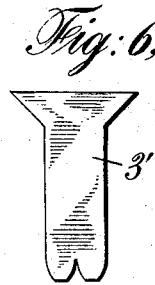
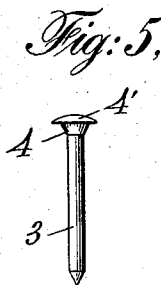
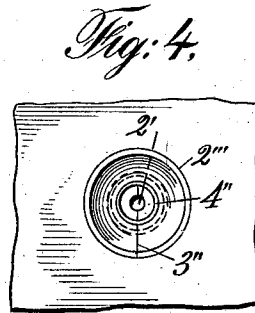
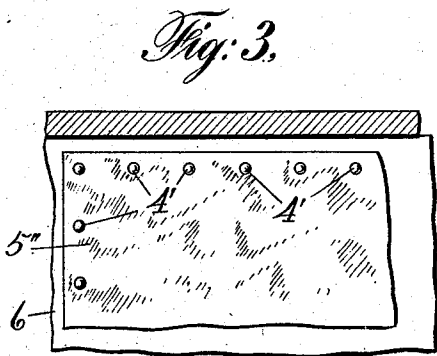
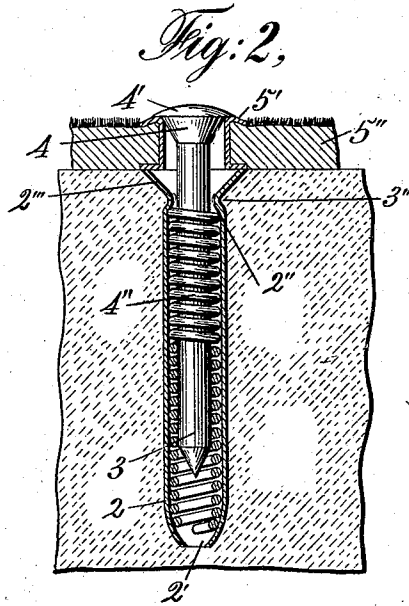
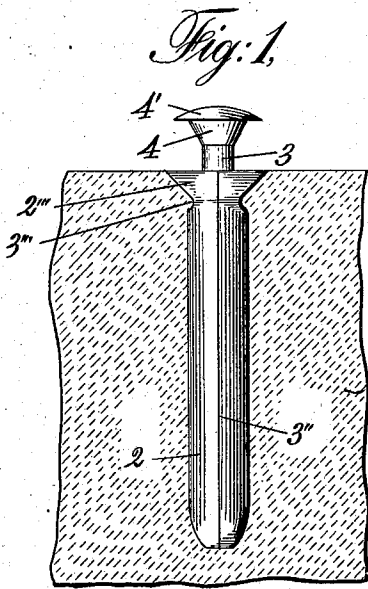


No. 868,070.

PATENTED OCT. 15, 1907.

W. H. BOLES.  
SEPARABLE CARPET FASTENER.  
APPLICATION FILED NOV. 23, 1904.



Witnesses  
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Inventor  
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By his Attorney  
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# UNITED STATES PATENT OFFICE.

WARREN H. BOLES, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO BOLES FRICTION FASTENER COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## SEPARABLE CARPET-FASTENER.

No. 868,070.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed November 23, 1904. Serial No. 233,939.

To all whom it may concern:

Be it known that I, WARREN H. BOLES, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Separable Carpet-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing, in which—

Figure 1 is a side elevation of the fastening device inserted in a cement floor; Fig. 2 a vertical central sectional view thereof showing a section of carpet secured in position; Fig. 3 a plan view showing a portion of a rug secured in position; Fig. 4 a plan view showing the stationary fastener in position in a floor; Fig. 5 a side elevation of the fastening pin; and Fig. 6 a detail of the blank from which the socket is formed.

The invention relates to socket and pin fastening devices such as are commonly termed "carpet fasteners", and commonly used for fastening carpets and rugs upon cement floors; although such devices are also susceptible of a great variety of other uses, and I do not intend by terming the device a "carpet fastener" to limit the scope of the following claims in any way.

My invention consists in the novel construction of the socket; and in novel means employed for frictionally holding the pin within the socket.

The objects of my invention are to improve, simplify and cheapen fastening devices of the type referred to; to avoid the use of non-metallic parts, such as are apt to deteriorate with age, or to swell under the influence of moisture; to hold the pin frictionally through the greater part of its length; and to cause the socket to adapt itself automatically to different sizes of holes or to change in size of the hole in which it may be placed.

My improved socket comprises a shell preferably struck up from sheet metal, and having a longitudinal seam along one side, the parts of the shell on either side of this seam being somewhat elastic and springy, so that the shell can adapt itself to different sizes of holes.

The preferable form of friction holding device within this shell, is a spiral spring, through the center of which the pin is adapted to be passed; said pin having a diameter slightly greater than the internal diameter of the spring when relaxed, so that as the pin is pushed downward into the spring, the latter is caused to expand, its coils being thereby placed under tension. I have found that such a spiral spring forms an especially efficient device for gripping a cylindrical or like surface, such as that of a pin or wire nail, for the tension

of the coils causes each to tend to contract individually, each turn of the spring therefore gripping the pin, and accommodating itself to the minute differences of size, form etc., which are inevitable in commercial manufacture, and which prevent equivalent contact between such a pin and any other type of metal sleeve with which I am acquainted. This spring is held within the shell of the socket by being located between shoulders of such shell.

Referring now to the said drawings, 2 designates the said shell, 3 the said pin and 4 the said gripping spring. The socket shell is preferably formed by stamping from sheet metal a blank of the form shown in Fig. 6, and then rolling up this blank into cylindrical form, turning in the ears at one end of the blank to form an approximately conical end for the shell, and forming the contraction or groove 3 near the other end of the shell, and a flaring mouth portion 2 beyond such contraction. The spiral spring 4 being introduced into the shell at a suitable time, is held in place between the shoulder 2 (formed by the inner side of the groove 3) and the tapering end of the shell.

The pin 3 is usually as near as may be truly cylindrical for the greater portion of its length, having at one end a point and at the other end a flaring head 4 having an overlapping flange 4' and a rounded top. This flange 4' is adapted to seat upon the top of an eyelet or gromet (5', Fig. 2) such as carpets or rugs, to be held down by these fastening devices, frequently have.

In using this device, if it is placed in a cement floor, the socket is customarily set in place when the cement is still plastic, the cement material then entering the groove 3 and locking the socket in place. When applying the device to a wooden or like floor, the socket may be set in holes bored for the purpose; and the elasticity of the shell 2, due to the seam 3 thereof, is here an especially advantageous feature, since the shell can adapt itself to holes slightly differing in size, and can follow shrinkage or expansion of the wood, so that when the wood dries and the hole enlarges slightly, the socket will still be held in place. However, if preferred I may unite the edges of the metal at this seam 3, thereby making the shell somewhat stronger.

I preferably provide an opening at the rear or lower end of the socket, as shown in Figs. 2 and 7, 2', in Fig. 2, designating such opening. This opening, or vent, permits easy escape of air when fitting the socket into a recess which it fits tightly, and also permits quick draining of the socket.

What I claim is:

1. A carpet fastener of the class described, comprising in combination a tubular shell, a spiral spring therein, comprising a plurality of complete convolutions all of substantially the same diameter, and a pin adapted to fit axially within said spring, the diameter of said pin not less than the internal diameter of said spring when relaxed and substantially uniform throughout the portion of its length intended to be engaged by said spring.
- 10 2. In a carpet fastener, a shell for pin and socket fasteners comprising in combination a tubular socket

shell and a spiral spring therein comprising a plurality of complete convolutions all of substantially the same diameter, and adapted to receive and frictionally hold a pin of substantially uniform diameter and not less in diameter than the internal diameter of said spring when relaxed. 15

WARREN H. BOLDS.

Witnesses:

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