May 24, 1932. F. KUSTERLE 1,860,103

EXTENSIBLE LEG FOR FURNITURE

Filed Oct. 22, 1928 2 Sheets-Sheet 1

Fig.1

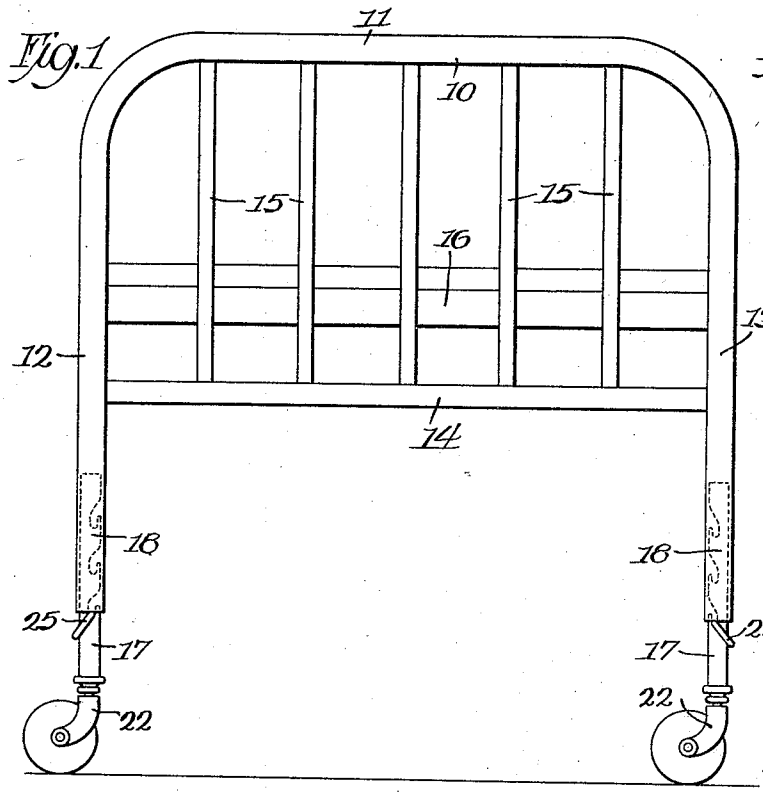


Fig.2

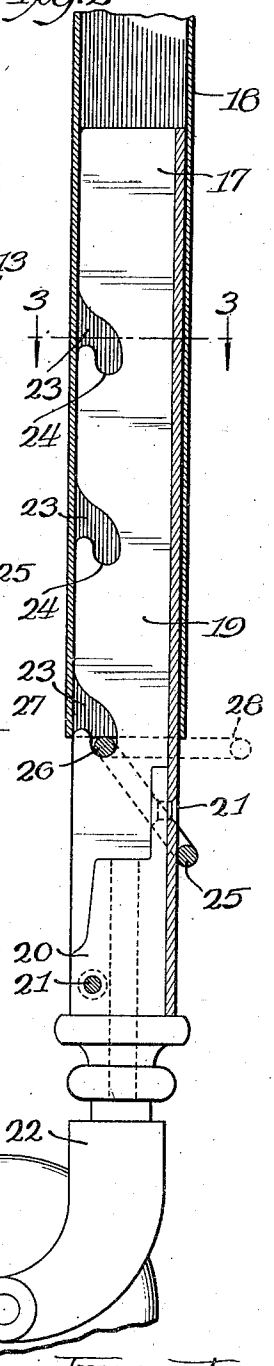


Fig.4

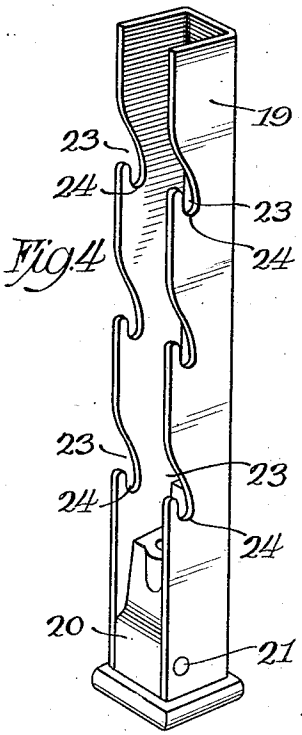


Fig.5

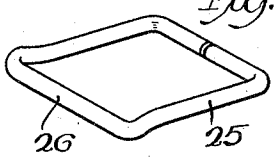
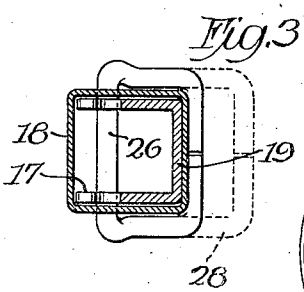


Fig.3

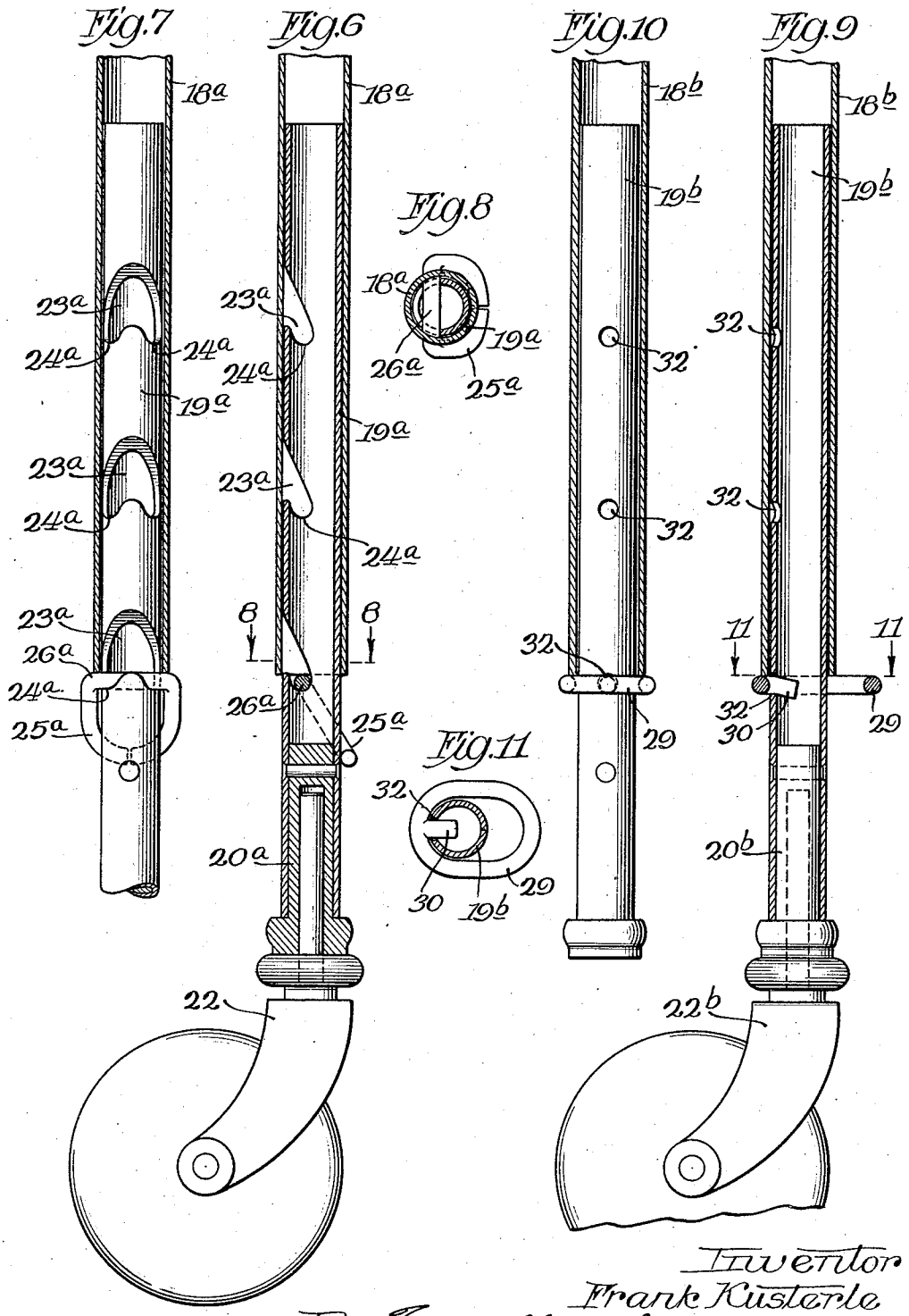


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EXTENSIBLE LEG FOR FURNITURE

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UNITED STATES PATENT OFFICE

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EXTENSIBLE LEG FOR FURNITURE

Application filed October 22, 1928. Serial No. 314,042.

This invention relates to an extensible leg for furniture and has particular reference to extensible legs for hospital beds and other furniture used in various institutions where it is sometimes desired to adjust the height of the article.

The principal objects of the invention are to provide a simple and efficient adjustable or extensible leg which may be easily adjusted so as to adjust the height of the article of furniture of which it forms a part and to provide an extensible leg which is effectively locked in the desired position of adjustment so that accidental collapsing or shortening of the leg cannot readily occur.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawings in which I have illustrated an extensible leg embodying the features of my invention as applied to a bedstead, three selected forms of the invention being shown.

In the drawings:

Fig. 1 is an end elevation of a bedstead.

Fig. 2 is an axial section through one of the legs of the bedstead on an enlarged scale.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Figs. 4 and 5 are perspectives of certain parts of the extensible leg structure.

Fig. 6 is an axial section similar to Fig. 2, but showing another form of extensible leg made according to my invention.

Fig. 7 is an axial section of the leg shown in Fig. 6 through a plane extending at right angles to the plane of the section of Fig. 6, the inner stem portion being shown in elevation.

Fig. 8 is a section on the line 8—8 of Fig. 6.

Fig. 9 is an axial section through an extensible leg embodying another selected form of my invention.

Fig. 10 is an axial section of the leg shown in Fig. 9, but extending through a plane at right angles to the plane of the section of Fig. 9.

Fig. 11 is a section on the line 11—11 of Fig. 9.

Referring now to the drawings, I have indicated a conventional form of end frame 10 for a hospital bedstead, which includes a top rail 11, preferably of tubular metal, and leg portions 12 and 13 which are formed integral with the top rail 11, said top rail and legs being in effect a tubular metal member which is bent to the inverted U-shape shown. An intermediate cross rail 14 extends between the legs 12 and 13 so as to rigidly maintain the same in properly spaced position, and filler bars 15, 15 extending between the top rail 11 and intermediate cross rail 14 are provided. A suitable bed spring indicated generally at 16 may be provided for supporting a mattress.

The legs 12 and 13, being of tubular metal, are hollow and receive stem members 17 which telescope into the lower end portions 18 of the legs, which end portions may conveniently be referred to as sleeves.

In the embodiment shown in Figures 1 to 5 inclusive, the tubular frame part has been shown as a rectangular, preferably square member. The stem 17 in this instance is formed of a channel member 19, as clearly shown in Figures 3 and 4, and is provided at its lower end with an insert or casting part 20, which is riveted to the stem as indicated at 21, 21, and apertured to receive the spindle of a caster 22. The side walls of the channel stem member 19 are provided with openings or notches 23, 23 which are undercut so as to provide seats 24, 24 in the said side walls. A plurality of such openings and seats spaced longitudinally along the stem are preferably provided, as clearly shown in Figures 2 and 4.

For positioning the channel-shaped stem 19 longitudinally of the leg or sleeve 18, that is, for limiting telescoping of the stem into the sleeve, I provide a link-like member 25 which is of such dimensions that it will embrace or fit around the stem so as to be freely slidable longitudinally thereof but locked thereto against separation therefrom in a lateral direction. The member 25 includes a bar or rod portion 26 which is adapted to be seated on the seats 24, 24, as clearly shown in Figure 2. As shown in Figure 3, the ends of the bar part 26 project laterally beyond the sides of the stem and are adapted to receive or engage the lower end of the sleeve 18. Telescoping of the stem into the

sleeve is thus limited according to the position of the member 25 with respect to the stem. The ends of the bar part 26 are bent rearwardly, and said rearwardly bent portions prevent endwise movement of the bar out of operative position in the seats 24, 24, and the end portions of the rearwardly bent parts are in turn bent towards each other to form the link-like structure and to prevent separation of the member from the stem in a lateral direction.

By undercutting the recesses 23, it obviously becomes necessary to move the locking member 25 upwardly relative to the stem in order to unseat the same. Obviously, the weight of the supported article, being supported by the engagement of the end of the sleeve 18 and the bar part 26 of the member 25, serves to prevent such upward movement of the locking member so that accidental displacement or unseating of the same is not likely to occur. The entrance to the openings or notches 23 is also closed by the lower end portion 27 of the sleeve member, as clearly shown in Figure 2. When it is desired to adjust the height of the leg, the article of furniture must be lifted sufficiently to take the weight thereof off of the member 25 and to open the entrance to the notches or recesses 23. The locking member 25 may then be swung into a substantially horizontal position, as indicated in dotted lines at 28 in Figures 2 and 3, after which the same may be moved upwardly and laterally of the stem to unseat the said locking member. To extend the leg, it is only necessary to lift the article to a position slightly higher than the desired height to permit the locking member to be seated in the proper seats, after which the article may be lowered so as to cause its weight to be supported by the locking member in the manner above described and so that the locking member is itself locked in operative position.

In Figures 6, 7 and 8, I have shown an extensible leg made up of substantially round tubular metal parts. In this embodiment, the leg member proper or sleeve is indicated at 18^a and the stem at 19^a, as clearly shown in Figure 8. These parts are round tubular members, the stem part being of such diameter that it slidably fits or telescopes into the sleeve part 18^a. Seats 24^a are provided in the stem part 19^a by notching or recessing the same, as clearly shown at 23^a. The notches or recesses 23^a are undercut, as shown, so that pairs of seats are formed which correspond to the pairs of seats formed in the square leg structure hereinbefore described. A more or less link-shaped locking member 25^a having a straight bar portion 26^a is adapted to be seated selectively on the seats 24^a and to support the sleeve 18^a by receiving its lower end, as clearly shown in Figure 6. The outer end of the member 25^a is preferably rounded, as clearly shown in Figure 8, so as to fit closely around the stem whereby the member will not form an objectionable projection on the stem. A suitable caster 22^a is swiveled in the lower end of the stem 19^a, a socket element 20^a being secured in the lower end of the stem in any suitable manner.

In Figures 9, 10 and 11, I have shown a modified form of locking device applied to a round tubular metal leg structure which includes a leg proper or sleeve 18^b and a round tubular metal stem 19^b which telescopes within the sleeve 18^b. A caster 22^b is swiveled in the lower end of the stem 19^b through the agency of a socket member 20^b which is secured in the lower end of the said stem in any suitable manner.

For locking the stem part 19^b in the desired position of extension, I provide a locking member 29 in the form of a link, the same being provided with an inwardly-extending projection or tooth 30 which is adapted to enter into any one of a plurality of apertures 32 in the stem 19^b and spaced longitudinally thereof. The inwardly-projecting tooth 30 is preferably offset downwardly, as indicated in Figure 9. The tooth 30 is effective to position the locking member 29 at the desired location along the length of the stem 19^b and is adapted to support the sleeve, as clearly shown in the figures.

The angular arrangement of the tooth 30 is such that when the member 29 is moved from its operative position, as shown in Figure 9, in a direction to disengage the tooth from the aperture, the member will be caused to move upwardly a certain amount. Since the weight of the supported article is directly applied to the member 29, such upward movement is resisted by such weight and the locking member thereby effectively locked against accidental unseating.

The above-described extensible leg structure is very simple, easy to manufacture, and may be easily adjusted to the desired position and effectively locked in such position. No tools or especial skill are required to adjust the leg to cause the same to support the article of which it forms a part at the desired height. I am aware that other modifications may be made in the form and construction of extensible legs according to my invention without departing from the spirit thereof, the scope of which should be determined by reference to the following claim which should be construed as broadly as possible consistent with the state of the art.

I claim as my invention:

An extensible furniture leg, comprising a lower leg member having a longitudinal series of downwardly and inwardly inclined seats opening through one face of the leg member, an upper tubular leg member telescopically embracing the lower leg member, and a loop link embracing the lower leg mem-

ber below the bottom of the upper leg member and slidable longitudinally and transversely thereon into selective engagement with the seats and constituting a stop for engagement with the bottom end of the upper leg member to limit downward telescopic movement thereof when the link is in any one of the seats, the lower side of the entrance opening of each seat being above the inner bottom end of the seat, and said upper leg member closing the entrance opening into the seat which is engaged by the link.

FRANK KUSTERLE.