

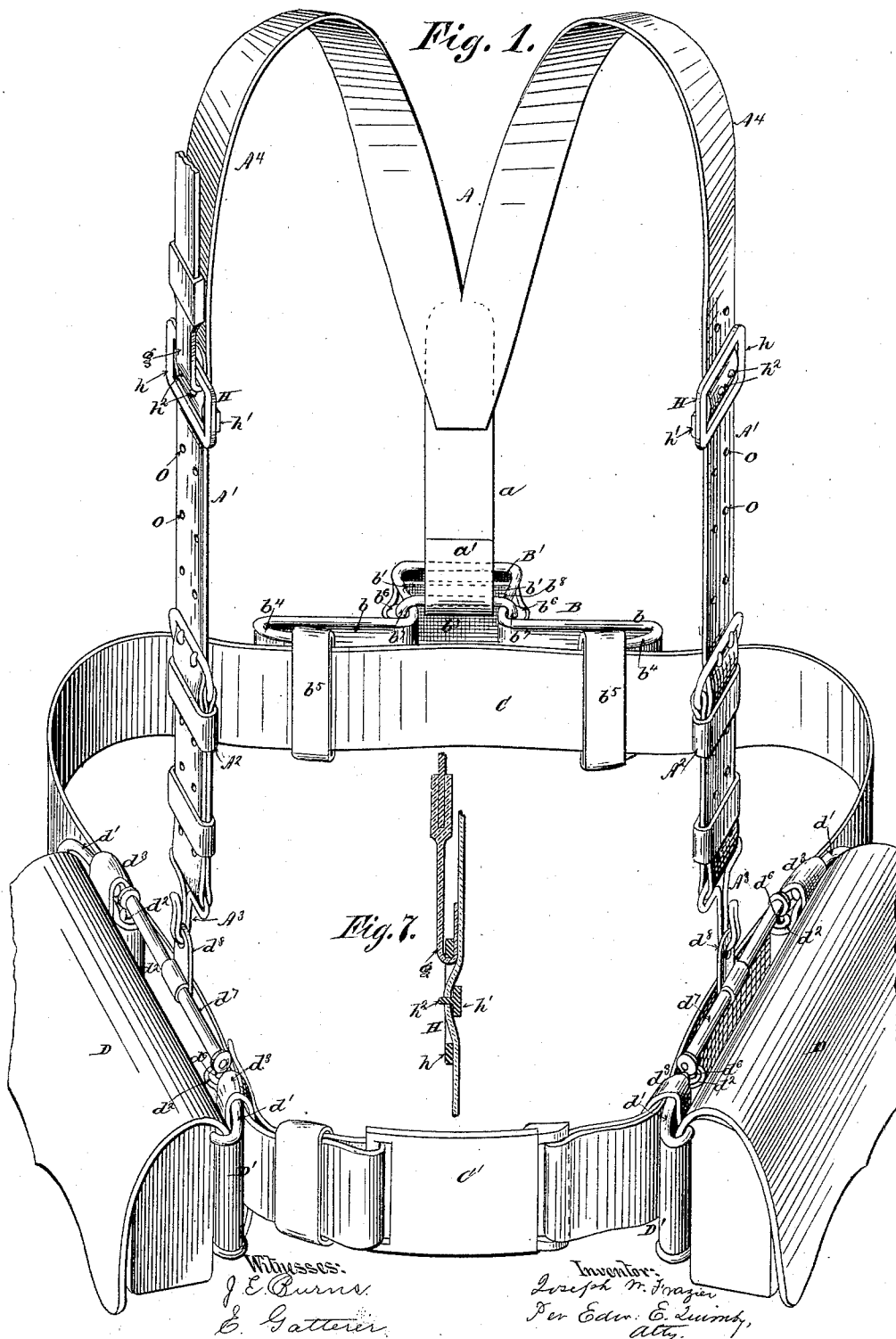
(No Model.)

4 Sheets—Sheet 1.

J. W. FRAZIER.
ACCOUTERMENT.

No. 469,444.

Patented Feb. 23, 1892.



(No Model.)

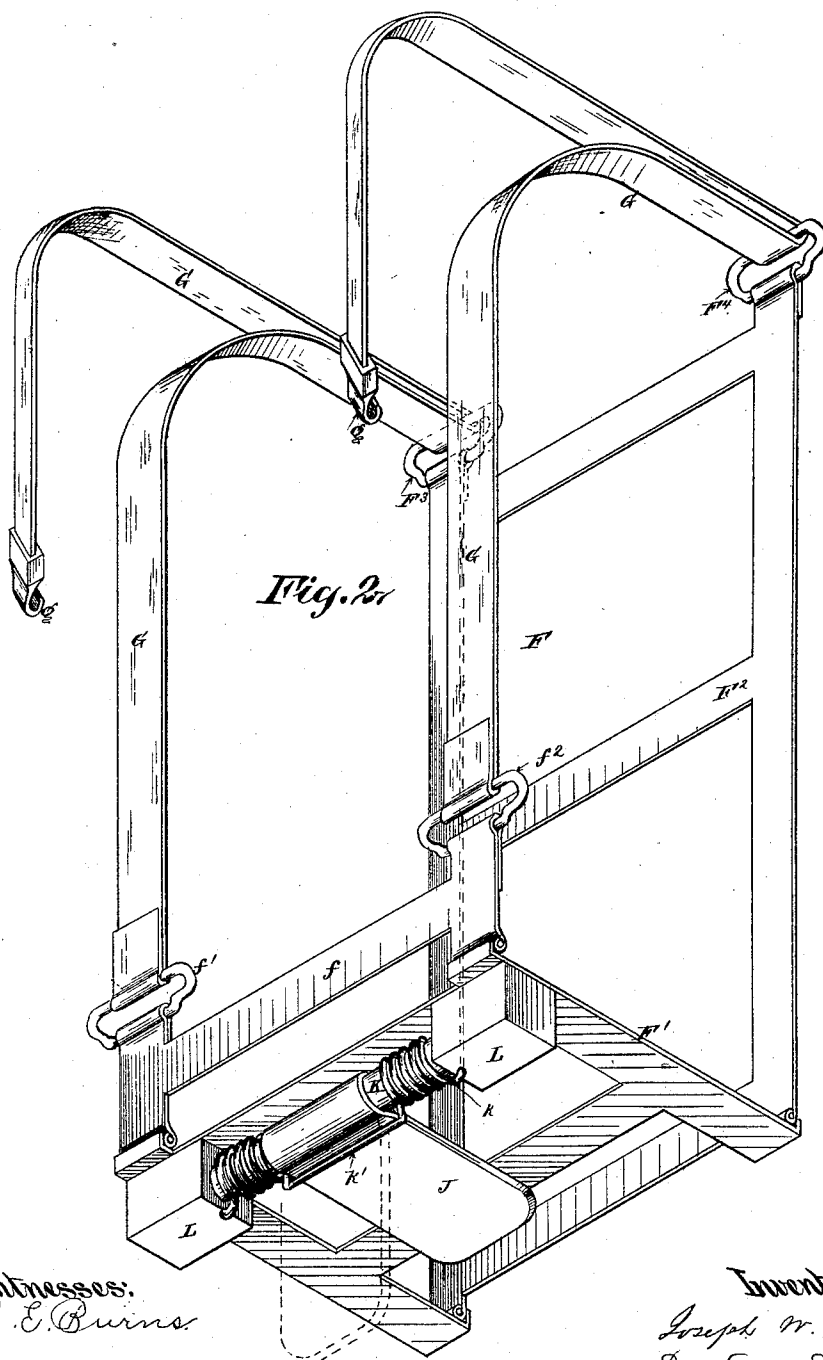
4 Sheets—Sheet 2.

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Fig. 5.

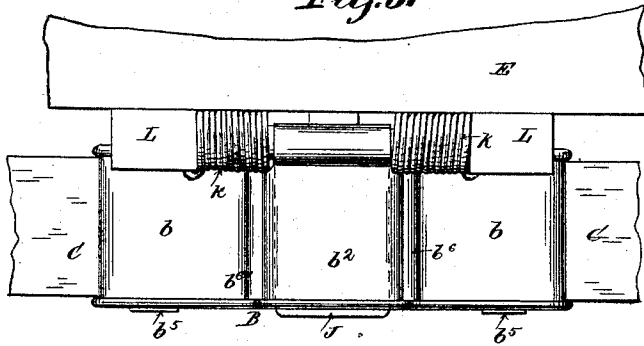


Fig. 4.

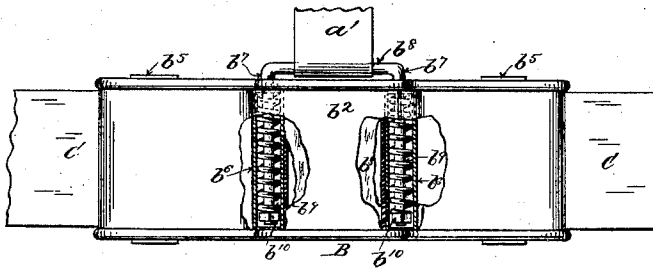
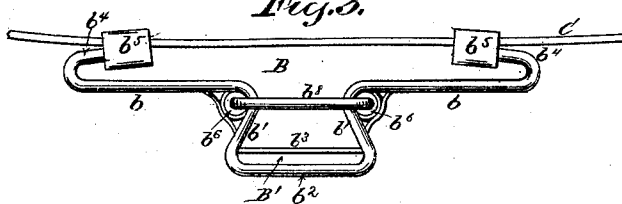


Fig. 3.



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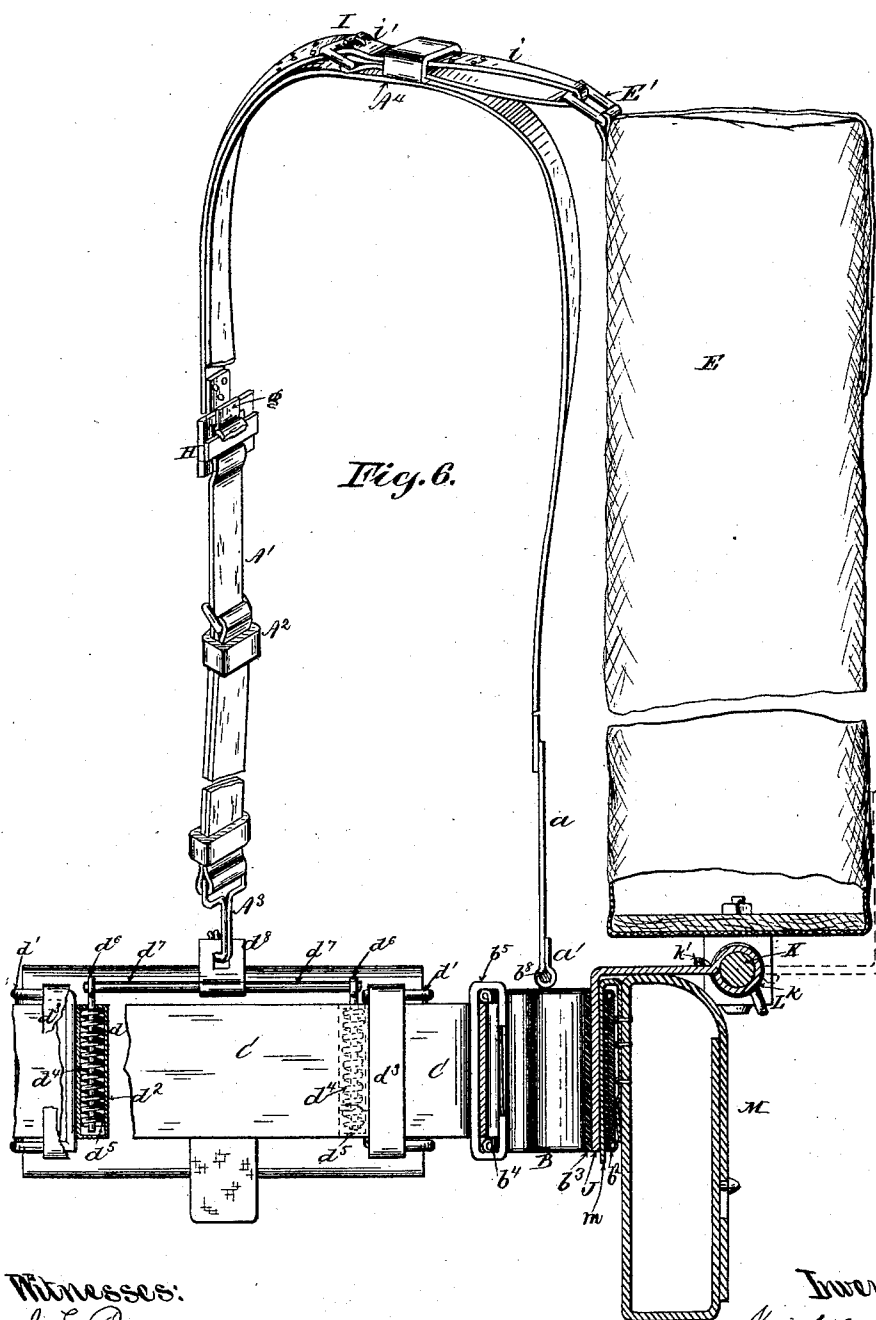
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UNITED STATES PATENT OFFICE.

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ACCOUTERMENT.

SPECIFICATION forming part of Letters Patent No. 469,444, dated February 23, 1892.

Application filed October 25, 1890. Renewed August 21, 1891. Serial No. 403,281. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. FRAZIER, of the city and State of New York, have invented certain Improvements in Burden-Carrying
5 Devices for Use upon the Person, of which the following is a specification.

The objects of this improvement are to increase the facility and comfort with which baggage, equipments, or other burdens may
10 be carried upon the person of a traveler, hunter, or soldier.

The invention consists in distributing the weight of the objects to be carried by hanging them, respectively, directly upon the lower
15 extremities of suspenders composed of two front legs united to or formed in one piece with shoulder-straps, which pass over the shoulders of the wearer, and are united to a single rear leg, and in the employment of a
20 waist-belt for lightly holding said objects against the body and thereby preventing the movements of the wearer in walking, running, or jumping from imparting to the suspended objects swinging movements, which,
25 if they were permitted, would result in the infliction of uncomfortable blows against the person of the wearer. The more bulky portion of the load is carried in a skeleton frame, knapsack, or other receptacle, which is supported at the bottom upon the lower extremity of the rear suspender-leg and is stayed at the top by straps passing across the shoulders and connected with the suspenders, which prevent the knapsack or other receptacle containing the bulky portion of the load from
35 tipping backward. Those parts of the load which are heavy in proportion to their bulk—as, for example, ammunition-pouches—are hung upon the front legs of the suspenders
40 by means of elastic connections composed of appropriately-arranged spiral springs. The knapsack or other receptacle for the more bulky portion of the load may also be supported by an elastic connection at the bottom to the lower end of the rear suspender; but
45 this, although desirable, is not essential, because of the presence of the springs introduced into the connections between the front legs of the suspenders and the objects respectively hung thereon. Such springs by
50 yielding ease any vertical jarring movement

of either of the objects carried upon the lower ends of the suspender-legs. The belt and the front legs of the suspenders may, if desired, be provided with sockets or hooks to facilitate
55 the carriage thereon of objects other than those hung directly upon the suspenders, the weight of which other objects may also be utilized to counterbalance to a greater or less extent the weight of the knapsack or other load supported upon the rear leg of the suspenders.
60 By this invention there is provided a suspensory apparatus by means of which the total weight of the load is carried upon the shoulders of the wearer, and is so distributed that its center of suspension is in a vertical line
65 near the longitudinal axis of the body and in a horizontal plane near the height of the shoulders. These results are accomplished without interference with the respiration or
70 with the freedom of action of the limbs and muscles of the wearer during the acts of walking, running, or jumping, and without subjecting the wearer to the uncomfortable blows which would be inflicted if the knapsack or
75 other rear load were permitted to acquire swinging movements toward and from the body. Finally, the apparatus affords ample facilities for carrying a large variety of objects in positions where they are convenient
80 of access and from or to which they may be easily removed or restored.

The accompanying drawings of a suspensory apparatus containing the improvements are as follows, namely:

85 Figure 1 is an isometrical perspective showing two ammunition-pouches hung, respectively, upon the front legs of the suspenders and showing, hung upon the rear leg of the suspenders, the socket-frame for supporting
90 the rear load. Fig. 2 is an isometrical perspective of a skeleton frame for carrying bulky objects adapted for support upon a socket-frame hung upon the rear leg of the suspenders. Fig. 3 is a top view of the rear
95 portion of the waist-belt and rear socket-frame. Fig. 4 is an elevation, partly in section, of the rear socket-frame and adjoining portions of the waist-belt, showing the lower extremity of the rear suspender-leg connected
100 to the said socket-frame. Fig. 5 is a rear elevation similar to Fig. 4, but showing the

spring-tongue connected to the bottom of the knapsack or skeleton frame and deposited in its socket in the rear socket-frame. Fig. 6 is a transverse vertical section of the rear socket-frame, showing in elevation portions of the waist-belt and suspenders and exhibiting a knapsack supported upon the rear suspender-leg. Fig. 7 is a longitudinal section illustrating the mode of connection of the shoulder-straps with the suspenders, which is shown in isometrical perspective in Fig. 1.

The drawings represent the suspenders A composed of the front legs A' A', each of which is made extensible by means of the return bend and buckle A², and each of which is provided at its lower extremity with the hook A³. The front legs are respectively united to or formed in one piece with the shoulder-straps A⁴ A⁴, which are adapted to extend over the shoulders of the wearer and are united to the rear leg *a*, the lower extremity *a'* of which is connected with a metallic frame, hereinafter called the "rear socket-frame" B, in which is formed a socket B' for facilitating the support of the knapsack or other receptacle for the more bulky portion of the load directly upon the lower extremity of the rear suspender-leg *a*. The socket-frame B is composed of the metallic strip *b*, preferably leather-covered, the central portion of which is outwardly offset to form a recess with outwardly-flaring side walls *b'* *b'*, united to a rear wall *b*², which is parallel with the main portion of the metallic strip *b*. A vertical partition *b*³ has its vertical edges brazed, riveted, or otherwise secured to the flaring side walls *b'* *b'*, respectively, and serves as the inner wall of the socket B'. The ends *b*⁴ *b*⁴ of the metallic strip *b* are bent inwardly and have riveted to them the vertical bands *b*⁵ *b*⁵, respectively, which serve to loosely clasp the waist-belt C against the inwardly-turned ends *b*⁴ *b*⁴ of the strip *b*. The waist-belt is provided in front with the usual clasp C'.

Within the bight of the flaring bends of the metallic strip *b* are secured the vertical cylinders *b*⁶ *b*⁶, in which are inserted the vertical legs *b*⁷ *b*⁷, which are affixed to or formed in one piece with the horizontal bar *b*⁸, to which the lower extremity *a'* of the rear suspender-leg is connected. Although not absolutely essential to the successful working of the suspensory structure, it is preferred to introduce within the cylinders *b*⁶ *b*⁶ the expanding spiral springs *b*⁹ *b*⁹, which abut at their upper ends against the perforated heads of said cylinders and at their lower ends against the transverse keys or nuts *b*¹⁰ *b*¹⁰, respectively, applied to the lower extremities of the vertical legs *b*⁷ *b*⁷. The quality of elasticity is thus introduced into the device connecting the socket-frame B with the lower extremity of the rear suspender-leg *a*.

The ammunition-pouches D D are carried, respectively, upon the pouch-frames D' D'. Each pouch-frame is composed of the metal-

lic strip *d*, which is preferably leather-covered. The opposite ends *d'* *d'* of the strip *d* are bent inwardly and secured, respectively, to the vertical cylinders *d*² *d*² and have riveted to them the bands *d*³ *d*³, which serve to loosely clasp the waist-belt C against the inwardly-bent ends *d'* *d'*. Within the cylinders *d*² *d*² are deposited, respectively, the expanding spiral springs *d*⁴ *d*⁴, which abut at their upper ends against the perforated heads of the cylinders *d*² *d*² and at their lower ends against the transverse keys or nuts *d*⁵ *d*⁵, applied, respectively, to the lower extremities of the vertical legs *d*⁶ *d*⁶, which are united to or formed in one piece with the horizontal bar *d*⁷, to which there is attached the eye *d*⁸ for engaging one of the hooks A³, with which the lower extremities of the front suspender-legs A' A' are respectively provided. The more bulky portion of the load is carried in the rear of the person and may either be contained within the knapsack E, as illustrated in Fig. 6, or within the skeleton frame F. (Illustrated in Fig. 2) The latter preferably consists of a metallic base-frame F', to which is pivotally connected on the side next the body of the wearer a short upright metallic frame *f* and upon the opposite side a longer upright metallic frame F². The upper extremities of the two upright frames respectively are provided with the strap-eyes *f'* *f*² and F³ F⁴. Flexible stay-straps G G are permanently secured to the strap-eyes *f'* *f*², respectively, and are led upward therefrom and over the load contained within the skeleton frame through the strap-eyes F³ F⁴ and thence forward over the shoulders of the wearer to their points of attachment to the suspenders, such attachment being effected by the engagement of the hooks *g* *g*, with which the free ends of the straps G G are respectively provided, with the vertically-adjustable links H H, arranged on the front legs of the suspenders. Each of the said links consists of a rectangular frame *h*, provided with a central cross-bar *h'*, from which there project laterally two short pins *h*² *h*², which are adapted for insertion through holes punched in the suspenders. The suspender-strap in each case is led over the cross-bar *h'*, but under the bars of the rectangular frame, which are parallel with the said cross-bar. The front legs of the suspenders are each provided with two rows of holes O O to provide for the adjustment of the links H H at different heights.

Instead of making the links H H vertically adjustable, they may be permanently secured to the legs of the suspenders, as illustrated in Fig. 6, in which case the stay-strap for leading over the shoulder and connecting with the load in the rear of the person will be constructed like the stay-strap I, (shown in Fig. 6,) which, as will be seen, is made extensible by means of the return-bend *i* and buckle *i'*. The stay-straps are intended simply to hold the load at the rear of the person, so as to prevent it from tipping backward. The weight

of such load, whether it be contained in a knapsack or in the metallic frame F or other receptacle, is directly supported upon the lower extremity of the rear suspender-leg. To that end the bottom of the knapsack or the bottom of the skeleton frame or other receptacle, as the case may be, is provided with a tongue J, which is adapted for deposit in the socket B'.

Although not essential, it is preferred to pivotally connect the tongue J with the bottom of the knapsack, skeleton frame, or other weight-carrying structure, and to employ, in connection with said tongue, a torsion-spring, by the influence of which the tongue, when removed from the socket B', will be rocked against the bottom of the weight-carrying structure, as illustrated in solid lines in Fig. 2, in which, as will be seen, the tongue J is looped around the horizontal bar K, to which there is applied the spiral spring *k*, the central portion *k'* of which bears against one side of the tongue J, while its opposite ends are affixed to the lugs L L, projecting downward from the inner corners of the base-plate F'. The lugs L L may, however, be arranged to project downward from the base-plate midway between its front and rear corners, as illustrated in Fig. 6, in which they are represented as so applied to the bottom *e* of the knapsack E. In such case the tongue J will be bent to a right angle, as shown in Fig. 6, so that when detached from the socket B' its torsion-spring *k* will cause its vertical portion to be rocked upward against the outer side of the knapsack E, approximately to the position in which it is represented in dotted lines in Fig. 6. When the tongue is inserted in the socket B', the resultant effect of the torsion-spring *k* is to lightly press the lower portion of the knapsack E or of the skeleton frame F, as the case may be, toward the back of the wearer, so that, although the waist-belt is not clasped tightly around the body, there will be no opportunity for violent lateral swinging motion to be communicated to the lower part of the knapsack or frame by the movements of the wearer.

When a knapsack is employed, the stay-straps may be connected with a buckle-eye E', affixed to the top of the knapsack, as illustrated in Fig. 6.

If desired, the socket B' may be made of sufficient width to permit the insertion therein of the tongue *m* of a haversack or pouch M, as illustrated in Fig. 6.

What is claimed as the invention is—

1. The herein-described burden-carrying apparatus for travelers, hunters, or soldiers, the same consisting of suspenders composed of two extensible front legs united to or formed in one piece, with shoulder-straps for hanging over the shoulders of the wearer, a central rear leg united to said shoulder-straps, a frame connected with the lower extremity of said rear leg and provided with a suitable socket, a knapsack or other receptacle for

containing the more bulky portion of the burden, provided at the bottom with a tongue for insertion in said socket and provided with stay-straps for passing over the shoulders of the wearer and connecting the top of said knapsack or other receptacle with the suspenders, pouch-frames hung, respectively, upon the lower extremities of the front suspender-legs for supporting objects, such as ammunition-pouches, which are relatively heavy in proportion to their bulk, and a waist-belt loosely connected with said pouch-frames and said rear frame, and provided with a clasp for holding against the body of the wearer the objects hung or supported upon the lower extremities of the suspenders-legs, respectively.

2. The combination, as herein set forth, of suspenders having two front legs and one rear leg, a frame suspended upon said rear leg and connected with the bottom of a knapsack or other receptacle for bulky objects, in combination with pouch-frames respectively provided with spiral springs suitably suspended from the lower extremities of the front suspender-legs, respectively, and adapted to carry the weight of said pouch-frames and the weight of the ammunition-pouches or other objects deposited upon said pouch-frames, substantially as and for the purposes set forth.

3. The combination, with the leg of a suspender and a frame for supporting an ammunition-pouch or other object to be carried upon the person, of two vertically-arranged spiral springs connected with said frame and suitably hung from the lower extremity of said suspender-leg.

4. The combination, as and for the purposes herein set forth, of the suspender-leg A', the hook A³ at the lower extremity thereof, the pouch-frame D', the spiral springs *d*⁴ *d*⁴, the vertical legs *d*⁵ *d*⁵, inserted through said springs, respectively, and having transverse keys or nuts applied to their lower ends, the horizontal bar *d*⁷, connected to the upper ends of said legs *d*⁵ *d*⁵ and provided with the eye *d*⁸ for engaging said hook A³, the waist-belt C, and the bands *d*³ *d*³, affixed to said pouch-frame for loosely clasping said belt against said pouch-frame.

5. The combination, as and for the purposes herein set forth, of a knapsack or other receptacle for bulky objects, with the tongue J, pivotally connected to the bottom of said knapsack or other receptacle, the spring *k* for exerting a pressure upon the said tongue, tending to rock it in an outward direction from the back of the person carrying the knapsack, the frame B, hung from the rear suspender-leg and provided with a socket B' for engaging said tongue J, and the waist-belt C for holding said frame B against the body of the wearer.

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