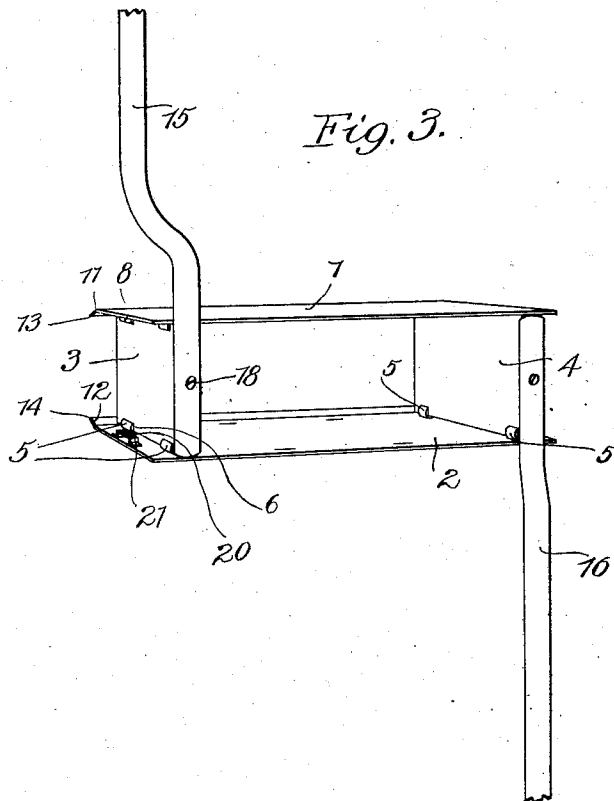
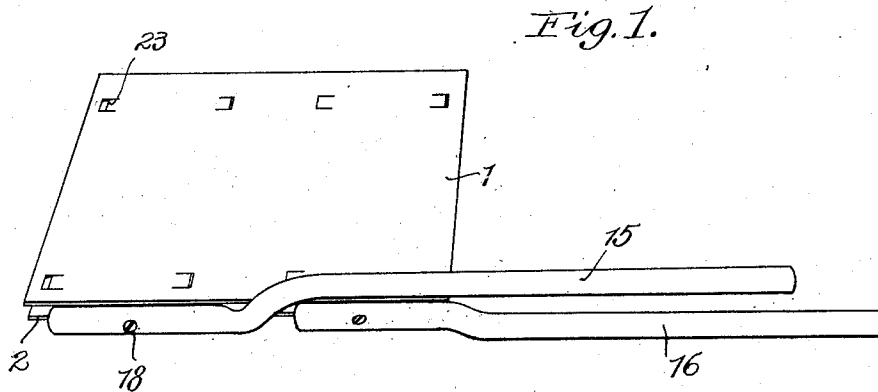


J. A. BIRSFIELD.
SPREADING DEVICE.
APPLICATION FILED MAY 14, 1906.

901,673.

Patented Oct. 20, 1908.

2 SHEETS—SHEET 1.



Witnesses:
Leonard W. Moander.
George C. Hingham.

Inventor
Jules A. Birsfield
By Charles A. Brown
Attorney

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2 SHEETS—SHEET 2.

Fig. 2.

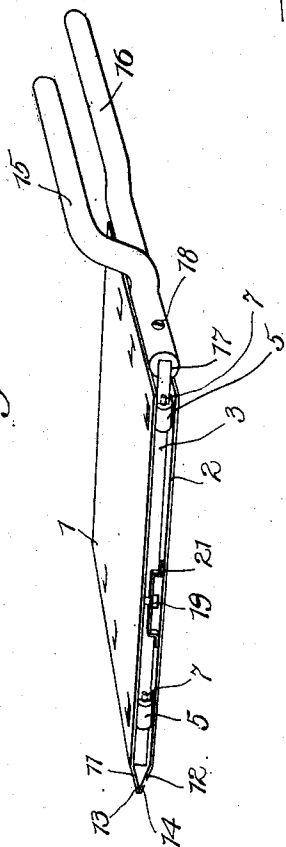


Fig. 5.

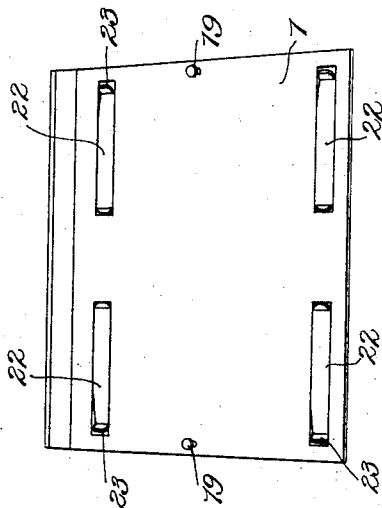
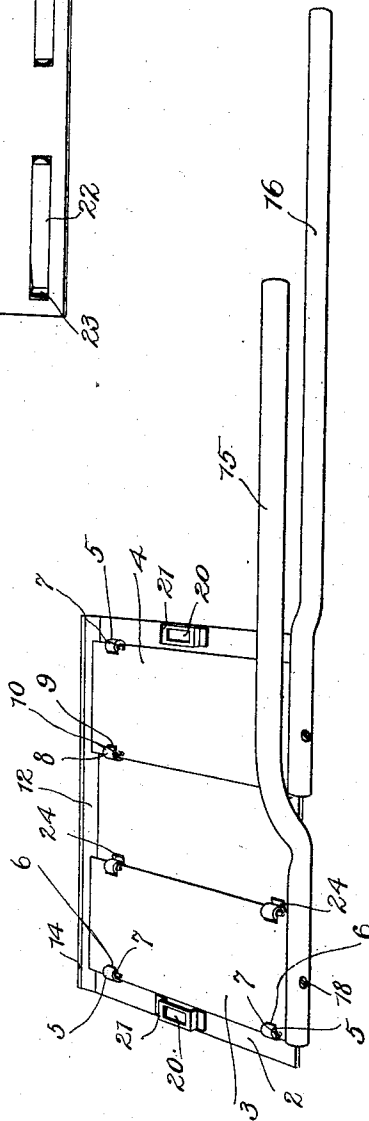


Fig. 4.



Witnesses:
Leonard W. Novander,
George C. Higham.

Inventor
Jules A. Birsfield
By Charles A. Brown
Attorney

UNITED STATES PATENT OFFICE.

JULES A. BIRSFIELD, OF ROCHESTER, NEW YORK, ASSIGNOR TO STROMBERG-CARLSON
TELEPHONE MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION
OF NEW YORK.

SPREADING DEVICE.

No. 901,673.

Specification of Letters Patent.

Patented Oct. 20, 1908.

Application filed May 14, 1906. Serial No. 316,628.

To all whom it may concern:

Be it known that I, JULES A. BIRSFIELD, citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Spreading Devices, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to spreading devices for use in the telephone art for spreading apart wires or cables.

In the installation and maintenance of telephone switchboards, particularly large multiple boards, the wires connecting the different portions of the switch board installation, such as multiple jacks, frames and so on, are grouped into cables and the cables stacked together upon the different runways. In large plants these cables pile up to a considerable extent and it is often necessary to raise up or spread apart a number of them in order to get at a certain part or piece of apparatus. The ordinary method of opening up or raising the cables has been by driving wooden wedges between the cables, where it is desired to separate. This process, however, is not reliable for the fact that more or less damage may be done to the cables in driving wedges, and the object of my invention, therefore, is to provide simple and efficient apparatus for spreading apart or raising cables.

The device of my invention will be best understood with reference to the accompanying drawings, in which

Figure 1 is a perspective view of the device in its closed position. Fig. 2 is another perspective view of the device in its closed position. Fig. 3 is a perspective view showing the device in an open or spread condition, Fig. 4 is a perspective view like Fig. 1 with the top jaw plate removed, and Fig. 5 is a perspective view showing the inner side of the top jaw plate.

The device is constructed entirely of metal and consists primarily of the upper and lower jaw plates 1 and 2 and the lifting plates 3 and 4. The lifting plates are hinged at the ends of the lower plate 2, which hinging means may be in the form of bearings 5 secured to the plate 2 and fitting in slots 6, the plates being held in place thereon by pivot screws or pins 7 passing

through at the edge of the plates and through the bearings, as best shown in Fig. 4. At the opposite edge of each plate are pivoted rollers 8 in slots 9 on pivot screws or pins 10 and the plate 1 rests upon these rollers. The plates 1 and 2 are rectangular in shape, as shown, and their front ends 11 and 12 are slightly bent inwardly and the engaging edges 13 and 14 lie in parallel, as best shown in Fig. 2, so that when the plates are together they will form a pointed edge or nose which can readily be inserted and forced between wires or cables. The lifting plate 3 has connected thereto a lever 15 and the lifting plate 4 has connected thereto a lever 16, the connection of these levers being preferably along the edge of the plates, as shown, each lever having a slot or channel 17 engaging the edge of the plate, the screw 18 passing through the lever and threading into the plate. When the device is to be used the lifting plates are swung inwardly against the lower jaw plate, with the levers both disposed in a horizontal position at one side, as shown. The wedge or nose formed by the jaw plates when together is then inserted between the desired wires or cables and the plates forced in the required distance. The levers 15 and 16 are then simultaneously swung to carry the lifting plates to their perpendicular position, the lever 15 in the device shown being swung upwardly and the lever 16 being swung downwardly. The device then offers a working compartment for the apparatus which it is desired to get at.

When the jaw plates are together and inserted between cables they are held against lateral displacement by means of buttons 19 extending from the upper plate and engaging in grooves 20 in the frames 21 secured at the side edges of the lower plate. The plates are prevented against longitudinal displacement by means of the track ways or grooves 22 in the upper plate in which the rollers 8 engage when the lifting plates are swung outwardly. The material at the ends of these grooves is punched out from the body of the plate 2 and bent downwardly to form abutment extensions 23 for locking the lifting plates against further swinging when they reach their perpendicular position. Grooves or depressions 24 are also provided in the lower plate for receiving the rollers 8 to allow the lifting plates

to lie flat against the lower plate when in their normal position.

By means of my device cables or wires can readily be spread and held apart, the walls of the device then forming a working compartment for the apparatus to be repaired or otherwise effected.

The device having the construction just described can be easily inserted in place between wires without injury to the wires and the levers enable the device to be readily spread apart with very little force.

Changes may readily be made in the exact construction of the device without departing from the scope of the following claims which I desire to secure by United States Letters Patent:

1. In a device for the purpose described, the combination with opposite jaw plates, of lifting or spreading plates hinged to one of said plates and normally disposed to allow the jaw plates to come together, and a lever extending from each of the lifting plates adapted upon actuation to swing the plates to a vertical position between the jaw plates whereby said jaw plates and the wires or cables engaged thereby are spread apart.

2. In a device for the purpose described, the combination with rectangular jaw plates tapered at their ends to form an edge when closed to be inserted between wires or cables to be spread, lifting or spreading plates hinged at one edge to one of said plates and normally lying flat to allow the plates to close, and a lever arm extending from each of said lifting plates for swinging said plates to a vertical position between the jaw plates, whereby said jaw plates and the wires or cables engaged thereby are spread apart, said jaw plates and lifting plates then forming a working or entrance compartment.

3. In a device for the purpose described, the combination with jaw plates, of lifting plates pivoted at one end to the lower jaw

plate to normally lie flat when the plates are together, rollers at the other edge of the lifting plates, lever mechanism for swinging said lifting plates to a position at right angles to the plates, said rollers during swinging of the plates being in engagement with the upper jaw plate to raise said plate, whereby the wires or cables engaged by the jaw plates are spread or held apart.

4. In a device for the purpose described, the combination with jaw plates each provided with a bent edge, such bent edges adapted to cooperate when the device is closed to form an entrance wedge, of spreading means between the jaw plates adapted when actuated to spread the plates apart.

5. In a device for the purpose described, the combination with jaw plates each provided with a bent edge, such bent edges adapted to cooperate when the device is closed to form an entrance wedge, of spreading means between the jaw plates adapted when actuated to spread the plates apart, a channel or slot on one of said plates, and an extension or button from the other plate for engaging in said channel to prevent lateral displacement of the jaw plates when in their normal position to be inserted between the wires or cables.

6. In a device for the purpose described, the combination with jaw plates each provided with a bent edge, such bent edges adapted to cooperate when the device is closed to form an entrance wedge, of spreading means between the jaw plates adapted when actuated to spread the plates apart, and means for retaining the device in closed position with the jaw plates and the lifting plates in substantially parallel planes.

In witness whereof, I hereunto subscribe my name this 8th day of May A. D., 1906.

JULES A. BIRSFIELD.

Witnesses:

CHARLES E. HAGUE,
ALBERT C. BELL.