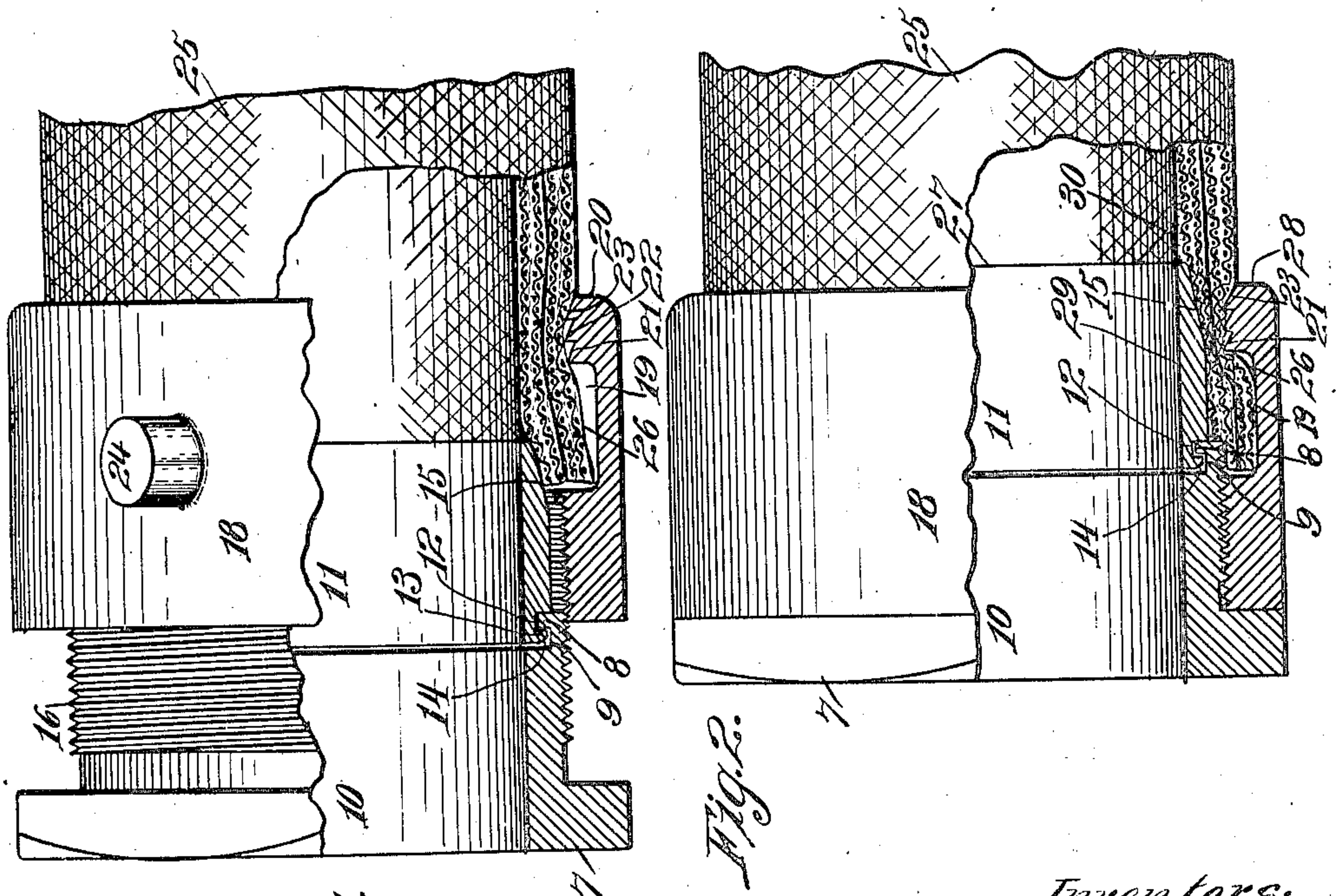


No. 796,599.

PATENTED AUG. 8, 1905.

J. J. McINTYRE & H. BAGSHAW.  
HOSE BINDER.

APPLICATION FILED OCT. 27, 1904.



Witnesses:  
A. E. Maynard  
Robert A. Axt

Inventors:  
John J. McIntyre  
Herbert Bagshaw,  
By their Attorney,  
F. A. Richards.



# UNITED STATES PATENT OFFICE.

JOHN J. MCINTYRE AND HERBERT BAGSHAW, OF HARTFORD,  
CONNECTICUT.

## HOSE BINDER.

No. 796,599.

Specification of Letters Patent.

Patented Aug. 8, 1905.

Application filed October 27, 1904. Serial No. 230,186.

*To all whom it may concern:*

Be it known that we, JOHN J. MCINTYRE, and HERBERT BAGSHAW, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Hose-Binders, of which the following is a specification.

This invention relates to and has for an object to provide an improved hose-binder.

In the drawings accompanying and forming a part of this specification, Figure 1 represents an embodiment of the present improvement, the same being a side view partly broken away and in longitudinal section, the parts being shown applied to a hose and in the initial binding position. Fig. 2 is a similar view showing the parts in their completely-bound position. Figs. 3, 4, and 5 are longitudinal sections of the coupling-block, the expander, and the binder, respectively, disassembled.

The binder herein illustrated comprises a coupling member or block 7, adapted to be fastened to some suitable connection, as occasion may demand, and which has a flange 8 at one end, back of which flange there is a channel 9. The flange in the present instance is shown as of greater inside diameter than the inside diameter of the body portion 10 of the coupling member. This flange and groove are adapted for the reception and securement of an expander 11, which has a groove 12 to receive the flange 8 and a flange 13 to enter the groove 9, which flange 13 is illustrated as having a chamfered edge 14 to enable the assemblage of the expander with the coupling member by being forced together, and if the parts are bent out of shape they may be re-formed in some suitable manner. The expander is shown as having a wedge or conoidal expanding portion 15, adapted to enter the hose and expand the same. The coupling member is also shown provided with external screw-threads 16, adapted to mate with the internal screw-threads 17 of the binding member 18, which binding member is shown as having an enlarged chamber portion 19, and beyond the chamber portion it is provided with a binding-flange 20, which is shown as parallel with the axis of rotation of such binding member and also of the expander. Consequently it will be parallel with the outer face of the hose to which it is to be applied. This flange 20 may in practice be provided with a number of abut-

ments or teeth, (illustrated herein as 21, 22, and 23.) The binder may be provided with some means of engagement to properly hold it when screwing or unscrewing it, and in the present illustration lugs 24 are shown adapted to be engaged by a spanner in a manner well known to those familiar with this class of device.

In Figs. 1 and 2 the parts are shown as assembled and a portion of hose 25 in the control of the parts. By reference to Fig. 1 it will be seen that the screw-thread on the binder has engaged the first thread upon the coupling member and that the end 26 of the hose is in position and will be drawn over the expander upon continued rotation of the binder or of the coupling member. The expander has a loose or swiveling fit with the coupler sufficient to give it a self-centering action and also to permit the expander to move with the hose independently of the coupling member. It will be observed that the connection between the coupler and expander, or rather the bearing-faces, are square shoulders, the coupling member having shoulders or faces 31, 32, and 33 to abut shoulders or faces 34, 35, and 36, respectively, upon the expander. After the hose has been securely bound into position it will be observed (see Fig. 2) that the end or edge 27 of the expander extends outwardly beyond the end 28 of the binder and that the inner face 29 of the binder is substantially of the same circumference as the inside face 30 of the hose, and this structure will prevent an inwardly-projecting arching of the hose, which frequently occurs with the binder, and particularly those wherein the edge of the binder or expander end on the same place or the expander ends inwardly of the end of the binder.

By making the binding-face of the binder substantially cylindrical or cylindrical with engaging abutments the hose will be bound in position with a less amount of tension in the binding operation, and the liability to rupture a rubber hose will be lessened, and when the hose is under pressure and receives a shock, as by cutting off the flow at the nozzle, the shock will be absorbed to some extent and eased at the point where the hose is most securely bound—that is, we might assume that the tooth 23 compresses and binds about one-third as much as the ring or tooth 21 and that the ring or tooth 22 binds and holds about two-thirds as much as the ring or tooth 21. This organization will bring



the shock gradually to the point where the hose is most strongly clamped.

The coupling when in service engages the hose at a zone near its end, said zone being disposed longitudinally and circumferentially of the hose and slightly removed from the end, and the clamping action throughout said zone increases in force of engagement toward the end of the hose, or, reversely stated, the strongest force of engagement is at the end of said clamped zone nearest the hose end and gradually decreases to zero at the end toward the main portion of the hose.

By the provision of the chamber 19 the binding action of the parts will come upon the hose at a region remote from its end. This is especially desirable in a fabric hose, since it is well known that fabric is not as strong at its cut edge as it is inwardly of such edge. The present binder not only clamps the hose at a region of strength, but also shields the free end, and this without increasing the bulk of the binder.

Having thus described our invention, we claim—

The combination with a coupling member having a channel in its inner face near its end forming a flange, the face of the walls of which flange constitutes square shoulders, of a tapering expander having a channel in its outer face near its end forming a flange, the faces of the walls of which groove constitute square shoulders, and the flange of the coupling member being embraced in said groove of the expander, and forming a swivel connection, and a member having a screw-threaded connection with the coupling member and having a portion chambered for the accommodation of the end of the hose and carrying a binder beyond said chamber provided with a series of hose-engaging faces arranged on a cylindrical plane and when in clamping position overlying the inner portion of the expander and a portion of said expander projecting beyond the said binder.

JOHN J. McINTYRE.  
HERBERT BAGSHAW.

Witnesses:

BURT W. RANDALL,  
EDWARD T. MURPHY.