

No. 716,880.

Patented Dec. 30, 1902.

J. FLYNN.
SWITCH IRON.

(Application filed Aug. 16, 1902.)

(No Model.)

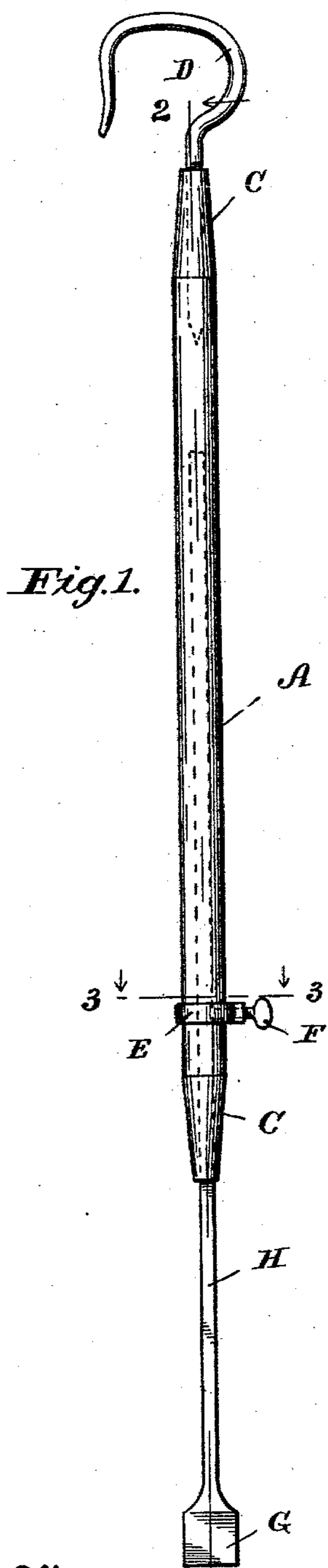


Fig. 1.

Fig. 3.

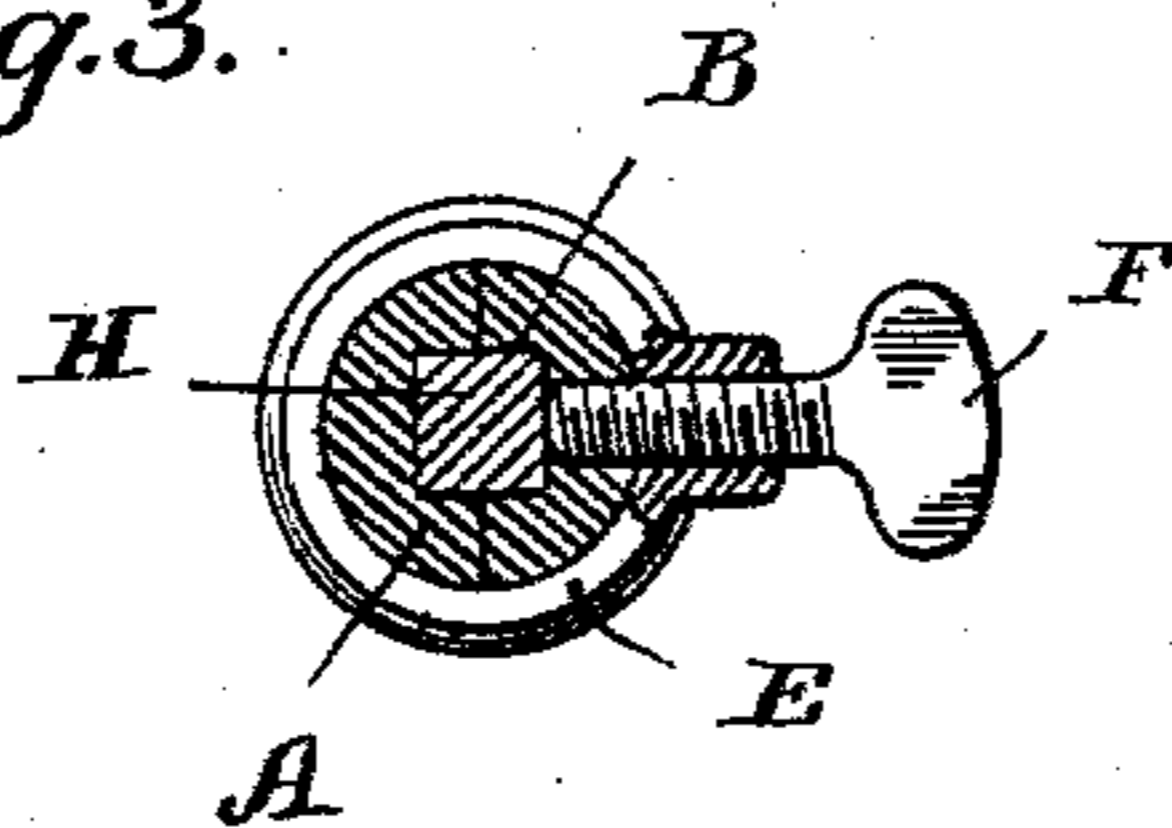


Fig. 2.

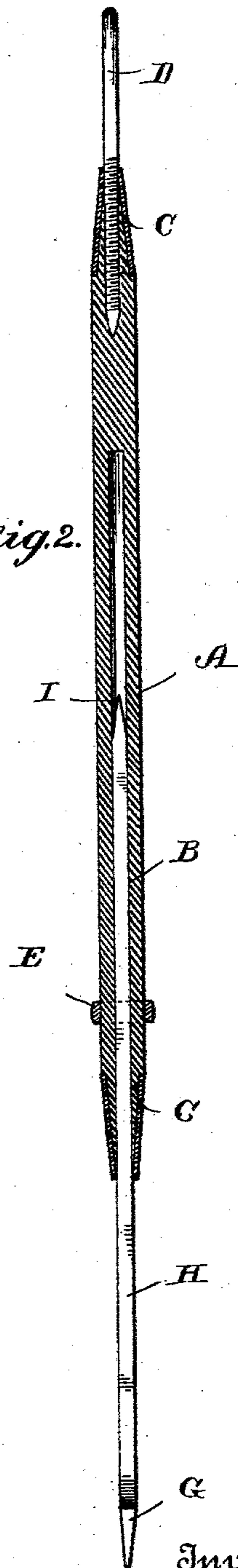
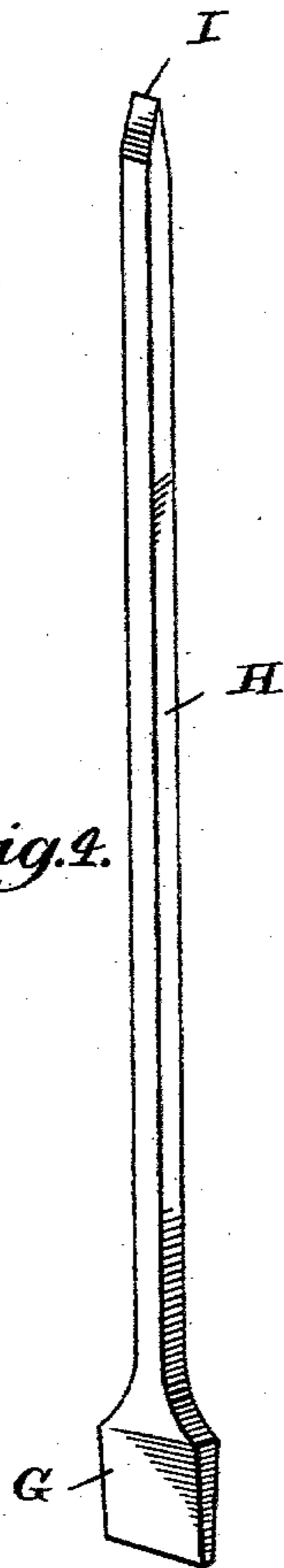


Fig. 4.



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SWITCH-IRON.

SPECIFICATION forming part of Letters Patent No. 716,880, dated December 30, 1902.

Application filed August 16, 1902. Serial No. 119,891. (No model.)

To all whom it may concern:

Be it known that I, JOHN FLYNN, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Switch-Irons, of which the following is a specification.

My invention relates to new and useful improvements in "switch-irons," so called, such as are employed by electric-car motormen to operate track-switches from the front platform of a car. Heretofore there has been employed for this purpose a plain round bar of iron, one end of which was bent around to form a handle, while the other end was flattened to form a blade to insert between the rails of the switch to spread the same. These tools have not been entirely satisfactory, for the reasons that they had to be made in different lengths to accommodate different sizes or heights of cars, and in consequence they were an annoyance to the motormen, since they had to look up a new switch-iron of the proper length each time they shifted from one car to another or to suffer the inconvenience of using an iron which was much too long or much too short. It is also necessary for the attachées on each electric car to carry a short piece of heavy copper wire which they employ for making contacts between the car and wheel when the same becomes grounded, as is often the case. In some instances the old form of switch-irons have been used for this purpose by inserting the blade between the wheel and rail, in which cases their handles have been insulated by a covering comprising a wrapping of tape. Such a protection, however, was in a measure unsatisfactory, for the reason that the covering wore off or became wet, thus not making as reliable a protection to the manipulator as was desired, and in consequence frequent electric shocks were received.

It is therefore the object of my invention to improve switch-irons of the above class by first providing one which shall be adjustable and adapted for use upon cars of varying sizes and heights, enabling the motorman to reach and operate the switch quickly and conveniently; secondly, to construct the device so that it can safely be employed for making a contact between the car and wheel when

the latter becomes grounded and with perfect safety to the motorman; finally, to provide a durable and practicable switch-iron wherein the handle and blade are formed separately, but adjustably connected together and likewise insulated, so that it is utterly impossible for it to serve in any degree as a conductor of electricity.

With the above objects in view my invention resides and consists in the novel construction shown upon the accompanying sheet of drawings, forming a part of this specification, upon which similar letters of reference denote like or corresponding parts throughout the several figures, and of which—

Figure 1 shows a front elevation of my improved adjustable switch-iron complete. Fig. 2 shows a central vertical longitudinal section through the switch-iron and taken on line 2 2 of Fig. 1. Fig. 3 shows an enlarged transverse cross-section looking downward and taken on line 3 3 of Fig. 1, and Fig. 4 shows a perspective view of the blade portion of my device.

Referring in detail to letters of reference marked upon the drawings, A indicates the handled or main member of my device, which is preferably made of wood, the same serving as a non-conductor. This member is of a substantially uniform diameter, having a square socket B longitudinally and centrally thereof, extending in from the lower end to substantially two-thirds of its length, (not entirely through.) A conical-shaped metal ferrule C is placed around each end of this handled member, and a suitable handle D is attached to the upper end of said member by having a threaded shank which is screwed in the upper ferruled end of the member in a manner to afford a secure and firm connection. This handle is of a hook-like construction, making it conveniently adaptable to engage and be suspended from the dashboard-rail of the car in a desirable manner. A collar E is applied to the lower end of this handled member and contains a set-screw F, which passes therethrough and into the central socket B for the purpose of engaging the shank of the adjustable blade, as will later be referred to.

G represents a steel blade, which is preferably tapering, as shown, to insure its easy access between the rail members of the switch.

H represents the blade-shank, which, as shown, is square and integral therewith, of a size to engage the square socket B, before mentioned, and I represents a flattened end to the shank, which end may be used as a screw-driver and for other purposes. As explained, this square shank of the blade is adjustably mounted within the socket. Both being square naturally afford a reliable purchase and insure a positive turning movement of the blade with the handle in the operating of a switch. The blade is adjusted within the before-mentioned socket to the height desired, forming a complete article of the proper length to agree with the particular height of car upon which it is to be employed and then clamped by means of the set-screw F.

In this my invention I do not wish to be limited to the exact details of construction shown, since the same may be changed without departing from the essence thereof, as will be more apparent from the claims to follow.

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

1. A switch-iron of the class described, the same comprising two members adjustably secured together, one an insulated member provided with an attached handle, and the other a metallic member carrying a blade, substantially as described.

2. A switch-iron of the class described, the same comprising two telescoping members, the outer one of which contains a square longitudinal socket, a handle screwed into the outer member, a blade for engaging a switch, and having a square shank to enter the socket.

3. A switch-iron comprising a handled member, having a longitudinal square socket there-

in, and a blade member comprising a shank shaped to engage said socket, substantially as described.

4. A switch-iron comprising a handled member, a blade member adjustably secured thereto and means for properly insulating one from the other.

5. A switch-iron of the class described, the same comprising a handled member, with a square socket therein, a square shank to engage said socket having a blade on its exposed end and means for securing said shank at any desired position within the socket.

6. A switch-iron comprising an insulated handled member having a suitable longitudinal socket therein, a metallic blade bearing a reduced shank to engage the socket and a set-screw for locking said shank in any position in the socket.

7. A switch-iron comprising a main member of insulating material, a handle screwed into one end thereof, a longitudinal socket in said member, a blade adjustably secured in the opposite end, means for securing the same in position and ferrules encircling each end of said main member.

8. A device of the class described the same comprising a metallic and non-conductive member, means for adjustably uniting them together, a blade upon the metal member and a handle upon the other member, substantially as described.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 14th day of August, A. D. 1902.

JOHN FLYNN.

Witnesses:

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