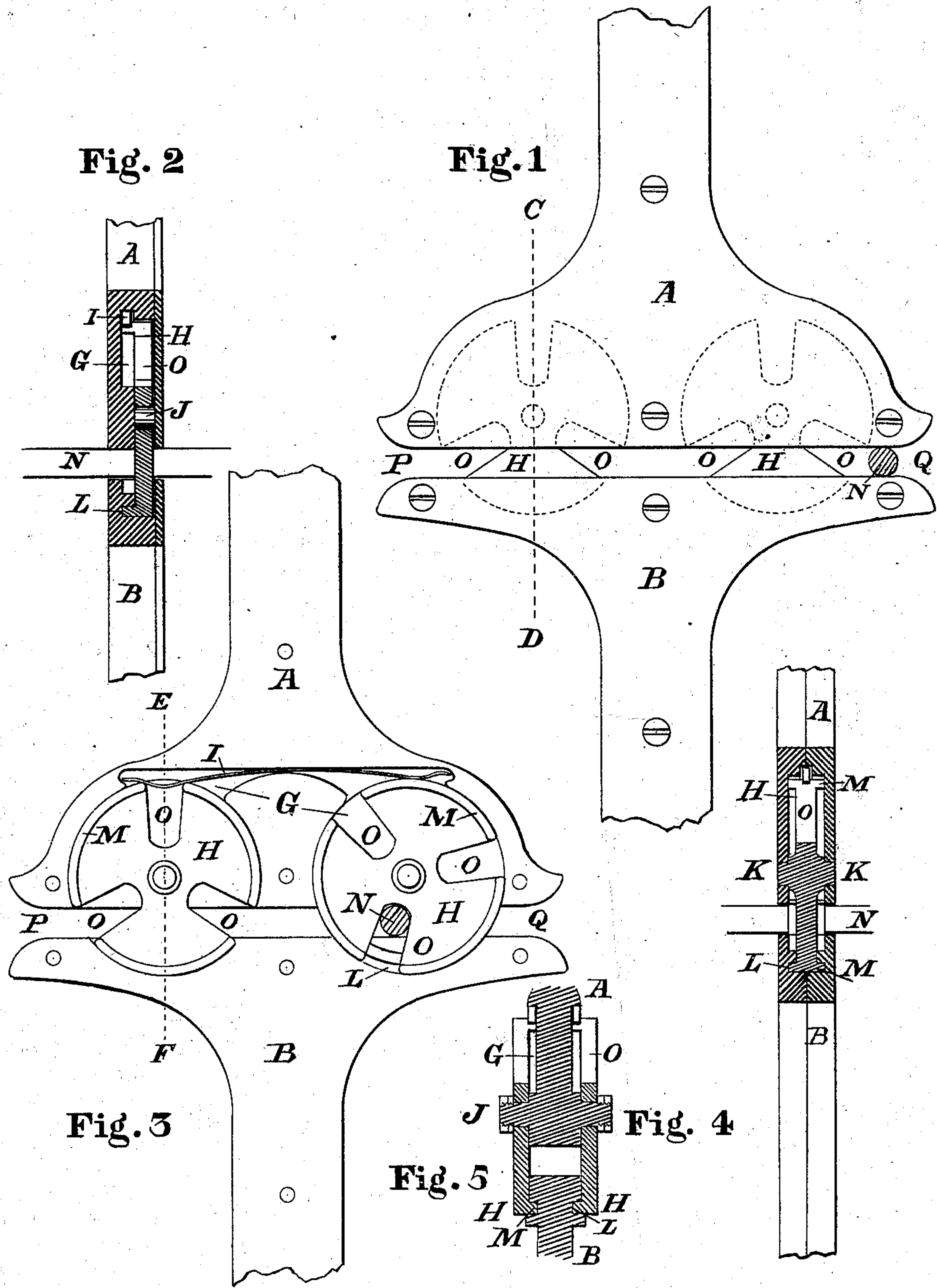


V. FRAZEE.
 Penetrable Coupling to Permit the Passage of Ropes, &c.
 No. 219,153. Patented Sept. 2, 1879



WITNESSES
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VITRUVIUS FRAZEE, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES BAUMBERGER, OF SAME PLACE.

IMPROVEMENT IN PENETRABLE COUPLINGS TO PERMIT THE PASSAGE OF ROPES, &c.

Specification forming part of Letters Patent No. **219,153**, dated September 2, 1879; application filed April 10, 1879.

To all whom it may concern:

Be it known that I, VITRUVIUS FRAZEE, of the city and county of San Francisco, and State of California, have invented a new and useful device, of which the following is a specification.

The invention relates to a device by means of which a rope, bar, or other similar impediment may be crossed at right angles, such rope or bar passing entirely through the device without releasing the constant attachments which hold the several parts of the device firmly together.

The object of the invention is to furnish a means by which various parts of machinery partly obstructed by bars, &c., may be readily reached, for which purpose it may be applied to wrenches, oil-cans, levers, and other like articles. It may also be applied in many cases to purchase and other blocks, so that the bights of long ropes can be readily inserted. There are many other purposes to which the device may be applied, among which may be mentioned that of a constant hold-fast for crossing cables on cable-railways.

My invention consists of two stocks or hold-fasts, held at some certain distance apart when in service by two or more constantly-attached wheels provided with notches and flanges, and so arranged as to admit of a thorough passage of a rope, bar, or other suitable body between the stocks.

In the accompanying drawings, Figure 1 is a side view of the stocks A and B as held in position by the wheels H. Fig. 2 is a section, (C D, Fig. 1,) showing a single-flanged wheel. Fig. 3 is a view of the device with one side of each stock removed. Fig. 4 is a full section, (E F, Fig. 3,) showing a double-flanged wheel; and Fig. 5 is a section of the device as arranged with single-flanged wheels in pairs.

The device may be constructed with any number of wheels, but generally two single or two pairs of wheels will be found preferable, with an arrangement in either case similar to that shown at Fig. 1; or in some cases where used in pairs the wheels might be left uncov-

ered, as shown by the section at Fig. 5. In cases where stiffness is not required in the device a single wheel or a single pair of wheels may be found useful.

The head-stock A is provided with recesses G for the reception of the wheels H and spring I. It is also provided with journals J, Figs. 2 and 5, or else with journal-boxes K, Fig. 4, for supporting the wheels H.

The tail-stock B is provided with channels L, which receive the flanges M of the wheels H for maintaining the tail-stock firmly in position. In certain cases a double row of friction-pulleys may be substituted for the sides of the channels L.

The operation of the device is as follows; When crossing a bar, N, the head-stock A passes on one side, while the tail-stock B passes on the other, Fig. 1. The bar N enters a notch, O, of a wheel, H, and turns the wheel, Fig. 3, finally leaving it in a position similar to its original one, in which position it is held by the spring I. The same process is repeated with the next wheel, after which, if there are no more wheels, the bar passes through the passage P Q.

I claim as my invention—

1. The head-stock A, attached to the axes of the wheels H or their equivalent, and forming one side of the thorough passage P Q, in combination with the tail-stock B, substantially as set forth and described.

2. The tail-stock B, attached to the flanges M of the wheels H, or their equivalent, and forming one side of the passage P Q, opposite the head-stock A, in combination with the head-stock A, substantially as set forth.

3. The wheels H, provided with the notches O and flanges M, and attached by their axes and flanges, respectively, to the stocks A and B, in combination with the spring I and thorough passage P Q, substantially as set forth.

VITRUVIUS FRAZEE.

Witnesses:

JAMES BAUMBERGER,
JOHN J. TOBIN.