Dec. 18, 1962 T. M. COLE 3,069,517

CIRCUIT BREAKERS

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Fig. 1.

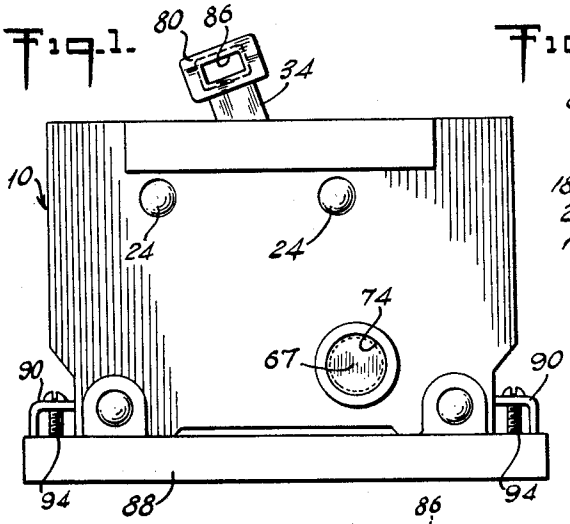


Fig. 2.

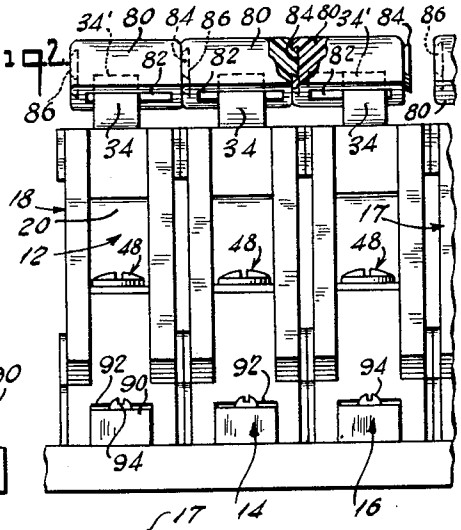


Fig. 3.

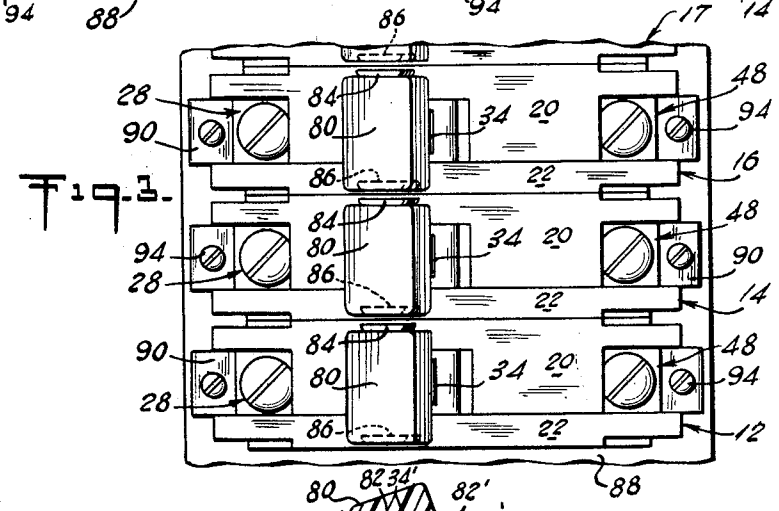
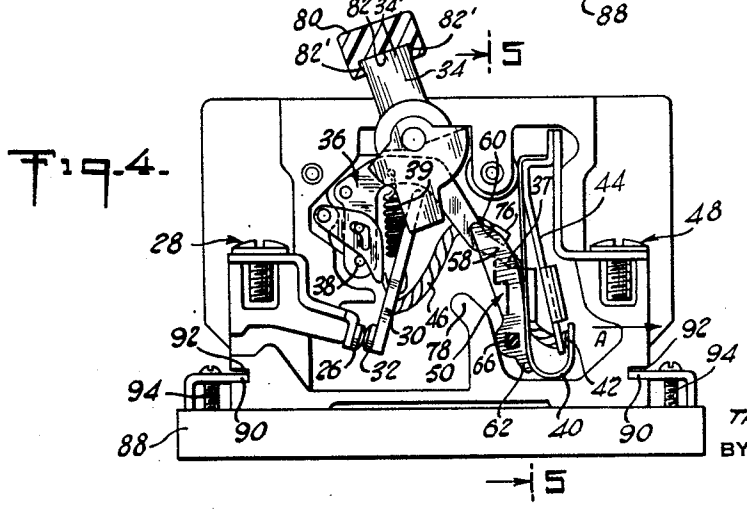


Fig. 4.



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CIRCUIT BREAKERS

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Fig. 5.

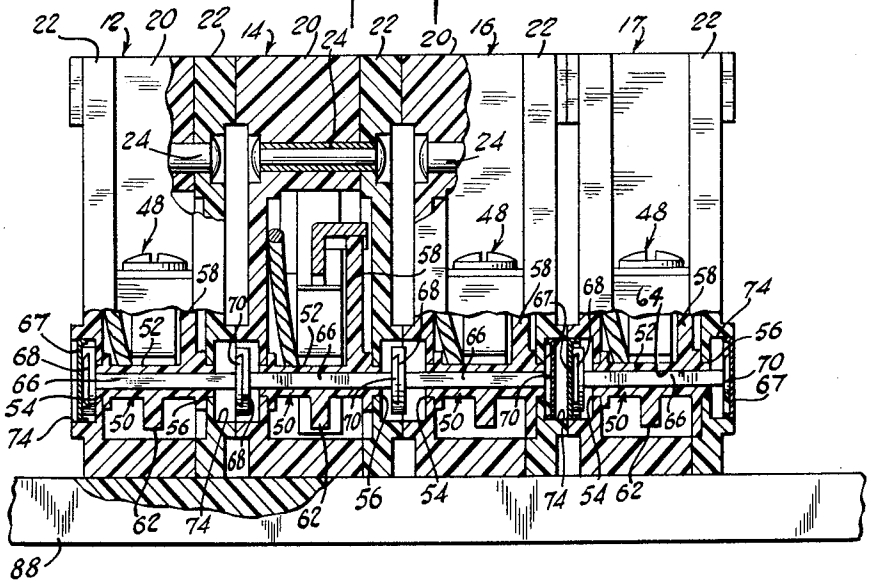


Fig. 6.

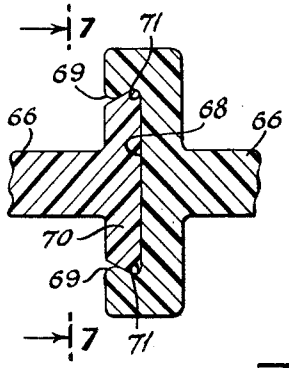


Fig. 7.

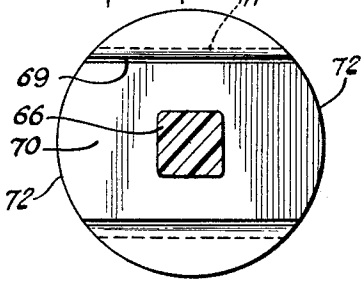
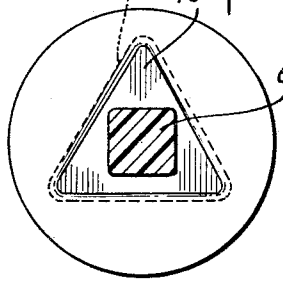


Fig. 8.



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3,069,517

CIRCUIT BREAKERS

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15 Claims. (Cl. 200—88)

This invention relates generally to a circuit breaker and, more particularly, to a circuit breaker which may be selectively used as a single-pole breaker or operatively interconnected with one or more companion breakers to form a two or three-pole breaker, or any desired combination of single and two or three-pole breakers.

In Patent No. 2,692,926 issued on October 26, 1954 to L. W. Cole for Multi-Pole Circuit Breaker, and assigned to the assignee herein, a number of single-pole circuit breakers are shown interconnected to form a multi-pole circuit breaker which is opened automatically to all of the poles upon the occurrence of an overload in the circuit at any one of the poles. In such circuit breaker assembly as shown there is no provision for selectively controlling the connection between the tripping elements of the plurality of single-pole breakers, which collectively form the multi-pole breaker, and such tripping elements of the single-pole breakers are operatively interconnected for conjoint and simultaneous operation whereby upon the tripping of one pole of the breaker all of the poles are tripped. In accordance with the present invention however provision is made for selectively controlling the tripping connections between the plurality of single-pole breakers in their face-to-face assembled relation so that each single-pole breaker may be used as an independently operable unit or alternatively interconnected with one or more companion single-pole units to form a multi-pole breaker in which all of the poles are opened automatically upon the occurrence of an overload in the circuit at any one of the poles. Further in accordance with the present invention the plurality of single-pole breakers in the mounted assembled relation thereof, may have their manual actuating means selectively operative as an independent unit or interconnected with one or more companion single-pole units so that the interconnected actuating means are conjointly and simultaneously operative.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description considered in connection with the accompanying illustrative drawings.

In the drawings which illustrate the best mode now contemplated by me for carrying out the present invention:

FIG. 1 is a side view of a circuit breaker formed according to the present invention;

FIG. 2 is an end view of the circuit breaker with the actuating handles of a series of three individual breakers shown operatively interconnected and with the actuating handle of one of the breakers shown in a non-connected condition;

FIG. 3 is a top view of the circuit breaker with the actuating handles shown in a non-connected condition;

FIG. 4 is a view similar to FIG. 1 with the cover removed showing the circuit breaker in the closed condition thereof;

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 4 with the tripping elements of a series of three individual breakers shown operatively interconnected and with the tripping element of one of the breakers shown in a non-connected condition;

FIG. 6 is a fragmentary enlarged sectional view illustrating the manner of interconnection of a companion pair of tripping elements;

FIG. 7 is a sectional view taken on the line 7—7 of FIG. 6; and

FIG. 8 is a view similar to FIG. 7 illustrating a modified form of tripping element interconnection.

Referring to the drawings in detail, the multi-pole circuit breaker 10 of the present invention comprises the companion single-pole breakers 12, 14, 16 and 17 which in assembled relation may be used as individual single-pole breakers or interconnected to form a multi-pole breaker. The breakers 12, 14, 16 and 17 are of the general construction shown and described in the above referred to patent and differ therefrom in the respects to be described in detail hereinafter. The circuit breaker mechanism for each of the single-pole circuit breakers is contained within a casing 18 formed by a body part 20 and a cover 22 therefor, the casing being preferably of a molded plastics construction. The casing parts are secured together by rivets 24 or in any other suitable manner.

Contained within each casing 18 (FIG. 4) is a stationary contact 26 carried by a terminal 28, and a movable contact member 30 provided with a contact 32 engageable and disengageable with the stationary contact. The movable contact member is mounted for pivotal movement in the manually operable handle 34. A generally U-shaped actuating member 36 is mounted at one end thereof, for pivotal movement on the pivot pin 38, a spring 39 being connected between the member 30 and the member 36 to form a toggle arrangement therewith, said member 36 and spring constituting an operating mechanism for the movable contact member. At its free end the member 36 is provided with a portion 37 in normally latched engagement with a flexible latch member 40 formed of spring metal and provided at one end thereof with a part 42. The member 40, at the other end thereof, is bodily carried by and is suitably secured to a thermostatic element 44, constituted by a flexible bi-metallic strip. Latch member 40 and element 44 together constitute a trip device, the member 44 being electrically connected to the contact member 30 by the flexible conductor 46, one end of the bi-metallic strip being mounted on the terminal member 48 and the free end thereof abutting the part 42. It will be understood that upon the passage of a predetermined current through the member 44, the latter will flex in the direction of the arrow A in FIG. 4 to move part 42 in said direction. This movement will carry the flexible member 40 in an unlatching direction for unlatching the member 40 from member 36. Upon this unlatching the member 36, under the tension of the overcentered toggle, pivots in a clockwise direction viewing FIG. 4, to reverse the toggle whereupon the movable contact member 30 is pivoted in a counter-clockwise direction for disengaging contacts 26 and 32, the circuit breaker mechanism assuming a tripped position as described in detail in the above referred to patent.

Pursuant to the present invention, each pole of the breaker is provided with a tripping element 50 which is preferably formed of a suitable insulating material. Element 50 comprises a generally cylindrical body portion 52 which is mounted for rotation in the casing. The casing part 20 and cover part 22 are provided with aligned bearing apertures 54 and 56, respectively for mounting the opposite ends of element 50. The tripping element is provided adjacent one end thereof with an integral upwardly extending portion 58 provided with the cam forming marginal edge 60 and with a depending intermediate finger portion 62. The body portion 52 is apertured therethrough as indicated at 64 for the reception of a companion axially movable coupling member 66, the aperture 64 and coupling member being of square or non-circular cross section to provide rotation in unison between the coupling member and the tripping element. The coupling member 66 may be formed in any suitable manner to

provide for the assembly thereof with the tripping element. One end of coupling member **66** is formed with a female fitting **68** and the opposite end thereof is provided with a complementary male fitting **70** (see FIG. 6), said fittings having the requisite flexibility and resiliency to provide for the snap interengagement or coupling between a companion pair of fittings. The coupling member is preferably formed of a suitable plastics material and may be of a molded construction. The fittings **68** and **70** may be of any suitable design and construction to provide a readily engageable coupling and in the instant embodiment said fittings are generally rectangular with arcuate end walls **72**. As shown in FIG. 6, the forward peripheral edges **69** and **71** of fittings **68** and **70**, respectively, are rounded to facilitate the coupling thereof.

With reference to FIG. 8, there is shown companion interengageable fittings **68'** and **70'** of triangular shape correspondong to a breaker of a different current rating, it being understood that difference rated breakers will have fittings of different shape to prevent the interconnection of breaker units of different or non-corresponding current ratings.

The coupling members **66** are axially slidable with respect to their companion tripping elements **50** and the tripping elements of an adjacent pair of breakers may be detachably coupled to each other by interengaging an adjacent pair of companion fittings **68** and **70** of the corresponding coupling members. Thus the tripping elements of each of the single-pole breaker units **12**, **14** and **16** may be interconnected as shown in FIG. 5 to form a three-pole breaker, the breaker unit **17** being shown with its tripping element in a retracted or non-connected condition. Any of the single-pole breaker units may have its tripping element detached from an adjacent unit or units by axially moving its coupling member out of engagement with the interconnected tripping elements, whereby any combination of single-pole and two or three-pole units may be obtained with the multi-pole units in adjacent relation. More particularly, with a series of three breaker units, three single-pole breakers may be formed, a three-pole breaker may be formed, or a single-pole and two-pole breaker combination may be formed in accordance with the condition of the coupling members of the tripping elements. It will be understood that the casing recesses **74** for the fittings and the coupling members are dimensioned to provide the requisite clearance for the uncoupling of the coupling member fittings with the breaker units in assembled relation. In this connection it will be observed that the coupling member **66** has an overall length slightly less than the casing thickness in order to provide the aforedescribed selective coupling of adjacent breaker units and each unit is normally supplied with a pair of removable sealing caps **67** at the casing recesses **74** in position over the fittings of member **66**. When the unit is to be used as a single-pole breaker it will have the caps **67** thereof in place as shown in the case of breaker **17** in FIG. 5, and when an adjacent pair of fittings are to be interconnected to form a multi-pole breaker the caps **67** over such fittings are removed by axially moving the opposite caps inwardly until the caps to be removed are displaced from their companion recesses **74**. As shown in FIG. 5, the intermediate unit **14** of a series of three interconnected units will have both caps thereof removed whereas the end units of such series will have the caps removed at the interconnected fittings and the caps in place at the opposite non-connected fittings. The caps are dimensioned to be readily push displaceable in the recesses **74**.

In the circuit closed condition of the circuit breaker, the tripping element **50** is in set position wherein the finger portion **62** is inclined forwardly of the axis of body portion **52** to abut the lower end of the flexible latch member **40** as shown in FIG. 4, and the upwardly extending portion **58** is inclined rearwardly of said axis. The actuator **36** is provided with a laterally offset portion **76** in engagement with the cam surface **60** of portion **58**.

Upon the tripping of one of the circuit breaker mechanisms the actuator **36** is pivoted in a clockwise direction from the retracted latched disposition thereof and the portion **76** thereof moves downwardly along the cam surface **60** to rotate the tripping element **50** in a counterclockwise direction from its set position, and the portion **62** is rotated forwardly and upwardly from its set position as described in detail in the aforereferred to patent. The tripping elements which are interconnected as aforedescribed to form a multi-pole breaker are joined for unitary operation and all of the joined poles are tripped upon the tripping of one of the poles thereof.

More particularly, upon the tripping of any one pole upon the occurrence of a predetermined current in the circuit of said pole, the portion **58** of the companion tripping element is rotated rearwardly of the position illustrated in FIG. 4 by portion **76** of the companion actuator **36** whereby to rotate the interconnected tripping elements in a counterclockwise direction. As a result of said rotation, the portions **62** in the untripped interconnected circuit breaker units move from the position shown in FIG. 4 in a counterclockwise direction whereby to move the companion latch members **40** for disengaging the latter from the companion latching portions **37** for actuating the toggles of the untripped circuit breaker units to disengage the companion movable contact from the stationary contacts thereof. In such tripped condition the portions **76** of members **36** prevent the companion tripping elements **50** from rotating in a clockwise direction, the portions **58** thereof being in abutment with raised portions **78**, respectively, of the casings. It will be noted that in such tripped condition the depending portions **62** will have moved the companion flexible members **40** sufficiently to disengage the respective parts **42** from the companion thermostat element **44**.

The handles **34** of the circuit breaker units may be selectively operative as independent units or interconnected for conjoint and simultaneous operation to correspond to the interconnection between the tripping elements of companion units forming a multi-pole breaker. Thus the handles and tripping elements of companion single-pole units may be detachably connected for conjoint and simultaneous operation to form a multi-pole breaker. Pursuant to this feature of the present invention, the handle **34** has a terminal end part **34'** in the form of a suitable male fitting, the latter having a coupling member **80** mounted thereon. The coupling member **80** is formed of a suitable flexible and resilient material such as a suitable plastics material and is provided with a female fitting or socket **82** formed complementary to fitting **34'**, and snap engageable thereon. The fitting **82** is constituted by a socket having undercut sidewalls **82'**, said fitting being elongated with respect to fitting **34'** as shown in FIG. 2 with the member **80** being slidably mounted on fitting **34'** for a purpose which will be apparent from the description which follows. Thus the fittings **34'** and **82** are interengaged to provide for the slidable movement of member **80** along handle **34** in a direction transversely of the casing **13**. It will be noted that member **80** has an overall length slightly less than the thickness of the casing to provide the above described selective coupling of the handles **34** of adjacent breaker units.

Member **80** is provided with a male fitting **84** and a female fitting **86** formed complementary thereto at the opposite ends thereof, a companion pair of fittings of an adjacent pair of coupling members being interengageable to detachably connect such coupling members to thereby detachably connect the handles of an adjacent pair of breaker units. It will be understood that the coupling members **80** are slidably movable along the handles to provide for the connection and detachment of an adjacent pair of coupling members and their handles. The fittings **84** and **86** may be of any suitable design and configuration, the particular configuration shown and described

herein being given by way of example only. Thus the handles **34** of companion breaker units may be detachably connected to correspond to the connection of the tripping elements thereof whereby any desired combination of single and two or three-pole breakers may be achieved. In FIG. 2 the handles of the units **12**, **14** and **16** are shown interconnected to form a three-pole breaker, the handles being conjointly operative and therefore conjointly resettable after the tripping thereof. After tripping, the handles are moved to the FIG. 4 position by manipulating the coupling members **80** to reengage the movable and stationary contacts of all the poles thereof as described in detail in the aforereferred to patent. Reference is also made to such patent for a more detailed description of the operating mechanism of the breaker units.

The desired number of circuit breaker units are mounted in laterally disposed relation upon the insulating plate **88**, the latter having aligned hook elements **90** at the opposite ends thereof received in the recesses **92** of the casing. The elements **90** are detachably mounted to plate **88** by screws **94** to thereby provide for the detachable mounting of the breaker units to the plate. It will be observed that with the circuit breaker units thus mounted in laterally adjacent face-to-face relation, the tripping elements and handles are selectively interengageable as aforedescribed to obtain the desired single and/or two or three-pole breaker combination without any displacement of the units themselves on the plate **88**. Any desired number of units may be mounted on the plate **88** to the capacity of the latter and where a multi-pole breaker is desired the tripping elements and handles of adjacent units of such breaker are operatively interconnected as described.

Notably the single-pole unit, as distributed in usual channels, is available to the user complete and self-contained with all the parts required for selective use either as single-pole circuit breakers or as two- or three-pole circuit breakers. No separate or auxiliary devices are needed.

While there is shown and described herein certain specfic structure embodying the invention it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that the same is not limited to the particular form herein shown and described except insofar as indicated by the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A single pole circuit breaker including a self-contained independently operable circuit breaker mechanism and overload release means automatically operable to cause opening of the circuit breaker upon occurrence of an overload current in the circuit thereof, said overload release means including a rotatable tripping element, said single pole circuit breaker being adapted for mounting in adjacent predetermined relation with another similar circuit breaker and said tripping element including a selectively operable axially movable coupling providing a mechanical connection to the tripping element of the adjacent circuit breaker to trip the circuit breaker mechanism of each circuit breaker in response to tripping of either circuit breaker, said coupling being optionally retractable for interrupting such connection between the tripping elements of said adjacent circuit breakers.

2. A single pole circuit breaker including a self-contained independently operable circuit breaker mechanism and overload release means automatically operable to cause opening of the circuit breaker upon occurrence of an overload current in the circuit thereof, said overload release means including a rotatable tripping element, said single pole circuit breaker being adaptable for mounting in adjacent predetermined relation with another similar circuit breaker and said tripping element including a selectively operable axially movable coupling providing a mechanical connection to the tripping element of the adjacent circuit breaker to trip the circuit breaker mechanism of each circuit breaker in response to tripping of either circuit breaker, said coupling being optionally retractable for interrupting such connection between the tripping elements of said adjacent circuit breakers, the coupling of said circuit breaker being of unique form related to its overload rating to establish said mechanical connection only with tripping elements of other similar circuit breakers of only the same overload ratings.

3. A single-pole circuit breaker in the form of a complete, separate and self-contained unit and containing independently operable circuit breaker mechanism having overload release means automatically operable to cause opening of the circuit breaker upon occurrence of an overload in the circuit thereof, and said overload release means including an independently operable tripping element operable to release the overload release means in the absence of an overload, said tripping element being operable in the release direction by the associated circuit breaker mechanism upon release thereof, said single pole circuit breaker being adapted for assembly with a side thereof adjacent to a side of a companion similar circuit breaker and said tripping element including an externally accessible coupling element optionally movable between retracted and projected positions relative to said side of said single-pole circuit breaker without changing the relationship of the tripping element to the overload release means thereof and acting when in projected position to establish mechanical connection with the tripping means of the adjacent circuit breaker to trip the circuit breaker mechanism of each circuit breaker in response to automatic overload tripping of either circuit breaker, thereby to provide multi-pole operation, said coupling element also being settable in its retracted position for interrupting the connection between the tripping means of said single-pole circuit breaker to the tripping means of the companion circuit breaker, said single pole circuit breaker including manual actuating means having a selectively operable part movable to couple with or operate separately from the corresponding manual actuating means of a companion circuit breaker.

4. A circuit breaker assembly including plural similar circuit breakers, each circuit breaker being an individually complete self-contained single pole unit independently operable and including a circuit breaker operating mechanism and an overload release mechanism for causing automatic opening of the circuit breaker operating mechanism upon occurrence of an overload current in the circuit thereof, said circuit breakers being assembled in laterally aligned relation and the overload release means of each circuit breaker including an enclosing casing having an opening and, externally accessible via said opening, a selectively retracted or projected coupling element optionally settable in projected position for establishing mechanical connection between the overload release means of the adjacent circuit breakers for tripping the coupled circuit breakers and thus providing multi-pole operation, and settable in retracted position for interrupting said mechanical connections and thereby producing independent single pole operation of the assembled laterally adjacent circuit breakers, each said circuit breaker including manual actuating means, and each circuit breaker bearing selectively retracted or projected means for coupling the manual actuating means thereof to that of the companion circuit breaker or for producing independent single pole operation.

5. A circuit breaker assembly including plural similar circuit breakers each being a single pole circuit breaker unit independently operable and including manual actuating means, and a circuit breaker operating mechanism and an overload release mechanism for causing automatic opening of the circuit breakers upon occurrence of an

overload current in the circuit thereof, said circuit breakers being mounted in side-by-side aligned relation and the tripping means of each circuit breaker including coupling means selectively settable in relation to the remainder of said circuit breaker and optionally providing or disabling mechanical connection between the tripping means of the adjacent circuit breaker for either tripping the coupled circuit breakers and thus providing multi-pole operation or for producing independent single pole operation of the assembled laterally adjacent circuit breakers, the coupling means of all said circuit breakers of each overload release rating being uniquely shaped for establishing such mechanical connection therebetween and for preventing formation mechanical coupling between circuit breakers of different overload release ratings.

6. A circuit breaker assembly including at least three similar circuit breakers, each circuit breaker being a single pole unit independently operable and including a circuit breaker operating mechanism and an overload release mechanism for causing automatic opening of the circuit breaker operating mechanism upon occurrence of an overload current in the circuit thereof, said circuit breakers being assembled in laterally aligned relation and the overload release means of each circuit breaker including a selectively retracted or projected part optionally providing mechanical connection between the overload release means of the adjacent circuit breakers, either for tripping the coupled circuit breakers and thus providing multi-pole operation, or for producing independent single pole operation of the assembled laterally adjacent circuit breakers, said part being projectable to only a limited extent in opposite directions, thus enabling the selectively projected part of a first single-pole circuit breaker to be shifted toward and be coupled to the overload release means of a second single pole circuit breaker and enabling the selectively projected part of a third single-pole circuit breaker to be shifted toward and be coupled to the overload release means of the second single-pole circuit breaker, the projected parts of said first and third circuit breakers being thereby withdrawn out of coupling range of additional single-pole circuit breakers that may be adjacent thereto and the circuit breaker assembly being thereby safely limited to a maximum of three coupled poles.

7. A series of single pole circuit breakers of respectively different ratings each including a self-contained independently operable circuit breaker mechanism and overload release means automatically operable to cause opening of the circuit breaker upon occurrence of an overload current in the circuit thereof, said overload release means including a pair of externally accessible oppositely directed fittings complementary to each other and formed so that the fitting at one side of a circuit breaker of a given rating will mate with the corresponding fitting of the opposed fitting surface of another circuit breaker of the same rating when assembled thereto, said fittings of each rating of circuit breaker being unique and distinctively different from the fittings of all other ratings of such circuit breakers.

8. A single pole circuit breaker including a self-contained independently operable circuit breaker mechanism having tripping means automatically operable to cause opening of the circuit breaker upon occurrence of an overload current in the circuit thereof, said single pole circuit breaker being adapted for assembly in adjacent predetermined relation with a companion similar circuit breaker and said tripping means of said single pole circuit breaker being laterally accessible for inter-connection with the corresponding fitting of another similar circuit breaker when assembled in laterally adjacent relation thereto, said single pole circuit breaker having a removable cover protecting said fitting against accidental obstruction.

9. An assembly of plural similar single pole circuit breakers of various different ratings, each circuit breaker being a single pole unit independently operable and including a circuit breaker operating mechanism and an overload release mechanism for causing automatic opening of the circuit breaker operating mechanism upon occurrence of an overload current in the circuit thereof, at least one group of said circuit breakers of a given rating being assembled in laterally aligned relation and the overload release means of each circuit breaker including a laterally exposed fitting coupled to that of the adjacent circuit breaker of the same rating, all the fittings of the circuit breakers being selectively movable either into coupled relation to the corresponding fitting of the next adjacent circuit breakers or into decoupled relation therewith, and said fittings of said one group of circuit breakers having a shape which is uniquely identified with the rating thereof and the fitttings of different ratings of circuit breakers being distinctively different.

10. A single pole circuit breaker in the form of a completely separate and self-contained unit and containing an independently operable circuit breaker mechanism having tripping means automatically operable to cause opening operation of the circuit breaker mechanism upon occurrence of an overload current in the circuit thereof, said single pole circuit breaker being adapted for assembly in adjacent predetermined relation with a companion similar circuit breaker, and said tripping means of said single-pole circuit breaker including an externally accessible coupling permanently connected to the remainder of said tripping means and selectively settable in relation to the remainder of said tripping means to establish mechanical connection with the tripping means of the companion circuit breaker to trip the circuit breaker mechanism of each circuit breaker in response to automatic overload tripping of either circuit breaker, thereby to provide multi-pole operation, said coupling also being selectively settable differently in relation to the remainder of said tripping means of said single pole circuit breaker for interrupting the connection between the tripping means of said single pole circuit breaker and that of said companion similar circuit breaker.

11. A single pole circuit breaker in accordance with claim 10 wherein said circuit breaker mechanism has a manual actuator, said manual actuator having a selectively settable coupling element movable in relation to the remainder of said manual actuator to establish coupled coordinate operation with the manual actuator of the companion similar circuit breaker or, selectively, to establish independent operation of the manual actuator of said single pole circuit breaker.

12. A circuit breaker assembly including plural similar circuit breakers each circuit breaker being a self-contained individual separate and complete single-pole unit independently operable and including a circuit breaker operating mechanism and an overload release mechanism for causing automatic opening of the circuit breaker operating mechanism upon occurrence of an overload current in the circuit thereof, said circuit breakers being assembled in laterally aligned relation and the overload release means of each circuit breaker including coupling means accessible from the exterior of such single pole circuit breaker unit and selectively settable in relation to the remainder of the overload release means of its circuit breaker and optionally set for either establishing mechanical coupling between the overload release means of the adjacent circuit breakers for tripping the coupled circuit breakers and thus providing multi-pole operation, or for interrupting said mechanical coupling to render operation of each single pole unit independent of the laterally aligned single pole unit, said coupling means being integral with said single pole circuit breaker and having a permanent connection to the remainder of its overload release means.

13. A circuit breaker assembly in accordance with claim 12 wherein the circuit breaker operating mechanism of each circuit breaker includes an externally accessible manual actuator, each manual actuator having an

externally accessible selectively settable coupling element movable in relation to the remainder of that manual actuator and engageable with the manual actuator of the next adjacent single pole unit of the assembly to establish coordinated operation therewith or, selectively, to establish independent operation of each actuator of said single-pole units.

14. A single pole circuit breaker in the form of a completely separate and self-contained unit and containing an independently operable circuit breaker mechanism having tripping means automatically operable to cause opening operation of the circuit breaker mechanism upon occurrence of an over-load current in the circuit thereof, said single pole circuit breaker being adapted for assembly in adjacent predetermined relation with a companion similar circuit breaker, and said tripping means of said single-pole circuit breaker including an externally accessible coupling means selectively settable in relation to the remainder of said tripping means to establish mechanical connection with the tripping means of the companion circuit breaker to trip the circuit breaker mechanism of each circuit breaker in response to automatic overload tripping of either circuit breaker, thereby to provide multi-pole operation, said coupling means also being selectively settable differently in relation to the remainder of said tripping means of said single pole circuit breaker for interrupting the connection between the tripping means of said single pole circuit breaker and that of said companion similar circuit breaker, said coupling means including a coupling element that is mounted for movement between retracted and projected positions in relation to the circuit breaker exterior for establishing independent single-pole operation or for establishing multi-pole operation.

15. A circuit breaker assembly including plural similar

circuit breakers each circuit breaker being a self-contained individual separate and complete single-pole unit independently operable and including a circuit breaker operating mechanism and an overload release mechanism for causing automatic opening of the circuit breaker operating mechanism upon occurrence of an overload current in the circuit thereof, said circuit breakers being assembled in laterally aligned relation and the overload release means of each circuit breaker including coupling means accessible from the exterior of such single pole circuit breaker unit and selectively settable in relation to the remainder of the overload release means of its circuit breaker and optionally set for either establishing mechanical coupling between the overload release means of the adjacent circuit breakers for tripping the coupled circuit breakers and thus providing multi-pole operation, or for interrupting said mechanical coupling to render operation of each single pole unit independent of the laterally aligned single pole unit, said coupling means of each single-pole unit being mounted for selective projection or retraction relative to the exterior of the single pole unit so as to be selectively movable toward or away from the next adjacent circuit breaker of the assembly.

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