

Nov. 9, 1926.

1,606,112

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FASTENING DEVICE

Filed Jan. 2, 1926

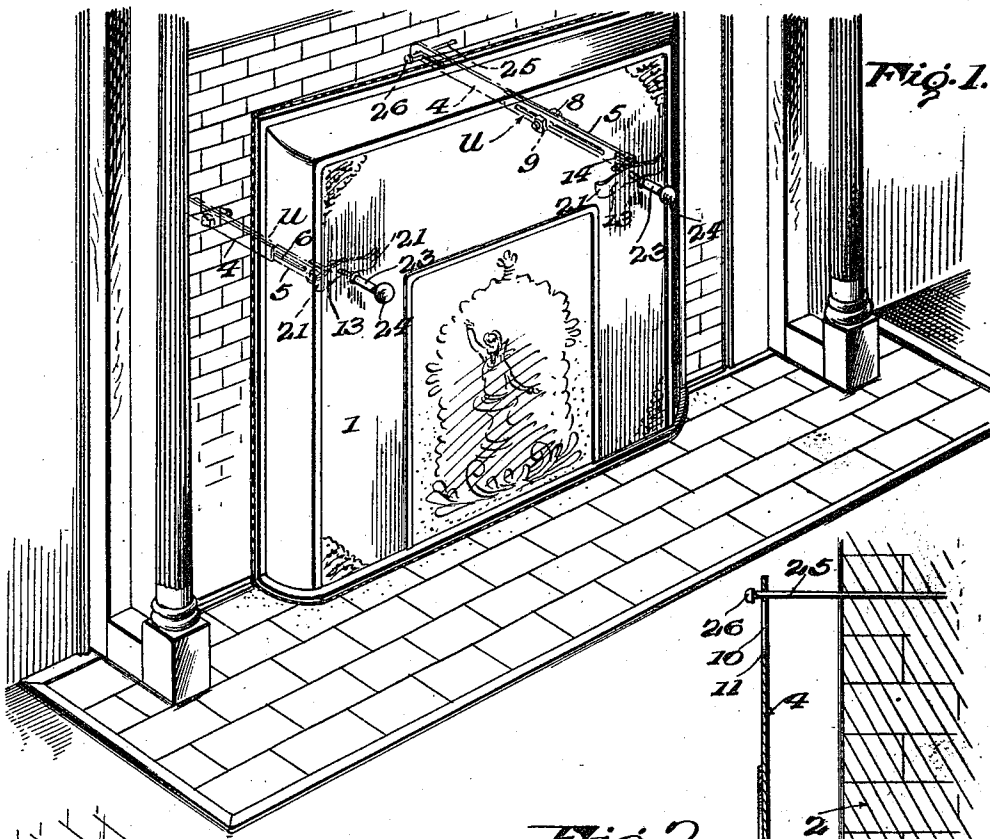


Fig. 1.

Fig. 2.

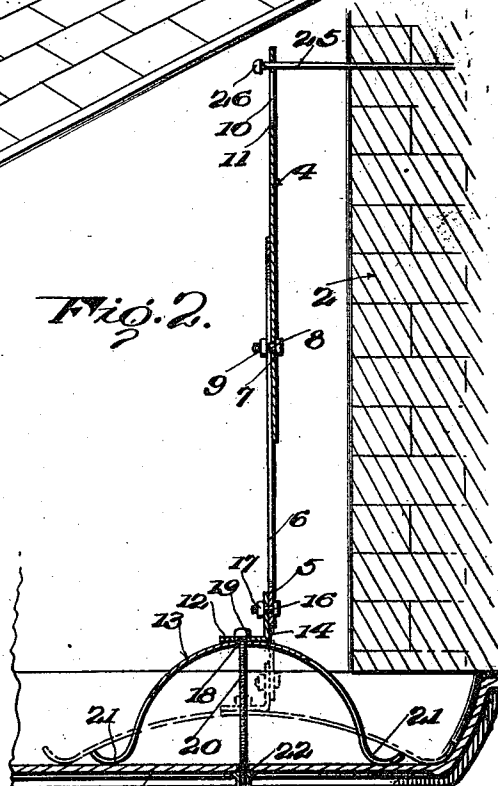
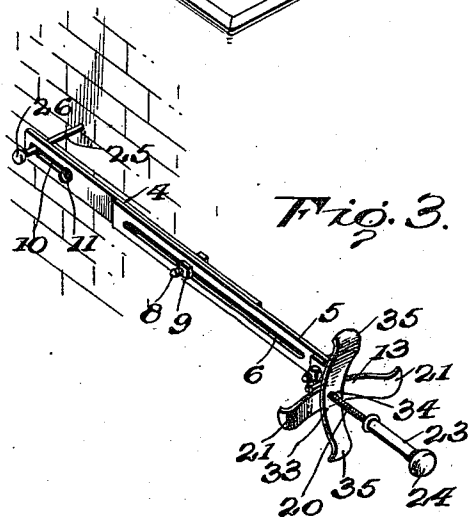


Fig. 3.



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FASTENING DEVICE.

Application filed January 2, 1926. Serial No. 78,997.

My invention is an improved fastening device which is particularly well adapted for use in holding a fire place stop or front cover in place, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of the invention is the provision of a fastening device of the character described which can be adjusted at will to vary the effective length thereof within a considerable range.

A further object of the invention is the provision of a fastening device of the character described which includes means for holding the fastening device taut or under tension and for preventing displacement of the parts of the fastening device when the fastening device has been applied.

Other objects and advantages of the invention will be apparent from the following description, considered in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective view showing a fire place stop or cover held in place by fastening means embodying the invention,

Figure 2 is a relatively enlarged fragmentary plan sectional view, showing one of the units of the fastening means exhibited in Figure 1, and portions of the fireplace wall and the fireplace stop or front cover, respectively,

Figure 3 is a perspective view showing a fastening unit embodying the invention and including a modified form of spring tensioning member.

In Figure 1, the numeral 1 designates a stop or front cover for a cavity or fireplace (partially shown at 2) in a wall 3. A pair of fastening units embodying the invention in the form now preferred by me are shown in Figure 1 as holding the fireplace stop or cover in place, each fireplace unit being indicated at U. The specific fireplace stop or cover is disclosed and claimed in my prior application for Letters Patent of the United States, Serial #23,309, filed April 15, 1925, and will not be described in detail nor claimed herein.

As shown to advantage in Figure 2, each of the fastening units U includes an elongated supporting member which may comprise two elongated bar-like sections indicated at 4 and 5, respectively. The section 5 is formed with a longitudinally extending

slot 6. The section 4 is formed with a transverse opening 7 adjacent to one end thereof and a suitable fastening device, such as a bolt 8 extends through the opening 7 and through the slot 6 and is threadedly engaged with a nut 9 which can be tightened against the section 5 to hold the sections 4 and 5 against relative longitudinal movements, whereby the effective length of the sections 4 and 5 combined can be varied within a considerable range. The section 4 is provided adjacent to its free end with a longitudinally extending slot 10 which is enlarged at its inner end or in other words at the end thereof nearest to the section 5, as indicated at 11.

A right angular bracket has an arm 12 secured rigidly to the convex face of a substantially semi-elliptical spring tensioning bar 13 intermediate the length of the spring tensioning bar. The second arm of the right angular bracket is indicated at 14 and is disposed flatwise against the adjacent or outer end portion of the section 5 of the fastening unit, being connected with the section 5 by a horizontal bolt 16 which extends through aligned openings in the outer end portion of the section 5 and the bracket arm 14 and is threadedly engaged by a nut 17. It may be noted at this point that the bracket arm 12 can be secured to the spring bar 13 in any suitable known manner, as by welding. The spring bar 13 is provided with a threaded opening 18 which is formed through the spring bar intermediate the length of the latter and in register with an opening 19 in the bracket arm 12. The shank of the bolt 20 may be extended through the aligned openings 18 and 19 and may threadedly engage with the wall of the opening 18. This bolt is of sufficient length to extend beyond the plane of the contact portions at the ends of the spring bar 13 when the head of the bolt is in contact with the bracket arm 12.

The contact portions at the ends of the spring bar are indicated at 21 and are reversely curved end portions of the spring bar 13 which thus present convexly curved contact faces to the inner wall of the fireplace cover 1 when the bolt shank is projected through an opening 22 in the fireplace cover 1, as shown in Figure 2. The extending end portion of the shank of the bolt 20 is adapted to be threadedly engaged by the internally screw threaded sleeve por-

tion 23 of an adjusting member which may have a knob or like outer end portion or handle indicated at 24.

A stud 25 is adapted to be driven into the fireplace wall to extend within the fireplace from a side wall of the fireplace. This stud has a head 26 of greater area in cross section than the slot 10 in the section 4 of the fastening unit but of slightly less area in cross section than the enlarged end portion 11 at the inner end of the slot 10.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The effective length of the sections 4 and 5 of a fastening unit embodying the invention is adjusted as desired and the fastening unit then is manipulated to cause the head 26 of the anchoring stud to pass through the enlarged end portion 11 at one end of the slot 10. The fastening unit then is moved outwardly until the shank of the anchoring stud has slid in the slot 10 against the opposite end of the slot 10. The bolt 20 then is projected through the opening 22 in the fireplace cover 1 and the adjusting member 23—24 is tightened on the bolt 20 against the action of the spring tensioning member 13 until the marginal edge portions of the fireplace cover have been drawn tightly against the front face of the fireplace wall and the spring tensioning member 13 has been elongated from the position shown by the full lines in Figure 2 to the position indicated by the dotted lines in the same figure. The spring member 13 therefore serves not only to hold the fastening unit under tension and taut but also tends to prevent accidental displacement of the adjusting member 23—24 from a desirable position on the bolt 20.

It will be understood that when two of the fastening units U are employed to hold the fire-place cover in place as shown in Figure 1, said fireplace cover has two of the openings 22 which respectively are located adjacent to opposite side edges of the fireplace cover. Also, two of the anchoring studs 25—26 are provided, the respective anchoring studs extending into the fireplace or cavity from opposite side walls of the latter.

The modification shown in Figure 3 is identical with the fastening unit hereinbefore described and in addition includes a second spring tensioning member, indicated at 33. The spring member 33 also is semi-elliptical in form and is provided intermediate its ends with an opening 34 through which the shank of the bolt 20 extends. The spring member 33 is arranged at right angles to the spring member 13 and has the end portions thereof curved reversely as indicated at 35 so as to present convexly curved contact faces to the inner wall of the fire-

place cover 1 at the time the contact portions 21 of the spring member 13 are brought to bear against the inner face of the fireplace cover 1 in the manner hereinbefore described.

The anchoring studs preferably are disposed at a lower level than the openings 22 in the fireplace cover so that the tightening of the fastening devices will draw the fireplace cover firmly down against the hearth as well as against the front wall of the fireplace structure. If desired, I may use a soft wire of sufficient strength to connect the stud 25—26 with the member 14 in lieu of the bars 4 and 5.

I claim:—

1. A fastening device for fire-place covers comprising an elongated supporting member, a longitudinally bowed spring member connected with the outer end portion of said supporting member, said longitudinally bowed spring member having an opening formed therethrough intermediate its length, an internally screw threaded adjusting member, a bolt adapted to be projected through said opening and through an opening in a fireplace cover for engagement with said threaded adjusting member for holding the ends of said spring member tightly against the adjacent face of said fireplace cover, and a stud on a wall of the fireplace, the inner end portion of said supporting member being adapted for engagement with said stud.

2. A fastening device for fire-place covers comprising two elongated bar-like sections, means adjustably connecting the sections so that the effective length of the sections combined can be varied, a bracket, a semi-elliptic spring tensioning member having reversely curved end portions, said bracket being secured rigidly to said spring member intermediate the length of the latter and on the convexly curved face of the spring member, means connecting the outer end portion of one of said sections to said bracket, said bracket and said spring member having registering openings, a bolt extending through said registering openings beyond the plane of the contact faces of the end portions of said frame, said bolt being adapted to extend through an opening in a fireplace cover, an adjusting device in threaded engagement with said bolt at the outer side of said fireplace cover, and an anchor fixed against movement and with which the second of said sections may be engaged.

3. A fastening device for fire-place covers comprising two elongated bar-like sections, means adjustably connecting the sections so that the effective length of the sections combined can be varied, a bracket, a semi-elliptic spring tensioning member having reversely curved end portions, said bracket being secured rigidly to said spring member intermediate the length of the latter and on the

convexly curved face of the spring member, means connecting the outer end portion of one of said sections to said bracket, said bracket and said spring member having registering openings, a bolt extending through said registering openings beyond the plane of the contact faces of the end portions of said frame, said bolt being adapted to extend through an opening in a fireplace cover, an adjusting device in threaded engagement with said bolt at the outer side of said fireplace cover, and a stud with which the second of said sections may be engaged, and said last named section having a longitudinally extending slot for engagement with the shank of the stud, said slot being enlarged at the end thereof nearest to the spring member to permit the head of the stud to pass therethrough so that the shank of said stud may engage with said slot, the reversely curved end portions of said semi-elliptic spring member presenting convexly curved contact faces to the inner face of said fireplace cover.

4. A fastening device for fire-place covers comprising two elongated bar-like sections, means adjustably connecting the sections so

that the effective length of the sections combined can be varied, a bracket, a semi-elliptic spring tensioning member having reversely curved end portions, said bracket being secured rigidly to said spring member intermediate the length of the latter and on the convexly curved face of the spring member, means connecting the outer end portion of one of said sections to said bracket, said bracket and said spring member having registering openings, a bolt extending through said registering openings beyond the plane of the contact faces of the end portions of said frame, said bolt being adapted to extend through an opening in a fireplace cover, an adjusting device in threaded engagement with said bolt at the outer side of said fireplace cover, an anchor with which the second of said sections may be engaged, and a second semi-elliptic spring member having reversely curved end portions and having an opening intermediate its length through which said bolt extends, said second-named spring members being disposed at right angles to said first named spring member.

JOHN H. SUTTON.