

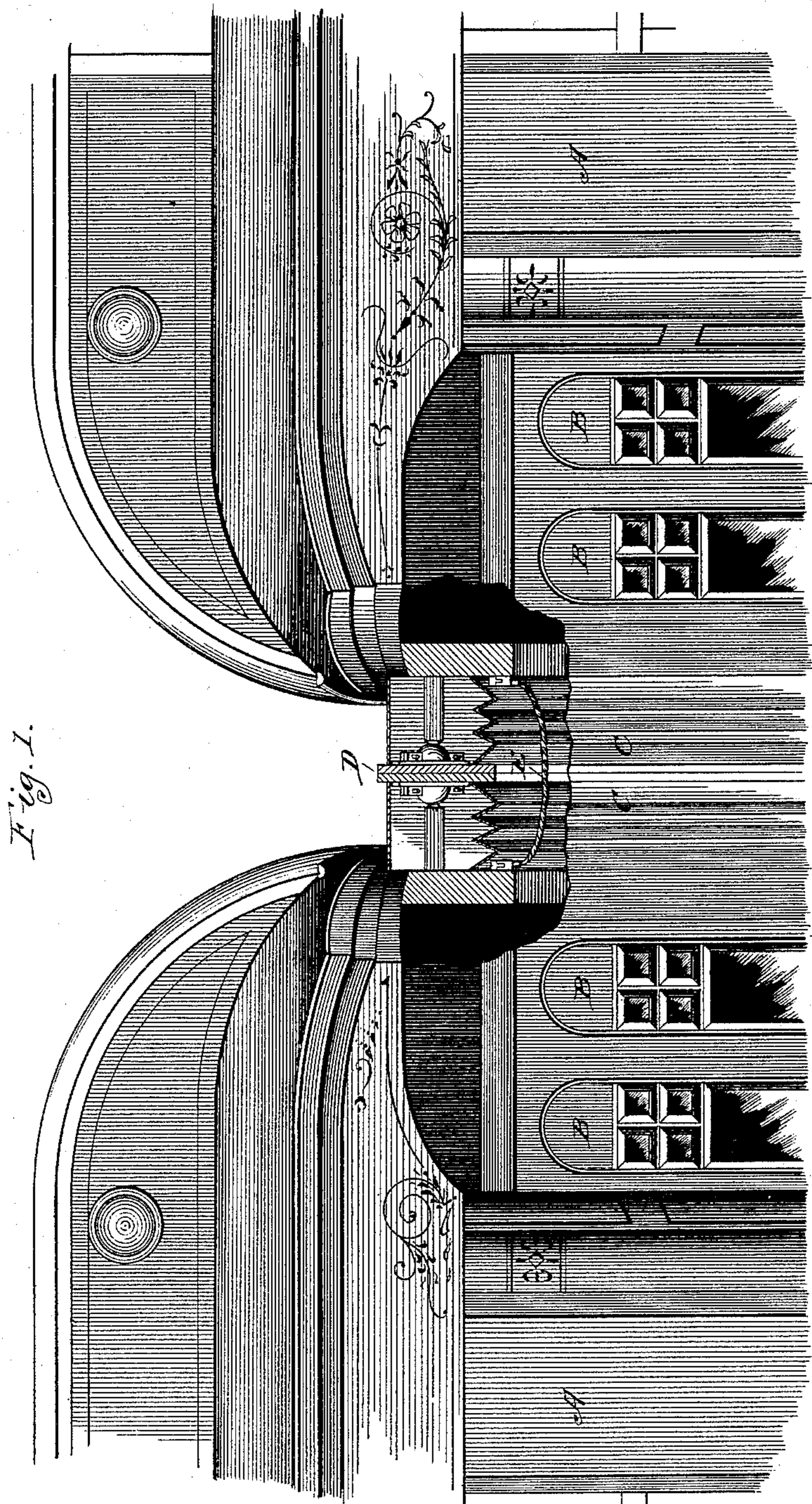
(No Model.)

2 Sheets—Sheet 1.

J. W. HOFFMAN.
ELECTRIC WIRE CONNECTOR.

No. 445,751.

Patented Feb. 3, 1891.



Witnesses,
J. E. Mann,
C. C. Luthicum.

Inventor
John W. Hoffman
By, Offield & Towle Attys.

(No Model.)

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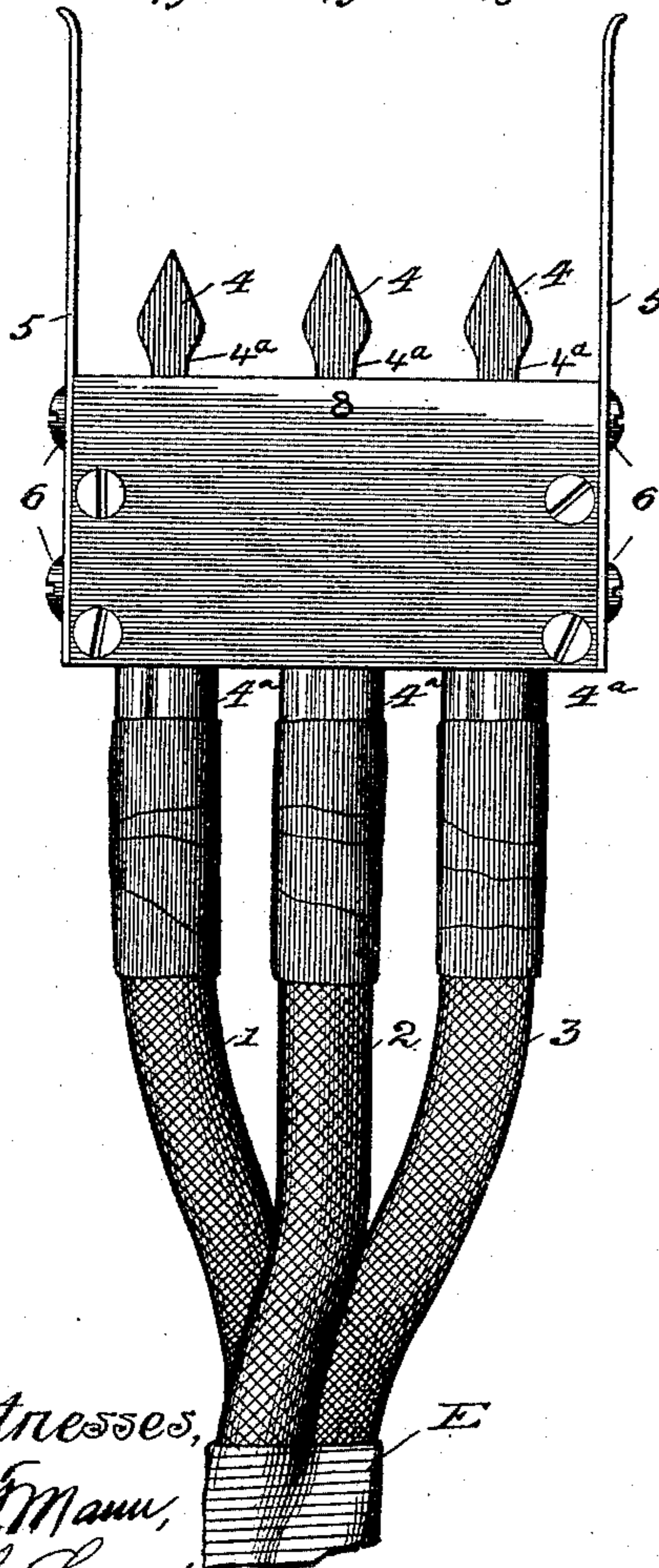
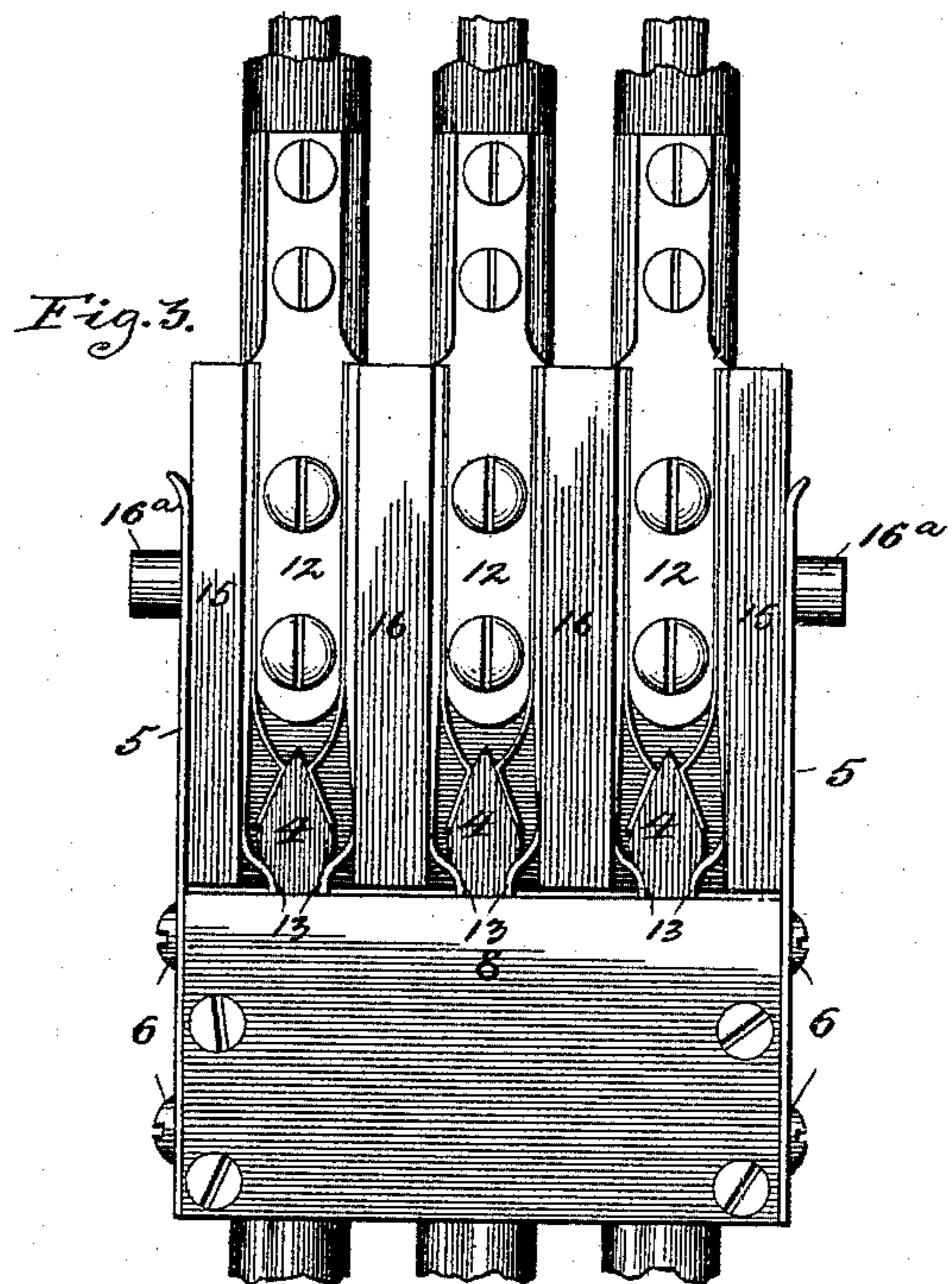
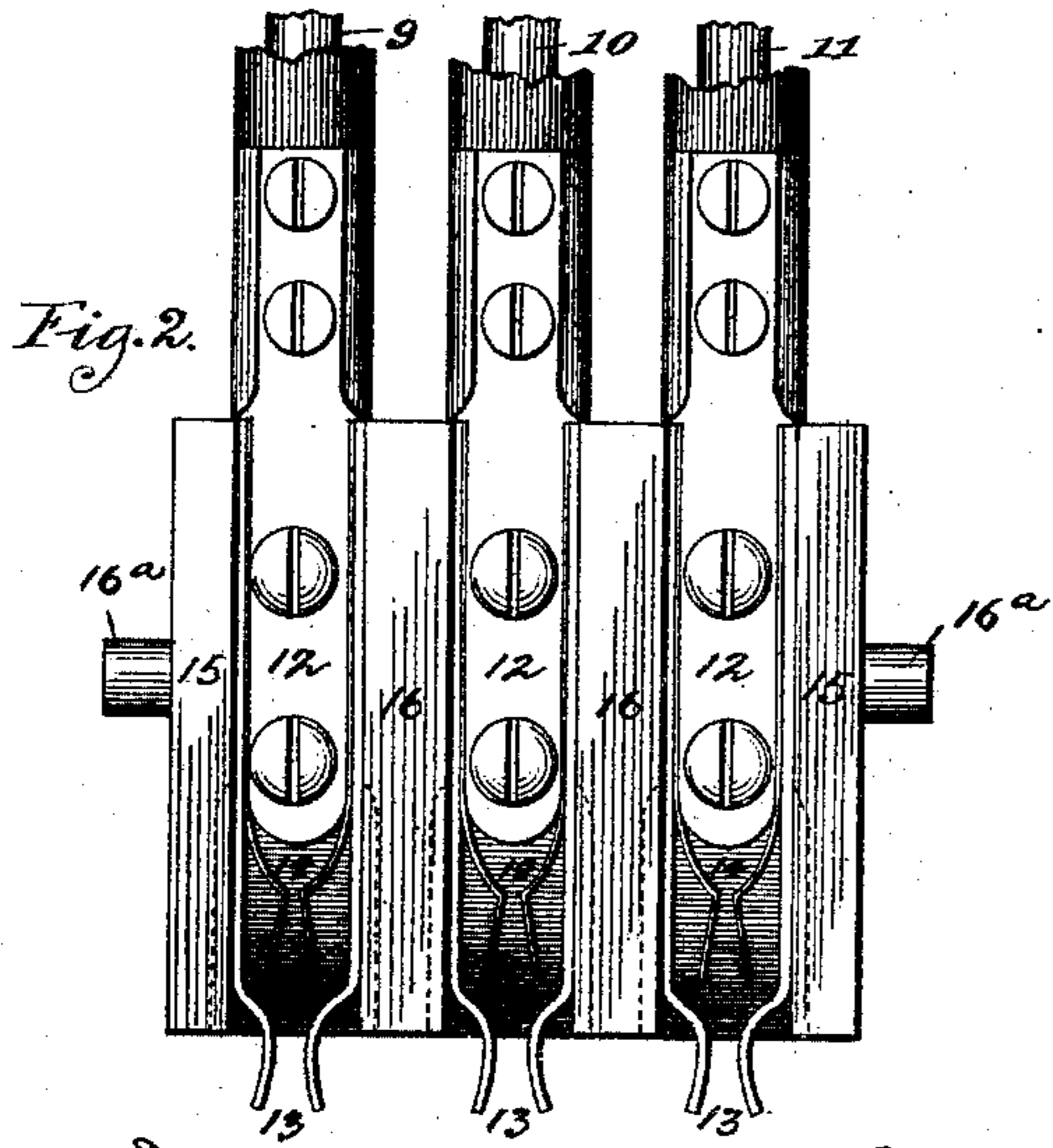
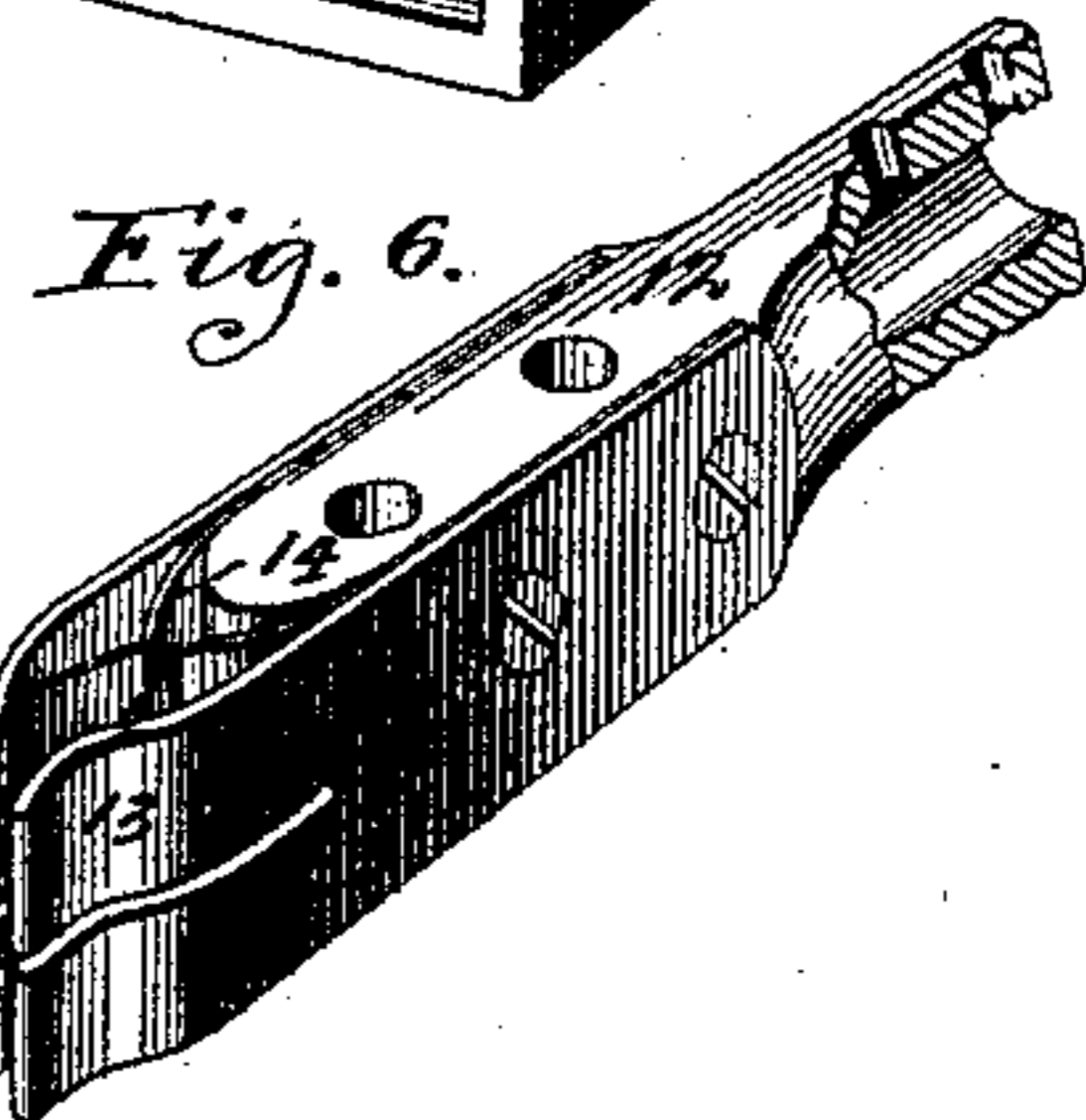
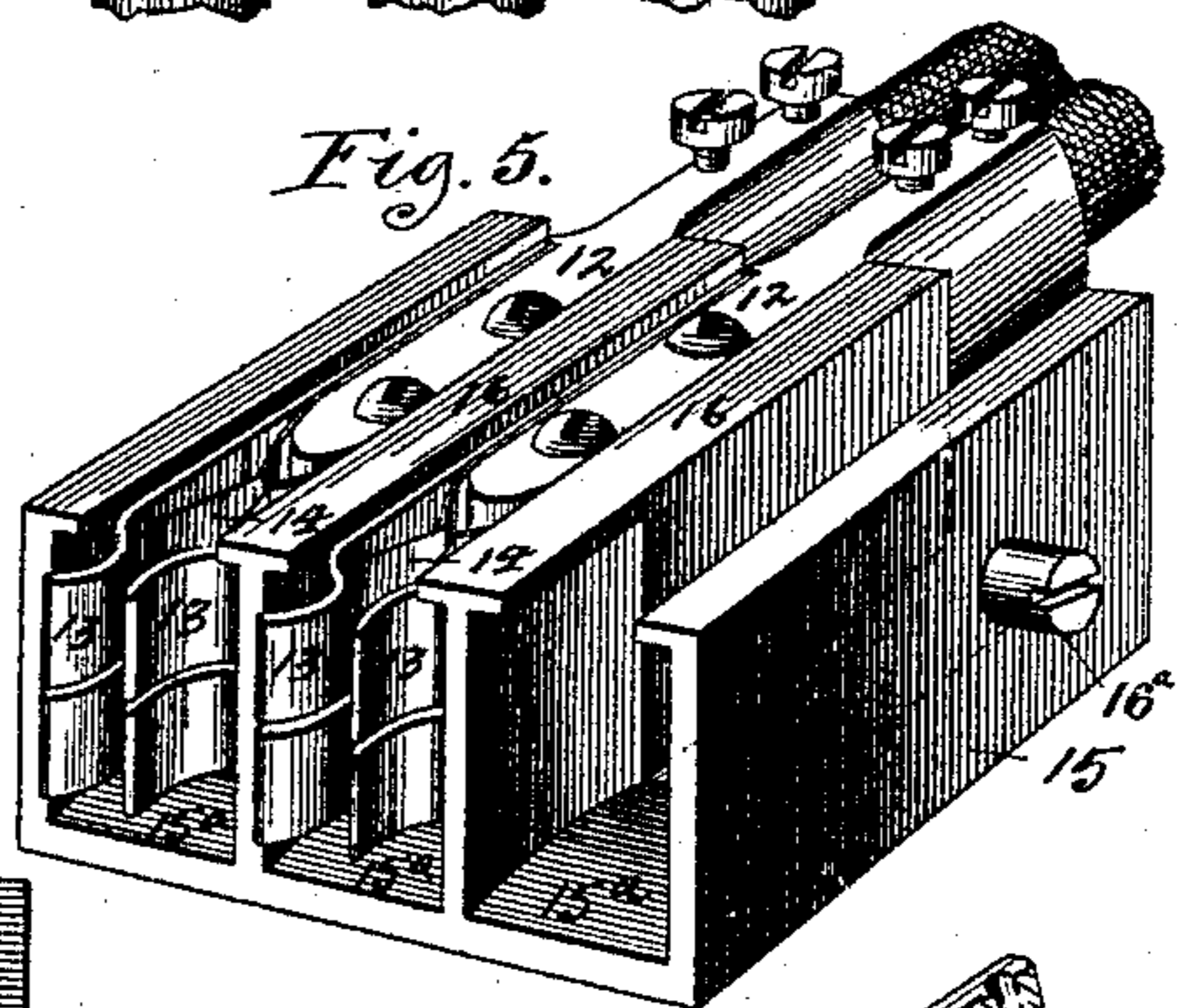


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN W. HOFFMAN, OF PULLMAN, ASSIGNOR TO THE PULLMAN'S PALACE
CAR COMPANY, OF CHICAGO, ILLINOIS.

ELECTRIC-WIRE CONNECTOR.

SPECIFICATION forming part of Letters Patent No. 445,751, dated February 3, 1891.

Application filed August 22, 1889. Serial No. 321,575. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HOFFMAN, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric-Wire Connections, of which the following is a specification.

My invention relates particularly to means for connecting the electric wires which are used in the lighting of railway-trains between the cars; and the invention consists in certain devices whereby such connections are conveniently made.

In the drawings, Figure 1 is a side elevation of part of the meeting ends of two passenger-cars with vestibule-connections, a portion of the walls of the latter being broken away and partly secured to show the connecting devices. Fig. 2 is a plan view of the meeting ends of a flexible coupler and a stationary contact-block disengaged. Fig. 3 is a similar view of the same devices in engagement. Fig. 4 is a side elevation of the same parts in engagement, and Figs. 5 and 6 are details in perspective.

In the drawings, referring particularly to Fig. 1, A represents the car ends, which are connected by the vestibule, of which B B represent the doors, C the bellows-fold flexible connections, and D the frame-plates.

E is a flexible coupler for connecting the electric-light wires between adjoining cars. This coupler is shown in detail in the remaining figures of the drawings, and referring now to said figures 1, 2, and 3 represent wires properly insulated and which, preferably, are cabled together between their ends, as shown at E in Fig. 2. Each of the wires will terminate at each end in a metallic contact, (marked 4,) the extreme end of which will be wedge-shaped, with a hollow or neck 4^a back of the point. These contacts are secured, preferably, in a frame similar to that shown in Fig. 5, said frame having spring side plates 5, secured by screws 6, said plates projecting beyond the ends of the contacts and being provided with slotted openings 7. Said frame may be provided with a removable top plate 8.

9, 10, and 11 represent ends of wires which pass through the car, and said ends are se-

cured to the frame of the car in such manner as to adapt them for connection with the coupler above referred to. As shown in the drawings, the ends of wires 9 10 11 are secured in the hollows of metallic blocks 12, Fig. 6, to which blocks are secured clamping-plates 13 of spring metal and of such form as to embrace the necks 4^a of contacts 4, and thus retain the latter against the ordinary strains to which they are subjected. Supplemental contact-plates 14 may be secured to the blocks 12, and between which the wedge-shaped ends of contacts 4 will be thrust in order to increase the area of surfaces in contact. The blocks 12 of the several wires 9 10 11 are preferably secured in a frame 15, having channels or chambers 15^a, and partitions 16. 16^a are studs projecting from walls 15. The plates 5 will be so constructed as to fit snugly the sides of the frame 15, and the slots therein will receive the studs 16^a, and thus prevent vibration of the parts.

It will be understood that the construction of coupler shown in Fig. 2 is duplicated at its other end and that one of said couplers will be provided with each car of the train. In making up the train the various cars have their electric wires coupled by forcing the spring-plates of said coupler over the frames in which the ends of the car-wires are secured and forcing the contacts 4 into the embrace of the spring-plates 13 and 14. This coupler is readily applied and as readily removed, and affords an efficient adjunct to the systems of lighting trains by electricity.

Modifications of the construction herein shown may be made without departing from the spirit of my invention. For example, the provisions which I have hereinabove shown and described for the ends of the coupler may be applied to the ends of the main wires, while the provisions for the main wires may be applied to the ends of the coupler. The spring-plates of the coupler ends and the engaging studs therefor may be dispensed with, as these appliances are only additional provisions against the separation of the parts. The specific form of the contacts and embracing-plates I deem a preferred construction; but this may be varied.

The coupler may be in other relations than those hereinabove particularly specified.

I claim—

1. In means for connecting electric-light
5 wires for railway-trains, the combination, with
a plurality of main wires having their ends
secured within the hollow of metallic blocks
confined within a frame, said blocks having
spring contact-plates whose free ends project
10 beyond the ends of the blocks and bend in-
wardly, of a coupler comprising wires corre-
sponding in number to the main wires and
having their ends secured with contacts hav-
ing wedge-shaped points and hollowed out
15 back of said points, whereby said contacts
are adapted to be forced between said plates
and to receive the bent ends thereof in their
hollows, and a frame confining the ends of
the coupler-wires and adapted for telescopic

connection with the frame of the main wires, 20
substantially as described.

2. In means for connecting electric wires,
the combination, with the main wires having
their ends secured to a conducting medium
and confined within a frame bearing project- 25
ing engaging studs, of a coupler comprising
wires whose ends are secured to a conducting
medium and confined within a frame pro-
vided with spring-plates adapted to embrace
the frame securing the ends of the main wires 30
and to engage the studs thereon, whereby to
prevent the movement of said frames the one
on the other, substantially as described.

JOHN W. HOFFMAN.

Witnesses:

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FREDERICK C. GOODWIN.