

No. 677,410.

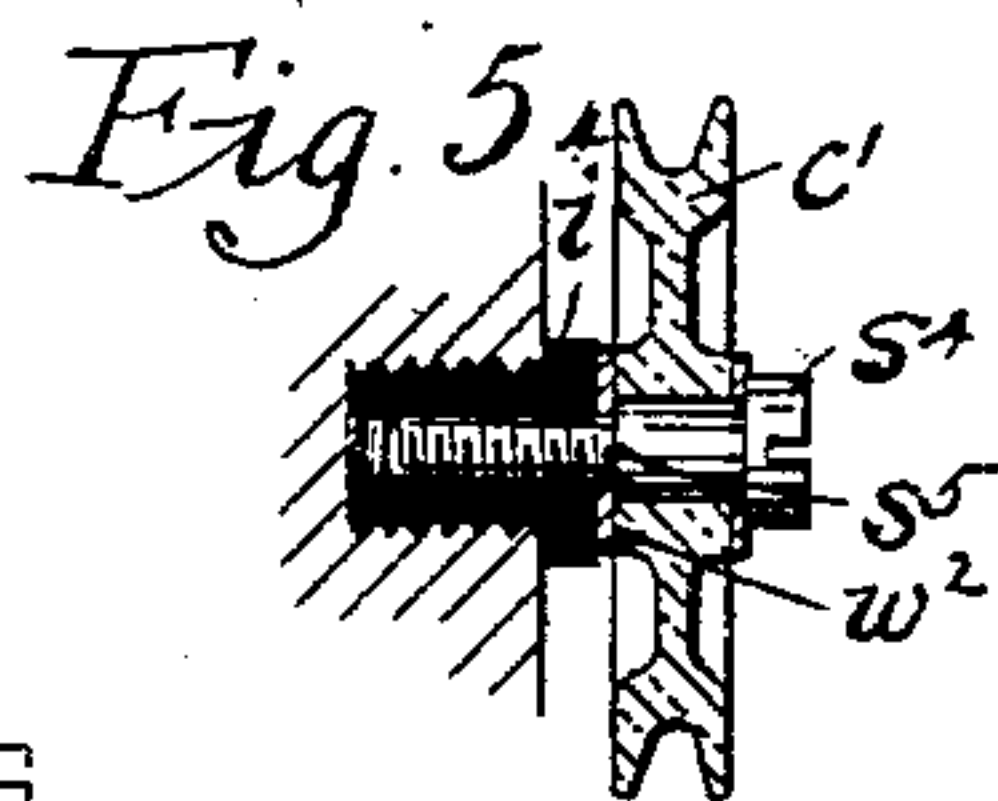
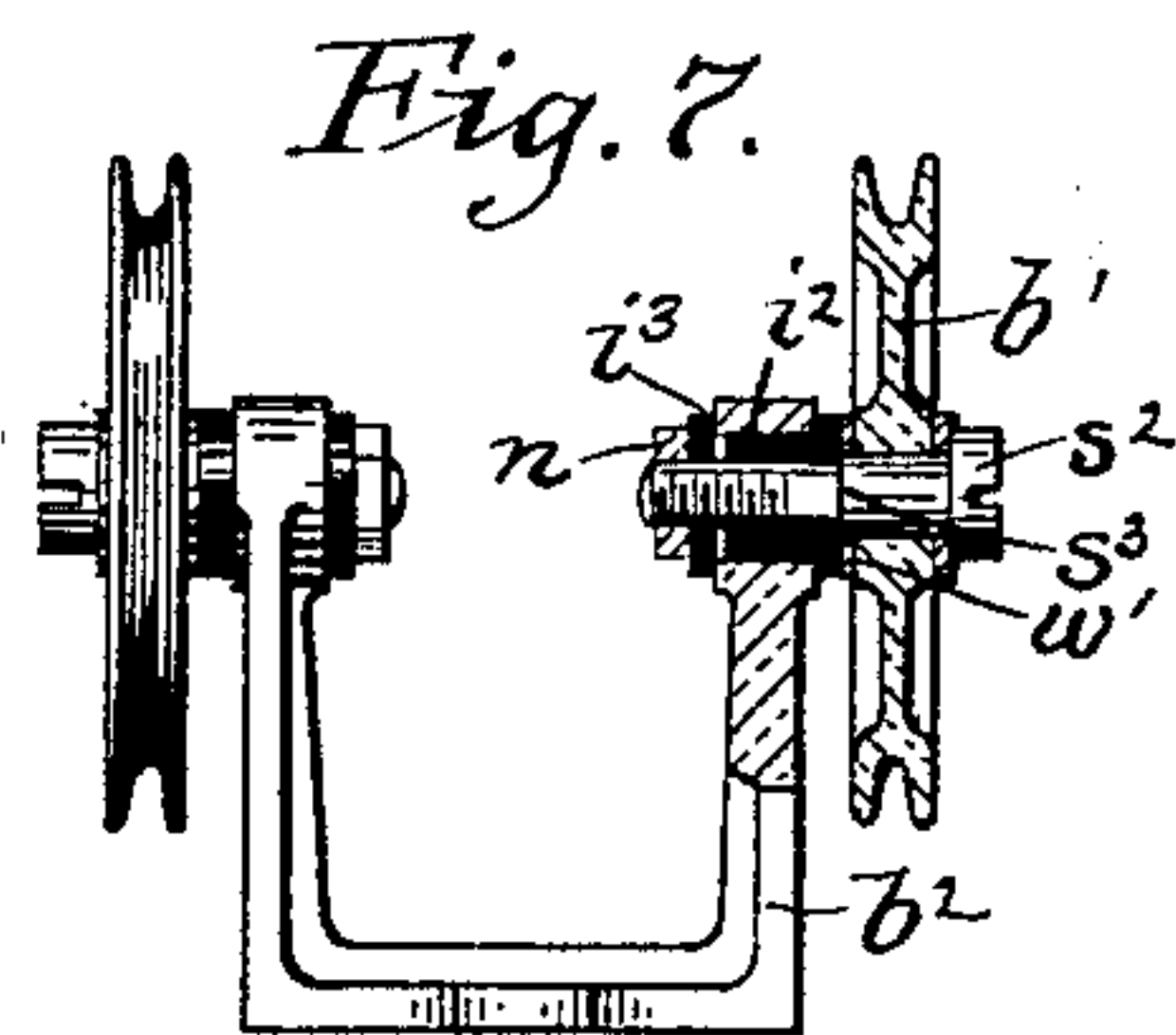
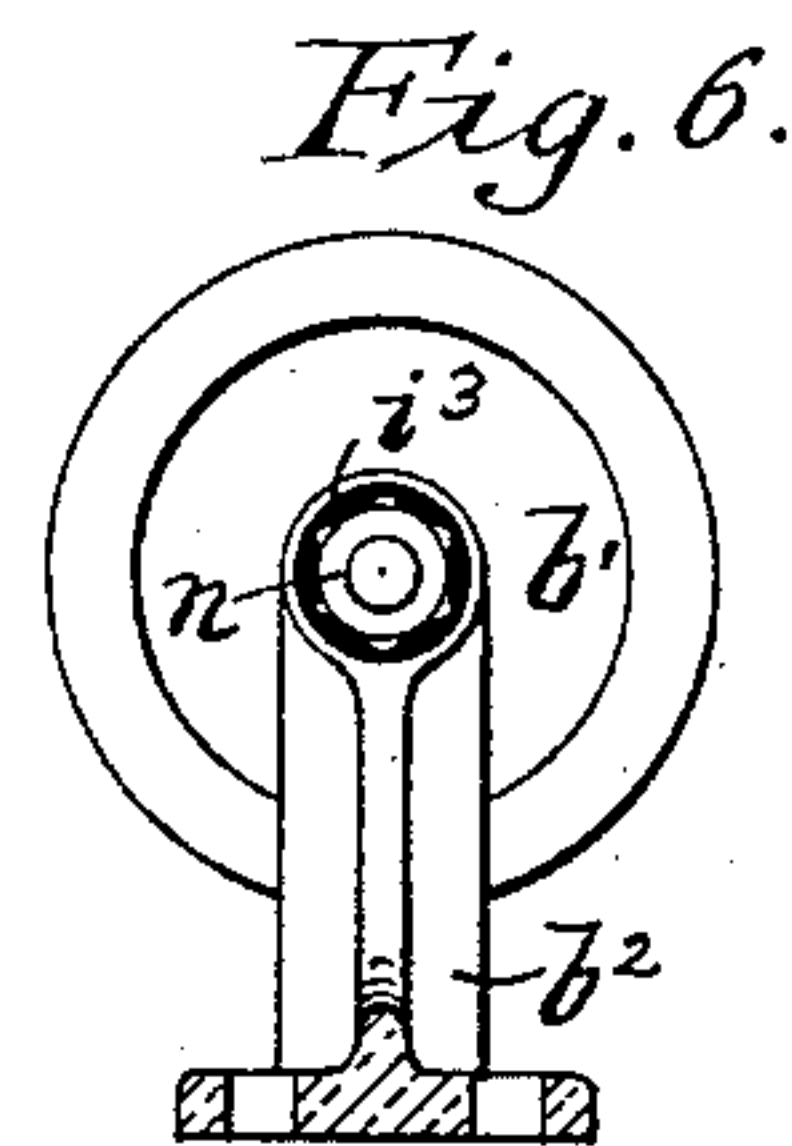
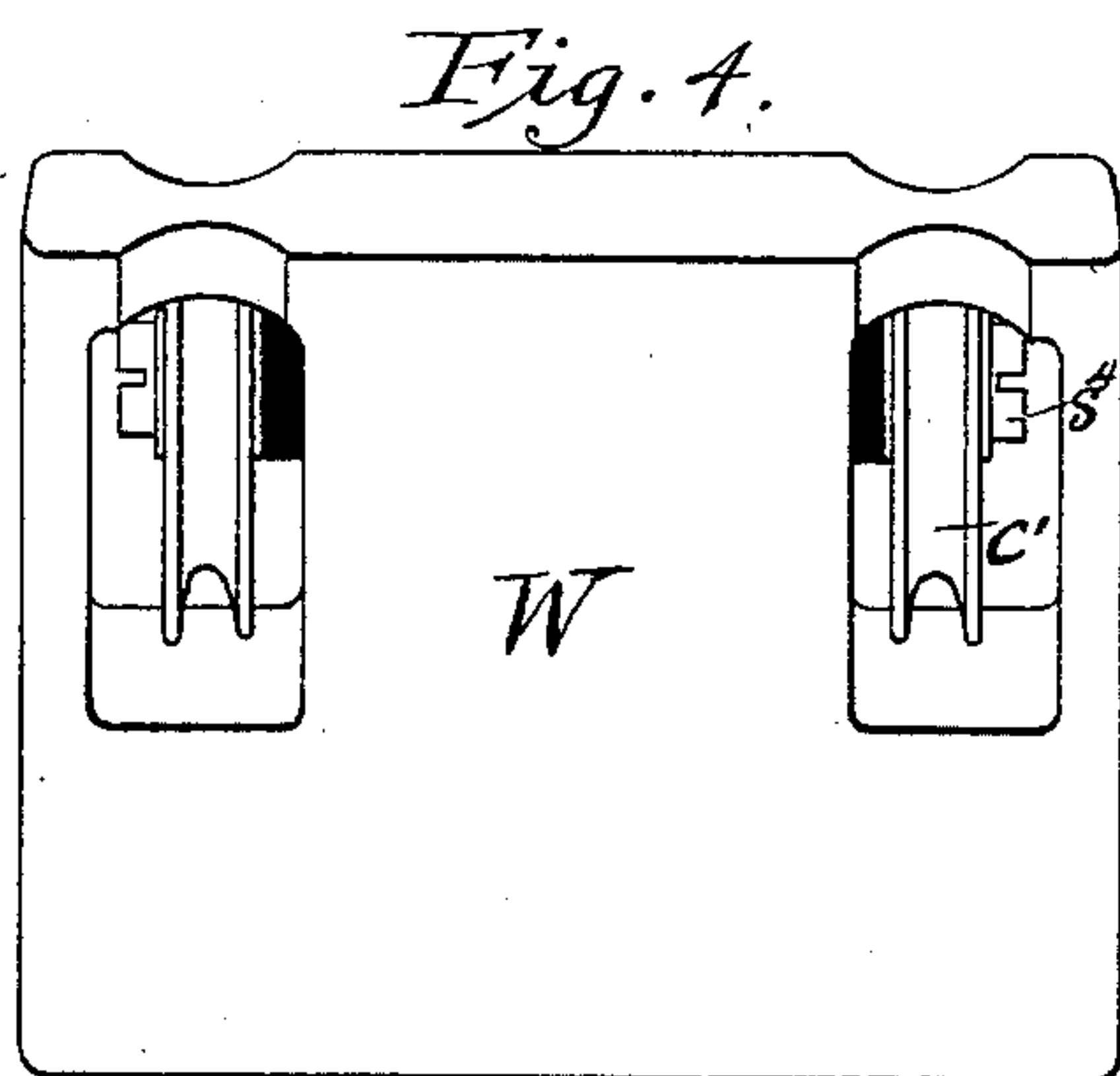
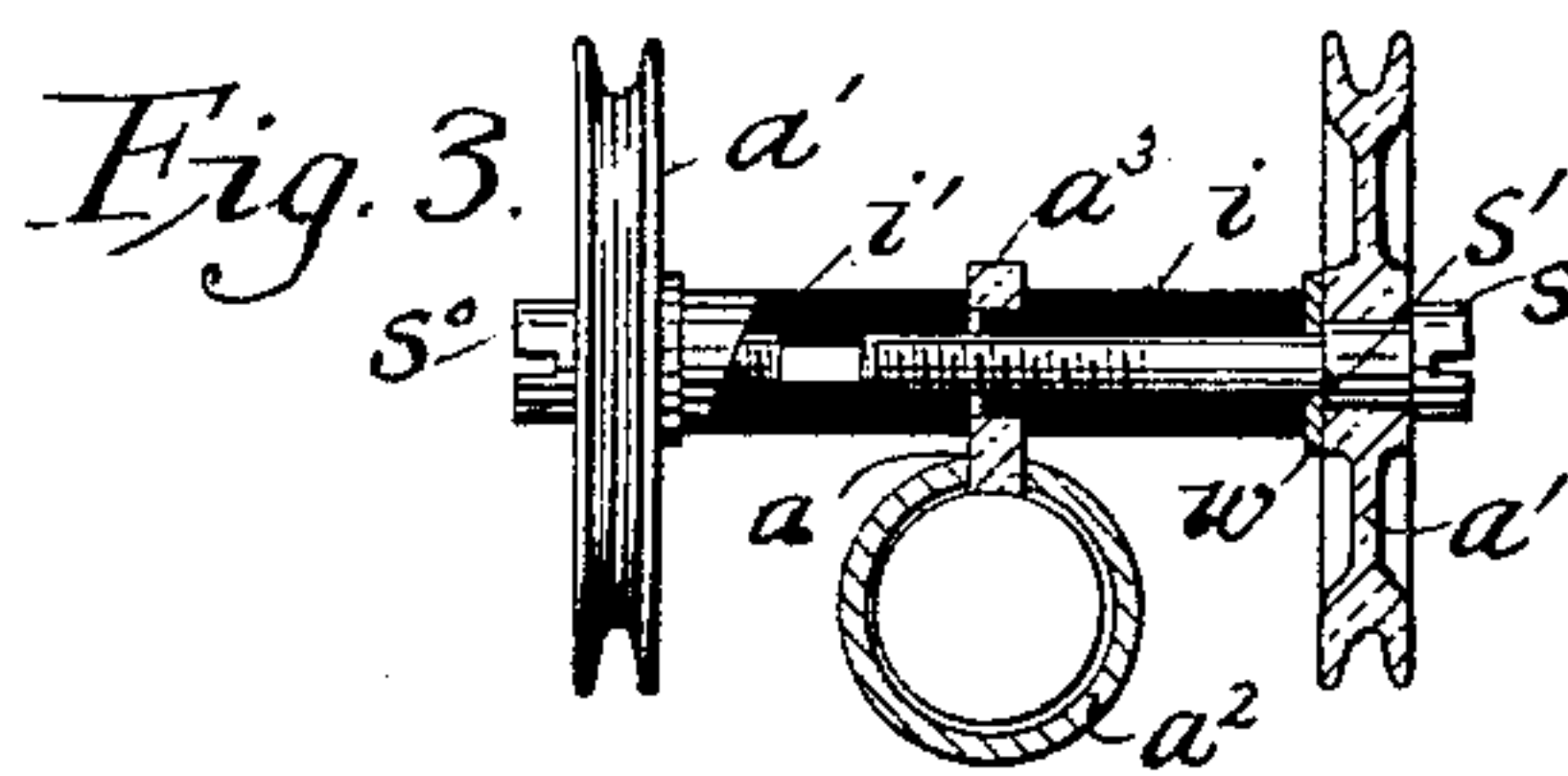
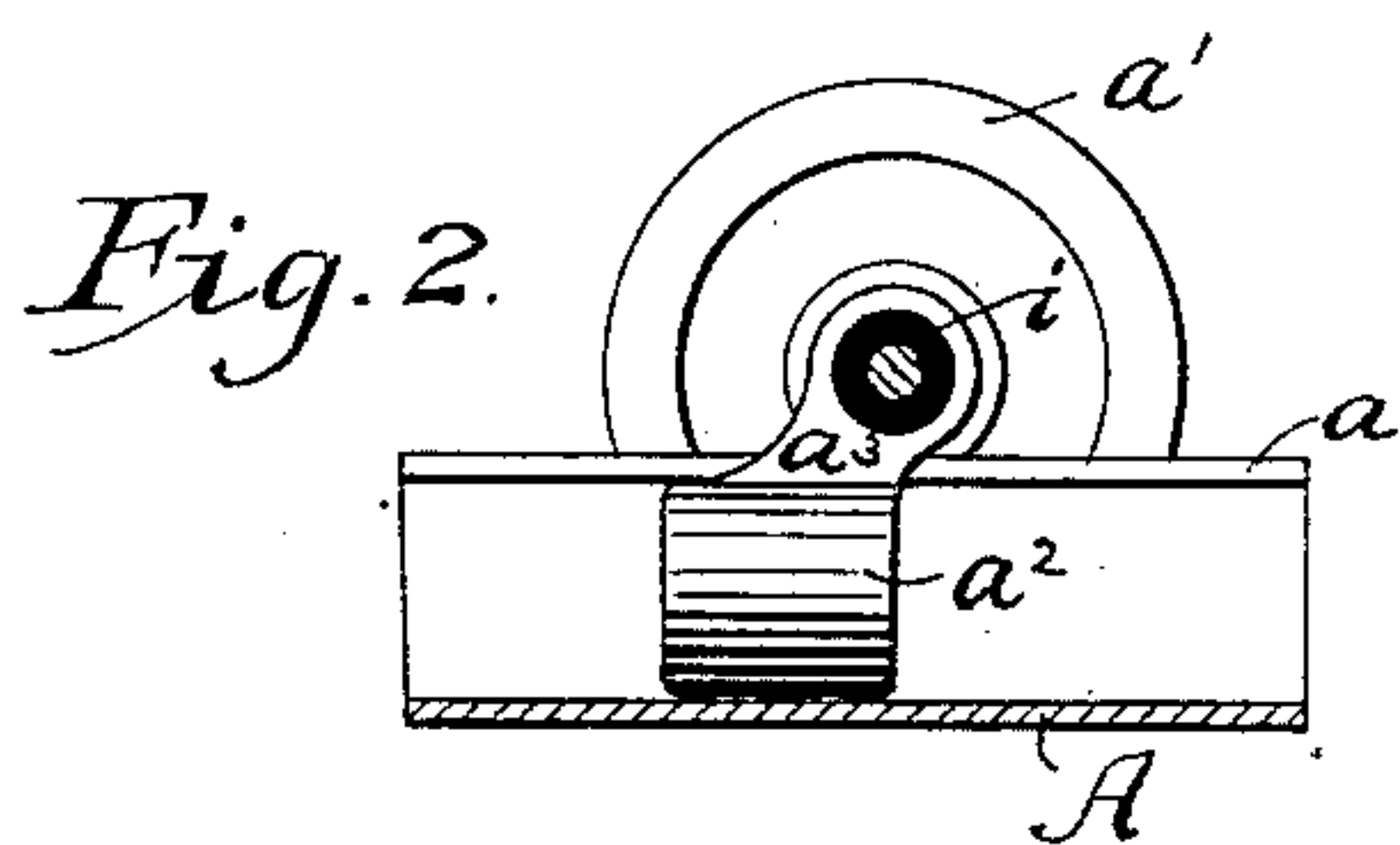
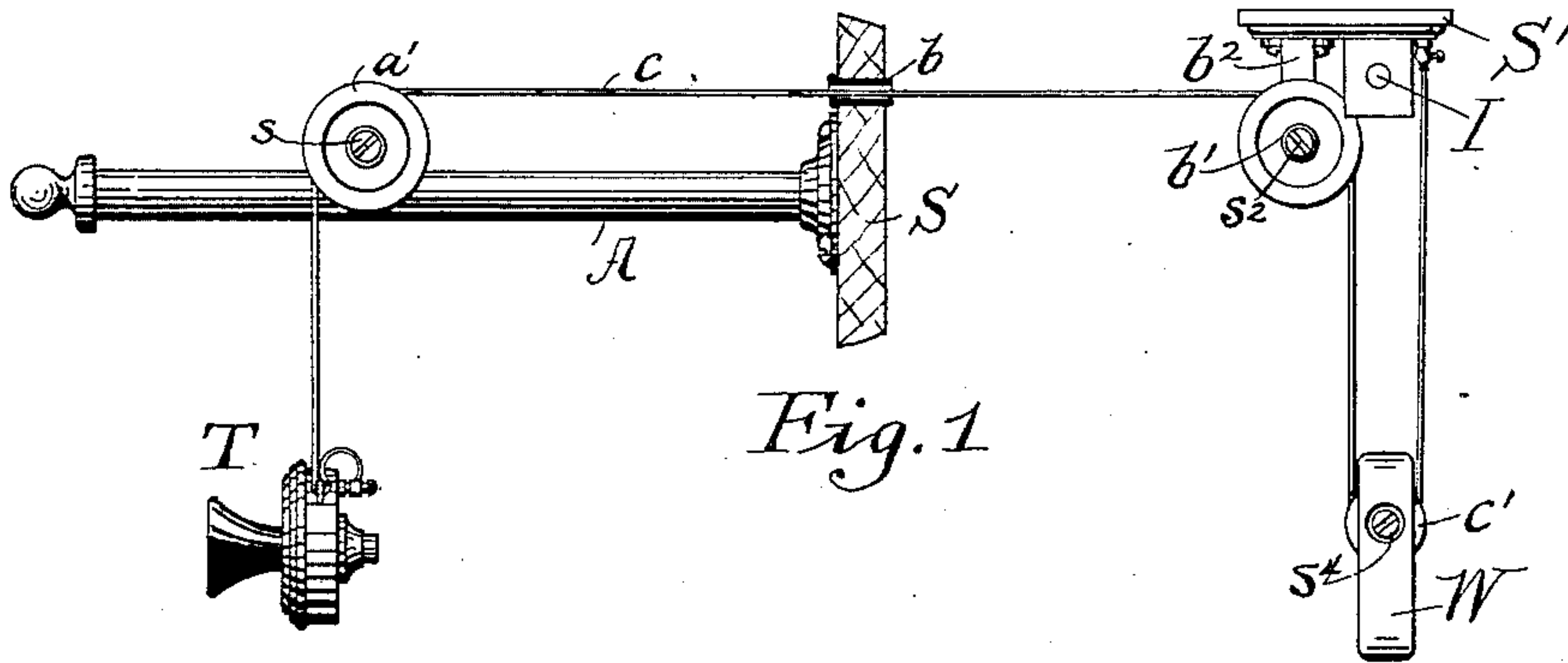
Patented July 2, 1901.

W. D. GHARKY.

OPERATOR'S SUSPENSION SET FOR TELEPHONE SWITCHBOARDS.

(Application filed Sept. 19, 1900.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM D. GHARKY, OF PHILADELPHIA, PENNSYLVANIA.

OPERATOR'S SUSPENSION SET FOR TELEPHONE-SWITCHBOARDS.

SPECIFICATION forming part of Letters Patent No. 677,410, dated July 2, 1901.

Application filed September 19, 1900. Serial No. 30,520. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. GHARKY, a citizen of the United States, residing at Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Operators' Suspension Sets for Telephone-Switchboards, of which the following is a specification.

My invention relates to that part of a telephone-switchboard apparatus known as the "operator's suspension set" in which the transmitter of the central-office operator is adjustably suspended in front of the board, and has for its object the production of such an apparatus which shall be capable of easy adjustment and automatically remain in adjusted position and which shall be of such light construction as not to obstruct the operator's view of the portion of the board under her supervision. Various other objects will more fully appear hereinafter.

With these objects in view my invention consists in suspending the operator's transmitter adjustably in front of the switchboard by means of bare conductors of such thinness as not to obstruct her vision and in the means of adjustment and mounting of these wires upon the board.

My invention is illustrated in the accompanying drawings, in which like reference characters indicate the same parts.

In the drawings, Figure 1 is a view of my apparatus assembled complete and ready for use. Fig. 2 is a section through the supporting-bracket, showing the traveler; and Fig. 3 is a view of the same at right angles to Fig. 2 and partly in section. Fig. 4 is a perspective of the transmitter-counterweight, and Fig. 5 is a sectional view of one of its pulleys. Fig. 6 is an enlarged detail of the fixed pulley and its bracket; and Fig. 7 is a front view of same, partly in section.

Referring to the drawings, the tubular bracket A is secured to the switchboard-frame S and forms the support for the operator's transmitter T. A traveler a^2 works within the tubular support and is provided with a lug a^3 , projecting upwardly through the slot a in said support and carrying the grooved pulleys a' a' . The transmitter is suspended from these pulleys by the bare circuit-wires

c , which are preferably composed of fine strands braided to form quite thin conductors. Heretofore it has been the custom to employ insulated wires for this purpose, the insulation adding greatly to the thickness, and hence obstructing and confusing the operator's view of the drops and jacks under her care; but by the use of bare wire the thickness is so reduced as to offer practically no obstruction.

From the pulleys a' each circuit-wire passes through an insulating-bushing b in the switchboard-frame, over a fixed pulley b' in the rear thereof, a pulley c' of the counterweight W, and is secured to a binding-post upon the induction-coil base S' .

As the conductors are bare, it is necessary to insulate them from the frame and from each other, and this I accomplish by providing special mounting for the pulleys which carry them. The method of mounting the pulleys a' upon the lug a^3 of the traveler a^2 is shown in detail in Fig. 3. Here the pulley-wheel on the right is secured by the screw-bolt s , which is shouldered at s' , where it rests against the washer w , passes through the insulating-stud i , and is threaded into the insulating-stud i' on the other side of the lug a^3 , the enlarged portion of the bolt between its head and the shoulder forming the axle of the pulley. The washer w completes the all-metallic bearing and prevents wear of the insulating-tube i . This tube i is shouldered at the end next the lug a^3 , the diminished end passing nearly through a hole therein, thus forming a distance-piece for the screw-bolt s . The insulating-tube i' being secured so the lug a^3 by bolt s forms the support for the other pulley-wheel, which is secured thereto by the screw s^0 , which is shouldered and screwed into it, forming an axle similar to that of screw s . As the two bolts do not meet, each wheel is completely insulated from the supporting-lug and from the other.

It will be observed that the lug a^3 of the traveler projects rearwardly toward the board and in the direction of the counterweight. Hence the pull of this weight and that of the transmitter being resolved into a downward oblique pull from the end of the traveler-cyl-

inder a^2 gives to the latter an oblique tendency in the tube A, which causes it to remain where placed.

The pulleys b' are mounted upon the double bracket b^2 , which is secured to the coil-base S' by means of the bolts s^2 , passing through the insulating-bushing i^2 , the insulating-washer i^3 , and nut n . The bolt is shouldered at s^3 , as are the bolts s^0 and s , and metal washers are placed on each side of the pulleys to take the wear.

The pulleys c' are mounted upon insulating-bushings i^4 , which are threaded and screwed into holes drilled in the counter-weight and threaded to receive them by means of screws s^4 , similar to those just described for securing the pulleys b' . These screws are threaded directly into the insulating-bushings, so that there is no metallic connection between the pulley and the weight-body. Washers w^2 are also provided, as in the previous cases.

In operation the distance of the transmitter from the switchboard is varied by moving the traveler on its supporting-standard A and its height by simply raising or lowering it, in which position it is retained by the action of the weight w , which is an exact counterbalance. The weight, of course, must be twice the weight of the transmitter.

By means of my special pulley-mountings the use of bare wire for supporting the transmitter is rendered possible, and yet thorough insulation maintained, while all wearing parts work metal on metal. The great reduction in the thickness of the wire obtained by dispensing with its insulation removes almost entirely the annoyance to the operator of constantly having to look around the wires on account of their thickness.

The induction-coil I completes the operator's talking set, making a trade unit which may be applied to any switchboard.

Although I have described a specific form of apparatus embodying my invention, I do not wish to be understood as limiting myself or the scope of this invention to that particular form, as obviously many changes and variations in detail and construction may be introduced without departing from the spirit of the invention.

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

1. In an operator's suspension set, a supporting-standard in proximity to a switchboard, a traveler carrying pulleys mounted on said standard, fixed pulleys to cooperate with the pulleys on the traveler, a transmitter suspended by bare circuit-wires passing over said pulleys, and a weight to counterbalance the weight of said transmitter, substantially as described.

2. In an apparatus of the class described, a base, a bracket composed of a split tube secured thereto, a traveler comprising a body portion and a rearwardly-projecting lug carrying wheels, a transmitter, and means for adjustably suspending said transmitter from said traveler-wheels and securing it in the adjusted position, substantially as described.

3. In an apparatus of the class described, a switchboard, a base, a split-tube bracket secured to said base and projecting in front of the switchboard, a traveler working within said tube and provided with a lug extending rearwardly upon said lug, a transmitter and means for suspending the same from the traveler-pulleys whereby said traveler is retained in the tube in its adjusted position, substantially as described.

4. In an apparatus of the class described, a switchboard, a bracket secured to the frame thereof, a traveler upon said bracket, a transmitter, bare circuit-wires secured to and adapted to support said transmitter in front of the switchboard and passing over said traveler, a counterweight acting upon said circuit-wires to balance the transmitter, together with means for insulating said circuit-wires from their supports and from each other, substantially as described.

5. An apparatus of the class described, a switchboard, a support mounted thereon, a traveler adjustably mounted on the support, a transmitter, a means for adjustably supporting the transmitter from the traveler, such means being also arranged to maintain the traveler in adjusted position with regard to its support, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. D. GHARKY.

Witnesses:

ANNETTA SMITH,
JOHN R. CAUSLIN.