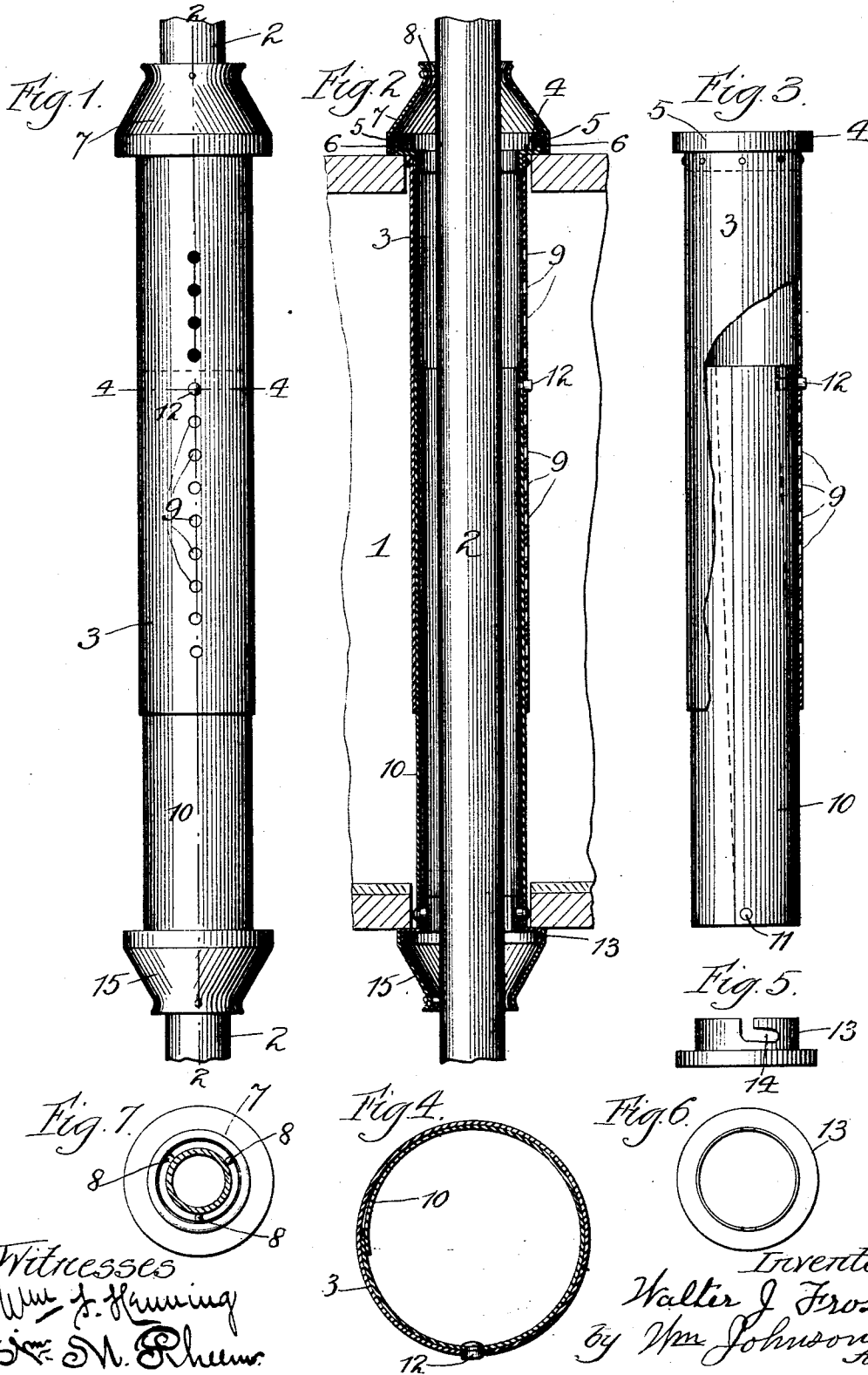


(No Model.)

W. J. FROST.  
STEAM PIPE SLEEVE.

No. 541,322.

Patented June 18, 1895.



# UNITED STATES PATENT OFFICE.

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## STEAM-PIPE SLEEVE.

SPECIFICATION forming part of Letters Patent No. 541,322, dated June 18, 1895.

Application filed October 3, 1894. Serial No. 524,825. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER J. FROST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Steam-Pipe Sleeves; and I do hereby 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.

My invention relates to improvements in adjustable sleeves, adapted to protect wooden floors, partitions and the like parts of buildings from the heat of steam-pipes passing therethrough.

The object of the invention is to provide a sleeve which is readily adjustable in length, and adapted to be fitted within usual limits to the various thicknesses of the walls and flooring of buildings without the necessity and delay of being made or cut and fitted thereto; and which shall protect the surrounding wood-work in the most efficient manner.

The invention consists in the novel combination, construction and arrangement of parts hereinafter fully described and set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved sleeve; Fig. 2, a central section taken on the line 2 2 of Fig. 1. Fig. 3 is a view, partly broken away, showing the sleeve with the caps removed and the lower flange detached therefrom. Fig. 4 is an enlarged transverse section taken on the line 4 4 of Fig. 1. Figs. 5 and 6 are respectively a side elevation and a plan view of the detachable flange, and Fig. 7 is a plan view of the floor and ceiling cap.

In the drawings, 1. designates the flooring or wall of a building, and 2 the steam-pipe passing through said wall.

3. is a cylindrical tube made preferably of galvanized sheet iron, lock-jointed together, and provided with a flange 4, rigidly secured to its upper end, adapted to rest upon the floor or against the wall. Said flange has a cylindrical portion 5, formed integral upon its outer edge projecting therefrom, around which a rubber packing band 6 is tightly drawn. The edge of said band is adapted to form a tight joint with the floor to keep the

water from running down upon the ceiling when the floor is washed, and to insulate the cap 7. Said cap is formed as shown to stand up some distance above the floor to keep the water from splashing over and getting below. Said cap is fitted to be pressed tightly over the rubber band, being held centrally thereby, and is provided near its upper end with projecting pins 8, which center the steam-pipe within the tube or sleeve to form an air passage equal upon all sides between said steam-pipe and tube, the inside of the tube being of sufficient size for this purpose. Said tube is adapted to form the upper portion of the sleeve when used for a floor, and is provided with a number or series of holes or perforations 9, arranged one above the other.

10. is a cylindrical tube formed of like sheet metal and adapted to telescope or fit into the tube 3, and is adjustable therein to form the sleeve to the desired length as may be required. Said tube is formed with a plain lap-joint and is held together with a single rivet 11, at the lower end, which rivet projects upon the inside of the tube to form a stud-pin, a like projecting pin being secured to the opposite side. Said tube is also provided at its upper end with an outwardly projecting stud-pin 12, set quartering to the lower stud-pins, which is adapted to enter the perforations in the tube 3, to secure the two together when adjusted to form the desired length of sleeve. The insertion of the inner tube is readily accomplished by compressing and closing together the free end of the tube with the adjustment holding pin until it will enter the outer tube when it is pushed in and turned until the pin enters the perforation, which it does by the resilience of the compressed tube to which it is attached. The adjustment pin is backed or beveled off upon the top, so that to remove the inner tube only requires it to be turned within the outer tube in that direction in which the beveled off top of the pin acts as a wedge or inclined plane to compress the inner tube which withdraws the pin from the perforation when the inner tube may be withdrawn.

13. is a detachable flange, adapted to rest against the ceiling or opposite side of a wall, and is provided with a cylindrical portion,

fitted to enter the lower or riveted upper end of the inner tube. Said cylindrical portion is cut out through the edge for the inwardly projecting stud-pins of the tube to enter, and circumferential inclined plane slots 14 are formed therefrom, which operate in conjunction with said pins, when the flange is inserted and turned within the tube, to draw said flange against the tube end or wall.

15. is the lower cap, and is identical with that already described, with the exception that in case where it does not come in contact with the wood work the rubber packing ring is omitted, and may then be secured to the detachable flange in any desired manner.

I am aware that it is customary to telescope or slide one tube within another to form a desired length.

I am also aware that flanges or caps have been made detachable and adjustable in a manner equivalent to that shown and described, and therefore do not broadly claim such as my invention.

My improved sleeve is capable of adjustment to a degree which adapts it to be kept in stock, and on sale for immediate use, the adjustment of the sliding tubes being made in a manner that is exceedingly simple and novel, and that has peculiar adaptation for the purpose.

Having described my invention, I claim—

1. In a steam-pipe sleeve of the kind described, the combination of an outer cylindrical tube, provided with a series of adjustment holes or perforations, longitudinally one above the other, and an inner cylindrical tube

fitted to said outer tube and adjustable therein, said inner tube riveted or secured together at one end, and adapted to be sprung or compressed to a smaller diameter at the free end, said free end provided with a locking stud-pin device, adapted to engage said perforations in said outer tube to secure the adjustment of said tubes and to be released therefrom for the removal of said inner tube, substantially as and for the purpose described.

2. In a steam-pipe sleeve, the combination of an outer cylindrical tube, provided with adjustment holes or perforations therein, and an inner cylindrical tube, adapted to be movably fitted into said outer tube, said inner tube riveted or held together at one end, and free to be sprung and compressed to a smaller diameter at the other or free end, said free end provided with a projecting stud-pin, adapted to fit into the perforations in said outer tube; said stud-pin formed with a backed or beveled off end, adapted to wedge and compress said inner tube to a smaller diameter than its normal size when said tube is turned or revolved in one direction within said outer tubes, and thereby to withdraw said pin from said perforations for the removal of said inner tube, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER J. FROST.

Witnesses:

GEORGE A. SWARTWOUT,  
LILLIE LAUGHLIN.