Sept. 6, 1938. W. H. FRANK ET AL 2,128,999

SWITCH

Filed Jan. 16, 1936

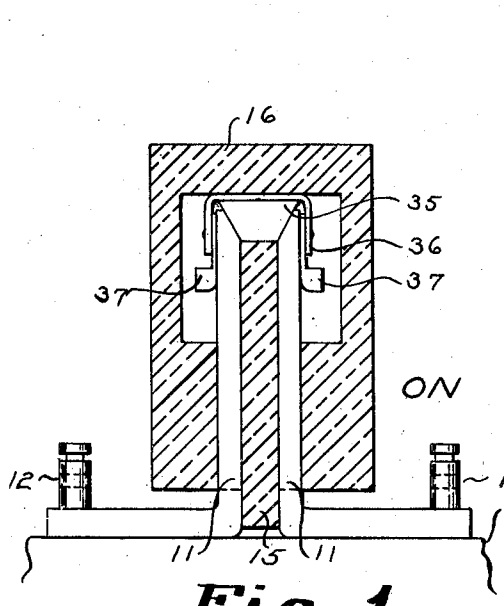


Fig. 1

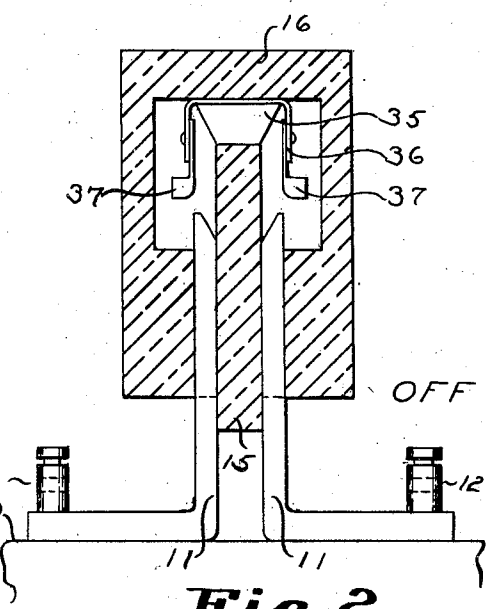


Fig. 2

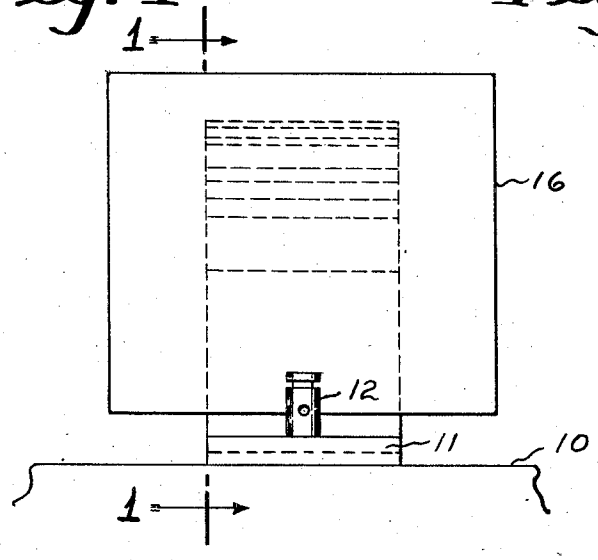


Fig. 3

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SWITCH

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Application January 16, 1936, Serial No. 59,379

18 Claims. (Cl. 200—151)

This application relates to contact arrangements for switches and more specifically relates to multiple break contact arrangements.

For an understanding of the switch contact arrangements herein disclosed reference should be had to the appended drawing disclosing the same.

In this drawing, Figs. 1 and 2 are sections as if on line 1—1 of Fig. 3 showing the switch parts in on and off positions respectively.

Fig. 3 is a side elevation.

It will be seen that the contact arrangement herein disclosed includes an insulating base **10** upon which are mounted spaced stationary contacts **11** having conductor terminal binding posts **12**. For engaging each of the stationary contacts there is provided, within a slide **15** formed as part of an insulation housing **16**, a movable contact **35** formed to engage the contacts with a butt pressure and with a wiping contact engagement.

In addition the housing **16** is shown as provided with a U-shaped contact spring **36** having contact tips **37**. The spring **36** functions to urge the tips of the stationary contacts **11** towards each other and thus increase the butt contact pressure of them on contact **35** and to urge contact tips **37** tightly into engagement with the stationary contacts **11**; contact tips **37** provide arcing tips, it being observed that contacts **37** make with stationary contacts **11** before and break therefrom after the movable contact **35** makes and breaks contact with contacts **11**.

The housing **16** is adapted to be reciprocated by means not shown for make and break.

It will be observed that the edges of the openings in the bottom wall of the housing **16** on the opposite sides of the blade **15** through which contacts **11** pass are dimensioned to fit closely around the stationary contacts **11** so that the interior of the housing is sealed at all times by the stationary contacts **11**.

Now having described the switching contact arrangement herein disclosed, reference will be had to the following claims for a determination of the inventions claimed.

We claim:

1. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned to engage and wipe a part of each stationary contact, the blade also carrying a second movable contact in the form of a U-shaped spring, electrically connected to the first blade contact and positioned to engage, wipe, and embrace the stationary contacts.

2. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact electrically connected to the first blade contact and adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact.

3. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact electrically connected to the first blade contact and adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the second blade contact being U-shaped and formed to embrace the stationary contacts.

4. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned to engage and wipe a part of each stationary contact, the blade also carrying a second movable contact in the form of a U-shaped spring, electrically connected to the first blade contact and positioned to engage, wipe, and embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts.

5. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact electrically connected to the first blade contact and adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts.

6. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned be-

tween the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact electrically connected to the first blade contact and adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the second blade contact being U-shaped and formed to embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts.

7. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned to engage and wipe a part of each stationary contact, the blade also carrying a second movable contact in the form of a U-shaped spring, electrically connected to the first blade contact and positioned to engage, wipe, and embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts, the edges of the openings being dimensioned at fit close around the stationary contacts.

8. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact electrically connected to the first blade contact and adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts, the edges of the openings being dimensioned to fit close around the stationary contacts.

9. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantially wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact electrically connected to the first blade contact and adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the second blade contact being U-shaped and formed to embrace the stationary contacts the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts, the edges of the openings being dimensioned to fit close around the stationary contacts.

10. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned to engage and wipe a part of each stationary contact, the blade also carrying a second movable contact in the form of a U-shaped spring, positioned to engage, wipe, and embrace the stationary contacts.

11. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact.

12. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the second blade contact being U-shaped and formed to embrace the stationary contacts.

13. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned to engage and wipe a part of each stationary contact, the blade also carrying a second movable contact in the form of a U-shaped spring positioned to engage, wipe, and embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts.

14. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts.

15. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the second blade contact being U-shaped and formed to embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts.

16. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned to engage and wipe a part of each stationary contact, the blade also carrying a second movable contact in the form of a U-shaped spring positioned to engage, wipe, and embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts, the edges of the openings being dimensioned to fit close around the stationary contacts.

17. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts, the edges

of the openings being dimensioned to fit close around the stationary contacts.

18. A switch including two adjacent stationary contacts, an insulation blade movable between and in substantial wiping engagement with them and provided with a contact positioned between the adjacent stationary contacts to engage and wipe them, the blade also carrying a second contact adapted to engage and wipe the stationary contacts independently of the engagement between them and the first blade contact, the second blade contact being U-shaped and formed to embrace the stationary contacts, the blade and its contacts being enclosed within a hollow housing having openings on opposed sides of the blade receiving the stationary contacts, the edges of the openings being dimensioned to fit close around the stationary contacts.

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