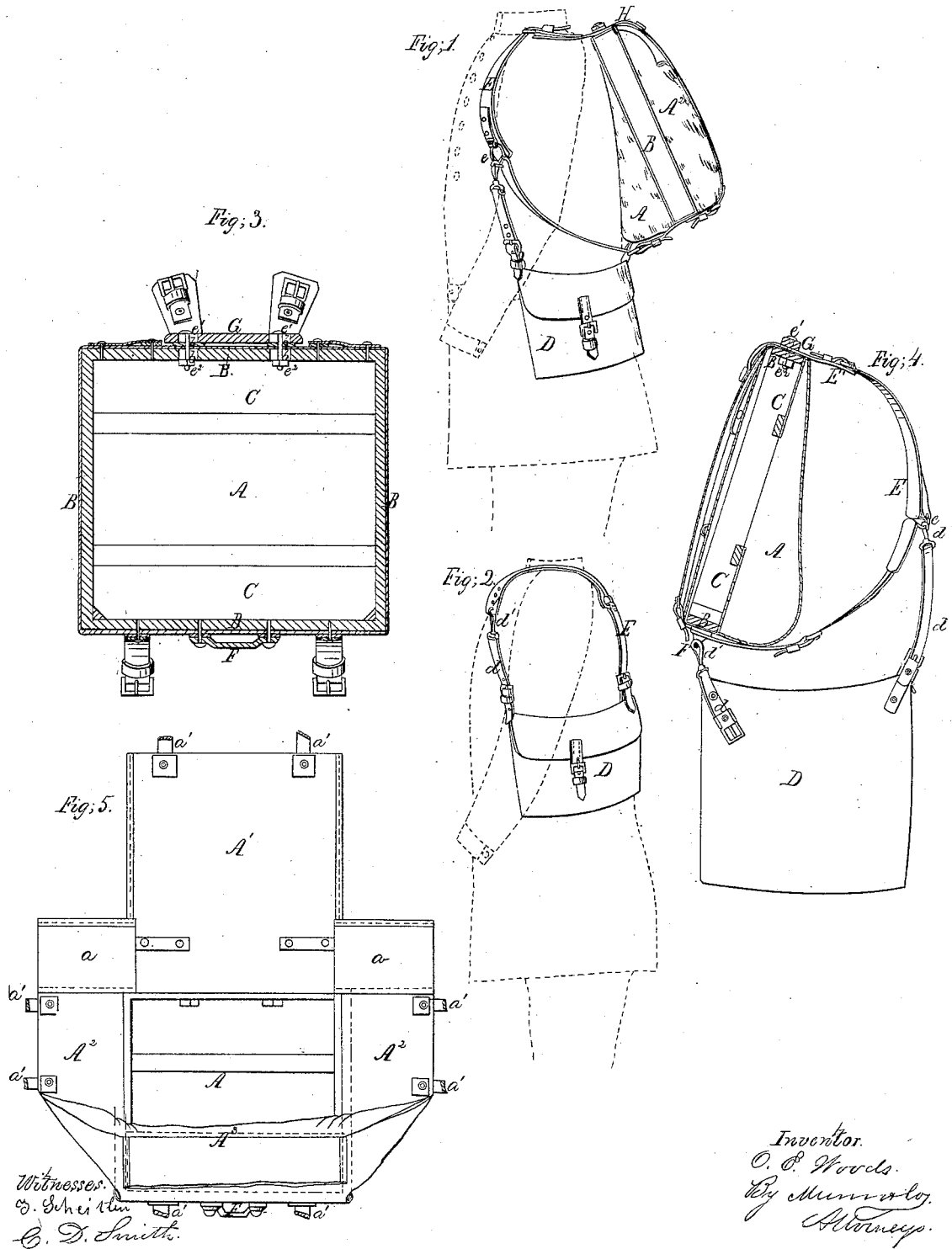


O. E. Woods,
Accouterments

N^o 44,993.

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UNITED STATES PATENT OFFICE.

OLIVER EVANS WOODS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN KNAPSACKS.

Specification forming part of Letters Patent No. 44,993, dated November 8, 1864.

To all whom it may concern:

Be it known that I, OLIVER EVANS WOODS, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Knapsacks and other Accouterments; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved knapsack with a haversack attached in the novel manner hereinafter described, the two being represented as applied to the soldier. Fig. 2 represents the haversack as applied to the soldier alone and suspended by one of the knapsack-straps. Fig. 3 is a vertical central section of the knapsack exhibiting the partition hereinafter described. Fig. 4 is a sectional view of the knapsack and side elevation of the appended haversack, the view being intended to illustrate more clearly the interior construction of the former and the mode of attaching the latter. Fig. 5 is a view of the knapsack with the flaps thrown open to admit of the insertion of the articles to be packed therein.

Similar letters of reference indicate corresponding parts in the several figures.

An effort has heretofore been made to introduce knapsacks constructed with frames for the purpose of imparting the desired shape to the sack, and for other beneficial objects resulting from its employment; but these frames have been discarded for the reason that the common mode of constructing the knapsack gives the frame a tendency to irritate and gall the back of the soldier by friction; hence soldiers supplied with such knapsacks, regardless of the advantages of the frame, and considering only the pain and difficulty produced thereby, have been known to tear them from their knapsack and throw them away while upon the march.

To employ a frame and gain its benefits while overcoming the above-mentioned disadvantages is the chief object of my invention; and to this end it consists, essentially, in so constructing the knapsack that the leather or other flexible material composing the sack proper shall project beyond the frame in such a way that it will be impossible for the frame to come in contact with the body of the sol-

dier at any time, but more especially when the knapsack is packed, when the soft yielding contents, or a portion of them, are disposed between the frame and the back of the soldier, and these yielding contents with the sack, as well as projecting forward, project laterally beyond the edges of the frame, by which provision the frame is effectually insulated, so to speak, from the back of the wearer.

The invention further comprises a peculiar manner of suspending the haversack from the knapsack, for the purpose to be explained; also, several other features of novelty hereinafter described.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A A' A² A³ represent the flexible sack or cover; B, a square frame secured therein by tacks or otherwise. The frame may be made of strong but light wood, so as not to add materially to the weight of the knapsack. That portion of the sack which comes between the frame B and the back of the soldier, and which is indicated by A, is made to project from said frame in the manner represented in Figs. 1 and 4, and resembles a wedge in its vertical cross-section. Now, when the knapsack is filled, and the portion A receives its share of the articles to be conveyed, it is manifest that it will bulge out, and while thus forming a soft cushion or bearing for the back of the wearer at the point where the weight of the knapsack is applied, it precludes the possibility of the frame coming in contact with the back of the soldier, and by this means I obviate the irritating friction which has hitherto resulted from the use of frames.

The sack is so applied to the frame B that when filled it, with the flexible contents, projects also beyond the edges of the frame, so that when the knapsack is subjected to any shifting movement there will always be an interposed flexible substance to bear upon the back. Even if the knapsack be worn empty, the frame cannot injure the back, inasmuch as the intervening space is entirely occupied by the soft material constituting the part A, although in the absence of weight, the effect of

the contact of the frame with the back might not be injurious. From the above it is apparent that under no circumstance can the back of the soldier be galled or subjected to any injury whatever in consequence of the employment of the frame B.

The things to be carried in the knapsack are inserted at the back or blanket side, A' A^2 A^3 , which may project or bulge out from the frame B in the same manner as the part A, in order to facilitate the carrying of a blanket or other external appendage, by decreasing its downward tendency. This blanket side of the knapsack consists of a top flap, A' , two side flaps, A^2 A^2 , and a bottom flap, A^3 , all of which may be thrown open to admit of the insertion of the articles which the knapsack is to contain.

a are pieces composed of the same flexible material as the sack, and sewed in the corners, formed at the junction of the flaps A^2 with the flap A' . The pieces a may be said to constitute extensions of the flaps A, and they allow the contents of the sack to be shifted from a lower to a higher position, for the purpose of throwing forward and upward upon the neck of the soldier the blanket or other equipment which may be strapped upon the knapsack.

When the matters in and on the knapsack are to be carried in the lower position, the pieces a are first folded in with the flaps A^2 , and then turned entirely over or down with the flap A' , but when the contents are to be shifted upward the pieces a are allowed to extend above the flaps A^2 , the top flap A' being then turned over at the upper edges, or with only a part of the said pieces. In this latter condition of the parts it will be seen that the capacity of the interior of the blanket side of the knapsack is increased commensurately with the vertical width of so much of the pieces a as is allowed to project above the flaps A^2 , a corresponding part of the flap A' serving to form the other side of the upper part of the sack when thus extended. When the contents of the sack are thus raised, they may be so retained by the straps a' .

The manner of attaching the corner-pieces a adapts the top flap, A' , to be thrown back entirely out of the way, and the packing of the knapsack is thus facilitated.

By tightening the straps a' the elastic contents of the sack may be thrown forward to better insure the protection of the back, especially when the sack is only partially filled, and whether or not the partition hereinafter referred to be employed.

The frame B provides means for the attachment of a partition formed in two sections, C C, between which the clothes are passed into the division A of the sack. This partition may be used to adapt a proper quantity of elastic material to be packed and retained in the part A of the sack, or rather between the frame B and the back of the soldier. Any

suitable fabric or other material may compose the partition, and be fastened to the frame B, and to flat strips of wood secured to the said frame.

The upwardly converging shape of the knapsack adapts the weight of the equipment on the outside to be thrown forward, and hence renders it easy for the soldier to walk in an erect position.

D represents the haversack, which has upon each side at top a strap, d , carrying a hook, d' . When the knapsack and haversack are both to be carried, one of the hooks, d' , is hooked over a ring, e , one of which is carried by one or each of the shoulder straps E of the knapsack, the other hook, d' , is made to catch over the suspension-bar F, affixed to the under side of the knapsack by screws, which enter the frame B. Thus the haversack is suspended from the knapsack, and the shoulders of the soldier relieved of the strap by which the haversack is commonly slung, said strap being generally composed of a narrow strip of light material, which, becoming rolled into a small compass, is capable of producing considerable pain by constantly chafing the shoulders.

In cases where the haversack is to be carried alone, I detach the snap-hooks d' d' , and also one of the shoulder-straps E of the knapsack. One of the straps, d , is then unbuckled, and its place is buckled one end of the detached shoulder-strap E, the opposite end of which strap is provided with a series of holes, into either of which may be hooked the snap-hook d' of the remaining strap, d . Fig. 2 clearly exhibits this method of attaching the knapsack-strap to the haversack. The detached strap E being formed of a broad piece of leather adapts the haversack to be carried without the slightest inconvenience to the soldier.

The straps E E on being applied to the knapsack are buckled to pieces of leather E' E' , which by bolts e' e' are held between a strip, G, and the top of the frame B, in both of which are slots b to permit the bolts to be moved laterally, their movement being imparted to the pieces E' . The lower ends of the bolts e' are threaded, and they may be adjusted in any desired position by means of nuts e^2 e^2 . By thus shifting the pieces E' the straps E may be made to conform to the shoulders of the wearer with exactness, and any straps to fit any person.

On top of the knapsack are secured balance-loops H, (one shown,) which are placed at right angles to the frame B, and which permit the blanket-straps to be passed around the same at each side of the curvature when the same is carried upon the shoulders in the form of a yoke. When the blanket is thus carried, its weight is thrown forward of the axis of the body, and serves to counterbalance the weight of the knapsack. These balance-loops provide for the strapping on of other articles in any desired way, so as to throw the

weight forward. It is manifest that the function of the balance-loops H cannot be performed by the great coat loops I.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A framed knapsack, so constructed that the webbing, or any articles placed therein, will project beyond and around the edges of the frame to protect the back of the soldier from injury, as explained.

2. The corner-pieces *a a*, for permitting the articles contained within the blanket side of the knapsack to be shifted vertically, in the manner and for the purpose explained.

3. The partition C C, constructed in any any suitable manner, and employed to adapt the articles to be more readily packed and retained in the compartment A, as described.

4. The adjustable bolts *e' e'*, whereby the knapsack-straps may be shifted to any posi-

tion laterally, so as to make them fit the shoulders of the wearer, as stated.

5. The balance-loops H, arranged and employed in the manner and for the object specified.

6. Suspending the haversack D from the knapsack by means of the hooked straps *d d*, or their equivalent, substantially as and for the purposes hereinbefore set forth.

7. The straps E, so constructed that either may be detached and applied adjustably to the haversack, when the latter is to be carried alone, as described.

The above specification of my improvements in knapsacks and other accouterments signed this 29th day of September, 1864.

OLIVER EVANS WOODS.

Witnesses:

CHARLES D. SMITH,
JAMES H. GRIDLEY.