

(No Model.)

S. BERGMANN.
Electrical Switch Board.

No. 233,968.

Patented Nov. 2, 1880.

Fig 1

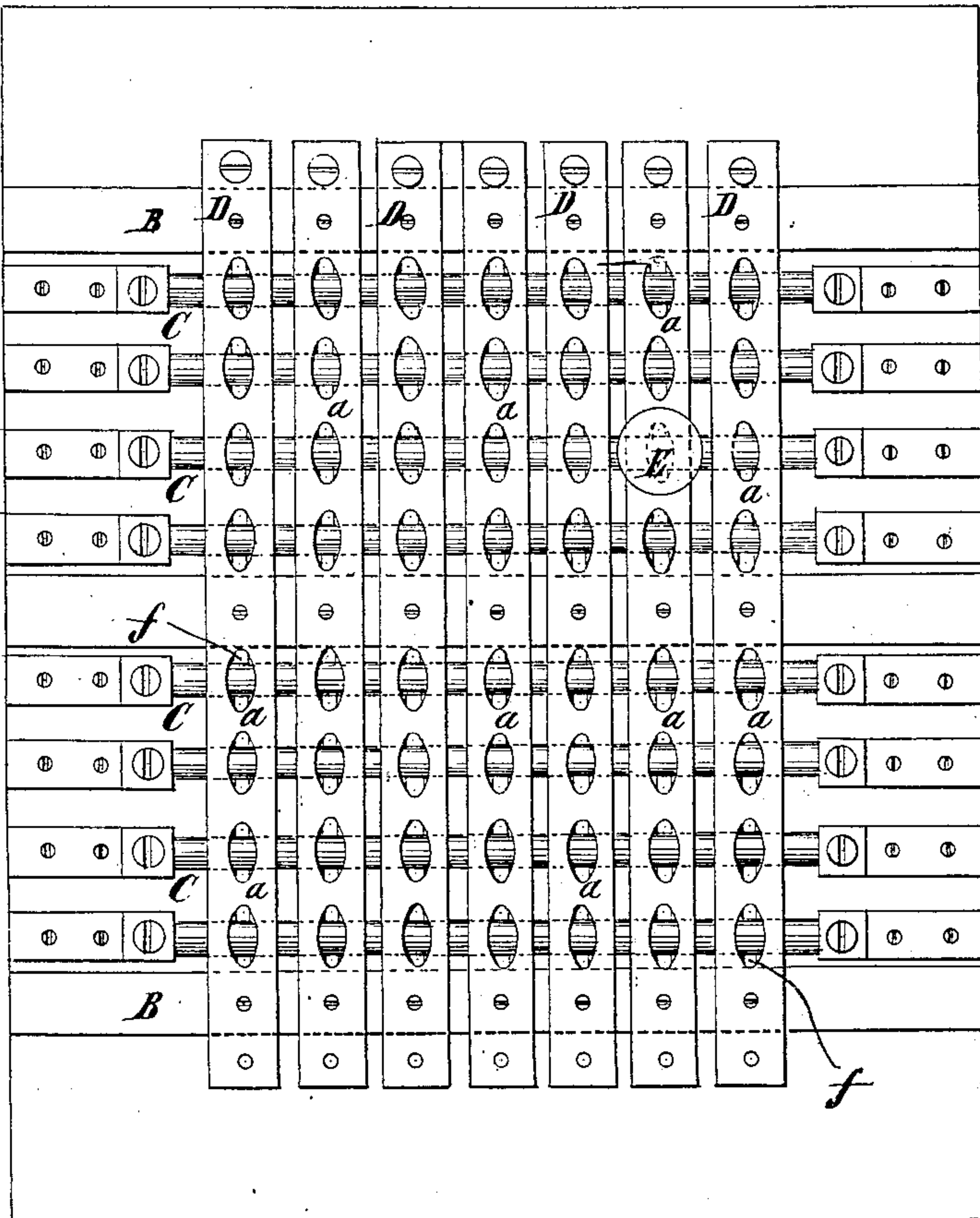


Fig 2

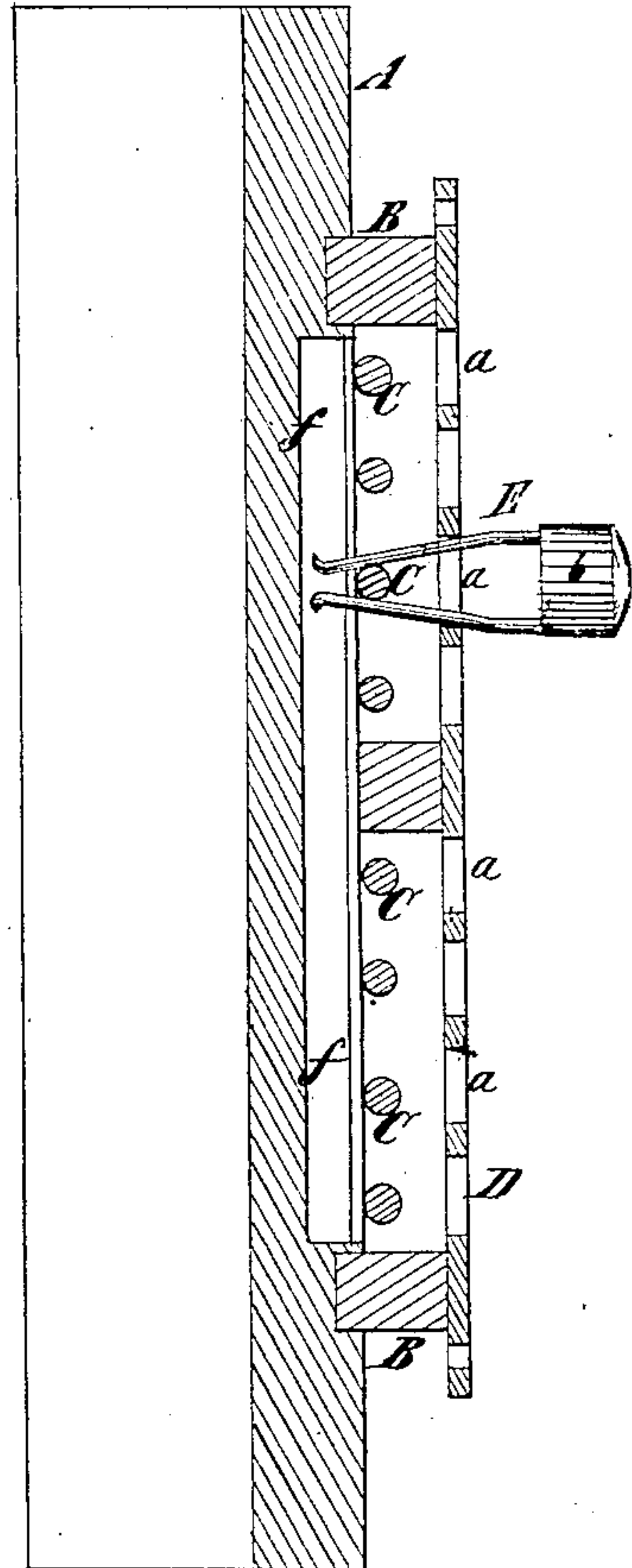
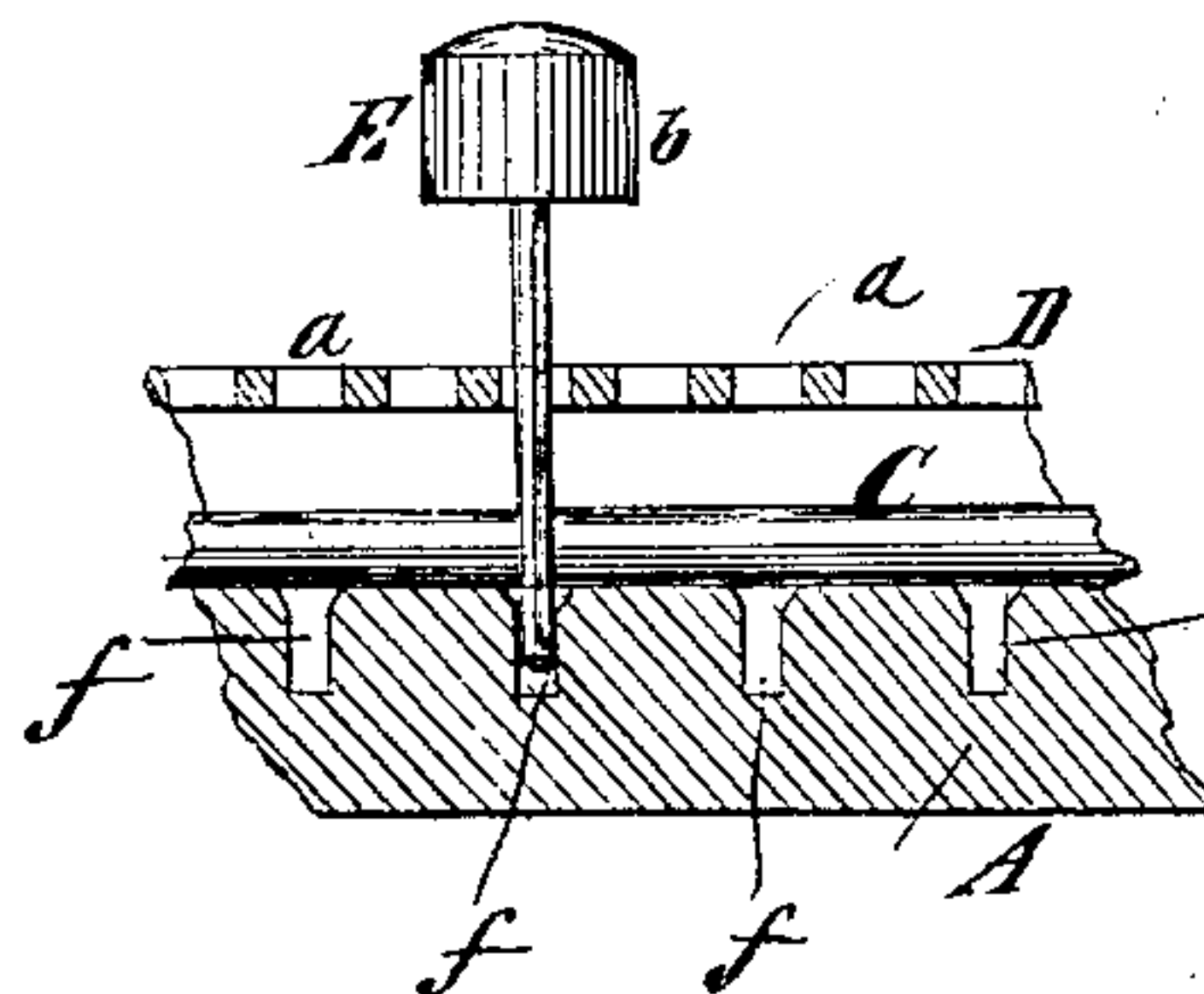


Fig 3



Witnesses.
Thomas C. Buck.
Fred Haynes

Inventor.
Sigmund Bergmann
By Herbert H. Brown
Brown & Brown

UNITED STATES PATENT OFFICE.

SIGMUND BERGMANN, OF NEW YORK, N. Y.

ELECTRICAL SWITCH-BOARD.

SPECIFICATION forming part of Letters Patent No. 233,968, dated November 2, 1880.

Application filed May 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND BERGMANN, of the city, county, and State of New York, have invented certain new and useful Improvements in Switch-Boards for Telegraphs, of which the following is a specification.

The object of my invention is to produce a simple and cheap switch-board for speaking telegraphs or telephones for putting different line-wires or conductors into communication with each other to enable messages to be conveyed to any desired point or party.

The invention consists in the combination of a number or series of parallel rods or bars, a series of parallel bars or plates arranged at a little distance from the said rods or bars, and severally provided with holes or openings opposite said rods or bars, and bifurcated and metallic plugs capable of being inserted in said holes or openings in the bars or plates and embracing the said rods or bars, whereby electrical contact may be made at two points between certain rods or bars and bars or plates, and the line-wires or conductors connected thereto may be put in communication in a very simple and effective manner. These plugs are made to fit tightly in the said holes or openings in the bars or plates and to snugly embrace and lock over the rods or bars. Hence they are by their very use kept clean and free from matter deleterious to the fulfilling of their functions.

Preferably the bifurcate parts or arms of the plugs are made resilient, so as to fit the holes or openings in the bars or plates and slip over and hug the rods or bars tightly.

Recesses may be provided in the base-board to accommodate and hold the lower ends of the bifurcate parts or arms of the plugs, and so retain them in position.

In the accompanying drawings, Figure 1 is a plan of a switch-board embodying my invention. Fig. 2 is a longitudinal section thereof, and Fig. 3 is a transverse section thereof.

Similar letters of reference designate corresponding parts in all the figures.

A designates a base-board, and B designates two parallel rails arranged thereon.

C designates a number of parallel brass or other metal rods or bars, preferably of round

or circular form, extending transversely to the base-board.

D designates a number of brass or other metal bars or plates arranged at a little distance, preferably, forward of or above said rods or bars C, and lengthwise of the base-board. They are severally provided with holes or openings *a*, here shown as of elliptical shape, opposite the rods or bars C.

E designates bifurcated plugs, consisting, severally, as here shown, of two brass or other metallic, and preferably resilient, rods or pins, forming bifurcate parts or arms, arranged in a button stock or knob, *b*. The plugs fit snugly in the holes or openings *a* in the bars or plates D, and the free ends of their arms then embrace the adjacent rods or bars C. I have shown the two bifurcate parts or arms as extending from the plugs at some distance apart, and gradually converging to near their outer ends, where they round or turn slightly outward. They are thus easily inserted in the holes or openings *a* in the bars or plates D, and may be slipped easily over the rods or bars C, owing to the outward extension of the ends. When the most contracted portions near the ends pass over and beyond the rods or bars C they spring together, and the plugs are thus locked in place. The said holes or openings *a* serve to guide the arms of the plugs into position to straddle and embrace and lock over the rods or bars C. Two points of contact between the plugs and the rods or bars C and two between the plugs and the bars or plates D are thus afforded and a very efficient connection made.

The manner in which the arms of the plugs rub or scrape against the holes or openings *a* in the bars or plates D and against the rods or bars C in their insertion and removal keeps them clean and free from matter which would be deleterious to a good electrical communication between them and said bars or plates D and rods or bars C.

Recesses or cavities *f*, consisting, as here shown, of grooves extending parallel with and behind the bars or plates D, may be provided in the base-board A, to accommodate the free or lower ends of the arms of the plugs. Preferably these grooves will be narrow enough

to hold the arms of the plugs tightly, so as to prevent them from wobbling, and they may advantageously have flaring mouths, so as to facilitate the insertion of the arms in them.
5 They may serve also to guide the arms of the plugs into their places.

It will be seen that by my invention I produce a very simple, cheap, and efficient switch-board, which is not liable to get out of order.

10 What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a number or series of parallel rods or bars, a series of parallel bars or plates arranged at a little distance from the
15 said rods or bars and severally provided with holes or openings opposite said rods or bars, and bifurcated metallic plugs capable of being inserted in said holes or openings in the bars or plates and embracing the said rods or bars,
20 whereby electrical contact may be made at two points between certain rods or bars and bars or plates, and the line-wires or conductors connected thereto may be put in communication in a very simple and effective man-
25 ner, substantially as specified.

2. The combination of a number or series of parallel rods or bars, a series of parallel bars or plates arranged at a little distance from said rods or bars, and severally provided with
30 holes or openings opposite said rods or bars, and plugs having resilient bifurcate arms or parts capable of being inserted in said holes or openings and embracing said rods or bars, substantially as specified.

3. The combination of a number or series of
35 parallel rods or bars, a series of parallel bars or plates arranged at a little distance from said rods or bars and severally provided with holes or openings opposite said rods or bars, plugs having resilient bifurcate arms or parts
40 capable of being inserted in said holes or openings and embracing said rods or bars, and recesses in the base-board for accommodating, guiding, and holding the lower ends of said
bifurcate arms or parts; substantially as speci- 45
fied.

SIGMUND BERGMANN.

Witnesses:

A. C. WEBB,
T. J. KEANE.