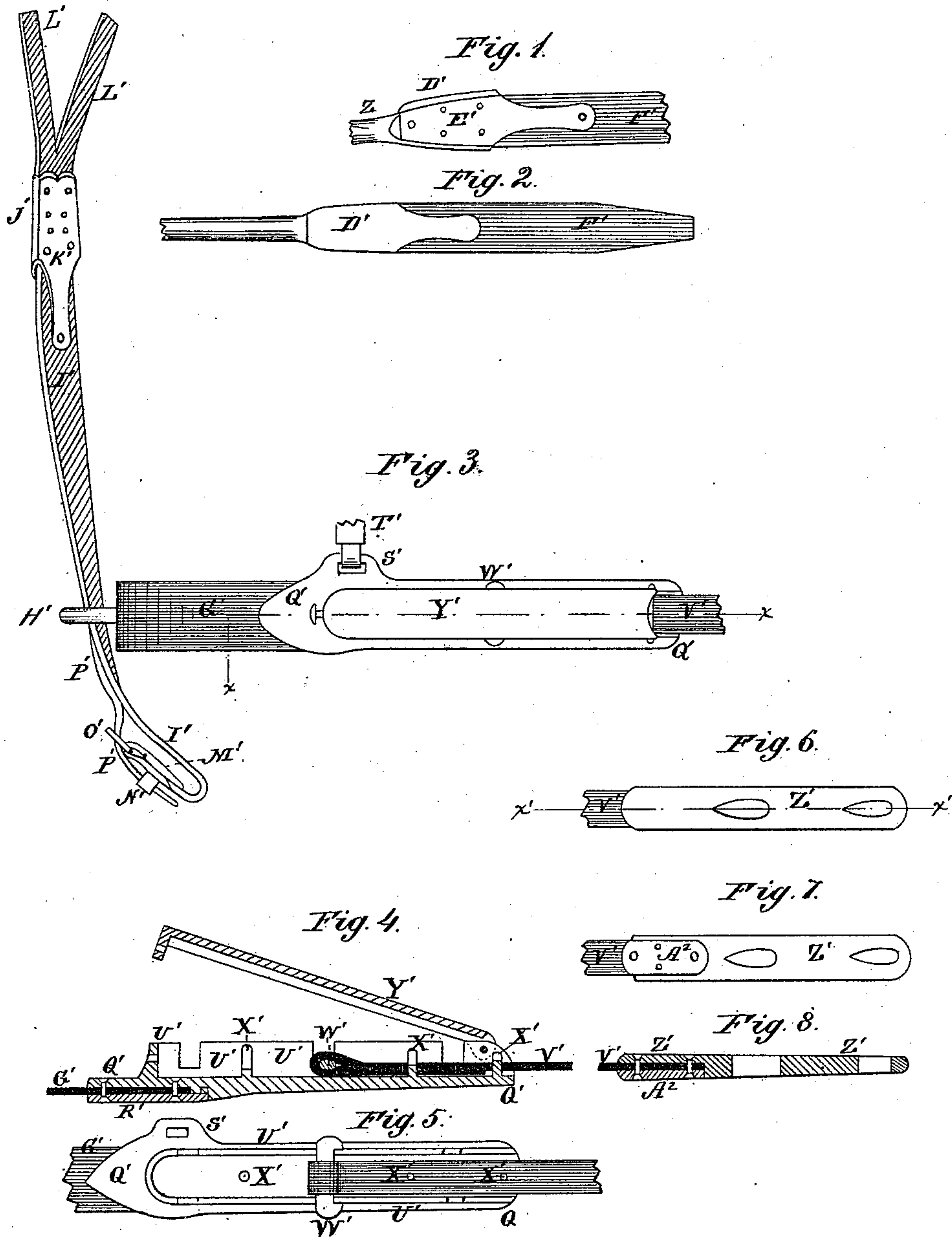


C. S. PIERSONS.
Harness.

2 Sheets—Sheet 1.

No. 213,246.

Patented Mar. 11, 1879.



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Harness.

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Fig. 9.

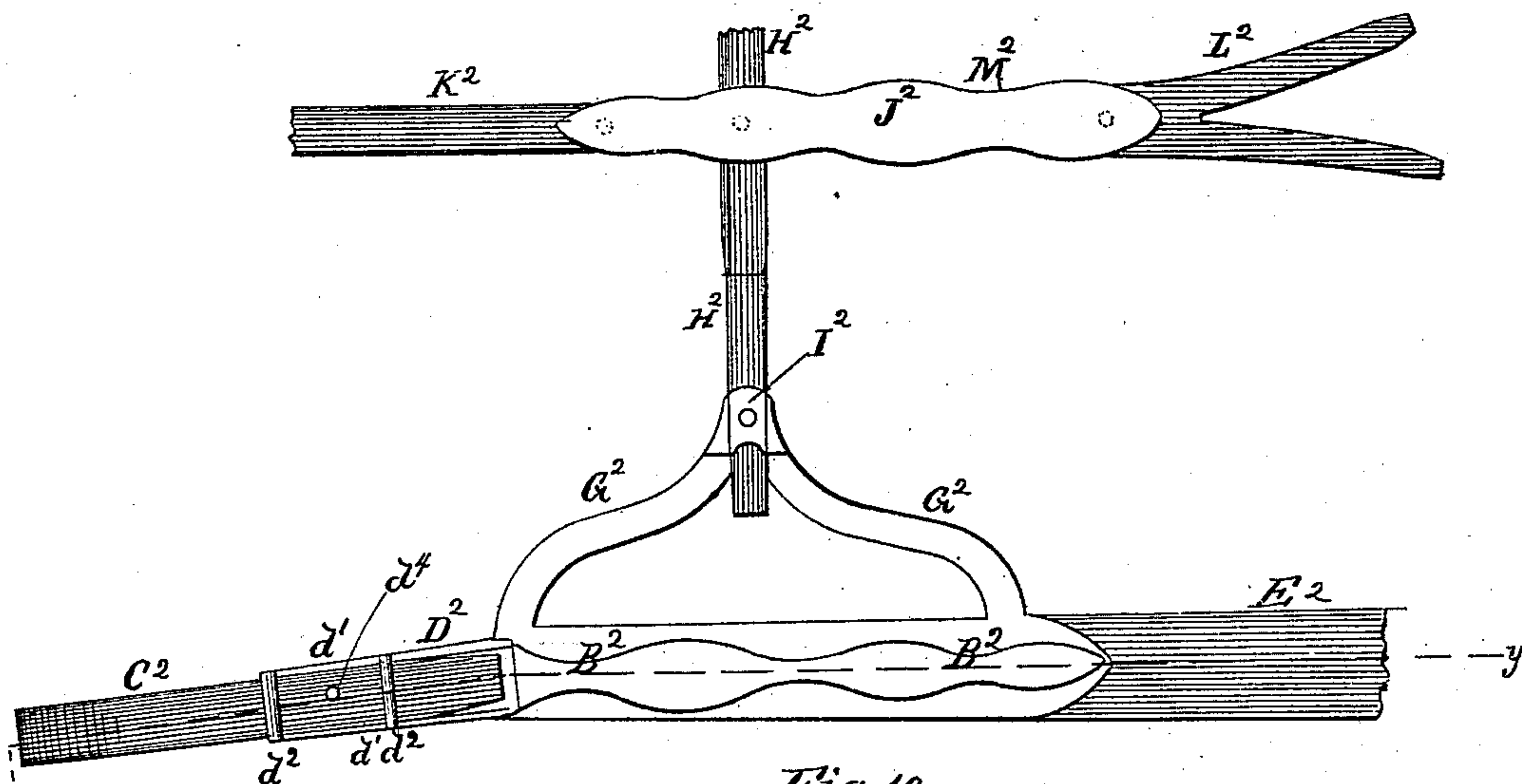


Fig. 10.

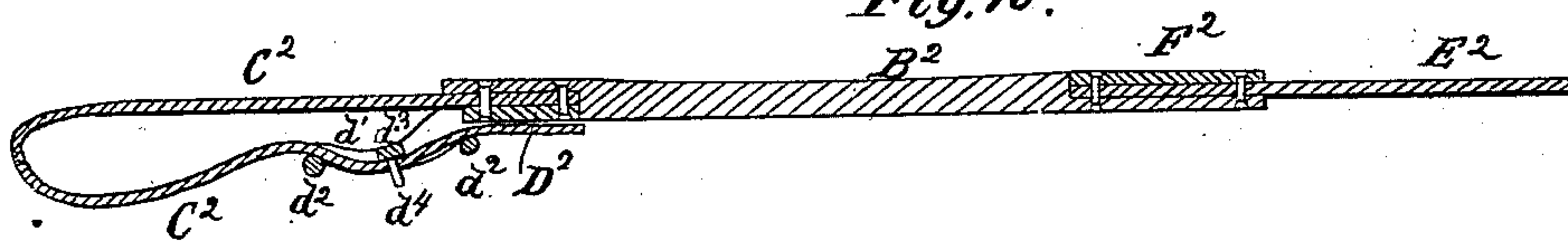


Fig. 12.

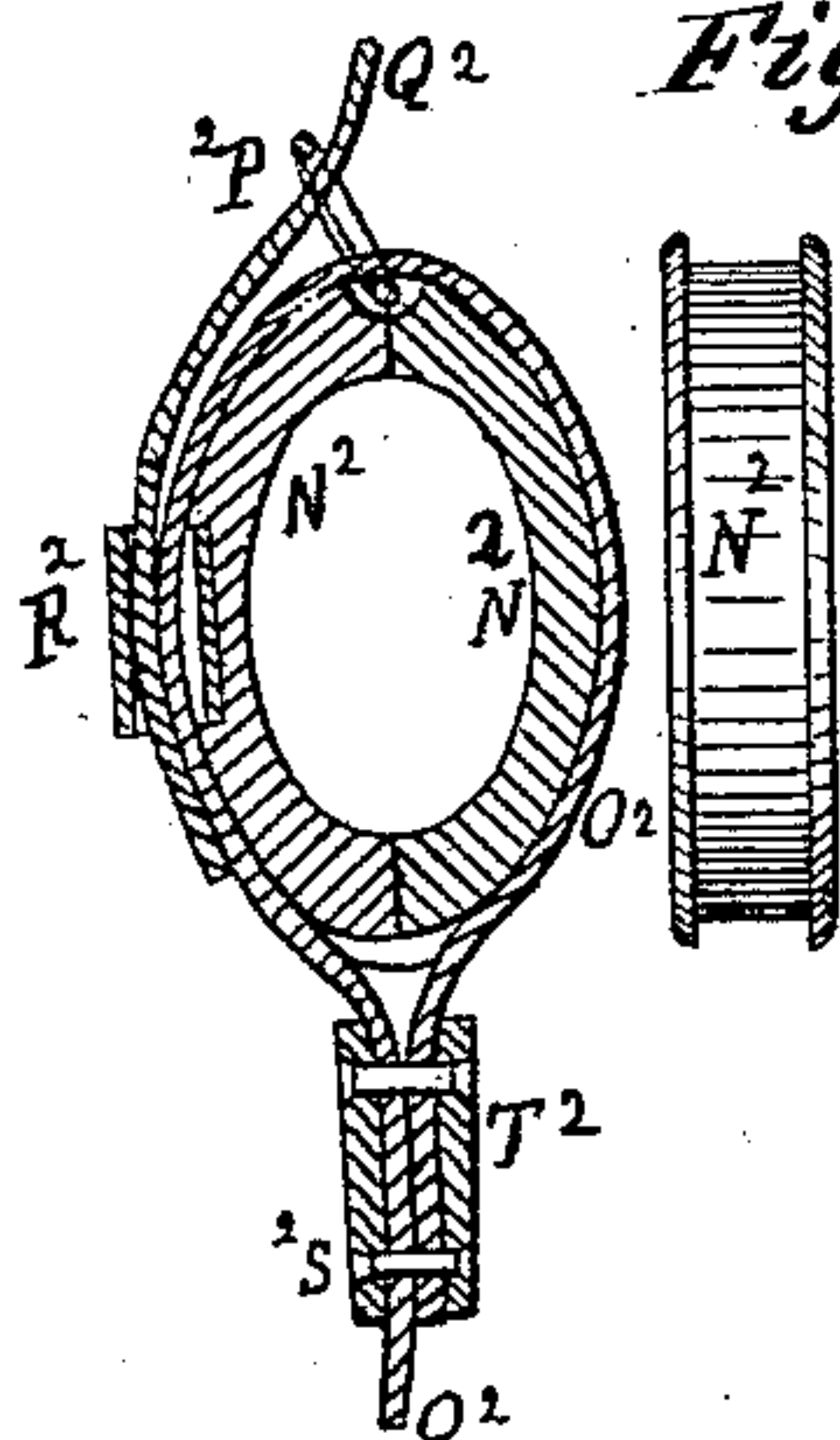


Fig. 13.

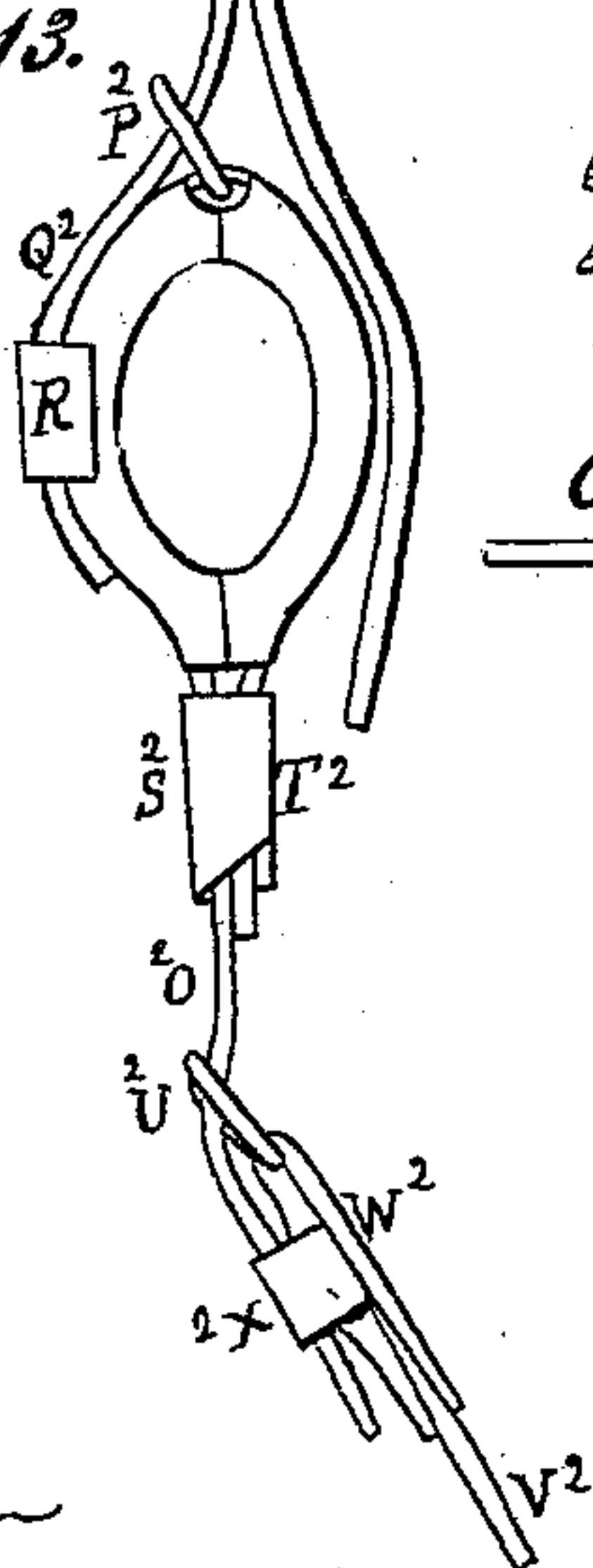


Fig. 14.

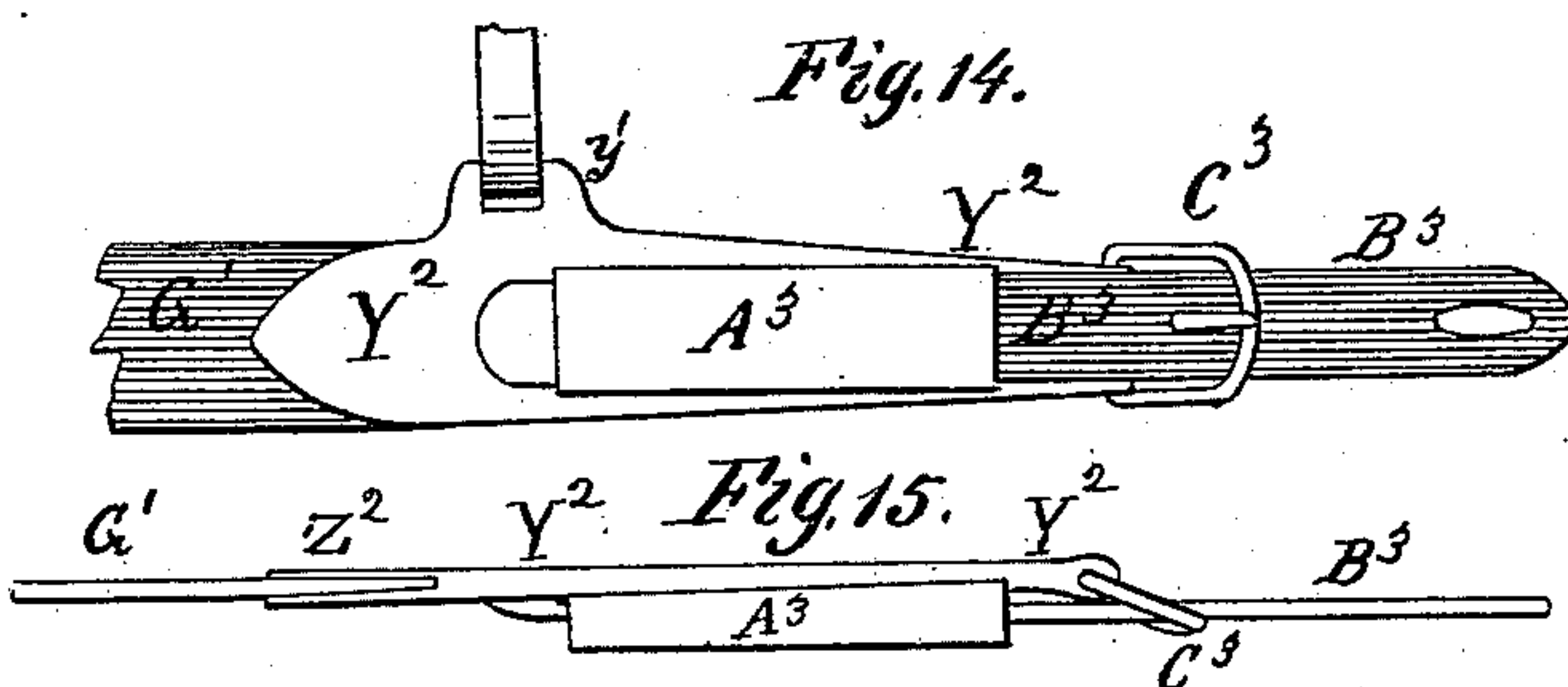


Fig. 15.

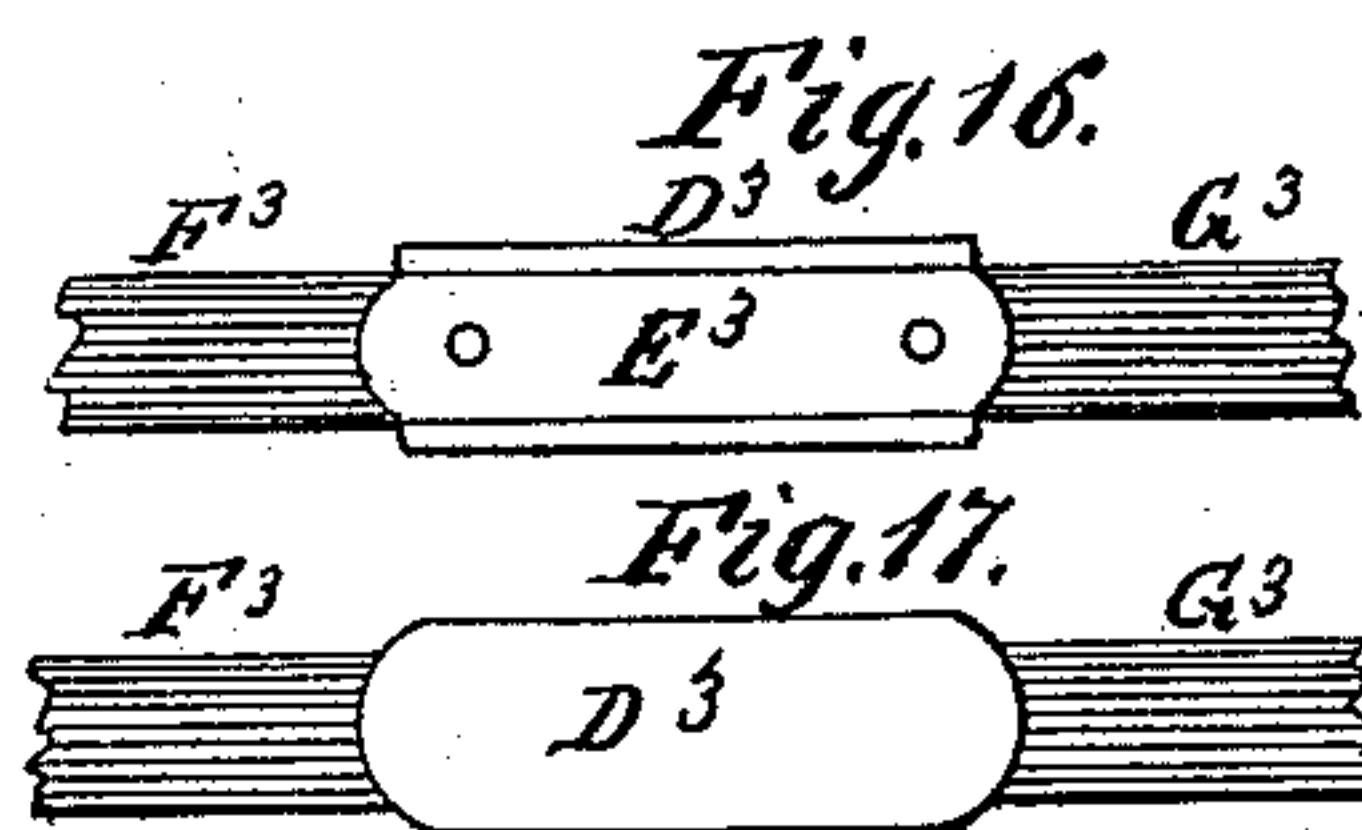


Fig. 16.

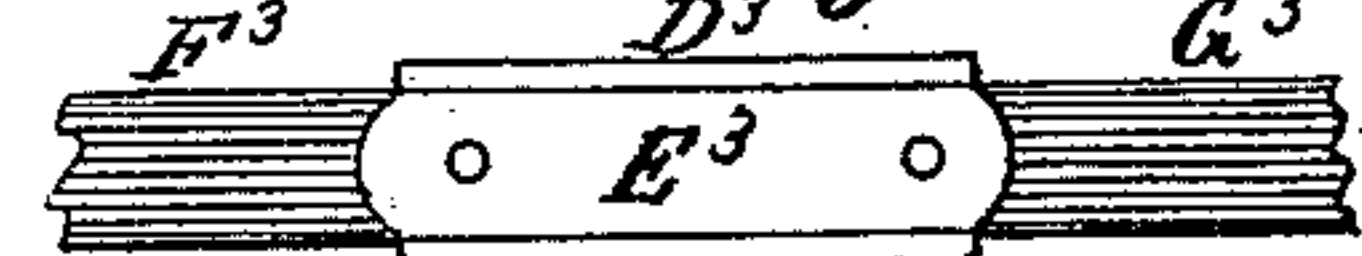
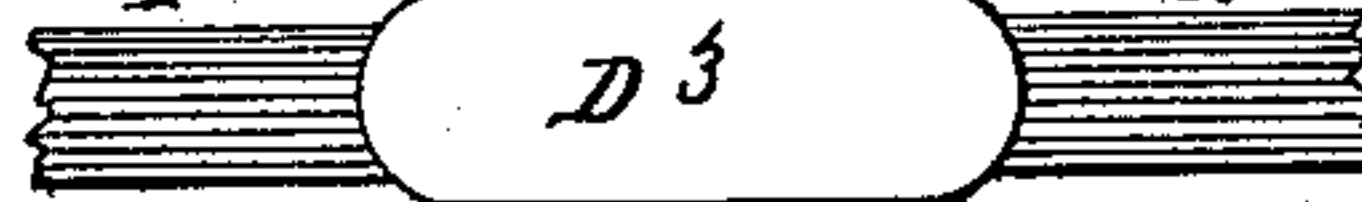


Fig. 17.



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UNITED STATES PATENT OFFICE.

CHARLES S. PIERSONS, OF SANDY HILL, NEW YORK, ASSIGNOR TO HIMSELF
AND JOSEPH A. OBER, OF SAME PLACE.

IMPROVEMENT IN HARNESS.

Specification forming part of Letters Patent No. **213,246**, dated March 11, 1879; application filed
September 18, 1878.

To all whom it may concern:

Be it known that I, CHARLES S. PIERSONS, of Sandy Hill, in the county of Washington and State of New York, have invented a new and useful Improvement in Harness, of which the following is a specification:

Figure 1, Sheet 1, is a detail view of the inner side of the rein-coupling. Fig. 2, Sheet 1, is a detail view of the outer side of the rein-coupling. Fig. 3, Sheet 1, is a side view of the breast-collar, showing the martingale-coupling in perspective. Fig. 4, Sheet 1, is a longitudinal section of the breast-collar coupling, taken through the line *xx*, Fig. 3. Fig. 5, Sheet 1, is a detail view of the same, the cover being removed. Fig. 6, Sheet 1, is a detail view of the outer side of the tug eye-plate. Fig. 7, Sheet 1, is a detail view of the inner side of the same. Fig. 8, Sheet 1, is a longitudinal section of the same, taken through the line *xx'*, Fig. 9. Fig. 9, Sheet 2, is a face view of the breeching and back-strap pieces. Fig. 10, Sheet 2, is a longitudinal section of the breeching-piece, taken through the line *yy*, Fig. 9. Fig. 11, Sheet 2, is a side view of the thill-carrier. Fig. 12, Sheet 2, is a longitudinal section of the same. Fig. 13, Sheet 2, is an edge view of the thill-carrier ring. Fig. 14, Sheet 2, is a face view of a modified form of a breast-collar coupling. Fig. 15, Sheet 2, is an edge view of the same. Fig. 16, Sheet 2, is a view of the inner side of a strap-coupling. Fig. 17, Sheet 2, is a view of the outer side of the same.

The object of this invention is to furnish harness which shall be stronger, more durable, lighter, and neater in appearance, and less expensive in manufacture than ordinary harness, requiring less stock and less labor in its construction.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

In the drawings, $D^1 E^1$ is the coupling or piece that connects the rein Z with the hand-piece F^1 . The top plate, D^1 , is made with flanges upon the side edges of its inner surface, to form a groove to receive the ends of the rein Z , and the hand-piece F^1 , and the bottom plate, E^1 . The parts $D^1 E^1$ are secured

together, clamping the rein Z and the hand-piece F^1 between them, by rivets cast upon the inner surface of the plate D^1 , and passing through and headed down into reamed holes in the clamping-plate E^1 . The ends of the rein Z and the hand-piece F^1 are further secured in place by pins cast upon the inner surface of the plate D^1 , and which pass through the said ends.

G^1 is the breast-strap of the collar, to the middle part of which are riveted the ends of the loop or keeper H^1 , through which the martingale I^1 passes. $J^1 K^1$ are the two parts of a coupling for connecting the martingale I^1 with its ring-straps L^1 . The part or plate J^1 is cast with flanges upon its side edges, and with pins and rivets upon its inner surface for securing the ends of the straps $I^1 L^1$ and the clamping-plate K^1 , in the manner hereinbefore described.

To the lower end of the martingale I^1 is attached a buckle-holder, M^1 , which is cast in one piece, bent together in the middle, and made with a notch to receive the loop N^1 , with cross-flanges upon its middle part, to form a recess to receive the tongue-bar of the buckle O^1 , into which the billet P^1 is buckled.

The ends of the holder M^1 are connected together, clamping the end of the martingale I^1 between them, by a rivet. To the end of the breast-strap G^1 is secured the plate Q^1 , which has a recess formed in the inner side of its forward end, to receive the end of the breast-strap G^1 and the plate R^1 , by which it is secured in place.

The clamping-plate R^1 is secured by rivets cast upon the plate Q^1 , and by flanges formed upon the inner surface of its inner end, and which are notched to interlock with a flange or rib formed upon the plate Q^1 at the inner end of its recess. Upon the upper edge of the forward end of the plate Q^1 is cast a loop, S^1 , to receive the neck-strap T^1 . Upon the outer side of the plate Q^1 are cast flanges U^1 , to form a recess or open box to receive the forward end of the tug V^1 .

In the forward end of the tug V^1 is formed a loop to receive a key, W^1 , which key is dropped into notches in the flanges U^1 . Several sets of notches are formed in the flanges

U¹ to receive the key W¹, so that the tug V¹ can be lengthened and shortened, as desired, by moving the said key W¹ from one set to another of the said notches. The tug V¹ is further secured by pins X¹, cast upon the plate Q¹, and which pass through holes in the said tug V¹.

Y¹ is the top plate or cover, which has flanges formed upon the edges of its sides and forward ends to overlap the flanges U¹ of the plate Q¹. The cover Y¹ is hinged at its rear end to the rear ends of the flanges U¹, and its forward end is secured, when closed, by a pin, spring-catch, or other convenient fastening.

To the rear end of the tug V¹ is attached the plate Z¹, which has one or more holes or eyes formed in it to receive the eye or hook of the whiffletree. In the inner side of the forward end of the plate Z¹ is formed a recess to receive the end of the tug V¹ and the clamping-plate A², which are secured in place by pins and rivets, in the manner hereinbefore described.

B² is the breeching-plate, the outer side of the forward end of which is recessed to receive the end of the side strap, C², and the plate D². The plate D² is secured in place by rivets, has flanges formed upon its side edges to hold the strap C² against side movement, and its rear end is halved to the plate B² to give the connection greater strength. The forward part of the clamping-plate D² has arms d¹ formed upon it, which are curved outward, forward, and inward, have cross-bars d² formed upon the upper side of their ends, and a cross-bar, d³, formed upon the lower side of their centers.

Upon the center of the cross-bar d³ is formed an outwardly-projecting pin, d⁴, which passes through a hole in the free end of the side strap, C², the said strap passing beneath the two cross-bars d², the said cross-bars serving as loops or keepers.

The inner side of the plate B² is recessed to receive the end of the breeching-strap E² and the clamping-plate F², which are secured in place by pins, rivets, and interlocking flanges, in the manner hereinbefore described.

Upon the end parts of the upper edge of the breech-plate B² are formed the ends of a brace, G², the center of which projects upward at an angle, and has flanges formed upon the opposite side edges of the said angle to form a recess to receive the end of the hip-strap H² and the clamping-plate I².

Upon the angle of the brace G², in the center of its recess, is formed a pin, which passes through the hip-strap H², and has a screw-hole formed in its end to receive the screw that secures the clamping-plate I² in place detachably.

J² is a plate, which has a recess formed in the under side of its forward end to receive the rear end of the back-strap K², a recess formed in the under side of its rear end to receive the forward end of the crupper-strap L², and a

notch formed across the under surface of its forward part to receive the hip-strap H².

The straps K² L² H² are secured in place by the clamping-plate M², riveted to its under side.

The hip-strap H² is kept from longitudinal movement between the plates J² M² by a pin cast upon the said plate J², and which passes through the said strap H².

N² is the thill-carrier, which is made in two parts or halves locked together at their ends.

Around the outer surface of the carrier is formed a groove to receive the carrier-strap O². In the top of the carrier N² is formed a notch to receive the tongue-bar of the buckle P², into which is buckled the billet Q³, extending down from the saddle-tree to support the thill. In the outer side of the carrier N² is formed a wide notch to receive the loop R² for the end of the billet Q³. The buckle P² and the loop R² are held in place by the carrier-strap O². The ends of the carrier-strap O² are brought together at the lower side of the carrier, and are fastened by the plates S² T². The outer plate, S², has flanges upon its side edges, to form a recess to receive the ends of the strap O² and the clamping-plate T², and has rivets cast upon its inner surface, by which the said plates S² T² and the ends of the strap O² are fastened together. The outer end of the strap O² is made sufficiently long to serve as a billet to receive the buckle U² of the belly-band V². The buckle U² is secured to the belly-band V² by a holder, W², which is made in the same manner as the buckle-holders hereinbefore described, and is provided in the same way with a loop, X², to receive the billet O².

Y² represents a modified form of the breast-strap plate, which is made in the same manner as a buckle-holder, except that it is provided with an eye, y', at the forward part of its upper edge, to receive the neck-strap T¹ and a clamping-plate, Z², for securing the end of the breast-strap G¹. The strap G¹ and the clamping-plate Z² are secured in the recess in the plate Y² by pins, rivets, and interlocked flanges, in the manner hereinbefore described. In this case the plate Y² is provided with a long loop, A³, to receive the end of the tug B³, which is buckled into the buckle C³, held by the said plate Y².

D³ E³ is a coupling for connecting the ends of two straps, F³ G³, and which is formed of two plates. The outer plate, D³, has flanges along its side edges, to form a recess to receive the ends of the straps F³ G³ and the inner or clamping plate, E³.

The plates D³ E³ and the straps F³ G³ are secured to each other by rivets cast upon the inner surface of the said plate D³, and which pass through the said plate and straps E³ F³ G².

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improvement in harness, the strap-coupling formed of the outer plate, D¹, pro-

vided with flanges along its side edges, and with pins and rivets upon its inner surface, and the inner or clamping plate, E¹, for connecting the adjacent ends of straps, substantially as herein shown and described.

2. As an improvement in harness, the breast-piece formed of the plate Q¹, provided with the eye S¹, the notched flanges U¹, and the pins X¹, the loose key W¹, the hinged cover Y¹, and the clamping-plate R¹, to adapt it to receive and hold the breast-strap G¹, the neck-strap T¹, and the tug V¹, substantially as herein shown and described.

3. As an improvement in harness, the buckle-holder formed of the plate M¹, bent together at its center, and provided with recesses to receive and hold the buckle O¹, the keeper N¹, and the strap I¹, substantially as herein shown and described.

4. As an improvement in harness, the tug-eye plate Z¹, provided with eyes to receive the eye or hook of the whiffletree, and with a recess to receive the end of the tug, and the clamping-plate A², substantially as herein shown and described.

5. As an improvement in harness, the breeching-piece formed of the plate B², recessed at both ends, the clamping-plate D², provided with the arms d¹, the cross-bars d² d³ d², and the pin d⁴, for holding the ends of the side strap, the clamping-plate F², for holding the end of the breeching-strap, and the brace G², provided with a recess, a stationary pin-nut, and a screw for receiving and holding the hip-strap, substantially as herein shown and described.

6. As an improvement in harness, the carrier N², made in two parts, and provided with notches to receive the buckle P² and loop R², and a groove to receive the strap O², the plate S², provided with flanges along its side edges, and the clamping-plate T², in combination with each other and with the said buckle, loop, and strap, substantially as herein shown and described.

CHARLES S. PIERSONS.

Witnesses:

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GILMER MANN.