

H. E. HOWE.
SECTION BREAKER.

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950,922.

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Fig. 1.

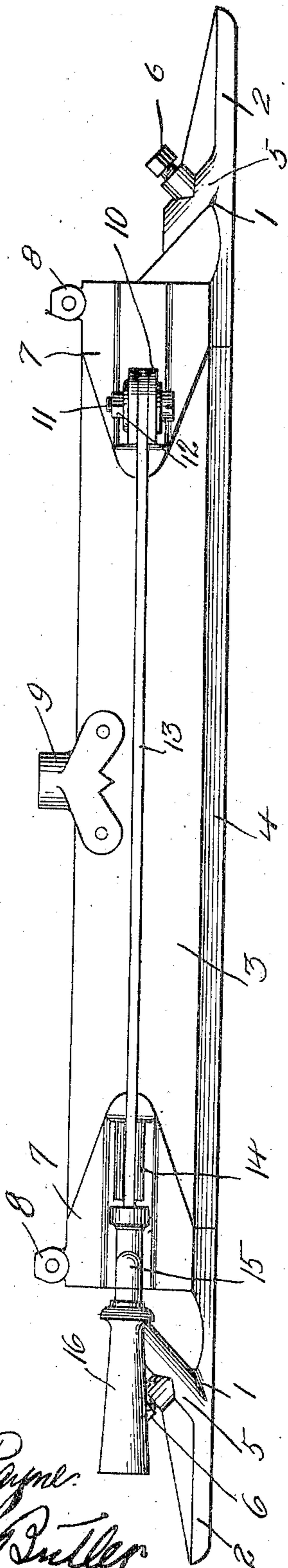
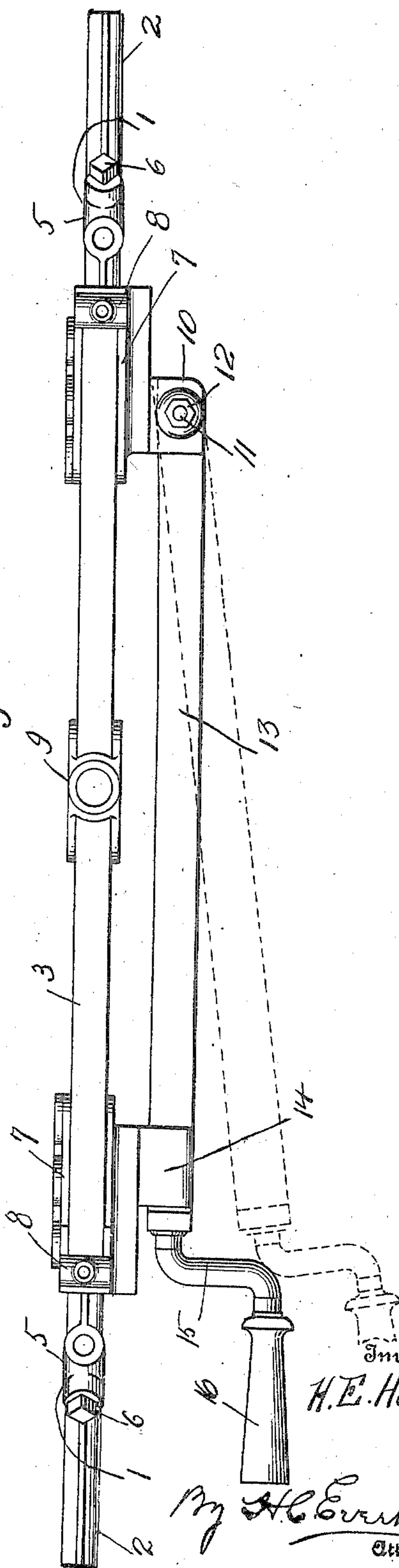


Fig. 2.



Witnesses

Samuel Payne.
R. H. Butler

Inventor

H. E. Howe.

By H. E. Howe & Co.
Attorneys

UNITED STATES PATENT OFFICE.

HARVEY E. HOWE, OF WINDBER, PENNSYLVANIA.

SECTION-BREAKER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARVEY E. HOWE, a citizen of the United States of America, residing at Windber, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Section-Breakers, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to section breakers, and more particularly to that type of section breaker designed for trolley systems of mines.

15 The object of the invention is to provide a section breaker with a knife switch for establishing a circuit between the confronting ends of two trolley wires when a trolley wheel is passing from one wire to the other.

20 It is the present practice to connect the two confronting ends of two wires by a piece of insulation, as wood or fiber, and to convey the electric current around a piece of insulation by a wire having the ends thereof attached to the coupling members of the trolley wire. This practice is defective, since considerable trouble is experienced by this piece of wire "burning out" and there is danger in placing the piece of wire in position.

30 My invention aims to obviate the above defects by the employment of a knife switch, the knife being pivotally connected to one of the coupling members at one end of the piece of insulation and adapted to swing into engagement with the resilient arms carried by the coupling members at the opposite end of the piece of insulation.

40 The detail construction of the section breaker will be hereinafter described and claimed, and reference will now be had to the drawing wherein there is illustrated a convenient embodiment of the invention, and in which:

45 Figure 1 is a side elevation of the section breaker, and Fig. 2 is a plan of the same, showing the knife in an open position in dotted lines.

50 In the drawings, 1 and 2 denote metallic coupling members for the confronting ends of two trolley wires (not shown), said coupling members being connected by an insulated breaker piece 3 having the lower edge thereof beveled or rounded, as at 4, and in longitudinal alinement with the coupling members 1 and 2. This breaker piece is preferably made of wood or fiber.

The members 1 and 2 are provided with sockets 5 for the ends of a trolley wire, and set screws 6 for retaining the end of the wire in each socket. Each member is also provided with parallel clamping plates 7, and in order that my invention can be readily understood relative to the present type of section breaker, I have shown the plates 7 as having wire sockets 8, to which the ends of a wire are connected for conveying an electrical current from the member 1 to the member 2 around the insulation piece 3; it being the principal object of the present invention to eliminate such a wire. The clamping plates 7 are suitably secured to the ends of the insulation piece 3, and this piece intermediate the ends thereof is provided with a hanger socket 9, all of these parts being common to the present type of section breaker used in connection with the trolley systems of mines.

55 In carrying my invention into effect, I provide the clamping plates 7 at one end of the piece 3 and upon one side thereof with parallel horizontal apertured lugs 10, and pivotally mounted between said lugs by a screw 11 and a nut 12 is a knife blade 13 of a sufficient length to extend forward of the plates 7 at the opposite end of the piece 3. Here the plates are provided with parallel resilient arms 14 to receive the knife blade 13 and establish a direct circuit between the coupling members 1 and 2.

60 In order that the knife blade 13 can be moved into and out of engagement with the arms 14 without the operator's hand contacting with the coupling members 1, the free end of said knife blade is provided with an outwardly extending or off-set handle rod 15 having an insulation handle 16.

65 It will be understood that the knife blade 13 is made of non-fusible conductive material. It is also thought that the operation and utility of the knife switch in connection with the section breaker can be readily understood.

70 Having now described my invention what I claim as new, is:—

75 In a section breaker, the combination with a pair of coupling members, each adapted to have secured thereto the end of an electrical conductor, a pair of vertically disposed clamping plates carried by each of said coupling members, and an insulated breaker piece connecting one pair of clamping plates to the other pair of clamping plates, of a

pair of flat lugs formed integral with the
outer side of one of the plates of one pair of
coupling plates and extending in a horizon-
tal plane and disposed at right angles with
5 respect to the side of the said plate, a knife
blade having one end extending between and
pivotally connected to said lugs and extend-
ing to one of the plates of the other pair of
plates, and a pair of flat resilient arms
10 formed integral with the outer side of one
of the plates of the last mentioned pair of
plates and extending in horizontal planes
and disposed at right angles with respect to

the side of the said plate and adapted to
receive the blades therebetween, and a han- 15
dle connected to said blade at one side of
said resilient arm and offset with respect to
the plane in which the blade extends, said
handle formed of insulating material.

In testimony whereof I affix my signature 20
in the presence of two witnesses.

HARVEY E. HOWE.

Witnesses:

EDWARD HANCOCK,
J. H. HUMMULL.