

(No Model.)

F. X. GOSSELIN.

THIMBLE.

No. 395,322.

Patented Jan. 1, 1889.

Fig. 1.

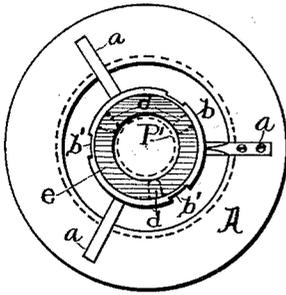


Fig. 2.

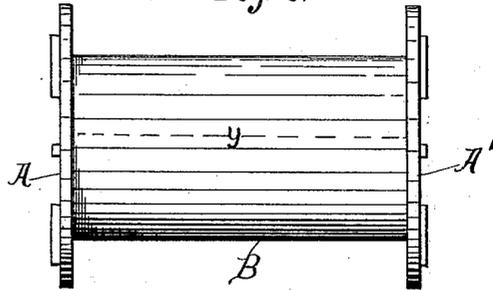


Fig. 4.

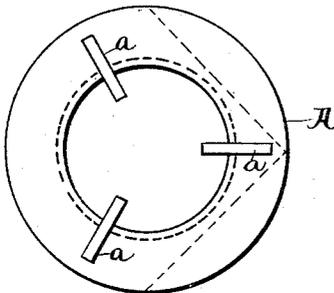


Fig. 3.

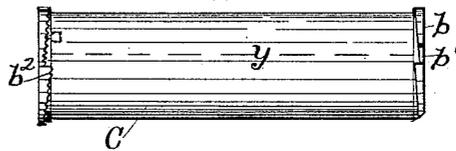


Fig. 5.

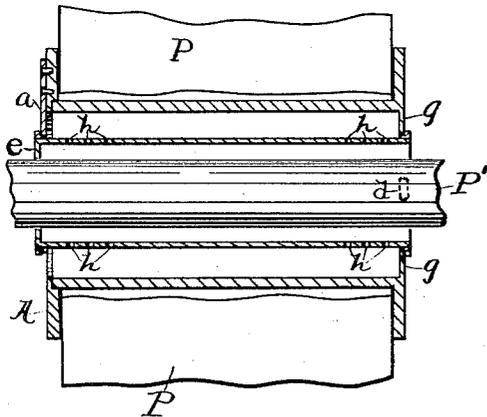
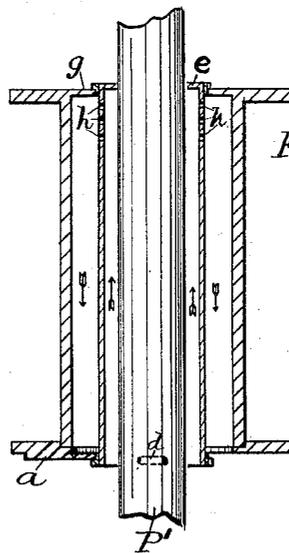


Fig. 6.



witnesses:

Frank C. Curtis.
John I. Booth

Inventor:

Frank X. Gosselin
by Geo. Mosher
att'y

UNITED STATES PATENT OFFICE.

FRANK X. GOSSELIN, OF WEST TROY, NEW YORK.

THIMBLE.

SPECIFICATION forming part of Letters Patent No. 395,322, dated January 1, 1889.

Application filed August 6, 1888. Serial No. 282,060. (No model.)

To all whom it may concern:

Be it known that I, FRANK X. GOSSELIN, a resident of West Troy, in the county of Albany and State of New York, have invented certain new and useful Improvements in Thimbles; and I do hereby declare that the following is a full, clear, and exact description of the invention, that 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.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in thimbles; and it consists of the novel construction and combination of parts hereinafter described, and pointed out in the claims.

Figure 1 of the drawings is an end elevation of my improved device as a whole. Fig. 2 is a side elevation of the outer sleeve and end flanges detached from the inner sleeve. Fig. 3 is a side elevation of the inner sleeve detached. Fig. 4 is a front elevation of an end flange detached. Figs. 5 and 6 are central longitudinal sections of my improved device, one representing a modified form of the other.

My improved thimble is especially adapted to conduct steam and water pipes through the interior partitions of a building. It is well known that if steam-pipes are permitted to come in contact with a wood support there is danger of charring and igniting the wood, and that water standing in an unprotected pipe leading through a partition is liable to freeze in cold weather.

My improved device affords a double air-space between the supporting-partition and the pipe, which effectually cuts off excessive conduction of heat from a steam-pipe to the wood, and protects a water-pipe from cold drafts of air which frequently circulate through interior partitions.

My improved thimble consists, essentially, of two sleeves, one supported within and by the other, so as to afford an air-space between the sleeves for the passage of air-currents, and means for securing the thimble in place in a partition or wall. I provide flanges, also, which cover and conceal the jagged openings fre-

quently formed in partitions when preparing holes therein to receive the pipes.

B is the outer sleeve, which is provided with two exterior end or wall flanges, A A', one of which, as A', may be fixed upon the sleeve, while the other is detachable therefrom. The flanges are each provided with radial arms *a*, fixed thereon to project inwardly toward the center of the flange and support the inner sleeve, C, when brought into engagement with its cams *b*, provided at each end of sleeve C, and at the same time secure the thimble in place in the partition. The cams *b* may be conveniently formed in the shape of a ring adapted to fit the end of the sleeve. One edge of the rings is cut away through a part of its thickness to form an inclined plane or planes, extending transversely of the sleeve, as shown in Fig. 3, and one of the rings has transverse cuts or notches *b'*, extending to the same depth in the ring as the cut forming the inclined plane.

To insert the thimble, an opening is formed in the partition P, through which it is desired to conduct the pipe to be protected, P', large enough to receive the outer sleeve, the outer sleeve inserted therein and the inner sleeve slid into the outer sleeve, the end of the inner sleeve, having the slots *b'*, being first inserted in the end of the outer sleeve, having the fixed flange A', the arms passing through the slots *b'* in the fixed flange. As the arms on the fixed flange come in contact with the inclines or cams on the projecting end of the inner sleeve they arrest the further slide movement of the inner into the outer sleeve, leaving both ends of the inner projecting from the outer sleeve. The end of the outer sleeve adapted to receive the loose flange which is rotary thereon is then thrust through the opening in the partition from one side until the fixed flange strikes the partition and the inserted end of the sleeve projects slightly from the partition on its opposite side. The loose flange is then slid onto the projecting end of the sleeve, the arms being passed through the slots *b'*. The inner sleeve is then rotated until the arms on both flanges have passed the slots, thereby locking the thimble in position in the opening in the partition and the inner sleeve in position in the outer sleeve, wherein it is supported by the arms *a*.

The inner sleeve is preferably rotated until the arms *a* on both flanges traveling up the inclines have drawn the two flanges closely against the opposite sides of the partition.

5 The thimbles should be made of suitable length to allow the arms *a* of the loose flange to be easily passed through the slots *b'*, and not so long but that the cams *b* will force the flanges closely against the opposite sides of the partition, thereby fastening the detach-
10 able flange upon the sleeve and all the parts in position.

To prevent the unlocking of the parts while in use, the inclined surfaces of the cam-rings
15 may be serrated or toothed, as shown at *b³* in Fig. 3, and the arms *a* given a thin edge adapted to enter the notches between the teeth, whereby any vibration of the steam-pipes would not avail to loosen or change the relative po-
20 sition of the parts.

When considered in relation to the protec-
tion of the partition from heated pipes or the pipes from the cold, it is immaterial whether the spaces between the two sleeves of the
25 thimble and between the inner thimble and the pipe are left open and unobstructed or closed by a thin partition or flange extending transversely of the sleeve, provided provision is made for the free circulation of air through
30 said spaces; but where a thimble is located in a partition which divides one room from another it would be undesirable to leave a free open space, through which sounds might freely pass and the interior of one room be brought within
35 the visual range of an observer in an adjoining room. I prefer, therefore, to interpose a thin flange across said spaces, as shown in Figs. 5 and 6.

When the thimble passes horizontally
40 through a vertical wall or partition, I provide one end of the inner sleeve with an introverted flange, as *e*, and the opposite end of the outer sleeve with a similar flange, as *g*, the shell of the inner sleeve being provided
45 at each end with perforations *h*.

As the ends of the respective sleeves not provided with an introverted flange are left open, the air is free to circulate from the space between the inner sleeve and the pipe
50 through the holes *h*, and out of the open space between the two sleeves, or vice versa, as the case may be.

When the thimble is inserted in a vertical position through a floor or horizontal parti-
55 tion, I prefer to leave the introverted flanges *e* and *g* on the contiguous instead of the opposite ends of the two sleeves, as shown in Fig. 6. The shell of the inner sleeve is provided with perforations *h* at the upper end,
60 contiguous to the introverted flange, the opposite ends of both sleeves being left open.

When arranged as shown in Fig. 6, if pipe *P'* is used as a steam-pipe, it heats and expands the contiguous portion of the atmos-
65 sphere, which gives it a tendency to rise. The atmosphere so heated will pass upward in

the direction of the arrow shown in the space between the pipe and the inner sleeve, through the perforations *h*, and down the space between the sleeves in the direction
70 shown by the arrows therein, and out of the opening at the lower end. I am thus able to present a barrier to sound-waves and at the same time obstruct the line of vision without materially impeding the free circulation of
75 air in the spaces between the sleeves and the inner sleeve and pipe. The flanges *A A'* serve also to cover any imperfections in the mouths of the openings made in the partition and present a finished appearance. 80

As it is not necessary to rotate the outer sleeve or flanges to lock the parts in position, the flanges may be squared on one or two sides, as indicated by dotted lines in Fig. 4, to fit closely in a corner or against another
85 partition extending right-angulantly to the one through which the thimble is inserted or to inclose two contiguous pipes.

It is evident that the inner sleeve or its lugs *d* may be made of wood or other mate-
90 rial that will not affect lead pipes injuriously, to receive cold-water pipes.

The lugs *d* on the inner sleeve are not essential to the successful operation of my thimble, as the air-space afforded between the two sleeves will in most cases be found ample
95 protection against excessive heat or cold. It is equally evident that the flanges may be dispensed with, if desired, and the arms *a* project directly from the outer sleeve. 100

The sleeves may be divided longitudinally in halves, as indicated by dotted lines *yy*, to permit of their being adjusted upon pipes already in use without severing the pipe.

What I claim as new, and desire to secure
105 by Letters Patent, is—

1. In a thimble, the combination, with an outer sleeve provided at each end with an annular wall-flange and inwardly-projecting radial arms, one of the wall-flanges being detachable, of an inner sleeve inserted in the outer sleeve and projecting therefrom at each end, and provided on each of its projecting ends with arm-engaging cams, substantially
110 as described. 115

2. The combination, in a thimble, of two sleeves, one inclosed and supported by the other, the inner sleeve being contracted in diameter by an introverted pipe-supporting flange, and open at the other end and provided with air-passages through its shell, the outer sleeve being contracted in diameter by an introverted inner sleeve-supporting flange at one end and open at the other end, substantially
120 as described. 125

In testimony whereof I have hereunto set my hand this 4th day of August, 1888.

FRANK X. GOSSELIN.

Witnesses:

GEO. A. MOSHER,
W. H. HOLLISTER, Jr.