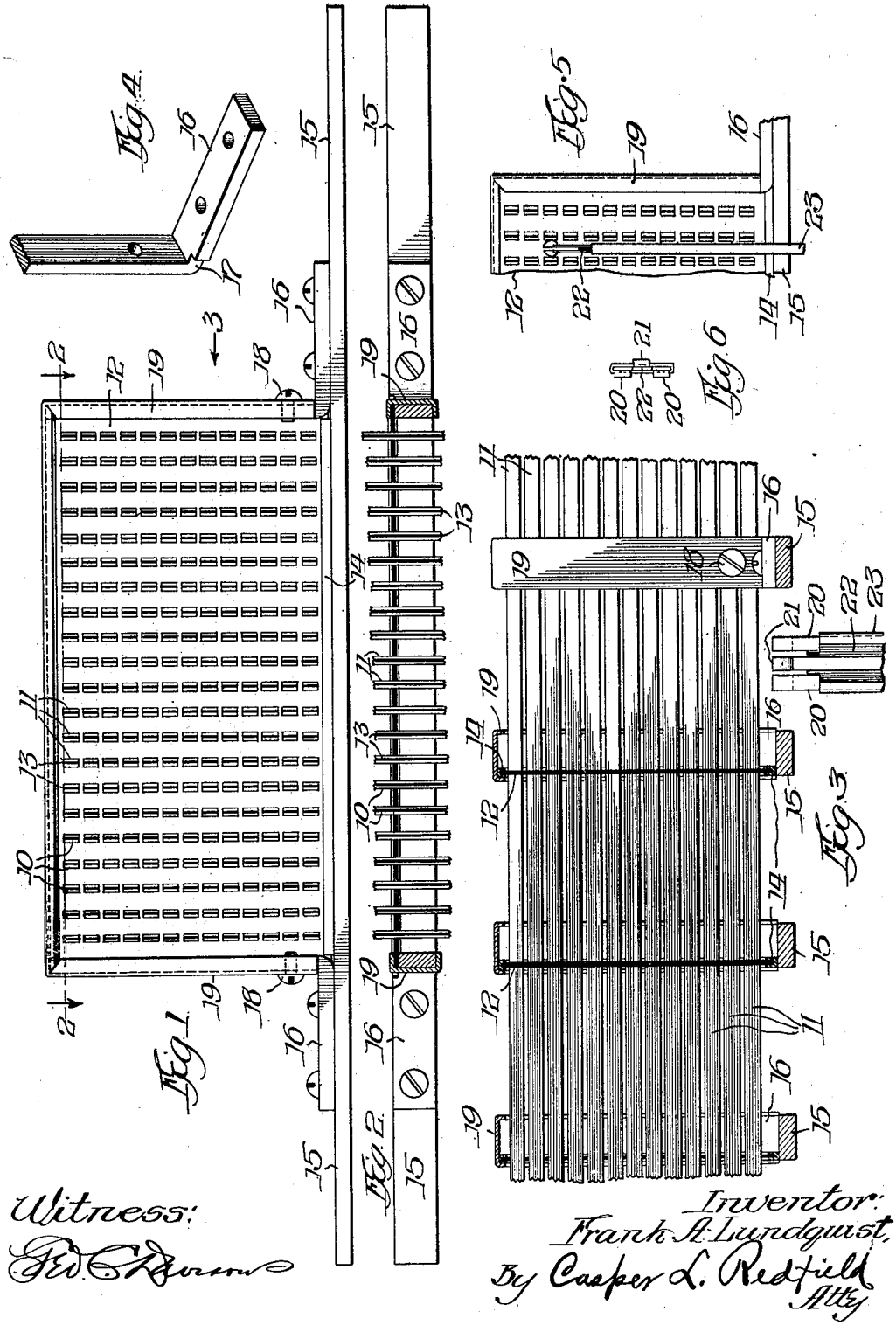
F. A. LUNDQUIST.

BANK CONTACT.

APPLICATION FILED JULY 19, 1918. RENEWED JULY 12, 1920.

1,369,680. **Patented Feb. 22, 1921.**



Witness:

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UNITED STATES PATENT OFFICE.

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BANK-CONTACT.

1,369,680. Specification of Letters Patent. Patented Feb. 22, 1921.

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To all whom it may concern:

Be it known that I, FRANK A. LUNDQUIST, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Bank-Contacts, of which the following is a specification.

My invention relates to bank contacts to be used in automatic telephone exchanges, and has for its object improvements which will save the cost of wiring to make multiple connections between the bank contacts of different switches.

In the accompanying drawings—

Figure 1 is an end elevation;

Fig. 2 is a section of one panel on line 2—2 of Fig. 1;

Fig. 3 is a side elevation, partly in section, in the direction 3 of Fig. 1, and showing four panels and the wipers used with the bank contacts;

Fig. 4 is a perspective view of a bracket used in supporting the panels;

Fig. 5 is a partial view corresponding to Fig. 1, and showing the wipers used with the bank contacts; and

Fig. 6 is a plan of the upper ends of the wipers.

A bank of contacts consists of long metal strips 10 and 11 supported in pairs in panels 12 made of thin sheets of insulating material. The panels have regularly spaced rectangular slots punched therein, and the strips in pairs, with insulation 13 between them, are supported in these slots. The panels 12 have their edges bound with metal strips 14 for the purpose of keeping them straight.

On base bars 15 are brackets 16 having notches 17 cut in one side to receive the vertical edges of the panels, or the binding strips along such edges. A U-shaped channel 19 fits over each panel as a cap and is secured to its brackets 16 by screws 18.

The wipers used with these bank contacts are springs 20 and 21 secured on opposite sides of a wiper arm 22 made of insulating material. The edges of the wiper arm 22 are bound with metal 23 for the purpose of preventing the warping of the insulating material from throwing the arm out of shape. The wiper arm is supported on any form of carriage which has lateral and vertical movements, of which many different varieties have been used in automatic telephone exchanges.

In operation, the wiper arm is moved laterally to any desired position and then moved upward between two vertical rows of contact strips. Fig. 3 shows a wiper arm in its lowest position, and Fig. 5 shows it at rest with the wipers engaging contact strips near the top of the banks. As will be observed, a pair of contact strips, from the electrical standpoint, consists of adjacent strips on opposite sides of the space through which the arm moves, and not those mechanical pairs on opposite sides of the insulation strips 13.

The contact strips 10 and 11 may be of any desired length, and the panels 12 may be at any desired spacing from each other. By having the panels near together, the strips 10 and 11 may be made of comparatively thin metal. The spacing I have shown in Fig. 3 is the same as that of the switches which use the bank contacts. Each switch carries its contact arm parallel with and between two base bars 15 to a desired position and then upward.

The slots punched in the panels 12 are made to fit closely but not tightly on the strips 10 and 11. A convenient way of assembling is to pile the punched panels upon each other, or side by side in contact with each other, and then feed the ends of the strips through the entire pile. The panels may then be properly spaced by slipping them along the strips.

What I claim is:

1. In the bank contacts of a telephone exchange, strip-supporting panels consisting of thin sheets of insulating material having rows of rectangular slots punched therein, and contact strips arranged in insulated pairs inserted in said slots so that each pair of strips is supported at intervals by said panels.

2. In the bank contacts of a telephone exchange, a series of vertical panels supported at intervals from each other, each panel having vertical slots arranged in vertical rows, and contact strips arranged in pairs with insulation between supported in corresponding slots in the different panels.

FRANK A. LUNDQUIST.