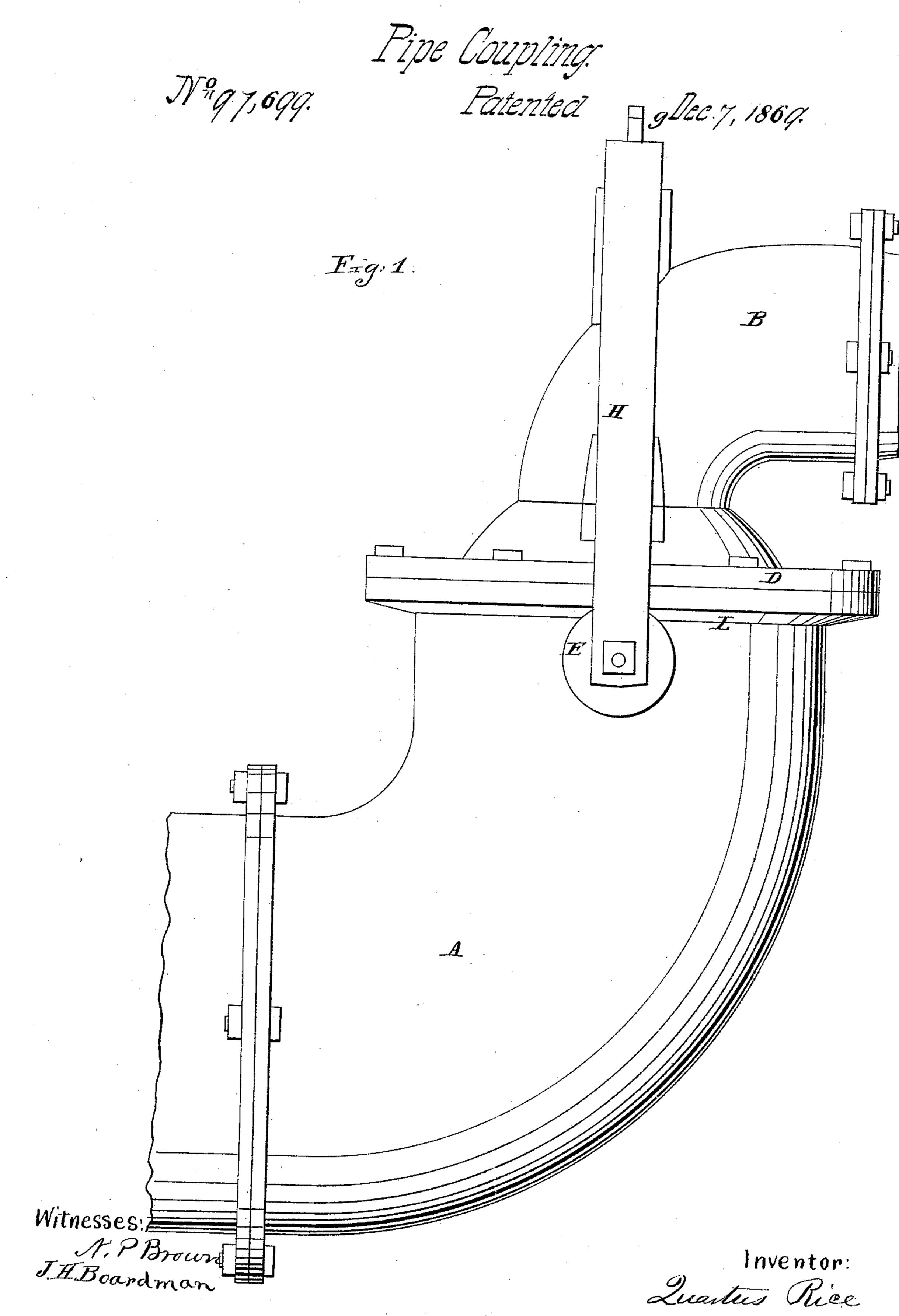
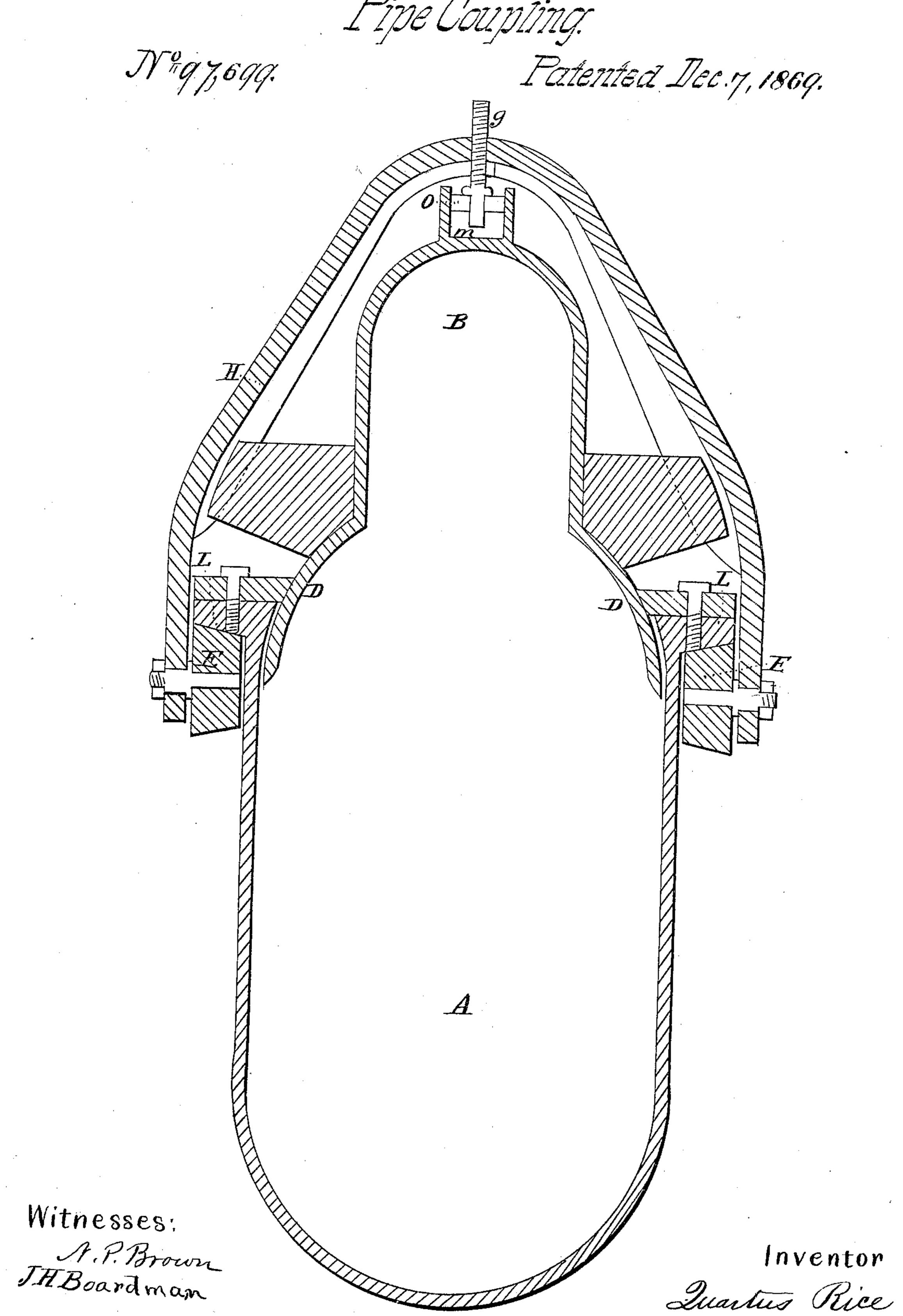
Die.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

Pine Counting.



## Anited States Patent Office.

QUARTUS RICE, OF NEVADA, CALIFORNIA, ASSIGNOR TO RANDOLPH R. CRAIG AND JOSEPH CRAIG.

Letters Patent No. 97,699, dated December 7, 1869.

## IMPROVEMENT IN FLEXIBLE PIPE-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, Quartus Rice, of the city and county of Nevada, and State of California, have invented a new and useful Improvement on a Flexible Water-Pipe Coupling; and I do hereby declare that the following is a full and clear description of the construction and operation of the same, reference being had to the annexed drawings, said drawings making a part of this specification, in which—

Figure 1 is a side or longitudinal elevation.

Figure 2 is a transverse section.

Similar letters of reference indicate corresponding parts in the two figures.

A A is the supply-pipe, and is fixed stationary.
B B is the discharge-pipe, to which the nozzle is

attached.

In order to direct the stream in different directions, B B is by the construction of the flexible couplings D D, which is capable of being turned a full circle horizontally, and about forty-five degrees of a circle vertically.

It is found by experience that flexible water-pipe coupling, of the above description and similar construction, when in use under a heavy pressure caused by friction of the movable joint D D D, are immovable with such force as is convenient to apply to said purpose.

In order to diminish the friction of suitably-con-

structed flexible water-pipe couplings, I have constructed the anti-friction wheels E E E, the inverted circular plane L L L, the strap H H, the screw-bolt g, the follower O, and the box m, the above-described devices being constructed to operate in combination.

It will be seen that by turning the screw-bolt g g, the follower O, fig. 2, will be pressed against a spring placed in the box m, and thereby a desirable portion of the pressure will be changed from the joint D D D to the anti-friction wheels E E E and the inverted plane L L L, and, as the wheels roll instead of slipping on the plane, will allow the apparatus to operate freely, as described.

What I claim as new, and desire to secure by Let-

ters Patent, is-

1. The combination, with a flexible water-pipe coupling of any suitable construction, the anti-friction wheels E E E, in combination with the inverted circular plane L L L, substantially as and for the pur poses set forth.

2. The strap H H, the screw-bolt g g, follower O, and spring-box m, or their equivalents, for the pur-

poses set forth.

QUARTUS RICE.

Witnesses:

N. P. Brown, J. H. Boardman.