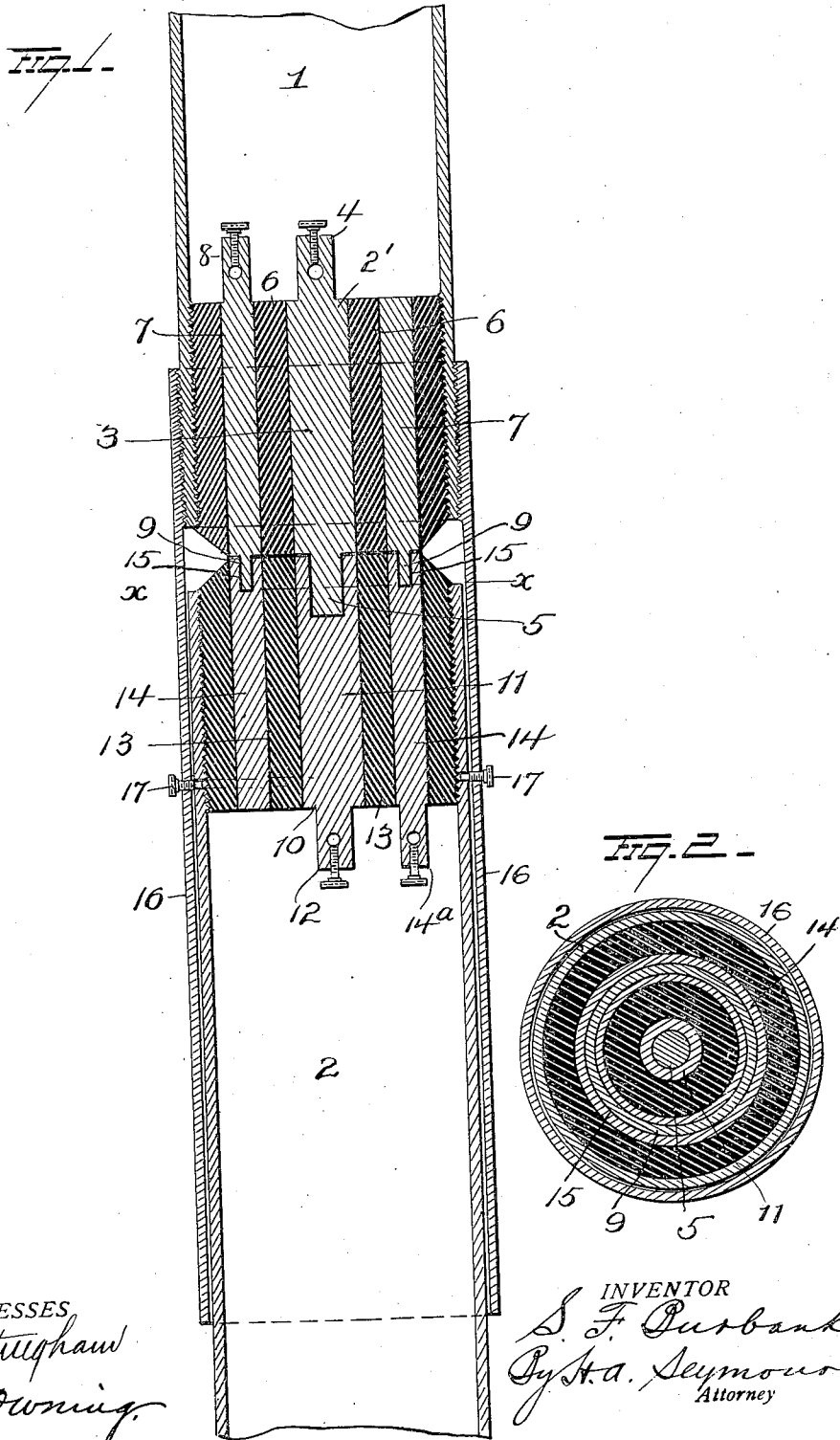


No. 870,490.

PATENTED NOV. 5, 1907.

S. F. BURBANK.
COMBINED ELECTRIC CONNECTOR AND SWITCH.
APPLICATION FILED JAN. 24, 1906.



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STEPHEN FRONTIS BURBANK, OF WILMINGTON, NORTH CAROLINA.

COMBINED ELECTRIC CONNECTOR AND SWITCH.

No. 870,490.

Specification of Letters Patent.

Patented Nov. 5, 1907.

Application filed January 24, 1906. Serial No. 297,628.

To all whom it may concern:

Be it known that I, STEPHEN FRONTIS BURBANK, a resident of Wilmington, in the county of New Hanover and State of North Carolina, have invented certain new and useful Improvements in Combined Electric Connectors and Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improved electrical connecting devices, and more particularly to a combined revoluble contact and switch device,—one object of the invention being to so construct a combined device of the character specified, that one part can be turned 360° without breaking the circuit, and so that the circuit can be made or broken by moving one part endwise with respect to the other part at any point within the 360° through which each part may be turned.

A further object is to produce a combined revoluble contact device and switch which shall be simple in construction; afford extensive contacting surfaces, and which shall be effectual, in all respects, in the performance of its functions.

With these objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings; Figure 1 is a longitudinal sectional view illustrating my improvements: Fig. 2 is a transverse sectional view on the line $x-x$ of Fig. 1.

My improvements are intended for use in connection with any electrical device where a combined revoluble contact and switch device is desirable,—for instance, in supplying electric current to gun carriages.

1, 2 represent tubes or pipe sections which may be connected in any suitable manner to two parts of a gun carriage so mounted that one part has revoluble movement with respect to the other part, and one of said tubes or pipe sections is intended to have an endwise movement with respect to the other part. Within one end of the pipe section 1, a composite block 2' is screwed. This block comprises a central core 3 of metal, provided at one end with a binding post 4 and at its other end with a tenon 5 which projects beyond the end of the pipe section 1. A sleeve 6 of insulating material surrounds the core 3 and encircling said insulating sleeve, is an annular conductor 7. The annular conductor 7 is provided at one end with a binding post 8 and at its other end with an annular rib 9. A composite block 10 is screwed into the end of the pipe section 2 and comprises a central core 11 having a socket in one end to receive the tenon 5 on the core 3 and a binding post 12 at the other end. An insulating sleeve 13 surrounds the core 11, and encircling the sleeve 13 is an annular conductor 14 having a binding post 14* at one

end and an annular groove 15 in its other end, for the reception of the annular rib 9 on the annular conductor 7. A sleeve 16 embraces the pipe sections. One end of this sleeve may be screwed to the pipe section 1, and the other pipe section may be moved freely within said sleeve.

With the construction and arrangement of parts as above described, it will be readily seen that when the blocks within the two pipe sections are brought together, the tenon and rib on the conductors of one block will enter the socket and groove in the conductors in the other block and the electric circuit in which said conductors are included, will be closed,—the extensive bearings between the conductors, afforded by the tenon and socket and rib and groove construction of the conductors, insuring efficient electrical connection between the conductors even when there is slight longitudinal movement of the respective pairs of conductors relatively to each other. In order, however, to prevent any longitudinal movement of one set of conductors relatively to the other set, screws 17 may be passed through the sleeve 16 and made to enter elongated slots in the pipe section 2. When these screws are removed, the blocks containing the conductors, can be moved manually away from each other to open or close the circuit and thus the device may be utilized as a switch. One block can be turned 360° relatively to the other, when the screws 17 have been removed, without breaking the circuit, and they may be brought together to close the circuit or separated to open the circuit, when in any position to which they may be rotated.

While I have described my improvements as applied to gun carriages, it is evident that they may be used with equal advantage in other apparatus or devices where rotary contacts or connecting devices are desirable.

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

1. A device of the character described, comprising two sets of insulated conductors, the conductors of one set having sockets receiving projecting portions of the conductors of the other set and said sets of conductors revoluble relatively to each other through 360 degrees.
2. A device of the character described, comprising two sets of insulated conductors, one conductor of each set being annular and concentric with the other conductor and the conductors of one set having sockets in one end and the conductors of the other set having projecting portions entering said sockets and capable of revoluble and longitudinal movement relative to each other.
3. In a device of the character described, the combination of two blocks, each comprising a central conducting core, an annular conductor encircling the same and insulating material between said core and annular conductor, said conducting core and annular conductor of one block having projections on one end, and the core and annular conductor of the other block recessed to receive said projections said blocks maintaining the continuity of the circuit

throughout any revoluble movement of one block relatively to the other.

4. In a device of the character described, the combination of two pipe sections and a sleeve embracing said pipe sections and secured to one of them, of a connector block
5 in each pipe section, each connector block comprising a central conducting core and an annular conductor encircling the core and insulated therefrom and from the pipe section, the core of one block having a socket and the
10 annular conductor of the same block having an annular

groove in one end, an annular rib on the annular conductor of the other block to enter said annular groove, and the central core having a tenon to enter the socket in the central core of the other block.

In testimony whereof, I have signed this specification 15 in the presence of two subscribing witnesses.

STEPHEN FRONTIS BURBANK.

Witnesses:

PERCY CANADAY,
LOUIS BELDEN.