

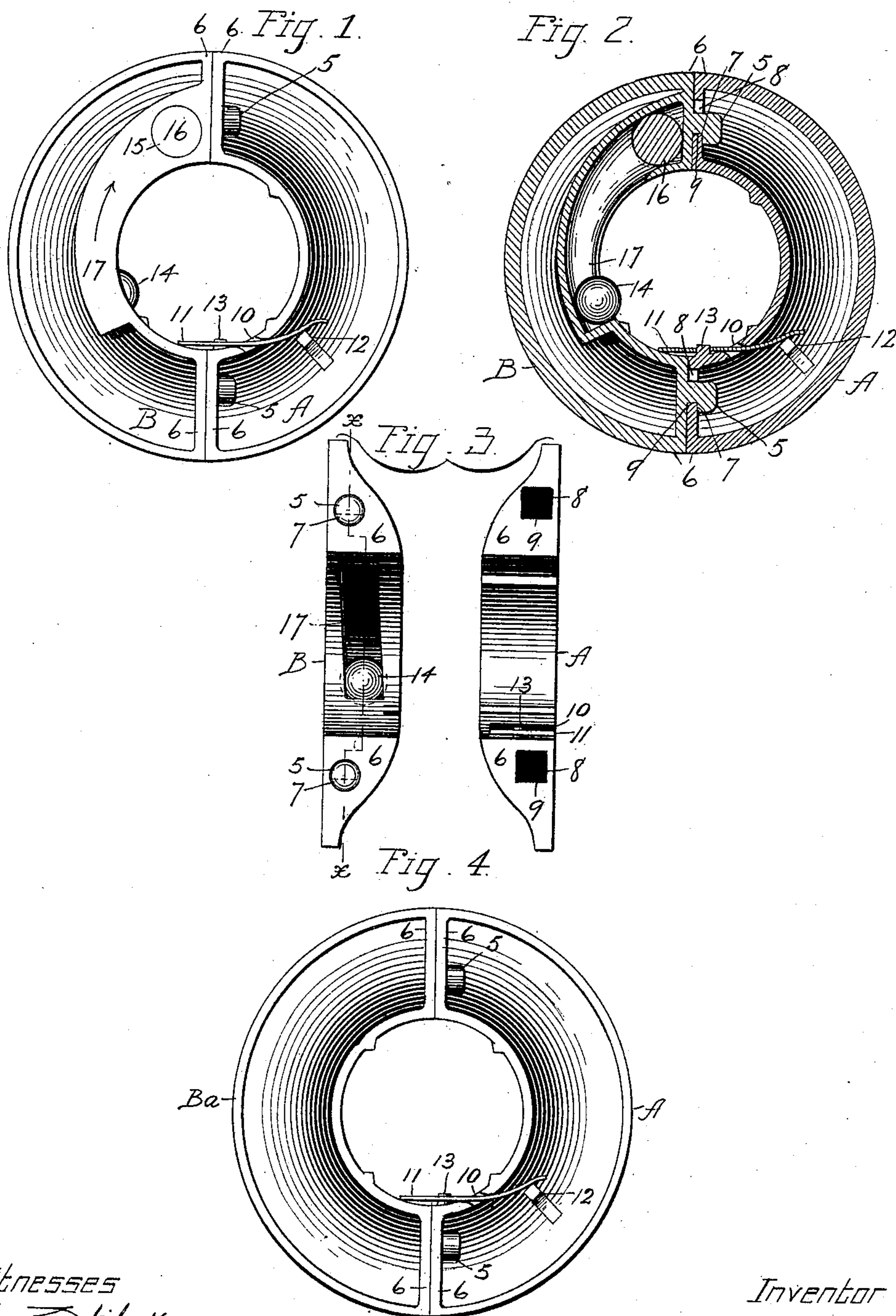
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L. H. SNYDER.  
CEILING OR FLOOR PLATE.

(Application filed Aug. 10, 1898.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## CEILING OR FLOOR PLATE.

SPECIFICATION forming part of Letters Patent No. 615,641, dated December 6, 1898.

Application filed August 10, 1898. Serial No. 688,292. (No model.)

*To all whom it may concern:*

Be it known that I, LYMAN H. SNYDER, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Ceiling or Floor Plates, of which the following is a specification.

My invention relates to improvements in ceiling and floor plates; and the objects of my improvement are to provide a new lock for holding a ceiling-plate on the pipe up against the ceiling and also to provide a cheap and convenient construction for securing the two parts of a floor or ceiling plate together.

In the accompanying drawings, Figure 1 is a plan view of my ceiling-plate. Fig. 2 is a horizontal section of the same on the line *xx* of Fig. 3. Fig. 3 is an edge view showing the confronting edges of the two parts of said plate, and Fig. 4 is a reverse plan view of a floor-plate which embodies some features of the invention shown in the preceding figures.

A B designate the two parts of a ceiling-plate, the part B having the lugs 5 on its end walls 6, said lugs being notched on one side, as at 7, Fig. 2, and as indicated by broken lines in Fig. 3, the notches on said lugs both facing in the same direction toward the edge of the plate. The part A is provided with sockets 8 in its end walls 6, the said sockets being of a size to receive and guide the lugs 5 of the companion part B and having a straight side 9 for entering the notches in the sides of the said lugs 5. I have shown the sockets as of a square contour in side view, as in Fig. 3; but aside from the side 9 the shape is immaterial. Near one end of the part A there is a slot 10 for the spring 11, and adjacent to said slot is a stud or post 12, and on the other side of said slot is the pin 13. The spring 11 is perforated to receive the pin 13 and is secured in place by slipping it edgewise or endwise into the slot 10, with one end resting against the stud or post 12, while the perforation receives the pin 13, as shown, the end of the spring adjacent to said pin projecting a little beyond the wall 6 at the end of the part A.

The parts A and B are secured together by placing said parts with their end walls 6 opposite each other and with the projecting end of the spring on the part A pressing against

the inner edge of the part B, then forcing said part B and the spring in such a direction as to enter the lugs 5 into the sockets 8, and when both lugs have entered or passed through said sockets to the proper depth the two parts may slip upon each other and bring the straight side 9 into the notches 7 of the lugs 5 to lock the parts A and B together. The spring 11 will exert a constant tendency to hold the said parts in their locked position. In order to unlock them, it is only necessary to slip the parts one upon the other in the direction of their dividing-line or end walls and against the force of the spring until the sides 9 are withdrawn from the notches 7 of the lugs and then withdraw said lugs from their sockets.

A ceiling-plate requires something to hold the plate up against the ceiling on the pipe. This has generally been accomplished by means of a spring or springs; but a floor-plate may rest upon the floor, and hence requires no holding device. In Figs. 1, 2, and 3 the part B is provided with a ball-holding device, as the plate there shown is designed for a ceiling-plate. In Fig. 4 I show a plate designed for a floor-plate only and in which the part A is the same as that already described herein, while the part B<sup>a</sup> is substantially the same as the part B, first described, less the ball-holding device, which I will now describe.

The part B is provided with a cam-shaped ball-chamber 17 and the ball 14. Said chamber opens to the inner face of the part B, so that the ball may slightly project therefrom. I call the ball-chamber "cam-shaped" because it is eccentric to the plate. In addition to being eccentric I prefer to form this chamber on an incline from the horizontal, so that when the plate is held in a horizontal position the ball will have a tendency to roll down to that end of the chamber where the projection of the ball is the greatest, as shown. I also prefer to form the chamber with a hole 15 for the introduction of the ball, which hole may be closed by a suitable plug 16. The hole 15 for the introduction of the ball is formed in an extension of the cam-shaped ball-chamber 17 beyond the opening at its inner face, through which the ball projects, whereby the full length of the said opening may be traversed by the ball, although the



end of the plug 16 projects into the extension of the chamber 17, as shown in Fig. 2, and limits the traverse of the ball to that part of the ball-chamber having the said opening.

5 It should be noted that the fastening of the two parts A and B together is such that the said parts cannot be separated by a direct pull in a direction transversely to their dividing-line, and this is essential to my ball-

10 holding device because its force is exerted in a direction transversely to the dividing-line of the two parts. When the ball is at that end of the chamber where the plug 16 is located, it projects but little or none from the

15 inner edge of the plate, and consequently the two parts A and B may be put together around the pipe on which the plate is to be used. The plate is then pushed into place up against the ceiling. If the ball-chamber

20 is inclined horizontally, the ball will roll down by gravity until it bears upon the pipe on one side, and the inner edge of the part A will bear on the opposite side of the pipe. By taking hold of the plate and turning it forcibly in the direction indicated by the dart in

25 Fig. 1 the plate may be firmly held in place on the pipe by the cam action of the ball and its cam-shaped chamber. The plate may be released by turning it in the reverse direction.

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Of course it is evident that this ceiling-plate may be used as a floor-plate, although when so used the ball-fastening would not be necessary. It is also evident that both parts,

35 particularly those shown in Fig. 4, may be provided with a spring in the manner de-

scribed for the part A, but it is believed that an additional spring is wholly superfluous.

By my improvements I provide a cheap, convenient, and efficient fastening for detach- 40 ably holding the two parts together either in a floor or ceiling plate and also a cheap, convenient, and efficient construction for holding the plate in position on the pipe.

I claim as my invention— 45

1. A divided floor or ceiling plate consisting of two parts meeting each other at their ends, and a spring, one part having at each end the lug 5 notched at its base, the notches in both lugs facing in the same direction toward one edge of the plate, the other part 50 having in each of its end walls the socket 8 of a size to receive and guide the said lugs 5, each socket having a locking side 9 on that edge toward which the notches in the lugs 55 open, in combination with a spring fixed upon one of said parts and arranged to bear upon the other part and acting to hold the end wall of the socket part in the notches of the lugs of the companion part, substantially as described. 60

2. A divided ceiling-plate having fastenings for holding its two parts against movement in the transverse direction to their dividing-line, one part having the eccentric 65 ball-chamber and ball for holding the plate in place on the pipe, substantially as described.

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