The invention relates to knee joints for artificial legs, an object of the invention being to provide improved braking means therefor adapted to stiffen the joint and prevent collapse thereof as weight of the wearer of the leg is thrown thereon in taking steps in walking. Another object is to provide such braking means having constant application sufficient to lessen the freedom and rapidity of knee action and insufficient to prevent easy knee action in taking steps in walking. Another object is to gradually lessen or reduce the application of the braking means as weight of the wearer is removed from the leg in walking. Other objects and advantages will appear hereinafter.

The invention consists in the novel construction and combinations of parts as heretofore set forth in the claims.

In these drawings,

Figure 1 is a side view of the invention, showing the upper and lower leg sections partly broken away, the brake lining being somewhat compressed due to the weight of the wearer being applied to the leg as in walking.

Figure 2 is a similar view partly in section.

Figure 3 is a detail top plan view of the lower leg section.

Figure 4 is a rear view of the invention.

Figure 5 is a transverse section of the invention, taken through the line 5—5. Figure 1, the brake lining being uncompressed, due to the weight of the wearer being removed from the leg as in walking.

In these drawings, the numeral 1 designates an upper leg section, and 2 a lower leg section, said upper section having a lower ball 3 forming a rigid part thereof, and said lower section having an upper socket 4 wherein fits said ball, a transverse pivot pin 5 connecting the upper and lower leg sections being diametric of said ball and having end bearings in apertures 6 of lateral lugs 7 of said lower section, said lugs bearing at their inner sides against said upper section.

Coiled springs 8 are mounted in said upper section, one at each side of said ball and bear at their lower ends against said pivot pin. The socket 4 of the lower leg section is provided with an elastic brake lining 4' against which said ball has normal frictional engagement to lessen the freedom and rapidity of knee action, but insufficient to prevent easy knee action in taking steps in walking.

In taking steps in walking, as the weight of the wearer is thrown upon the leg, said ball will have increased frictional engagement with and will slightly compress the brake lining of the socket against the tension of said coiled springs, to thereby stiffen the joint and prevent collapse thereof. The coiled springs act to restore the parts to normal position as weight of the wearer is removed from the leg in walking.

9 are cushioning stops to do away with noise in the working of the joint.

Obviously the amount of the frictional engagement and compression of the brake lining will vary in accord with the weight of the wearer thrown upon the leg in walking, this weight constantly varying.

1. A knee joint for artificial legs, having upper and lower leg sections provided with a transverse pivot pin connection, coiled springs mounted in the upper section and bearing at their lower ends against said pivot pin to provide for slight longitudinal movement of the sections with respect to each other and to cushion such movement, and braking means between the upper and lower leg sections having normal frictional engagement to lessen freedom of knee action, and increased frictional engagement against the tension of said coiled springs when the weight of the wearer is thrown upon the leg in walking, to stiffen the joint and prevent collapse thereof, said coiled springs acting to restore the parts to normal position as the weight of the wearer is removed from the leg in walking.

2. A knee joint for artificial legs, having upper and lower leg sections provided with a transverse pivot pin connection, coiled springs mounted in the upper section and bearing at their lower ends against said pivot pin to provide for slight longitudinal movement of the sections with respect to each other and to cushion such movement, the lower joint member having a socket provided with an elastic brake lining against which the lower end of the upper joint member has normal frictional engagement to lessen freedom of knee action, and increased frictional engagement against the tension of said coiled springs when the weight of the wearer is thrown upon the leg in walking, to stiffen the joint and prevent collapse thereof, said coiled springs acting to restore the parts to normal position as the weight of the wearer is removed from the leg in walking.

3. A knee joint for artificial legs, having an upper leg section provided with a lower ball forming a rigid part thereof, a lower leg section having an upper socket wherein fits said ball, a transverse pivot pin diametric of said ball having bearings in said lower section and connecting said
upper and lower sections, coiled springs mounted in said upper section laterally of said ball and bearing at their lower ends against said pivot pin, said socket having an elastic brake lining against which said ball has normal frictional engagement to lessen freedom of knee action and increased frictional engagement against the tension of said coiled springs when the weight of the wearer is thrown upon the leg in walking, to stiffen the joint and prevent collapse thereof, said coiled springs acting to restore the parts to normal position as the weight of the wearer is removed from the leg in walking.

4. A knee joint for artificial legs, having an upper leg section provided with a lower ball forming a rigid part thereof, a lower leg section having an upper socket wherein fits said ball, a transverse pivot pin diametric of said ball, said lower section having lateral lugs provided with apertures wherein said pivot pin has end bearings, said lugs bearing against said upper section, coiled springs mounted in said upper section laterally of said ball and bearing at their lower ends against said pivot pin, said socket having a brake lining against which said ball has normal frictional engagement to lessen freedom of knee action and increased frictional engagement against the tension of said coiled springs as the weight of the wearer is thrown upon the leg in walking, to stiffen the joint and prevent collapse thereof, said coiled springs acting to restore the parts to normal position as the weight of the wearer is removed from the leg in walking.

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