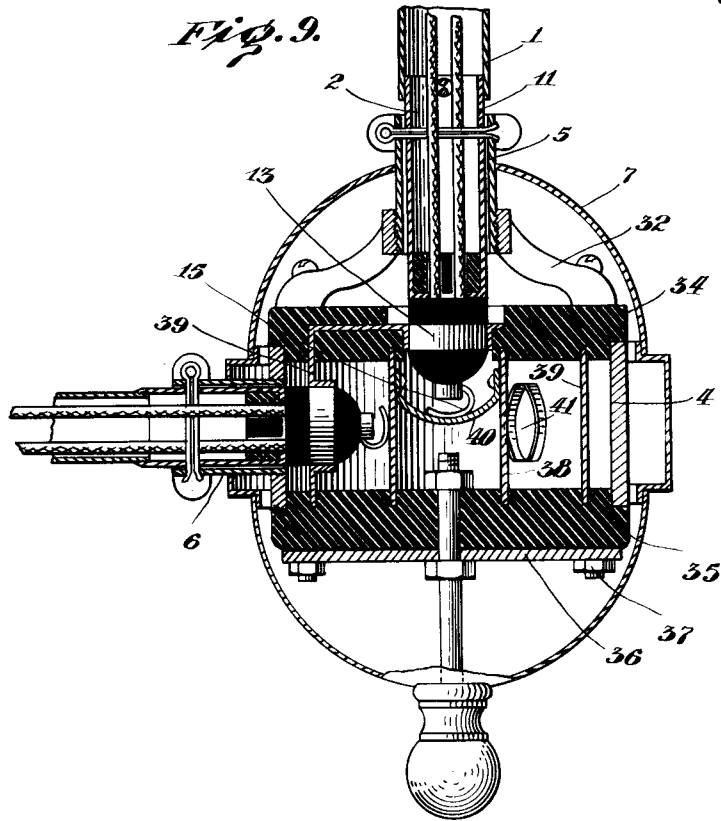
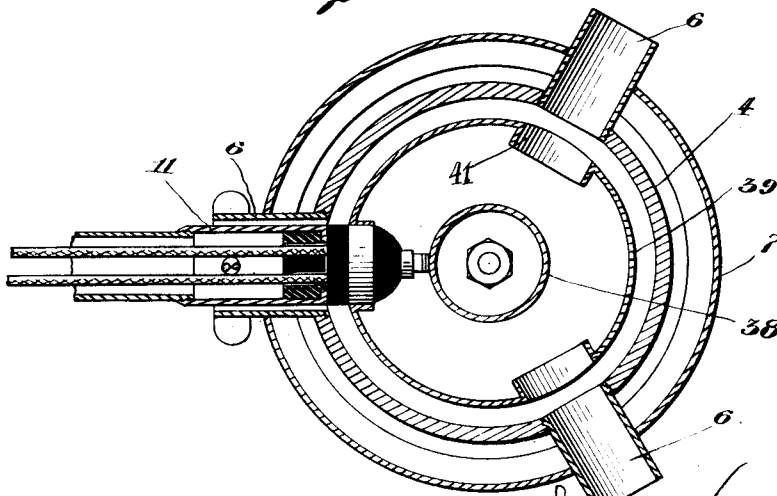


Fig. 10.



Witnesses:
C. S. Ashley
H. D. Deneke

Samuel Trood Inventor
By *Ralph J. Sachers* Attorney

UNITED STATES PATENT OFFICE.

SAMUEL TROOD, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO PLUG CONNECTION ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ELECTRIC CHANDELIER.

1,062,619.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed March 30, 1912. Serial No. 687,520.

To all whom it may concern:

Be it known that I, SAMUEL TROOD, a citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Electric Chandeliers, of which the following is a specification.

The widely spread use of electric current for lighting purposes, has created and developed an entire industry for the manufacture of electric fixtures, such as chandeliers and brackets, but no particular attention has as yet been paid to the standardizing of parts of the fixtures, so that a combination of any desired number of arms can be made in a chandelier or bracket, without making changes in the structure of the chandelier when delivered to its place of use and returning it to the factory for such changes. Such combinations, so far as known, were heretofore made only by splicing, soldering and taping the connecting wires. Attempts have been made to overcome this difficulty and to eliminate the obsolete process of connecting and a prototype of a chandelier of this character is found in the U. S. Letters Patent No. 251,553, of December 27th, 1881, but apparently, only few improvements along the lines laid down therein, have found their way into actual practice.

The present invention refers to, what usually is designated as a "knockdown fixture" and, more particularly, an electric chandelier, and has for its purpose to provide a structure of great simplicity, in which the process of soldering and splicing electrical conductors is eliminated, in which the assembling is greatly facilitated and the time for doing it is practically annihilated. The fixture can be hung in a building without the employment of skilled labor and without danger to the person doing it, branch arms can be quickly added or taken away, all of this without tools of any kind.

The invention consists, in a general way, of an insulating base, carrying the main terminals, to which current is supplied by means of a suitable connecting plug of a supporting stem or arm, establishing circuit with the main conductors. The fixture further contains suitable means for supporting one or more branch arms having connecting plugs, supplying current to

branch circuits. These connecting plugs are all of uniform construction and dimensions and make contact with the terminal members which are common to all of them.

An essential feature of the present invention consists in the fact that the supporting stem is just as detachable as all of the branch arms. The connecting plugs, while held in a member mechanically carrying the same, penetrate or pass through one of the common terminals in order to make contact between their contact members and both of the terminals.

Another feature of the invention is the provision of switching devices, characterized by a particular construction of the common terminals with the switch, preferably of the pendant type.

The drawings illustrate one form of an electric chandelier and show in Figure 1, a vertical cross section and in Fig. 2, a horizontal cross section in the line A—A of Fig. 1, Fig. 3, is a vertical cross section of part of a chandelier, having a switching device, Fig. 4, a cross section in the line B—B of Fig. 3, Fig. 5, an elevation of a part thereof, Fig. 6, a vertical cross section of a form having a multiple switch, Fig. 7, a horizontal cross section in the line C—C of Fig. 6, Fig. 8, an elevation of a part thereof and Figs. 9 and 10, a vertical cross section and a horizontal cross section, respectively, of a modified form of a chandelier.

An electric fixture, as a rule, is provided with a supporting stem 1 or bracket arm, which, in this particular instance, carries at its lower end a connecting plug 2, the construction of which will hereinafter be more fully described. The manner of connecting the plug to the stem is of no importance, except that it is thought part of this invention that the plug as such, forms a unit with the stem. Heretofore the stem was simply used for mechanically supporting the fixture and forming the conduit for the electric conductors. These conductors, protruding from the lower end of the stem, were soldered to the ends of the branch circuits, and these connections then hidden by the ornamental shell of the fixture.

A fixture body 3, made of spun or swaged metal and having a carrying ring 4 of suitable material and dimensions, is connected to a nipple 5, and by any convenient means, such as a cotter pin, to the connecting plug

2, of the supporting stem 1. Branch nipples 6, are secured to the ring 4 and form substantial carriers for the connecting plugs of the chandelier arms. The entire structure is surrounded by an ornamental shell 7. The fixture body 3 carries an insulating base 8, having terminal members which, in the form shown in Figs. 1 and 2, are in the shape of superposed cylinders or cups, of which 9 designates the inner terminal and 10 the outer terminal. It is of the essence of this invention that these terminals are common to the contacts of the connecting plugs of the main circuit as well as of all of the branch circuits. The connecting plugs, as heretofore stated, all of uniform dimensions and structure, comprise a sleeve 11, having an insulating portion 12 and, embedded therein and spaced apart, a contact ring 13 and a contact tip 14. The contact tip is preferably provided with a resilient contact spring 15.

The chandelier brackets or branch arms are represented at 16. The conductors of the main circuit are shown at 17 and 18, and the conductors of the branch circuits at 19 and 20.

As one form of connecting the supporting stem to the chandelier body, cotter pins 21 are shown which may be covered by an ornamental ring 22. Any other form of fastenings may, of course, be used, such as a screw connection, a plumber's union, bayonet lock, etc.

The path of the electric current through the fixture, illustrated in Figs. 1 and 2, is as follows:—from the main net of distribution of electrical energy, through the conductor 17 of the supporting stem, to the contact ring 13, of the connecting plug 2, the common terminal 10 of the insulating base, the contact rings 13 of the connecting plugs for the branch circuits, the conductor 19, then through the translating device, such as an electric lamp, at the end of the chandelier arm 16, through the conductor 20 to the contact tip 14 and its resilient spring 15, the common terminal 9, to the resilient spring and the contact tip of the connecting plug of the supporting stem 1, and through its second conductor 18 back to the main net of distribution.

An essential element of this structure is the carrying ring 4, provided with the nipples 6, which detachably support the connecting plugs of the chandelier arms and position the same in relation to the common terminals of the fixture body.

In order to provide switching devices in a chandelier of this new construction, the insulating base 8, is provided with a tower shaped extension 23, see Figs. 3 to 8, inclusive. If only one operation of the switch is desired, to control the electric current, a terminal ring 24 is located near the upper

end of the tower 23, and an insulating member 25, inserted therein, separates the same from the terminal plate 26. A suitable screw 27, passing through a holding plate 28, secures together the entire terminal elements. Conductors 29 and 30 lead to a suitable switch 31, preferably of the pendant type.

Should it be desired to employ a multiple switch, such as now used in electric chandeliers of modern construction, for the purpose of turning on or off, one or more or all lights of a chandelier, the terminal ring 24 may be divided into sections, such as shown in Figs. 7 and 8, in which case the terminal plate 26, is connected to one conductor 29 of the switch, while each one of the sections of the terminal 24, has its own conductor 30, leading to the switch. It will be seen in this arrangement that one of the terminals is common to one set of the contacts of all the connecting plugs, while the other terminal is divided, one part of which is engaged by the second contact of the connecting plug of the main circuit, and the other part is common to the second contacts of all the connecting plugs of the branch circuits, both parts being connected in series through the switch.

Figs. 9 and 10 illustrate a modification of this knockdown fixture, of extreme simplicity and comprising a crowfoot 32, connected to the nipple 5 and, therefore, carried by the fixture stem 1. This crowfoot holds a pair of insulating disks 34 and 35, spaced apart by means of the carrying ring 4, heretofore already described, and having the same function and operation as the one illustrated in the modification, shown in Figs. 1 and 2. The insulating disks are secured together by means of a plate 36 and screw bolts 37, passing from the plate through the insulating disks to the crowfoot 32. The terminals, in this case, comprise two cylinders, an inner terminal 38, surrounded by an outer terminal 39. The inner terminal is provided with a bridge 40, to make contact with the resilient contact spring 15 of the connecting plug of the supporting stem. The outer terminal is provided with openings 41, having resilient flanges, similar to the openings for receiving the connecting plugs, in the form of a chandelier, shown in Figs. 1 and 2. The carrying ring 4, with its nipples 6, is identical of construction and function with the one, already shown and described in the former modification.

What the applicant regards as his invention or discovery and desires to secure by Letters Patent of the United States, is—

1. An electric fixture comprising a supporting stem having contact members of a main circuit, one or more arms having contact members of branch circuits, and a base

having a pair of concentric cylinders forming terminal members common to and adapted to be engaged by all of said contact members.

5 2. An electric fixture comprising a detachable supporting stem having contact members of a main circuit, one or more detachable arms having contact members of branch circuits, and a base having a pair of
10 concentric cylinders forming terminal members common to and adapted to be engaged by all of said contact members.

3. An electric fixture comprising a supporting stem, a connecting plug on said
15 stem and having contact members, one or more detachable arms, a connecting plug on each of said arms and having contact members, and a base having a pair of concentric cylinders forming terminal members
20 common to and adapted to be engaged by all of said contact members.

4. An electric fixture comprising a supporting stem, a connecting plug on said stem and having contact members, a carrying
25 member, one or more arms carried thereby, a connecting plug on each of said arms and having contact members, and a base having a pair of concentric cylinders forming terminal members common to and adapted to
30 be engaged by all of said contact members.

5. An electric fixture comprising a supporting stem, a connecting plug on said stem and having contact members, a carrying
35 member, one or more arms carried thereby, a connecting plug on each of said arms and having contact members, a base having a pair of concentric cylinders forming terminal members, one of said terminal members being common to and adapted to be engaged
40 by one of the contact members of each of said connecting plugs, the second of said terminal members being divided into parts, one of said parts being common to and adapted to be engaged by the second of the
45 contact members of the connecting plugs of each of said arms, the other of said parts being adapted to be engaged by the second contact member of the connecting plug of said stem, and a switch arranged in series
50 between the parts of said second terminal member.

6. An electric fixture comprising a body, an insulating base, a carrying member having one or more nipples, a connecting plug
55 in each nipple and having contact members, a pair of concentric cylinders forming terminal members on said base, said plugs be-

ing adapted to pass through one of said terminal members and to engage with their contact members both of said terminal mem- 60
bers.

7. An electric fixture comprising a carrying member having nipples, an insulating base having a pair of concentric cylinders forming terminal members, and connecting
65 plugs having contact members, each of said plugs being adapted to pass through one of said nipples and one of said terminal members and to engage with its contact members both of said terminal members. 70

8. An electric fixture comprising an insulating base and a pair of concentric cylinders secured thereto and forming terminal members, and a plurality of plugs passing
75 through the outer of said cylinders and each having a pair of spaced apart contacts, one of said contacts adapted to engage the outer of said cylinders and the other contact adapted to engage the inner of said cylinders. 80

9. A supporting body, an insulating base carried by said body, a pair of concentric cylinders on said base and forming terminal members, a plurality of plugs passing
85 through said supporting body and the outer of said cylinders and each having a pair of spaced apart contacts, one of said contacts adapted to engage the outer of said cylinders and the other contact adapted to engage the inner of said cylinders, and means for
90 securing each of said plugs to said supporting body.

10. A supporting body, a plurality of nipples thereon, an insulating base carried by said body, a pair of concentric cylinders on
95 said base and forming terminal members, a plug passing through each of said nipples and the outer of said cylinders, a pair of spaced apart contacts on each plug, one of said contacts adapted to engage the outer of
100 said cylinders and the other contact adapted to engage the inner of said cylinders, and means for securing each of said plugs to its nipple.

In witness whereof I have hereunto set
105 my hand in the presence of two subscribing witnesses, at New York, in the county of New York and State of New York, this 18th day of March 1912.

SAMUEL TROOD.

In presence of—

RALPH J. SACHERS,

W. EUGENE BLAUVELT.