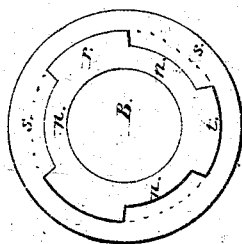
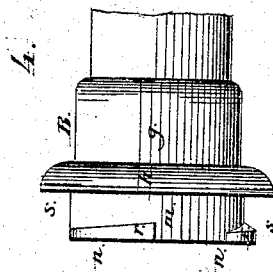


*A.H. Brown,*

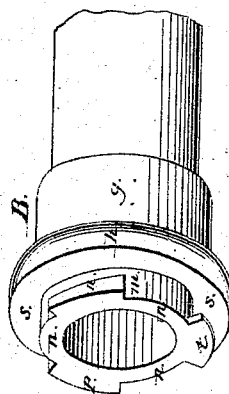
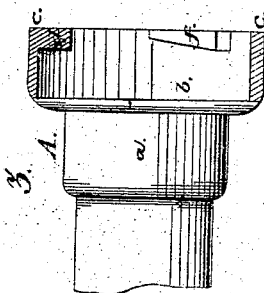
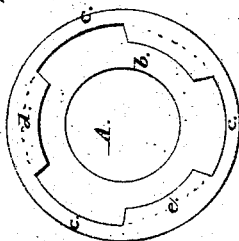
*Pipe Coupling.*

*No 7318.*

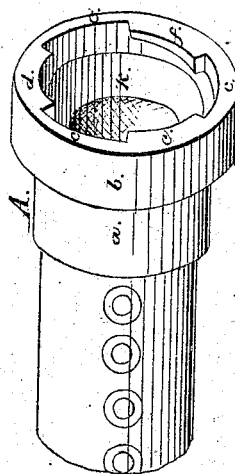
*Patented Apr. 30. 1850.*



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# UNITED STATES PATENT OFFICE.

A. H. BROWN, OF ALBANY, NEW YORK.

## COUPLING FOR PIPES AND HOSE.

Specification of Letters Patent No. 7,318, dated April 30, 1850.

*To all whom it may concern:*

Be it known that I, A. HEYER BROWN, of the city of Albany and State of New York, have invented a new and useful Coupling for Hose and Metallic Pipes, which I call Brown's Tube Coupling; and I declare the following specification, with the drawings hereto annexed as part of the same, to be a full and complete description thereof.

Figure 1 is a perspective view of the couplings when separated, and the end of each part turned toward the spectator, part A being attached to a leather hose, part B to a metal pipe, to show its applicability to hose or pipe. Fig. 2 is an end view of the couplings. Fig. 3 is a section of coupling A showing its interior back from a vertical line through its center. Fig. 4 is a profile view of coupling B.

Similar letters in the different figures refer to the same parts of the apparatus.

The coupling A consists of a hollow metal ferule *a* attached at one end to a hose or tube. This ferule is enlarged at its other end to form a cylindrical shaped cup or hollow box *b* whose edge *c* is of sufficient thickness to form a firm bearing against the flat corresponding part of coupling B and is turned or ground truly at right-angles to its axis. On the inside of this cup and next to the edge just described are placed three equal flanges or projections of metal, (say, from  $\frac{1}{4}$ th to  $\frac{3}{8}$ ths of an inch thick) *d*, *e*, *f*, forming as seen at A Fig. 2, the outer portions of a sector, formed by the inner circle of the box *b*, each flange being a little less than one sixth of the circumference of said circle, and projecting inward, toward the center of the circle, a distance about equal to the thickness of the edge or rim of said box. The outer sides of these flanges coincide with the ground edge of the box, their inner sides being not parallel therewith but, as shown in Figs. 1 and 3 slightly oblique, the angle of obliquity being the same in each flange, forming as it were the threads of a screw.

The coupling B is a hollow metal ferule *g* attached to the hose or tube and is of equal bore to ferule *a*. At its extremity it is enlarged to form a flange *h* equal in diameter to the coupling A. The edge of the face of this flange at *s* toward A is turned or ground at right angles to its axis, so as to bear truly against the edge *c* when the cou-

plings are united. Projecting from the face of the flange is a cylindrical ring *m* of diameter sufficient to pass between the inner edges of the flanges *d*, *e*, *f*, of coupling A. This ring whose bore is at least equal to that of the ferules *a* and *g*, is just as deep as the box *b* and its end *n* is ground or turned true and parallel with *s*, so that (the bottom of the box *b* at *k* being ground or turned parallel with the edge *c*) whenever the ring *m* is inserted into the box, the surface *s* will bear truly against *c*, and *n* against *k* making a water or steam tight joint. When used for hose or pipes to convey water, leather rings are to be put upon *s* and *k*, against which the opposing metal surfaces may rest and press.

On the periphery of the ring *m* coinciding therewith along its outer edge, are placed three equal flanges or projections *p*, *r*, *t*, in their width, of shape and figure to pass freely but snugly through the intervals that are between *d*, *e*, *f* when the two couplings are brought together. The inner sides of these flanges or projections are not parallel with the outer ones, but as shown in Fig. 1 and Fig. 4 oblique, at the same angle as those of *d*, *e*, *f*, like the threads of a female screw.

The thickness of the narrow ends of the flanges *p*, *r*, *t*, are just equal to the space between the wide ends of *d*, *e*, *f* and *k*,—and the thickness of the wide ends of *p*, *r*, *t*, are just equal to space between the narrow ends of *d*, *e*, *f* and *k*.

Mode of operation: From the above description it will be seen that if *p*, *r*, *t*, be passed through the intervals of *d*, *e*, *f* and turned to the right hand B will move freely around, till the surfaces of the flanges, being oblique at the same angle rub on each other. When this is done, a further slight turn to the right will by the action of the oblique surfaces on each other, (like the threads of a screw) press A and B more firmly together setting the surfaces of *s* and *e*—*n* and *k* against each other making a water or steam tight joint. Two flanges on each coupling if made of very accurate workmanship, might answer the purpose, but it is better to use three flanges, which will not fail to keep every part of the touching surfaces in contact with each other.

I do not limit myself to the number or dimensions of the flanges above described,—

both are to depend upon the proportions, and use of the tubes to which this coupling is to be applied.

I claim

- 5 The construction of couplings for hose, or tubing, by forming one part thereof into a hollow cylindrical cup or box, having wedge shaped flanges of metal inside and next to the edge thereof--and by forming the other  
10 part of the coupling, of a flange equal in diameter to the first described coupling, having its face edge ground with the edge of the first coupling to make a tight joint, with a cylindrical ring (whose bore is equal to that  
15 of the tubes to be coupled) projecting from said flange, concentric with it, and in diameter just large enough to pass between the

flanges of the cup or box, and to reach just to the bottom of the cup, whose bottom face, with the outer face of said ring are ground 20 together to form a tight joint; also said ring having on its periphery at the outer edge, wedge shaped flanges similar in form and angle to the flanges of the cup or box, and so arranged as to pass between the intervals 25 of the same; so that by being turned around underneath them, they compress the ground surfaces of the couplings together firmly; the whole apparatus being in the form essentially set forth in this specification.

A. HEYER BROWN.

Witnesses:

RICHD. DE WITT,  
J. B. BRINSMADE, Jr.