

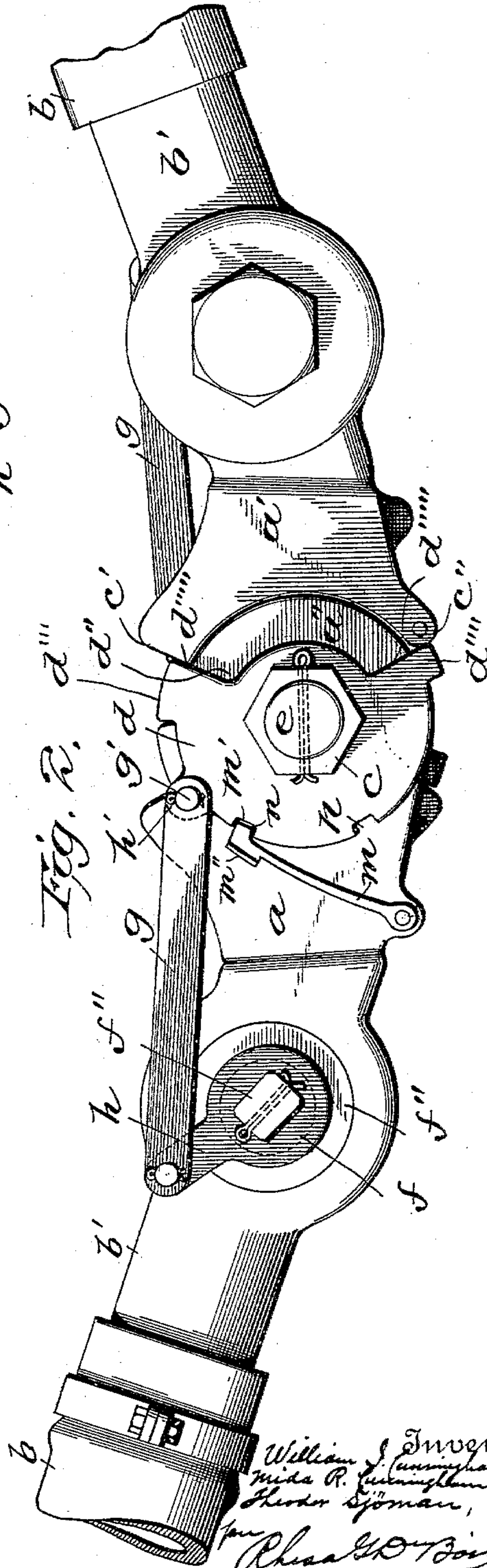
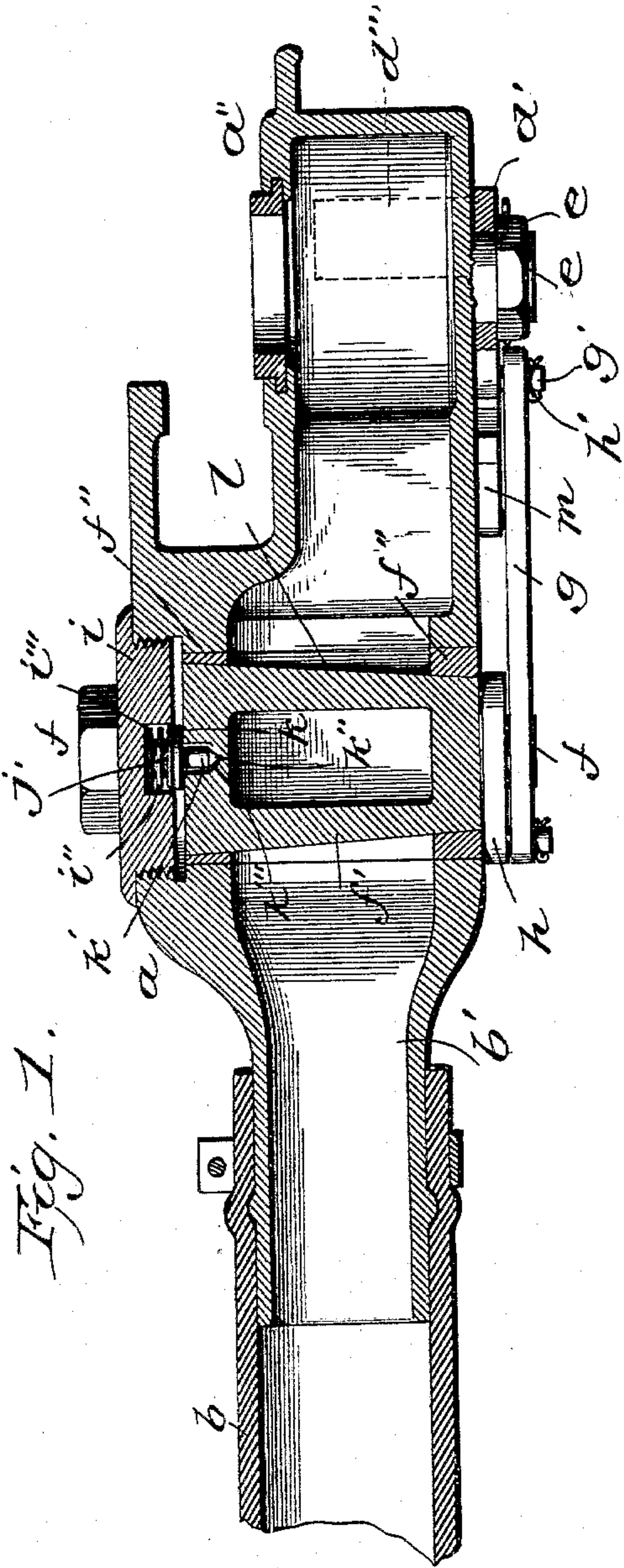
(No Model.)

2 Sheets—Sheet 1.

W. I. & M. R. CUNNINGHAM & T. SJÖMAN.  
TRAIN PIPE COUPLING.

No. 597,267.

Patented Jan. 11, 1898.



Witnesses,  
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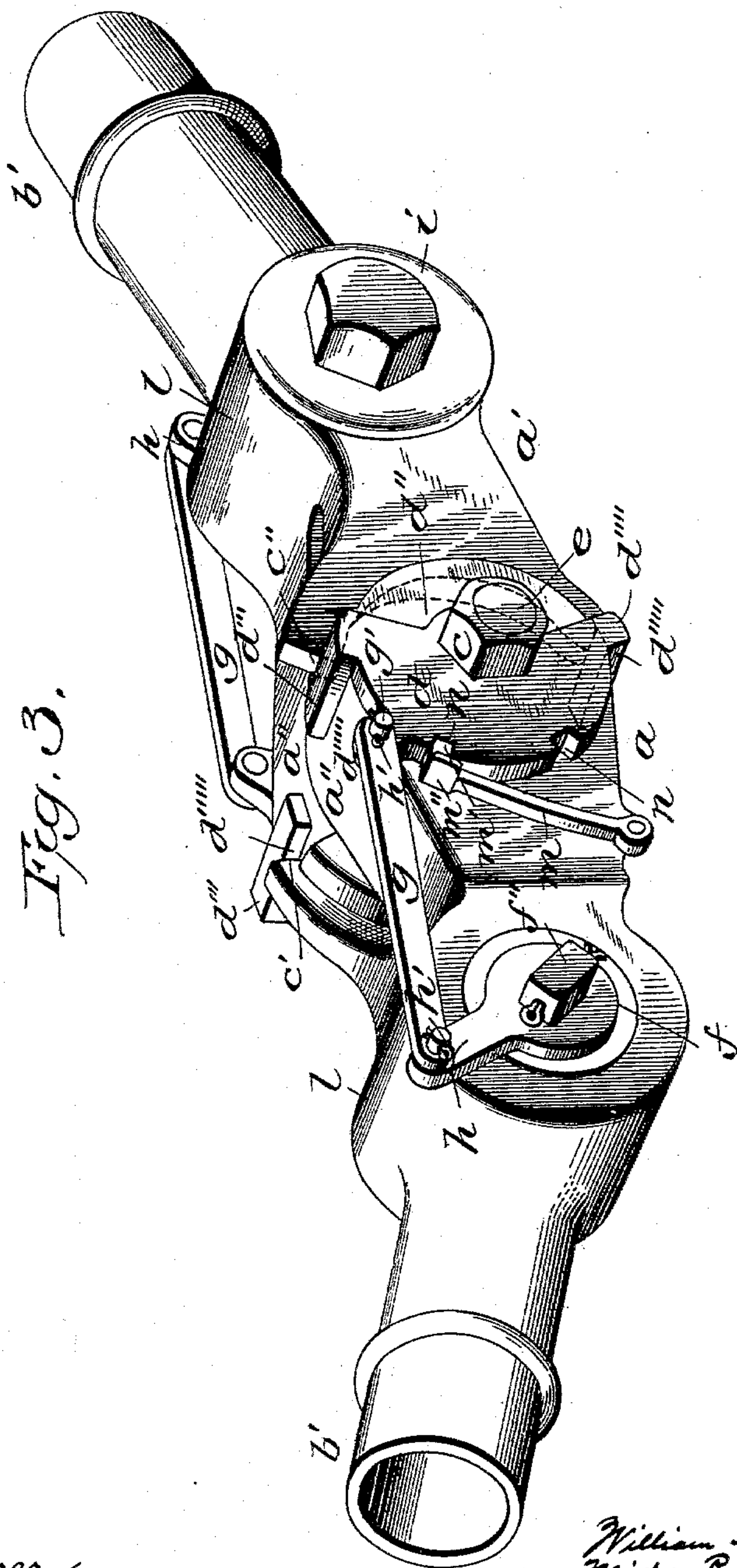


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

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OF PITTSBURG, PENNSYLVANIA.

## TRAIN-PIPE COUPLING.

SPECIFICATION forming part of Letters Patent No. 597,267, dated January 11, 1898.

Application filed June 1, 1897. Serial No. 638,994. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM I. CUNNINGHAM, MIDA R. CUNNINGHAM, and THEODOR SJÖMAN, citizens of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Train-Pipe Couplings; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to those train-pipe couplings provided with devices operating in conjunction with the coupling member to open or close the train-pipe.

The object of our device is to provide a more simple, cheap, durable, convenient, and easily-operated mechanism adapted to be applied to an ordinary hose-coupling, such as the Westinghouse.

To this end our invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents one of a pair of twin members of our invention uncoupled; and Fig. 2, a plan view of a pair of coupling members provided with our invention, the obverse side only of one member being shown. Fig. 3 is a perspective view showing the coupling complete.

The reference-letters *a a'* represent the casings of a pair of twin coupling members, each of which is attachable to the train pipe or hose *b* by means of an integral stem *b'*, passing into the end of the pipe. An angle-cock *f* is located in the casing at a point between the head *a''* and stem *b'*. This angle-cock extends transversely across the casing, its axis being parallel with that of the coupling-head, and its valve *f'* and valve-seat *f''* are preferably made of brass to better resist wear. The valve is held down in its seat by a cap-nut *i* and centrally-located spiral spring *i''*, confined within a chamber *i* in the under side of the cap-nut and bearing down on a flange *k* of a pin *k'*, the head *j'* of which en-

ters the interior of the spring. This pin is provided with a conical point *k''*, the tip end only of which bears in the center of the bottom of a surrounding socket *k'''*, thus reducing the friction to a minimum. The valve and its seat are located in a transversely-disposed cylindrical enlargement *l*, which forms an integral part of the casing *a*. The coupling-head *a''* is of the well-known Westinghouse type now in general use and needs no further description. With this common coupler-head we connect the angle-cock by the mechanism which will now be described.

On the back of the head *a''* is placed a substantially circular turn-plate *d*. This plate is centered to turn freely on a bolt *e* and is held thereon by a nut *c*. A segmental recess *d''* is cut out of the plate next the opposite coupler-head *a'*. A pair of integral int-turned arms *d'''* and *d''''* project at right angles to the face of the plate inward across the outside of the head. The front edges *d'''''* of these arms are arranged to come in contact with the shoulders *c' c''* of the opposite coupling-head *a'* when the two are coupled, as seen in Fig. 2, whereby the turning of the two members in the coupling and uncoupling operation will turn the plate *d* in either direction to open and close the angle-cock. The turn-plate *d* is connected to the angle-cock by a link *g*, extending substantially parallel with the outside face of the casing *a* across to a crank-arm *h*, fixed on a stem *f''*, turning with the valve of the angle-cock. The opposite ends of the link are loosely attached to studs *g' g''* on the turn-plate *d* and crank-arm *h*, respectively, and are retained thereon by spring-keys *h'*. As an extra precaution against the accidental turning of the angle-cock we provide a safety-latch which consists of a spring-dog *m*, having one end fixed to the casing and the other end provided with a nose *m'*, adapted to drop into a notch *n* in the circular edge of the turn-plate *d* whenever the latter is turned into its extreme open or closed position. A head *m''* on the free end of the dog facilitates its release from the plate.

The operation of the device can be briefly summed up as follows: When the couplers are coupled, the operation of turning them



upon each other in the direction of the arrow to uncouple will cause the shoulder  $c''$  of one to engage the arm  $d'''$  on the turn-plate  $d$  of the other member, carrying the arm  $d'''$  back with it and turning the upper part of the plate forward. This forward movement of the upper part of the plate draws the link  $g$  and crank-arm  $h$  with it and closes the valve of the angle-cock by the time the turn-plate has been turned around far enough to permit the two coupling members to uncouple. A like movement takes place in each coupler and the ends of both pipes are closed, thereby permitting the uncoupling operation to be performed with much greater ease. In the coupling operation a contrary movement will cause the shoulder  $c'$  to engage the arm  $d''$  and push it backward to open the angle-cock.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a train-pipe coupling, the combination with a coupling-head, of the character described, of an angle-cock located between the head and its stem, and having its axis parallel with that of the head, a turn-plate on the head, a crank-arm on the angle-cock, a locking-latch and a link connection between the turn-plate and crank-arm substantially as described.

2. In a train-pipe coupling, a coupling-head of the character described, provided with a turn-plate having its axis of movement common to that of the head, and adapted to be engaged and actuated by the opposite head, in combination with an angle-cock in connection with the plate.

3. In a train-pipe coupling, a coupling-head

of the character described, provided with a turn-plate secured to turn loosely thereon, in combination with an angle-cock located at one side of the head and connected to the plate, and being adapted to be actuated by the opposite coupling-head, substantially as described.

4. In a train-pipe coupling, a coupling-head of the character described, provided with a turn-plate loosely attached to the outside thereof and adapted to be moved by the opposite head, in combination with an angle-cock, and connections between the turn-plate and cock, whereby upon the coupling or uncoupling of the parts, the cock will be opened or closed, substantially as described.

5. In a train-pipe, a coupling-head of the character described, provided with an angle-cock and a turn-plate loosely attached to the head, in combination with a link, and a locking-latch, substantially as described.

6. In a train-pipe coupling of the character described, a coupling-head having a neck to which the train-pipe is attached, and an angle-cock provided with a conical valve, in combination with a turn-plate on the head, a link between the turn-plate and valve, a cap-nut, a spring, and a pressure-pin, whereby the valve is continually pressed into its seat, substantially as described.

In witness whereof we affix our signatures in presence of two witnesses.

WILLIAM I. CUNNINGHAM.  
MIDA R. CUNNINGHAM.  
THEODOR SJÖMAN.

Witnesses:

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