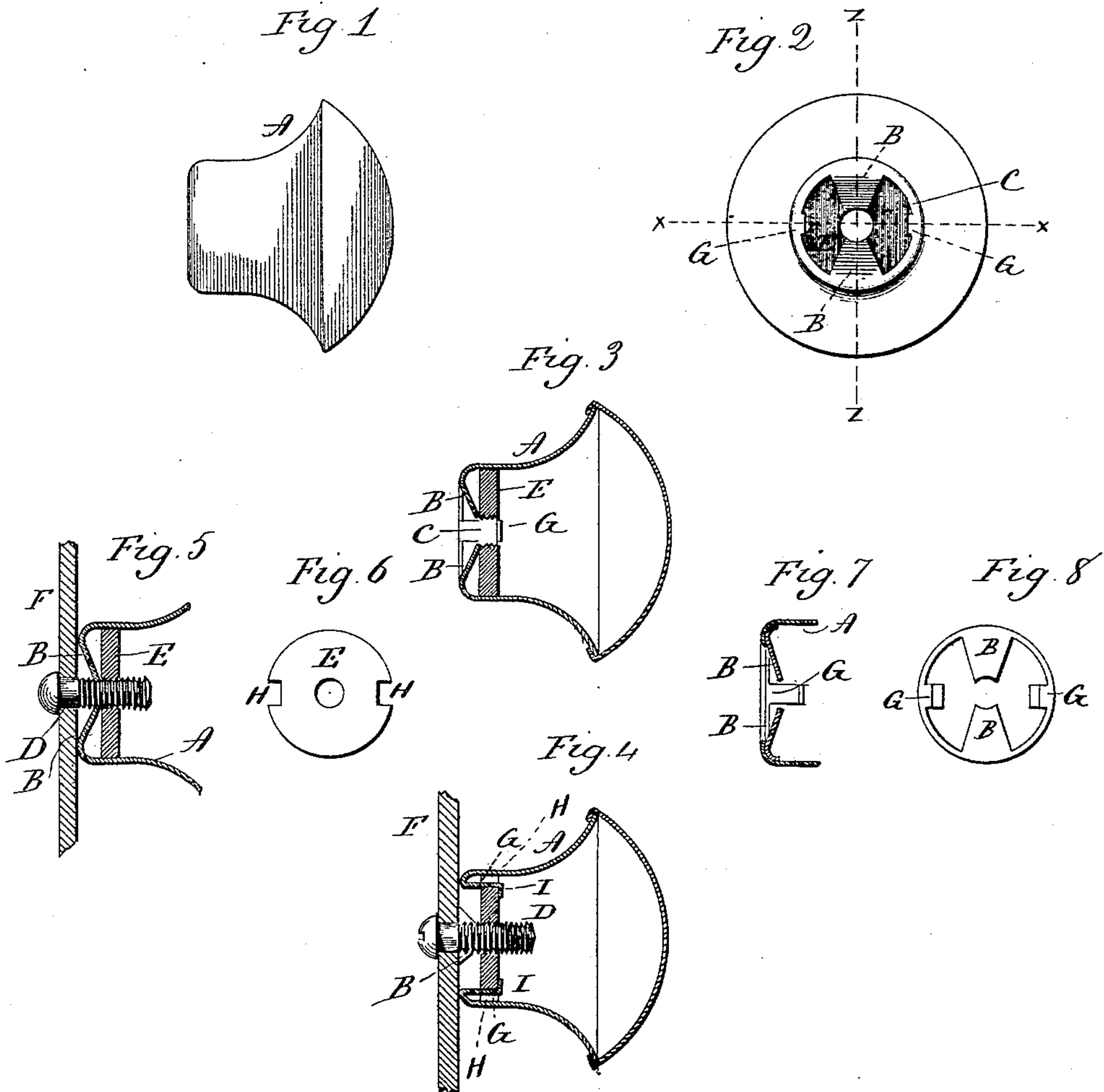


(No Model.)

F. M. STEVENS.
ATTACHING KNOBS.

No. 453,870.

Patented June 9, 1891.



Witnesses.
J. H. Shumway
L. D. Kellogg

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UNITED STATES PATENT OFFICE.

FREDERICK M. STEVENS, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
MATTHEWS & WILLARD MANUFACTURING COMPANY, OF SAME PLACE.

ATTACHING KNOBS.

SPECIFICATION forming part of Letters Patent No. 453,870, dated June 9, 1891.

Application filed January 19, 1891. Serial No. 378,241. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK M. STEVENS, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Attaching Knobs; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be
10 a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the knob complete; Fig. 2, an inner end view of the knob; Fig. 3, a longitudinal section of the knob cutting on
15 line $z z$ of Fig. 2; Fig. 4, a longitudinal section cutting on line $x x$ of Fig. 2, illustrating the knob as attached to a door; Fig. 5, the same section as Fig. 3, illustrating the knob as applied to the door; Fig. 6, the nut detached;
20 Figs. 7 and 8, modifications.

This invention relates to an improvement in the construction of knobs specially adapted for stove-doors and like purposes. These knobs are usually made from sheet metal. In
25 some cases the knobs are provided with a nut within the neck of the knob and a screw introduced from the reverse side, through a hole in the door, turned into said nut; but such attachment is easily loosened, and be-
30 cause of such loosening this means of securing is objectionable and has been almost entirely abandoned, notwithstanding the great convenience which it affords for applying or removing the knob.

35 The object of my invention is to provide a locking device which will prevent the knob from turning upon the screw or the screw within the knob under ordinary usage; and the invention consists in constructing the
40 knob with tongues in its inner end adapted to engage the thread of the screw and clamp therein, so as to interlock the screw with the knob, and as more fully hereinafter described.

A represents the knob, which may be of any
45 of the usual constructions. It is preferably made from sheet metal, as steel. The inner end of the knob is constructed with two radial or inwardly-projecting tongues B B, (see Fig. 2,) which are cut from the metal forming the
50 knob. These tongues are bent inward, as

seen in Fig. 3, oblique to the axis of the knob and possess a considerable degree of elasticity. The distance between the two ends of the tongue when so bent inward leaves an
opening C between them corresponding sub- 55
stantially to the thread of the screw D, by which the knob is to be secured, and so that as the screw is introduced its thread will en-
gage the inner ends of the said springs, and if sufficient force be applied the tendency of 60
the screw will be to draw the springs outward.

Within the knob is a nut E, arranged with its screw-threaded hole corresponding to the opening between the tongues B B, as seen in Fig. 3, and so that the screw may enter the 65
said nut. The knob is applied to the door F, as seen in Figs. 4 and 5. The screw is introduced from the rear side through a corresponding hole in the door and between the
tongues into the nut. The nut should have 70
a limited amount of freedom to move longitudinally. The screw is turned hard up, and in so doing the spring-tongues B B are drawn toward the door, which forces their ends
toward the screw, contracting the distance 75
between them and so that they so firmly grasp the screw between them as to prevent its ac-
cidental disengagement, in fact, firmly lock the knob with the screw, so that a very con-
siderable force will be required to detach the 80
knob.

To permit a slight longitudinal movement of the nut, and yet prevent its rotation, the inner end of the knob is constructed with one
or more tongues G, preferably two, which are 85
cut from the metal of the inner end of the knob and turned inward. The nut is round, as seen in Fig. 6, but is constructed upon its
edges with notches H, corresponding to the tongues G of the knob, and so that the nut 90
set within the knob passes onto these tongues. Then the extreme inner end of the tongues may be turned over the surface of the knob,
as at I, Fig. 4, which will hold the nut within the knob, prevent its rotation, and yet per- 95
mit a limited amount of longitudinal movement necessary for the draft to be produced upon the springs to bring them to the locking position.

A very good result is attained without the 100

employment of the nut, that being omitted. The spring-tongues themselves afford an engagement between the knob and screw sufficient to hold the knob in place for many purposes for which such knobs are desired, and the interlocking of the knob with the screw will be the same whether the nut be employed or not; but in the employment of a nut it is not necessary that the tongues should actually engage the screw when the screw is introduced, because the nut will bear upon the turned-in ends of the tongues, and as the nut is drawn toward the end of the knob by the operation of the screw it will press the tongues toward the screw until the interlocking is produced.

While I prefer to make the tongues B B as an integral part of the knob, as described, they may be made separate from the knob, the end of the knob being constructed with an internal flange, upon which the tongues will bear, as seen in Fig. 7. In such case the tongues B B, as also the tongues G G, may be made from a disk, as seen in Fig. 8, it only being essential to this part of the invention that the tongues shall have some degree of elasticity and be arranged substantially at the end of the knob and turned inward so as to stand in planes oblique to the axis of the knob.

I claim—

1. A sheet-metal knob having its inner end provided with inwardly-projecting spring-tongues, the said tongues turned into the knob

into planes oblique to the axis of the knob, combined with a screw adapted to engage the inner end of said springs as a nut, substantially as and for the purpose described.

2. A sheet-metal knob having its inner end provided with inwardly-projecting tongues B, the said tongues being in planes oblique to the axis of the knob, combined with a nut within the knob, held against rotation of the knob, but free for a limited longitudinal movement, and a screw adapted to engage said nut, the said tongues being also adapted to engage said screw, substantially as described.

3. A sheet-metal knob constructed at its inner end with inwardly-projecting tongues B B, the said tongues turned inward into planes oblique to the axis of the knob, the said inner end of the knob also constructed with inwardly-projecting tongues G G, substantially parallel with each other, a nut E, having notches H H in its edge corresponding to said tongues G G, the nut set between said tongues G G, and the ends of the said tongues turned upon the back of the nut, combined with a screw adapted to engage said nut and tongues B B, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FREDERICK M. STEVENS.

Witnesses:

HARRY L. DANIELS,
GEORGE W. WATSON.