April 8, 1930. C. W. WHITE 1,753,976

GLIDE

Filed Sept. 7, 1929

Fig. 1.

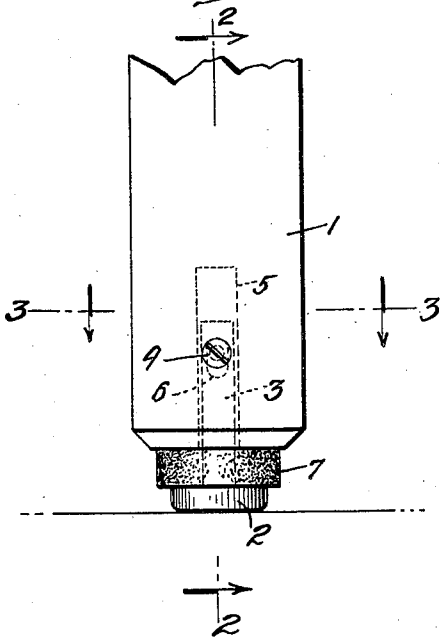


Fig. 2.

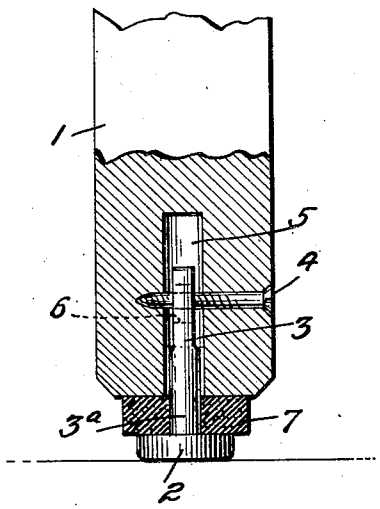
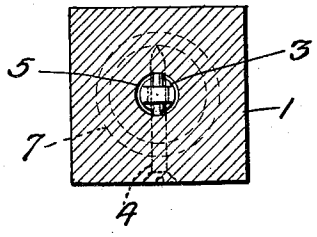


Fig. 3.



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UNITED STATES PATENT OFFICE

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GLIDE

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My present invention relates to tips or glides adapted to be placed upon the bottoms of chairs, tables, beds, or other furniture, or the legs thereof, particularly school furniture, to reduce or entirely prevent the noise usually made by the movement of these parts upon a floor or surface, as of wood, concrete, or the like, often causing a scratching or whistling noise; and the dragging of the furniture often denting, or marring the floor; the object being to provide a noiseless, antifriction and self-adjustable sliding-shoe attachment for furniture legs and other furniture parts.

Among numerous objects that might be enumerated a leading one is to provide an improved tip or glide which is of simple design, inexpensive, and neat, and one which can be readily and quickly applied without special tools to a furniture leg or similar parts; and to provide a glide which floats freely in the receiving recess in the furniture, the contact with the latter being through felt, rubber, or other resilient material, and said glide being more or less self-leveling.

The essential feature of the invention consists in means for holding the glide in place in such a manner when the furniture is actually in use that the glide does not directly connect with the furniture. In other words, when the table, desk or chair, is resting on the floor the contact between the glide and the furniture is almost entirely through an elastic silencing medium of felt, rubber, or the like, and there is virtually no contact between the shank of the glide and the wood or material of the furniture leg that carries it, so that sound is not transmitted.

Another feature of value is that the glides enable the furniture to be to a degree self-leveling. Suppose a piece of furniture to have four glides on four legs. As the four glides are loose they do not all have to stand in exactly to the same relation to the leg carrying it. Many floors are not perfectly true, and even if a chair or table is properly leveled it may rock somewhat due to the floor being out of level in spots. These glides which use thick, resilient material for silencing, and which are loose and floating, will compensate to some extent for inequality in the floor and do away with this disagreeable rocking action of a table or chair. The elastic material will compress most when the greatest weight is applied, and hence this action compensates for slight irregularities in the floor. By using a glide-receiving hole in the furniture leg which is larger than the glide shank, the glide can rock slightly to help accomplish this leveling process. This, plus the resilient action of the felt or rubber, causes quite a little of the unevenness in the floor to be taken up and smoothed out.

With these suggestive objects, and with others that will quickly appear as we discuss the mechanical details, the invention may be said to consist essentially in the construction, combination, and arrangement of parts, and the numerous features and peculiarities of the same, substantially as will be hereinafter described and claimed.

In the accompanying drawing illustrating my invention:

Figure 1 is a side elevation of the lower end of an example of furniture leg selected for explanatory purposes, with my improved glide applied thereto.

Figure 2 is a vertical section of the same, on the line 2, 2, of Figure 1.

Figure 3 is a cross section on the line 3, 3, of Figure 1.

Like characters of reference denote like parts in all the figures of the drawing.

1 denotes the bottom end portion of a table or chair leg, taken simply as a specimen to illustrate how my improved glide is connected thereto. This leg 1 represents any kind of leg or part of a piece of furniture to which tips or glides are commonly applied to muffle noise and assist in moving the furniture easily about. The leg may be either round, square, hexagonal, or other shape in cross section, and it is shown as square, and it may be of any material. Primarily my improved glide is designed for a portable type of school furniture that is moved about from time to time during the day, and where sometimes quite a number of desks and chairs are moved simultaneously, which with ordinary types of glides creates a great deal of

noise and disturbance, which even in modern school buildings with deadened walls may be heard in adjoining rooms. Therefore it is imperative that the glides should be such as to silence this noise in a large degree if not entirely.

2 denotes the glide in the form of a flat and rather thick metal disk that slides on the floor, and has a shank 3, which is flat near the end but round at 3^a for a certain portion of its length nearest to the glide 2. The shape and character of glide 2 may vary within wide limits, if it has a smooth bottom surface to glide across the floor. The shank of the glide is received loosely into a longitudinal hole or cavity in the leg 1, said hole 5 having any desired length and a diameter which may vary and be related as desired to the size of the glide shank.

With ordinary glides and equivalent devices as heretofore practiced the glide element is commonly firmly attached to the furniture leg by means of a nail, screw, rivet or some other rigid attachment, equivalent to a shank, so that the sound which originates at the point of contact of the glide and the floor is transmitted through this close connection between the shank and the wood and is given off. The wooden leg in this case seems to act as a vibrating instrument to throw out the sound. There is no provision for stilling the sound. My invention meets this necessary requirement involved in this use of a glide and supports the glide so that all sounds attributable to the action of the glide on the surface over which it moves are made practically inaudible.

The flat part 3 of the shank is slotted at 6 and a screw 4 is passed horizontally through the material of leg 1 and through slot 6. The slot allows the glide to have considerable play with relation to the end of the leg 1; and the screw 4 keeps the glide from falling out of the leg when the chair or table is lifted so as to take the glide 2 off the floor. The hole 6 is rather large and somewhat oblong. The screw 4 that holds the shank in place, while it supports the shank and prevents it from dropping out, does not otherwise touch it, and normally the shank of the glide is practically free in the hole 5.

Between the glide 2 and the end of the leg 1 is a cushion 7 consisting of a felt, rubber, or other elastic or resilient washer of any suitable thickness, through which passes shank 3^a. This cushion 7 has virtually the same or a little larger diameter than the glide 2, as may be preferred. The contact of the glide with the leg is through the felt. Although any material can be used felt is quite satisfactory, from the standpoint of life and first cost.

The shank of the glide is loose in the passage 7. The contact between the glide 2 and the wood of the leg is entirely through the silencing medium, as the disk of felt or rubber, and there is no sound-carrying contact between the glide shank and the wood, as there would be if the shank were tight in the hole. Consequently sound is not transmitted. Of course the shank inevitably touches the wood a little, but it is found in actual practice that as long as it is not held firmly against the wood or leg but merely touches it at one point slightly, the sound vibrations are not transmitted and a very effective silencing is accomplished, even when dragging a desk or chair with rather long legs over a rough floor, which with the ordinary metal glides or no glides at all would create a good deal of noise.

Various ways and means may be devised for holding the glide in place besides the slotted shank and retaining screw; and I reserve the right to adopt other methods if desired within the scope of my claims.

The glide through its shank floats loosely in the hole in the leg, and has its connection with the leg through the elastic or resilient member. The floating glide also makes the device self-leveling which is an important feature in the use of glides, and can only be accomplished by having the glide automatically adjustable vertically in its relation to the end of the leg.

Various modifications in the embodiment of the invention may be made without departing from its spirit and obvious scope, and I reserve the right to change the details and the exact features so as to accomplish the result in view in a form best adapted to the exigencies and needs of individual cases. I wish to emphasize however that my invention comprises a very broad understanding in the use of a glide which is so supported on the furniture as not to transmit sound but which operates silently through a floating and unconnected shank whose only attachment to the furniture is some very simple means for preventing the glide from falling off the furniture when the latter is lifted off the floor.

What I claim is:

1. A tip or glide for movable furniture, comprising the combination with a member having a passage therein, of a glide having a shank loosely entering said passage, an elastic cushion between the glide and the said member and carried by the glide, and means for preventing the glide shank from dropping out of the said passage when the furniture is lifted off the floor.

2. In a furniture glide of the class described, the combination of a furniture leg having a passage in the end thereof, a glide having a shank floating loosely in the passage, a silencing pad between the glide and the end of the leg, and means for preventing the shank from dropping out of the passage when the furniture is lifted so that the glide clears

the floor, said means allowing a vertical movement of the shank to allow the furniture to be self-leveling.

3. In a furniture glide of the class described, the combination with a furniture member having a passage in the end, a glide having a shank that floats loosely in the passage and has a slotted flat section, a silencing pad between the glide and the end of the furniture member and means on said member that engages the shank slot to allow the furniture to level itself without permitting the shank to drop out of the passage.

4. In a furniture glide of the class described, the combination with a leg or support having a passage therein, a glide having a round portion loosely entering the passage and provided with a slotted flat portion, a noise-absorbing member between the glide and the leg or support, which member is carried by the glide, and a horizontal device in the leg and passing through the slot in the shank.

In testimony whereof I hereunto affix my signature.

CLARENCE WATSON WHITE.